Attachment I

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101205

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 WB / 200W ~~2336 W/ Rm 107/ 200W~~ 7-13-11

Location Description: OUTSIDE 2404 WB

Sample Type:(F, V, L, P): V

Date On: 5/3/2011	Date Off: 5/3/2011	Average Flow (F):	1.75 CFM
Time On: 9:17	Time Off: 11:40	Total Flow:	250.25 Ft^3
Flow On: 1.750 CFM	Flow Off: 1.750 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 143 min.	β self-absorption (Ea):	1

Comments: CHADDERDON 17374 2404 WB OUTSIDE GOOSENECK 12-RE-13597 AM ENTRY

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/3/2011	5.0	1.61E-13	0.15	101	20.20	0.04	20.2	3.81E-12	3.80E-13	0.761	0.762	T. SCHULTZ /8881802
β	11:50	5.0	2.27E-12	6.29	561	112.2	66.50	45.7	7.91E-12	8.44E-13	0.001		5-3-11
α	5/3/2011	5.0	1.61E-13	0.15	12	2.40	0.04	2.4	4.46E-13	1.31E-13	0.089	0.089	T.SHULTZ/ 8881802
β	13:40	5.0	2.27E-12	6.29	341	68.2	66.50	<DL	N/A	N/A	N/A		5-3-11
α	N/A												
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: Date: MAY 04 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101205

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area: 2404 / WB / 200W	Date On: 5/3/2011	Date Off: 5/3/2011	Average Flow (F): 1.875 CFM
☐ Work Progress	Location Description: OUTSIDE 2404 WB	Time On: 16:58	Time Off: 18:10	Total Flow: 135 Ft^3
☐ Down Posting		Flow On: 1.750 CFM	Flow Off: 2.000 CFM	α self-absorption (Ea): 1
☒ General Area	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 72 min.	β self-absorption (Ea): 1
☐ Breathing Zone				

Comments: CHADDERDON 17374 2404 WB OUTSIDE GOOSENECK 12-RE-13597 PM ENTRY

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
	NA									NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/3/2011	5.0	2.98E-13	0.15	48	9.60	0.04	9.6	3.35E-12	4.85E-13	0.669	0.670	D Orth /H8362903
β	18:25	5.0	4.21E-12	6.29	458	91.6	66.50	25.1	8.05E-12	1.42E-12	0.001		DO 5/5/11
α	5/3/2011	5.0	2.98E-13	0.15	42	8.40	0.04	8.4	2.93E-12	4.54E-13	0.585	0.586	D Orth /H8362903
β	19:25	5.0	4.21E-12	6.29	369	73.8	66.50	7.3	2.34E-12	1.29E-12	0.000		DO 5/5/11
α	5/5/2011	5.0	2.98E-13	0.15	0	0.00	0.04	<DL	N/A	N/A	N/A	N/A	Schultz/8881802
β	13:05	5.0	4.22E-12	6.31	344	68.8	66.78	<DL	N/A	N/A	N/A		BS 5-5-11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 619764 Name (print): C Sielen

Signature: [signature] Date MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101225

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Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area 2404 WB ~~2335 W/ Rm 107~~/ 200W

Location Description: 2404 WB Outside

Sample Type:(F, V, L, P) V

Date On: 5/4/2011	Date Off: 5/4/2011	Average Flow (F): 1.7 CFM	Comments: Atallah 17329 WP 1101225 Outside Gooseneck 12-RE-13595
Time On: 11:05	Time Off: 13:00	Total Flow: 195.5 Ft^3	
Flow On: 1.700 CFM	Flow Off: 1.700 CFM	α self-absorption (Ea): 1	
Collection Eff (Ef): 0.5000	Duration (Ts): 115 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/4/2011	5.0	4.53E-13	0.22	260	52.00	0.08	51.9	2.41E-11	1.49E-12	4.812	4.817	Schultz/8881802
β	13:10	5.0	5.58E-12	6.29	967	193.4	66.54	126.9	5.39E-11	2.69E-12	0.005		5.5.11
α	5/4/2011	5.0	4.53E-13	0.22	92	18.40	0.08	18.3	8.49E-12	8.89E-13	1.698	1.738	Schultz/8881802
β	14:10	5.0	5.58E-12	6.29	5110	1022.0	66.54	955.5	4.06E-10	6.09E-12	0.041		5-5-11
α	5/5/2011	5.0	3.94E-13	0.15	3	0.60	0.04	0.6	2.59E-13	1.61E-13	0.052	0.052	Schultz/8881802
β	13:20	5.0	5.59E-12	6.31	337	67.4	66.78	<DL	N/A	N/A	N/A		5.5.11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C. Wieland

Signature: ______ Date MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101275**

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W/ Rm 107~~ 2404 WB / 200W 7-13-11

Location Description: 2404 WB Outside

Sample Type:(F, V, L, P) V

Air Sample Collection:

Date On:	5/9/2011	Date Off:	5/9/2011	Average Flow (F):	1.75 CFM
Time On:	10:20	Time Off:	12:38	Total Flow:	241.5 Ft³
Flow On:	1.750 CFM	Flow Off:	1.750 CFM	α self-absorption (Ea):	1
Collection Eff (Ef):	0.5000	Duration (Ts):	138 min.	β self-absorption (Ea):	1

Comments: McKENNA 17327 WP 1101275 Outside Support AM Entry Gooseneck 12-RE-13595

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	2.03E-13	0.00	228	45.60	0.00	45.6	1.71E-11	1.13E-12	3.421	**3.425**	CONLEY 0000101
β	13:00	5.0	4.54E-12	6.34	869	173.8	67.46	106.3	3.66E-11	2.07E-12	0.004		5/10/11
α	5/9/2011	5.0	2.03E-13	0.00	91	18.20	0.00	18.2	6.83E-12	7.16E-13	1.365	**1.367**	CONLEY 0000101
β	14:00	5.0	4.54E-12	6.34	522	104.4	67.46	36.9	1.27E-11	1.62E-12	0.001		5/10/11
α	5/9/2011	5.0	2.03E-13	0.00	5	1.00	0.00	1.0	3.75E-13	1.68E-13	0.075	0.075	CHADDERDON 4837929
β	0:00	5.0	4.54E-12	6.34	354	70.8	67.46	<DL	N/A	N/A	N/A		M Chadderdon 5/9/11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Whelan

Signature: [signature] Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR #) GWP1101275

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W/ Rm 107~~ 2404 WB 200W 7-13-11

Location Description: 2404 WB Outside

Sample Type: (F, V, L, P) V

Date On: 5/9/2011	Date Off: 5/9/2011	Average Flow (F): 1.75 CFM	
Time On: 14:44	Time Off: 15:49	Total Flow: 113.75 Ft³	
Flow On: 1.750 CFM	Flow Off: 1.750 CFM	α self-absorption (Ea): 1	
Collection Eff (Ef): 0.5000	Duration (Ts): 65 min.	β self-absorption (Ea): 1	

Comments: McKENNA 17327 WP 1101275 Outside Support PM Entry Gooseneck 12-RE-13595

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	4.32E-13	0.00	216	43.20	0.00	43.2	3.44E-11	2.34E-12	6.881	6.888	CHADDERDON / 4837929
β	16:05	5.0	9.65E-12	6.34	805	161.0	67.46	93.5	6.83E-11	4.23E-12	0.007		Mele Chadderdon 5/9/11
α	5/9/2011	5.0	4.32E-13	0.00	64	12.80	0.00	12.8	1.02E-11	1.27E-12	2.039	2.041	CHADDERDON / 4837929
β	17:05	5.0	9.65E-12	6.34	472	94.4	67.46	26.9	1.97E-11	3.28E-12	0.002		Mele Chadderdon 5/9/11
α	5/9/2011	5.0	4.32E-13	0.00	3	0.60	0.00	0.6	4.78E-13	2.76E-13	0.096	0.096	CHADDERDON / 4837929 5/10/11
β	0:00	5.0	9.65E-12	6.34	348	69.6	67.46	<DL	N/A	N/A	N/A		Mele Chadderdon 5/10/11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wielang

Signature: [signature] Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area							Comments:
☐ Work Progress	2404 Complex / WB / 200W	Date On:	5/9/2011	Date Off:	5/9/2011	Average Flow (F):	5.55 CFM	Dinger WP-1101277 WB Recovery Inside Entry 5-9-11 Radeco H-ASRD7-3344
☐ Down Posting	Location Description	Time On:	10:28	Time Off:	12:18	Total Flow:	610.5 Ft^3	
☒ General Area	WB	Flow On:	6.000 CFM	Flow Off:	5.100 CFM	α self-absorption (Ea):	1	
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef):	0.9584	Duration (Ts):	110 min.	β self-absorption (Ea):	1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/9//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	4.20E-14	0.00	1237	247.40	0.00	247.4	1.92E-11	5.45E-13	3.830	**3.834**	Atallah / 6654231
β	12:35	5.0	9.38E-13	6.34	3103	620.6	67.46	553.1	3.92E-11	7.95E-13	0.004		[illegible] / 5-10-11
α	5/9/2011	5.0	4.20E-14	0.00	355	71.00	0.00	71.0	5.50E-12	2.92E-13	1.099	**1.100**	Atallah / 6654231
β	13:35	5.0	9.38E-13	6.34	1044	208.8	67.46	141.3	1.00E-11	4.66E-13	0.001		[illegible] / 5-10-11
α	5/9/2011	5.0	4.20E-14	0.00	17	3.40	0.00	3.4	2.63E-13	6.38E-14	0.053	0.053	Chadderdon / 4837929
β	22:25	5.0	9.38E-13	6.34	355	71.0	67.46	<DL	N/A	N/A	N/A		[illegible] 5/9/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): [illegible]

Signature: [illegible] Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101277

Air Sample Collection:

PURPOSE/TYPE	Location				
[ ] Work Progress	Location: Building/Room/Area: 2404 Complex / WB / 200W	Date On: 5/9/2011	Date Off: 5/9/2011	Average Flow (F): 5.55 CFM	Comments: Dinger WP-1101277 WB Recovery Inside Entry 5-9-11 Radeco H-ASRD7-3344
[ ] Down Posting	Location Description: WB	Time On: 10:28	Time Off: 12:18	Total Flow: 610.5 Ft^3	
[x] General Area		Flow On: 6.000 CFM	Flow Off: 5.100 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 110 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/9//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	4.20E-14	0.00	1237	247.40	0.00	247.4	1.92E-11	5.45E-13	3.830	**3.834**	Atallah / 6654231
β	12:35	5.0	9.38E-13	6.34	3103	620.6	67.46	553.1	3.92E-11	7.95E-13	0.004		[signature] / 5-10-11
α	5/9/2011	5.0	4.20E-14	0.00	355	71.00	0.00	71.0	5.50E-12	2.92E-13	1.099	**1.100**	Atallah / 6654231
β	13:35	5.0	9.38E-13	6.34	1044	208.8	67.46	141.3	1.00E-11	4.66E-13	0.001		[signature] / 5-10-11
α	5/9/2011	5.0	4.20E-14	0.00	17	3.40	0.00	3.4	2.63E-13	6.38E-14	0.053	0.053	Chadderdon / 483792
β	22:25	5.0	9.38E-13	6.34	355	71.0	67.46	<DL	N/A	N/A	N/A		[signature] 5/9/11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 619761 Name (print): [signature]

Signature: [signature] Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101283

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: 2404 WB/Inside
Sample Type:(F, V, L, P): V

Date On: 5/9/2011
Time On: 14:48
Flow On: 6.100 CFM
Collection Eff (Ef): 0.9584

Date Off: 5/9/2011
Time Off: 15:27
Flow Off: 5.400 CFM
Duration (Ts): 39 min.

Average Flow (F): 5.75 CFM
Total Flow: 224.25 Ft³
α self-absorption (Ea): 1
β self-absorption (Ea): 1

Comments: McKenna WP-1101283 WB Recovery PM Entry 5-9-11 Radeco H-ASRD7-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no
Protection Factor? 1,000
Type of Respiratory Protection: PAPR
Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	1.14E-13	0.00	1622	324.40	0.00	324.4	6.84E-11	1.70E-12	13.673	13.688	Atallah / 6654231
β	15:55	5.0	2.55E-12	6.34	4155	831.0	67.46	763.5	1.47E-10	2.50E-12	0.015		5-10-11
α	5/9/2011	5.0	1.14E-13	0.00	464	92.80	0.00	92.8	1.96E-11	9.08E-13	3.911	3.915	Chadderdon / 4837929
β	16:55	5.0	2.55E-12	6.34	1378	275.6	67.46	208.1	4.02E-11	1.45E-12	0.004		5/9/11
α	5/9/2011	5.0	1.14E-13	0.00	7	1.40	0.00	1.4	2.95E-13	1.12E-13	0.059	0.059	Chadderdon / 4837929
β	21:25	5.0	2.55E-12	6.34	366	73.2	67.46	<DL	N/A	N/A	N/A		5/9/11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: 619714 Name (print): [illegible]
Signature: [illegible] Date: MAY 10 2011

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RC-AIR-001 (02-10)

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101183

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: Outside WB
Sample Type:(F, V, L, P): V

Date On: 5/5/2011	Date Off: 5/5/2011	Average Flow (F):	1.6 CFM
Time On: 12:50	Time Off: 15:50	Total Flow:	288 Ft^3
Flow On: 1.700 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 180 min.	β self-absorption (Ea):	1

Comments: HOSIER WP-1101249 GOOSENECK 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/5/2011	5.0	1.40E-13	0.15	475	95.00	0.04	95.0	1.56E-11	7.15E-13	3.117	**3.120**	BARB STANCIL/ H5717168
β	15:55	5.0	1.98E-12	6.31	1394	278.8	66.78	212.0	3.19E-11	1.14E-12	0.003		B. Stancil / 5-9-11
α	5/5/2011	5.0	1.40E-13	0.15	151	30.20	0.04	30.2	4.95E-12	4.03E-13	0.990	**0.991**	BARB STANCIL/ H5717168
β	16:55	5.0	1.98E-12	6.31	659	131.8	66.78	65.0	9.78E-12	7.91E-13	0.001		B. Stancil / 5-9-11
α	5/9/2011	5.0	8.89E-14	0.00	0	0.00	0.00	0.0	0.00E+00	0.00E+00	0.000	0.000	Atallah/ H6654231
β	10:25	5.0	1.99E-12	6.34	333	66.6	67.46	<DL	N/A	N/A	N/A		[illegible] / 5-10-11
α													
β													

NA

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: 6197614 Name (print): Cleveland
Signature: [illegible] Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101283

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: 2404 WB/Inside

Sample Type:(F, V, L, P): V

Date On: 5/9/2011	Date Off: 5/9/2011	Average Flow (F):	5.75 CFM
Time On: 14:48	Time Off: 15:27	Total Flow:	224.25 Ft³
Flow On: 6.100 CFM	Flow Off: 5.400 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 39 min.	β self-absorption (Ea):	1

Comments: McKenna WP-1101283 WB Recovery PM Entry 5-9-11 Radeco H-ASRD7-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	1.14E-13	0.00	1622	324.40	0.00	324.4	6.84E-11	1.70E-12	13.673	13.688	Atallah / 6654231
β	15:55	5.0	2.55E-12	6.34	4155	831.0	67.46	763.5	1.47E-10	2.50E-12	0.015		5-10-11
α	5/9/2011	5.0	1.14E-13	0.00	464	92.80	0.00	92.8	1.96E-11	9.08E-13	3.911	3.915	Chadderdon / 4837929
β	16:55	5.0	2.55E-12	6.34	1378	275.6	67.46	208.1	4.02E-11	1.45E-12	0.004		5/9/11
α	5/9/2011	5.0	1.14E-13	0.00	7	1.40	0.00	1.4	2.95E-13	1.12E-13	0.059	0.059	Chadderdon / 4837929
β	21:25	5.0	2.55E-12	6.34	366	73.2	67.46	<DL	N/A	N/A	N/A		5/9/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): Cecile Lang

Signature: Date: MAY 10 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101204

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				
[ ] Work Progress	2404/ WB / 200W	Date On: 5/3/2011	Date Off: 5/3/2011	Average Flow (F): 6.7 CFM	Comments: McKenna 17327 WP1101204 2404 WB PM Entry Radeco H-ASRD7-3344
[ ] Down Posting	Location Description: 2404 WB inside	Time On: 17:04	Time Off: 17:48	Total Flow: 294.8 Ft^3	
[x] General Area		Flow On: 6.800 CFM	Flow Off: 6.600 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 44 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/6/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/3/2011	5.0	1.36E-13	0.15	1040	208.00	0.04	208.0	3.33E-11	1.03E-12	6.668	**6.670**	D.Orth/ H8362903
β	18:15	5.0	1.93E-12	6.29	975	195.0	66.50	128.5	1.89E-11	9.33E-13	0.002		DO 5-16-11
α	5/3/2011	5.0	1.36E-13	0.15	863	172.60	0.04	172.6	2.77E-11	9.42E-13	5.533	**5.534**	D.Orth/ H8362903
β	19:15	5.0	1.93E-12	6.29	602	120.4	66.50	53.9	7.92E-12	7.41E-13	0.001		DO 5-16-11
α	5/5/2011	5.0	1.57E-13	0.22	662	132.40	0.08	132.3	2.12E-11	8.25E-13	4.243	**4.243**	Michelle North / 17318
β	8:30	5.0	1.93E-12	6.29	348	69.6	66.52	<DL	N/A	N/A	N/A		Michelle North 5-16-11
α	5/10/2011	5.0	1.57E-13	0.22	656	131.20	0.08	131.1	2.10E-11	8.21E-13	4.204	**4.204**	Atallah / 6654231
β	10:10	5.0	1.94E-12	6.32	381	76.2	67.08	9.1	1.34E-12	5.98E-13	0.000		[illegible] / 5-10-11

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-17-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101204

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2330 W Rm 107/ 200W~~ 2404 WB 200W 7-13-11

Location Description: 2404 WB inside

Sample Type:(F, V, L, P) V

Date On: 5/3/2011	Date Off: 5/3/2011	Average Flow (F):	4.7 CFM
Time On: 9:34	Time Off: 11:15	Total Flow:	474.7 Ft³
Flow On: 4.800 CFM	Flow Off: 4.600 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 101 min.	β self-absorption (Ea):	1

Comments: McKenna 17327 WP1101204 2404 WB Entry
Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/6/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/3/2011	5.0	8.47E-14	0.15	1098	219.60	0.04	219.6	2.19E-11	6.60E-13	4.372	4.374	Schultz/8881802
β	11:45	5.0	1.20E-12	6.29	1701	340.2	66.50	273.7	2.50E-11	7.60E-13	0.002		5-16-11
α	5/3/2011	5.0	8.47E-14	0.15	539	107.80	0.04	107.8	1.07E-11	4.62E-13	2.146	2.146	SCHULTZ/8881802
β	13:35	5.0	1.20E-12	6.29	534	106.8	66.50	40.3	3.68E-12	4.35E-13	0.000		5-16-11
α	5/6/2011	5.0	9.74E-14	0.22	421	84.20	0.08	84.1	8.37E-12	4.09E-13	1.675	1.675	Michelle North / 3963478
β	8:45	5.0	1.20E-12	6.29	362	72.4	66.52	<DL	N/A	N/A	N/A		Michelle North 5-16-11
α	5/10/2011	5.0	9.74E-14	0.22	440	88.00	0.08	87.9	8.75E-12	4.18E-13	1.751	1.751	Atallah / 6654231
β	10:15	5.0	1.20E-12	6.32	395	79.0	67.08	11.9	1.09E-12	3.78E-13	0.000		5-10-11

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C. Wieland

Signature: Date MAY 12 2011

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RC-AIR-001 (02-10)

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101290

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex/ WB / 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Date On: 5/10/2011	Date Off: 5/10/2011	Average Flow (F):	5.3 CFM
Time On: 18:05	Time Off: 20:00	Total Flow:	609.5 Ft^3
Flow On: 5.400 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 115 min.	β self-absorption (Ea):	1

Comments: Pomeroy 17342 WP 1101290 WB Recovery Inside Support 5/10/2011 Radeco H-ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	5.89E-14	0.11	24	4.80	0.02	4.8	3.71E-13	7.60E-14	0.074	0.074	jordan conley 0000101 5/12/11
β	9:40	5.0	9.48E-13	6.40	363	72.6	68.84	<DL	N/A	N/A	N/A		
α													
β													
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg =.Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: 6197614 Name (print): C Welama
Signature: Cdw MAY 12 2011

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) **GWP1101290**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area						Comments:
[ ] Work Progress	2404 Complex/ WB / 200W	Date On: 5/10/2011		Date Off: 5/10/2011		Average Flow (F): 5.3 CFM	Pomeroy 17342 WP 1101290 WB Recovery Inside Support 5/10/2011 Radeco H-ASSA1-664
[ ] Down Posting	Location Description 2404 WB Inside	Time On: 18:05		Time Off: 20:00		Total Flow: 609.5 Ft^3	
[x] General Area		Flow On: 5.400	CFM	Flow Off: 5.200	CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584		Duration (Ts): 115	min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
					N/A					

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	5.89E-14	0.11	24	4.80	0.02	4.8	3.71E-13	7.60E-14	0.074	0.074	jordan conley 0000101
β	9:40	5.0	9.48E-13	6.40	363	72.6	68.84	<DL	N/A	N/A	N/A		5/12/11
α													
β													
α									N/A				
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: [signature] MAY 12 2011

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR #) **GWP1101302**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area			
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/10/2011	Date Off: 5/10/2011	Average Flow (F): 1.5 CFM
[ ] Down Posting	Location Description: 2404 WB Outside	Time On: 10:20	Time Off: 20:15	Total Flow: 892.5 Ft^3
[x] General Area		Flow On: 1.500 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 595 min.	β self-absorption (Ea): 1

Comments: Hosier 10973 WP 1101302 WB Recovery Outside Support 5/10/2011 Gooseneck RE-12-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _x_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	5.18E-14	0.22	455	91.00	0.08	90.9	4.81E-12	2.26E-13	0.963	**0.964**	CHADDERDON / 4837929
β	20:20	5.0	6.40E-13	6.32	1382	276.4	67.08	209.3	1.02E-11	3.65E-13	0.001		Chadderdon 5/11/11
α	5/10/2011	5.0	5.18E-14	0.22	194	38.80	0.08	38.7	2.05E-12	1.48E-13	0.410	**0.410**	CHADDERDON / 4837929
β	21:20	5.0	6.40E-13	6.32	673	134.6	67.08	67.5	3.28E-12	2.58E-13	0.000		Chadderdon 5/11/11
α	5/11/2011	5.0	4.03E-14	0.11	18	3.60	0.02	3.6	1.90E-13	4.49E-14	0.038	0.038	CHADDERDON / 4837929
β	16:20	5.0	6.48E-13	6.40	380	76.0	68.84	7.2	3.47E-13	1.98E-13	0.000		Chadderdon 5/11/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): **α = 5.E-12** **(Default = 5E-12)**

β = 1.E-08 **(Default = 1E-8)**

Reviewer:

HID: 6197614 Name (print): CWieleny

Signature: [signature] Date: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR #) GWP1101302

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/10/2011	Date Off: 5/10/2011	Average Flow (F): 1.5 CFM	Comments: Hosier 10973 WP 1101302 WB Recovery Outside Support 5/10/2011 Gooseneck RE-12-13597
[ ] Down Posting	Location Description: 2404 WB Outside	Time On: 10:20	Time Off: 20:15	Total Flow: 892.5 Ft^3	
[x] General Area		Flow On: 1.500 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 595 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes x no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	5.18E-14	0.22	455	91.00	0.08	90.9	4.81E-12	2.26E-13	0.963	0.964	CHADDERDON / 4837929
β	20:20	5.0	6.40E-13	6.32	1382	276.4	67.08	209.3	1.02E-11	3.65E-13	0.001		Chadderdon 5/11/11
α	5/10/2011	5.0	5.18E-14	0.22	194	38.80	0.08	38.7	2.05E-12	1.48E-13	0.410	0.410	CHADDERDON / 4837929
β	21:20	5.0	6.40E-13	6.32	673	134.6	67.08	67.5	3.28E-12	2.58E-13	0.000		Chadderdon 5/11/11
α	5/11/2011	5.0	4.03E-14	0.11	18	3.60	0.02	3.6	1.90E-13	4.49E-14	0.038	0.038	CHADDERDON / 4837929
β	16:20	5.0	6.48E-13	6.40	380	76.0	68.84	7.2	3.47E-13	1.98E-13	0.000		Chadderdon 5/11/11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): CWielang

Signature: [signature] Date: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101312

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/11/2011	Date Off: 5/11/2011	Average Flow (F): 5.75 CFM	Comments: Wampole 8A863 INSIDE WB RECOVERY. RADECO H-ASSA-664
[ ] Down Posting	Location Description	Time On: 13:58	Time Off: 15:20	Total Flow: 471.5 Ft^3	
[x] General Area	2404 INSIDE WB RECOVERY	Flow On: 6.100 CFM	Flow Off: 5.400 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 82 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	7.62E-14	0.11	8318	1663.60	0.02	1663.6	1.67E-10	1.83E-12	33.349	33.384	CONLEY 0000101
β	15:30	5.0	1.23E-12	6.40	19264	3852.8	68.84	3784.0	3.48E-10	2.55E-12	0.035		5/12/11
α	5/11/2011	5.0	7.62E-14	0.11	2791	558.20	0.02	558.2	5.59E-11	1.06E-12	11.190	11.200	CHADDERDON 4837929
β	16:30	5.0	1.23E-12	6.40	6080	1216.0	68.84	1147.2	1.05E-10	1.44E-12	0.011		5/11/11
α	5/12/2011	5.0	9.81E-14	0.22	18	3.60	0.08	3.5	3.53E-13	8.51E-14	0.071	0.071	CHADDERDON 4837929
β	8:00	5.0	1.20E-12	6.29	354	70.8	66.36	<DL	N/A	N/A	N/A		5/12/11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): Chadderdon

Signature: Date: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101312

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					Comments:
☐ Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/11/2011	Date Off: 5/11/2011	Average Flow (F): 5.75 CFM		Wampole 8A863 INSIDE WB RECOVERY. RADECO H-ASSA-664
☐ Down Posting	Location Description: 2404 INSIDE WB RECOVERY	Time On: 13:58	Time Off: 15:20	Total Flow: 471.5 Ft^3		
☒ General Area		Flow On: 6.100 CFM	Flow Off: 5.400 CFM	α self-absorption (Ea): 1		
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 82 min.	β self-absorption (Ea): 1		

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	7.62E-14	0.11	8318	1663.60	0.02	1663.6	1.67E-10	1.83E-12	33.349	**33.384**	CONLEY 0000101
β	15:30	5.0	1.23E-12	6.40	19264	3852.8	68.84	3784.0	3.48E-10	2.55E-12	0.035		5/12/11
α	5/11/2011	5.0	7.62E-14	0.11	2791	558.20	0.02	558.2	5.59E-11	1.06E-12	11.190	**11.200**	CHADDERDON 4837929
β	16:30	5.0	1.23E-12	6.40	6080	1216.0	68.84	1147.2	1.05E-10	1.44E-12	0.011		5/11/11
α	5/12/2011	5.0	9.81E-14	0.22	18	3.60	0.08	3.5	3.53E-13	8.51E-14	0.071	0.071	CHADDERDON 4837929
β	8:00	5.0	1.20E-12	6.29	354	70.8	66.36	<DL	N/A	N/A	N/A		5/12/11
α													
β													

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

Reviewer:

HID: 6197614 Name (print): Chadderdon

Signature: Date: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: 2404 INSIDE WB RECOVERY
Sample Type:(F, V, L, P): V

Date On: 5/11/2011	Date Off: 5/11/2011	Average Flow (F):	5.45 CFM
Time On: 9:27	Time Off: 11:20	Total Flow:	615.85 Ft³
Flow On: 5.900 CFM	Flow Off: 5.000 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 113 min.	β self-absorption (Ea):	1

Comments: WILHELM 16515. Radeco H-ASSA-664 - Inside Recovery 2404 WB.

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no
Protection Factor? 1,000
Type of Respiratory Protection: PAPR
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	5.83E-14	0.11	6037	1207.40	0.02	1207.4	9.27E-11	1.19E-12	18.531	**18.549**	J. CONLEY 0000101
β	11:50	5.0	9.39E-13	6.40	12980	2596.0	68.84	2527.2	1.78E-10	1.60E-12	0.018		J Conley 5/12/11
α	5/11/2011	5.0	5.83E-14	0.11	1099	219.80	0.02	219.8	1.69E-11	5.09E-13	3.373	**3.376**	J. CONLEY 0000101
β	13:00	5.0	9.39E-13	6.40	2322	464.4	68.84	395.6	2.78E-11	6.83E-13	0.003		J Conley 5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	38	7.60	0.08	7.5	5.77E-13	9.47E-14	0.115	0.115	CHADDERDON 4837929
β	7:55	5.0	9.22E-13	6.29	388	77.6	66.36	11.2	7.90E-13	2.89E-13	0.000		M Chadderdon 5/12/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 **(Default = 5E-12)**
β = 1.E-08 **(Default = 1E-8)**

Reviewer:
HID: 6197614 Name (print): C Wieland
Signature: [signature] Date MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101314

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/11/2011	Date Off: 5/11/2011	Average Flow (F): 5.45 CFM	Comments: WILHELM 16515. Radeco H-ASSA-664 - Inside Recovery 2404 WB.
[ ] Down Posting	Location Description	Time On: 9:27	Time Off: 11:20	Total Flow: 615.85 Ft^3	
[x] General Area	2404 INSIDE WB RECOVERY	Flow On: 5.900 CFM	Flow Off: 5.000 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 113 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	5.83E-14	0.11	6037	1207.40	0.02	1207.4	9.27E-11	1.19E-12	18.531	**18.549**	J. CONLEY 0000101
β	11:50	5.0	9.39E-13	6.40	12980	2596.0	68.84	2527.2	1.78E-10	1.60E-12	0.018		5/12/11
α	5/11/2011	5.0	5.83E-14	0.11	1099	219.80	0.02	219.8	1.69E-11	5.09E-13	3.373	**3.376**	J. CONLEY 0000101
β	13:00	5.0	9.39E-13	6.40	2322	464.4	68.84	395.6	2.78E-11	6.83E-13	0.003		5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	38	7.60	0.08	7.5	5.77E-13	9.47E-14	0.115	0.115	CHADDERDON 4837929
β	7:55	5.0	9.22E-13	6.29	388	77.6	66.36	11.2	7.90E-13	2.89E-13	0.000		5/12/11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)

β = **1.E-08** (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wiel

Signature: ___ Date MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101324

Air Sample Collection:

PURPOSE/TYPE:	Location						Comments
[ ] Work Progress	Location: Building/Room/Area: 2404 COMPLEX / WB / 200W	Date On:	5/11/2011	Date Off:	5/11/2011	Average Flow (F): 1.5 CFM	CURIEL 8605771 12-RE-13597 OUTSIDE OF WB IN CA.
[ ] Down Posting	Location Description: 2404 OUTSIDE WB RECOVERY	Time On:	9:25	Time Off:	15:40	Total Flow: 562.5 Ft^3	
[x] General Area		Flow On:	1.500 CFM	Flow Off:	1.500 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef):	0.9584	Duration (Ts):	375 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	6.39E-14	0.11	321	64.20	0.02	64.2	5.39E-12	3.01E-13	1.078	**1.080**	J.Conley 0000101
β	15:45	5.0	1.03E-12	6.40	1029	205.8	68.84	137.0	1.05E-11	5.02E-13	0.001		5/12/11
α	5/11/2011	5.0	6.39E-14	0.11	125	25.00	0.02	25.0	2.10E-12	1.88E-13	0.420	**0.420**	CHADDERDON 4837929
β	16:45	5.0	1.03E-12	6.40	617	123.4	68.84	54.6	4.20E-12	3.93E-13	0.000		Chadderdon 5/11/11
α	5/11/2011	5.0	6.39E-14	0.11	48	9.60	0.02	9.6	8.05E-13	1.16E-13	0.161	0.161	CHADDERDON 4837929
β	20:25	5.0	1.03E-12	6.40	489	97.8	68.84	29.0	2.23E-12	3.52E-13	0.000		Chadderdon 5/11/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)

β = **1.E-08** (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: [signature] MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101324

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W

Location Description: 2404 OUTSIDE WB RECOVERY

Sample Type:(F, V, L, P): V

Date On:	5/11/2011	Date Off:	5/11/2011	Average Flow (F):	1.5 CFM
Time On:	9:25	Time Off:	15:40	Total Flow:	562.5 Ft^3
Flow On:	1.500 CFM	Flow Off:	1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef):	0.9584	Duration (Ts):	375 min.	β self-absorption (Ea):	1

Comments: CURIEL 8605771 12-RE-13597 OUTSIDE OF WB IN CA.

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
5/11/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3442	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/11/2011	5.0	6.39E-14	0.11	321	64.20	0.02	64.2	5.39E-12	3.01E-13	1.078	**1.080**	J.Conley 0000101
β	15:45	5.0	1.03E-12	6.40	1029	205.8	68.84	137.0	1.05E-11	5.02E-13	0.001		5/12/11
α	5/11/2011	5.0	6.39E-14	0.11	125	25.00	0.02	25.0	2.10E-12	1.88E-13	0.420	**0.420**	CHADDERDON 4837929
β	16:45	5.0	1.03E-12	6.40	617	123.4	68.84	54.6	4.20E-12	3.93E-13	0.000		Chadderdon 5/11/11
α	5/11/2011	5.0	6.39E-14	0.11	48	9.60	0.02	9.6	8.05E-13	1.16E-13	0.161	0.161	CHADDERDON 4837929
β	20:25	5.0	1.03E-12	6.40	489	97.8	68.84	29.0	2.23E-12	3.52E-13	0.000		Chadderdon 5/11/11
α							NA						
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: [signature] Date: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP11001334

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area						Comments:
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	5.5 CFM		HENDRICKS 94819. HCA AIR SAMPLE INSIDE SUPPORT 2404 WB. 1ST ENTRY. RADECO H-ASSA1-664
[ ] Down Posting	Location Description	Time On: 9:28	Time Off: 11:20	Total Flow:	616 Ft^3		
[x] General Area	HCA AIR SAMPLE	Flow On: 5.800 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea):	1		
[ ] Breathing Zone	Sample Type (F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 112 min.	β self-absorption (Ea):	1		

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	7.51E-14	0.22	809	161.80	0.08	161.7	1.24E-11	4.36E-13	2.481	2.484	J CONLEY 0000101
β	11:55	5.0	9.22E-13	6.29	2072	414.4	66.36	348.0	2.45E-11	6.45E-13	0.002		5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	293	58.60	0.08	58.5	4.49E-12	2.63E-13	0.898	0.899	CHADDERDON 4837929
β	12:55	5.0	9.22E-13	6.29	793	158.6	66.36	92.2	6.49E-12	4.04E-13	0.001		5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	40	8.00	0.08	7.9	6.08E-13	9.71E-14	0.122	0.122	CHADDERDON 4837929
β	16:05	5.0	9.22E-13	6.29	387	77.4	66.36	11.0	7.76E-13	2.88E-13	0.000		5/12/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: MAY 12 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101182

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: 2404 WB
Sample Type:(F, V, L, P): V

Date On: 5/1/2011	Date Off: 5/1/2011	Average Flow (F):	2.2 CFM
Time On: 12:15	Time Off: 12:41	Total Flow:	57.2 Ft^3
Flow On: 2.300 CFM	Flow Off: 2.100 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 26 min.	β self-absorption (Ea):	1

Comments: Tubbs WP-1101182 WB Recovery 1st Entry Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/1//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/1/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/1/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___yes X no
Protection Factor? 10,000
Type of Respiratory Protection: fresh air
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/1/2011	5.0	7.60E-13	0.19	1073	214.60	0.06	214.5	1.77E-10	5.41E-12	35.452	35.474	Rami Atallah / 6654231
β	13:10	5.0	1.00E-11	6.34	1810	362.0	67.58	294.4	2.23E-10	6.50E-12	0.022		[signature] /5-9-11
α	5/1/2011	5.0	7.60E-13	0.19	636	127.20	0.06	127.1	1.05E-10	4.17E-12	21.009	21.015	Rami Atallah / 6654231
β	14:15	5.0	1.00E-11	6.34	727	145.4	67.58	77.8	5.89E-11	4.18E-12	0.006		[signature] /5-9-11
α	5/1/2011	5.0	7.60E-13	0.19	520	104.00	0.06	103.9	8.59E-11	3.77E-12	17.176	17.179	Rami Atallah / 6654231
β	15:10	5.0	1.00E-11	6.34	568	113.6	67.58	46.0	3.48E-11	3.72E-12	0.003		[signature] /5-9-11
α	5/3/2011	5.0	7.03E-13	0.15	371	74.20	0.04	74.2	6.13E-11	3.18E-12	12.255	12.255	Michelle North/3963478
β	8:40	5.0	9.94E-12	6.29	347	69.4	66.50	<DL	N/A	N/A	N/A		[signature] 5-6-11

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: ~~T. Terry~~ H0759605 5-16-11 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101182**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 WB 1200W ~~2336 W/ Rm 107/200W~~ 7-13-11

Location Description: 2404 WB

Sample Type:(F, V, L, P): V

Date On: 5/1/2011	Date Off: 5/1/2011	Average Flow (F):	2.2 CFM
Time On: 12:15	Time Off: 12:41	Total Flow:	57.2 Ft^3
Flow On: 2.300 CFM	Flow Off: 2.100 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 26 min.	β self-absorption (Ea):	1

Comments: Tubbs WP-1101182 WB Recovery 1st Entry Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
				N/A						

Respiratory Protection Information:

Respiratory Protection Worn? ___yes X no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/4/2011	5.0	8.08E-13	0.22	358	71.60	0.08	71.5	5.91E-11	3.13E-12	11.818	11.819	Schultz/8881802
β	13:05	5.0	9.94E-12	6.29	373	74.6	66.54	8.1	6.10E-12	3.05E-12	0.001		5-4-11
α	5/9/2011	5.0	4.48E-13	0.00	381	76.20	0.00	76.2	6.30E-11	3.23E-12	12.592	12.592	Atallah/ H6654231
β	9:15	5.0	1.00E-11	6.34	362	72.4	67.46	<DL	N/A	N/A	N/A		5-9-11
α							N/A						
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101184

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area			
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/1/2011	Date Off: 5/1/2011	Average Flow (F): 5.2 CFM
[ ] Down Posting	Location Description: WB	Time On: 16:20	Time Off: 16:58	Total Flow: 197.6 Ft^3
[x] General Area		Flow On: 5.200 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 38 min.	β self-absorption (Ea): 1

Comments: Dinger WP-1101184 WB Recovery 2nd Entry Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/1//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/1//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes ___ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/1/2011	5.0	2.20E-13	0.19	3211	642.20	0.06	642.1	1.54E-10	2.71E-12	30.716	**30.739**	Rami Atallah / 6654231
β	17:25	5.0	2.90E-12	6.34	5535	1107.0	67.58	1039.4	2.28E-10	3.27E-12	0.023		[signature] / 5-9-11
α	5/1/2011	5.0	2.20E-13	0.19	1475	295.00	0.06	294.9	7.05E-11	1.84E-12	14.108	**14.115**	Rami Atallah / 6654231
β	18:25	5.0	2.90E-12	6.34	1973	394.6	67.58	327.0	7.17E-11	1.96E-12	0.007		[signature] / 5-9-[illegible]
α	5/3/2011	5.0	2.03E-13	0.15	611	122.20	0.04	122.2	2.92E-11	1.18E-12	5.843	**5.844**	Michelle North /3963478
β	8:45	5.0	2.88E-12	6.29	371	74.2	66.50	7.7	1.69E-12	8.81E-13	0.000		[signature] 5-16-11
α	5/4/2011	5.0	2.34E-13	0.22	578	115.60	0.08	115.5	2.76E-11	1.15E-12	5.526	**5.526**	Scholtz/8881802
β	13:30	5.0	2.88E-12	6.29	358	71.6	66.54	<DL	N/A	N/A	N/A		[signature] 5-4-11

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101184

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: WB
Sample Type:(F, V, L, P): V

Date On: 5/1/2011	Date Off: 5/1/2011	Average Flow (F):	5.2 CFM
Time On: 16:20	Time Off: 16:58	Total Flow:	197.6 Ft^3
Flow On: 5.200 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 38 min.	β self-absorption (Ea):	1

Comments: Dinger WP-1101184 WB Recovery 2nd Entry Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/1//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/1//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3379	50	COUNT ROOM
5/3/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3325	50	COUNT ROOM
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes ___ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: 0.2
Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/1/2011	5.0	2.20E-13	0.19	3211	642.20	0.06	642.1	1.54E-10	2.71E-12	30.716	**30.739**	Rami Atallah / 6654231
β	17:25	5.0	2.90E-12	6.34	5535	1107.0	67.58	1039.4	2.28E-10	3.27E-12	0.023		[signature] 5-9-11
α	5/1/2011	5.0	2.20E-13	0.19	1475	295.00	0.06	294.9	7.05E-11	1.84E-12	14.108	**14.115**	Rami Atallah / 6654231
β	18:25	5.0	2.90E-12	6.34	1973	394.6	67.58	327.0	7.17E-11	1.96E-12	0.007		[signature] 5-9-11
α	5/3/2011	5.0	2.03E-13	0.15	611	122.20	0.04	122.2	2.92E-11	1.18E-12	5.843	**5.844**	Michelle North /3963478
β	8:45	5.0	2.88E-12	6.29	371	74.2	66.50	7.7	1.69E-12	8.81E-13	0.000		[signature] 5-16-11
α	5/4/2011	5.0	2.34E-13	0.22	578	115.60	0.08	115.5	2.76E-11	1.15E-12	5.526	**5.526**	Schultz/8881802
β	13:30	5.0	2.88E-12	6.29	358	71.6	66.54	<DL	N/A	N/A	N/A		[signature] 5-4-11

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101184**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: WB
Sample Type:(F, V, L, P): V

Date On: 5/1/2011	Date Off: 5/1/2011	Average Flow (F):	5.2 CFM
Time On: 16:20	Time Off: 16:58	Total Flow:	197.6 Ft^3
Flow On: 5.200 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 38 min.	β self-absorption (Ea):	1

Comments: Dinger WP-1101184 WB Recovery 2nd Entry Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
	N/A			N/A				N/A		N/A

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/9/2011	5.0	1.30E-13	0.00	618	123.60	0.00	123.6	2.96E-11	1.19E-12	5.912	**5.912**	Rami Atallah / 6654231
β	9:25	5.0	2.90E-12	6.34	372	74.4	67.46	6.9	1.52E-12	8.83E-13	0.000		[signature] / 5-9-11
α					N			A					
β													
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101187

PURPOSE/TYPE:
- [-] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Air Sample Collection:

Date On: 5/5/2011	Date Off: 5/5/2011	Average Flow (F):	5 CFM
Time On: 12:57	Time Off: 14:51	Total Flow:	570 Ft³
Flow On: 5.100 CFM	Flow Off: 4.900 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 114 min.	β self-absorption (Ea):	1

Comments: Wilhelm 16515 WP 1101187 inside 2404 WB Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/5/2011	5.0	7.05E-14	0.15	6001	1200.20	0.04	1200.2	9.95E-11	1.28E-12	19.902	**19.919**	Michelle North /17318 5-10-11
β	15:45	5.0	9.99E-13	6.31	11936	2387.2	66.78	2320.4	1.76E-10	1.66E-12	0.018		Michelle North
α	5/5/2011	5.0	7.05E-14	0.15	1730	346.00	0.04	346.0	2.87E-11	6.90E-13	5.737	**5.742**	BARB STANCIL/ H5717168
β	16:45	5.0	9.99E-13	6.31	3458	691.6	66.78	624.8	4.75E-11	8.98E-13	0.005		B. Stancil / 5-10-11
α	5/9/2011	5.0	4.49E-14	0.00	53	10.60	0.00	10.6	8.79E-13	1.21E-13	0.176	0.176	Atallah / H6654231
β	9:35	5.0	1.00E-12	6.34	321	64.2	67.46	<DL	N/A	N/A	N/A		[illegible] / 5-9-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR #) GWP1101187

Air Sample Collection:

PURPOSE/TYPE:
- [\] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Date On: 5/5/2011	Date Off: 5/5/2011	Average Flow (F):	5 CFM
Time On: 12:57	Time Off: 14:51	Total Flow:	570 Ft³
Flow On: 5.100 CFM	Flow Off: 4.900 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 114 min.	β self-absorption (Ea):	1

Comments: Wilhelm 16515 WP 1101187 inside 2404 WB Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/5/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3339	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/5/2011	5.0	7.05E-14	0.15	6001	1200.20	0.04	1200.2	9.95E-11	1.28E-12	19.902	19.919	Michelle North /17318 5-16-11
β	15:45	5.0	9.99E-13	6.31	11936	2387.2	66.78	2320.4	1.76E-10	1.66E-12	0.018		Michelle North
α	5/5/2011	5.0	7.05E-14	0.15	1730	346.00	0.04	346.0	2.87E-11	6.90E-13	5.737	5.742	BARB STANCIL/ H5717168
β	16:45	5.0	9.99E-13	6.31	3458	691.6	66.78	624.8	4.75E-11	8.98E-13	0.005		B. Stancil / 5-10-11
α	5/9/2011	5.0	4.49E-14	0.00	53	10.60	0.00	10.6	8.79E-13	1.21E-13	0.176	0.176	Atallah / H6654231
β	9:35	5.0	1.00E-12	6.34	321	64.2	67.46	<DL	N/A	N/A	N/A		[illegible] / 5-9-11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101224

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: 2404 WB Inside
Sample Type:(F, V, L, P): V

Date On: 5/4/2011	Date Off: 5/4/2011	Average Flow (F):	4.65 CFM
Time On: 11:18	Time Off: 11:58	Total Flow:	186 Ft^3
Flow On: 4.800 CFM	Flow Off: 4.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 40 min.	β self-absorption (Ea):	1

Comments: Rhodes 16588 WP 1101224 H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/6/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/4/2011	5.0	2.49E-13	0.22	1618	323.60	0.08	323.5	8.22E-11	2.04E-12	16.440	16.458	Tubbs/8D098
β	12:05	5.0	3.06E-12	6.29	4042	808.4	66.54	741.9	1.73E-10	2.97E-12	0.017		
α	5/4/2011	5.0	2.49E-13	0.22	251	50.20	0.08	50.1	1.27E-11	8.05E-13	2.547	2.549	Schultz/8881802
β	14:00	5.0	3.06E-12	6.29	714	142.8	66.54	76.3	1.78E-11	1.27E-12	0.002		5-16-11
α	5/6/2011	5.0	2.49E-13	0.22	59	11.80	0.08	11.7	2.98E-12	3.90E-13	0.596	0.596	Michelle North / 17318
β	9:10	5.0	3.06E-12	6.29	363	72.6	66.54	<DL	N/A	N/A	N/A		Michelle North 5-16-11
α	5/9/2011	5.0	1.38E-13	0.00	70	14.00	0.00	14.0	3.56E-12	4.25E-13	0.711	0.712	Atallah/ 6654231
β	10:52	5.0	3.08E-12	6.34	384	76.8	67.46	9.3	2.17E-12	9.52E-13	0.000		5-16-11

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101224

Air Sample Collection:

PURPOSE/TYPE:	Location	Collection		Flow	Comments
[ ] Work Progress	Location: Building/Room/Area: 2404 Complex / WB / 200W	Date On: 5/4/2011	Date Off: 5/4/2011	Average Flow (F): 4.65 CFM	Rhodes 16588 WP 1101224 H-ASRD7-3344
[ ] Down Posting	Location Description: 2404 WB Inside	Time On: 11:18	Time Off: 11:58	Total Flow: 186 Ft^3	
[x] General Area		Flow On: 4.800 CFM	Flow Off: 4.500 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 40 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	2.49E-13	0.22	86	17.20	0.08	17.1	4.35E-12	4.71E-13	0.870	0.870	CHADDERDON 4837929
β	15:35	5.0	3.07E-12	6.32	340	68.0	67.08	<DL	N/A	N/A	N/A		Kelu Chadderdon 5/10/11
α													
β													
α													
β													
α													
β													

NA

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

COPY

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101224

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W
Location Description: 2404 WB Inside
Sample Type:(F, V, L, P): V

Date On: 5/4/2011	Date Off: 5/4/2011	Average Flow (F):	4.65 CFM
Time On: 11:18	Time Off: 11:58	Total Flow:	186 Ft^3
Flow On: 4.800 CFM	Flow Off: 4.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 40 min.	β self-absorption (Ea):	1

Comments: Rhodes 16588 WP 1101224 H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/4/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/6/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3327	50	COUNT ROOM
5/9/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3373	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: 0.2
Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/4/2011	5.0	2.49E-13	0.22	1618	323.60	0.08	323.5	8.22E-11	2.04E-12	16.440	16.458	Tubbs/8D098
β	12:05	5.0	3.06E-12	6.29	4042	808.4	66.54	741.9	1.73E-10	2.97E-12	0.017		[signature]
α	5/4/2011	5.0	2.49E-13	0.22	251	50.20	0.08	50.1	1.27E-11	8.05E-13	2.547	2.549	Schultz/8881802
β	14:00	5.0	3.06E-12	6.29	714	142.8	66.54	76.3	1.78E-11	1.27E-12	0.002		[signature] 5-16-11
α	5/6/2011	5.0	2.49E-13	0.22	59	11.80	0.08	11.7	2.98E-12	3.90E-13	0.596	0.596	Michelle North / 17318
β	9:10	5.0	3.06E-12	6.29	363	72.6	66.54	<DL	N/A	N/A	N/A		[signature] 5-16-11
α	5/9/2011	5.0	1.38E-13	0.00	70	14.00	0.00	14.0	3.56E-12	4.25E-13	0.711	0.712	Atallah/ 6654231
β	10:52	5.0	3.08E-12	6.34	384	76.8	67.46	9.3	2.17E-12	9.52E-13	0.000		[signature] 5-16-11

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: [signature] Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101224

Page ~~1 of 1~~ 2 of 2

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Date On: 5/4/2011	Date Off: 5/4/2011	Average Flow (F):	4.65 CFM
Time On: 11:18	Time Off: 11:58	Total Flow:	186 Ft^3
Flow On: 4.800 CFM	Flow Off: 4.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 40 min.	β self-absorption (Ea):	1

Comments: Rhodes 16588 WP 1101224 H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
				N/A						

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC ($\alpha+\beta$)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	2.49E-13	0.22	86	17.20	0.08	17.1	4.35E-12	4.71E-13	0.870	0.870	CHADDERDON 4837929
β	15:35	5.0	3.07E-12	6.32	340	68.0	67.08	<DL	N/A	N/A	N/A		[signature] 5/10/11
α													
β													
α					N/A								
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP11001334

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area			
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F): 5.5 CFM
[ ] Down Posting	Location Description	Time On: 9:28	Time Off: 11:20	Total Flow: 616 Ft³
[x] General Area	HCA AIR SAMPLE	Flow On: 5.800 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 112 min.	β self-absorption (Ea): 1

Comments: HENDRICKS 94819. HCA AIR SAMPLE INSIDE SUPPORT 2404 WB. 1ST ENTRY. RADECO H-ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no

Sample Number: NA

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	7.51E-14	0.22	809	161.80	0.08	161.7	1.24E-11	4.36E-13	2.481	**2.484**	J CONLEY 0000101
β	11:55	5.0	9.22E-13	6.29	2072	414.4	66.36	348.0	2.45E-11	6.45E-13	0.002		5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	293	58.60	0.08	58.5	4.49E-12	2.63E-13	0.898	**0.899**	CHADDERDON 4837929
β	12:55	5.0	9.22E-13	6.29	793	158.6	66.36	92.2	6.49E-12	4.04E-13	0.001		5/12/11
α	5/12/2011	5.0	7.51E-14	0.22	40	8.00	0.08	7.9	6.08E-13	9.71E-14	0.122	0.122	CHADDERDON 4837929
β	16:05	5.0	9.22E-13	6.29	387	77.4	66.36	11.0	7.76E-13	2.88E-13	0.000		5/12/11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: MAY 12 2011

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR #) **GWP1101259**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/6/2011	Date Off: 5/6/2011	Average Flow (F): 5.35 CFM	Comments: Wilhelm WP-1101259 WB Recovery Entry 5-6-11 Radeco H-ASRD7-3344
[wilhe] Down Posting	Location Description: WB	Time On: 9:50	Time Off: 12:00	Total Flow: 695.5 Ft³	
[x] General Area		Flow On: 5.800 CFM	Flow Off: 4.900 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 130 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/6/2011	5.0	6.65E-14	0.22	4075	815.00	0.08	814.9	5.54E-11	8.68E-13	11.075	**11.085**	Michelle North /3963478
β	12:25	5.0	8.18E-13	6.29	8504	1700.8	66.52	1634.3	1.02E-10	1.15E-12	0.010		Michelle North 5-16-11
α	5/6/2011	5.0	6.65E-14	0.22	1399	279.80	0.08	279.7	1.90E-11	5.08E-13	3.801	**3.805**	Michelle North /3963478
β	13:25	5.0	8.18E-13	6.29	2849	569.8	66.52	503.3	3.13E-11	6.69E-13	0.003		Michelle North 5-16-11
α	5/10/2011	5.0	6.65E-14	0.22	12	2.40	0.08	2.3	1.58E-13	4.72E-14	0.032	0.032	Atallah / 6654231
β	8:20	5.0	8.21E-13	6.32	328	65.6	67.08	<DL	N/A	N/A	N/A		[illegible] / 5-10-11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** **(Default = 5E-12)**

β = **1.E-08** **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101259

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area			
[ ] Work Progress	2404 Complex / WB / 200W	Date On: 5/6/2011	Date Off: 5/6/2011	Average Flow (F): 5.35 CFM
[wilhe] Down Posting	Location Description: WB	Time On: 9:50	Time Off: 12:00	Total Flow: 695.5 Ft^3
[x] General Area		Flow On: 5.800 CFM	Flow Off: 4.900 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 130 min.	β self-absorption (Ea): 1

Comments: Wilhelm WP-1101259 WB Recovery Entry 5-6-11 Radeco H-ASRD7-3344

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/6/2011	5.0	6.65E-14	0.22	4075	815.00	0.08	814.9	5.54E-11	8.68E-13	11.075	11.085	Michelle North /3963478
β	12:25	5.0	8.18E-13	6.29	8504	1700.8	66.52	1634.3	1.02E-10	1.15E-12	0.010		Michelle North 5-16-11
α	5/6/2011	5.0	6.65E-14	0.22	1399	279.80	0.08	279.7	1.90E-11	5.08E-13	3.801	3.805	Michelle North /3963478
β	13:25	5.0	8.18E-13	6.29	2849	569.8	66.52	503.3	3.13E-11	6.69E-13	0.003		Michelle North 5-16-11
α	5/10/2011	5.0	6.65E-14	0.22	12	2.40	0.08	2.3	1.58E-13	4.72E-14	0.032	0.032	Atallah / 6654231
β	8:20	5.0	8.21E-13	6.32	328	65.6	67.08	<DL	N/A	N/A	N/A		[illegible] / 5-10-[illegible]
α									N/A				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101265**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					
☐ Work Progress	2404 Complex / WB / 200W	Date On: 5/6/2011	Date Off: 5/6/2011	Average Flow (F): 1.45 CFM	Comments: Rhodes WP-1101265 WB Recovery Entry 5-6-11 Gooseneck # re-12-13597 outside
☐ Down Posting	Location Description WB	Time On: 9:44	Time Off: 12:35	Total Flow: 247.95 Ft^3	
☒ General Area		Flow On: 1.500 CFM	Flow Off: 1.400 CFM	α self-absorption (Ea): 1	
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 171 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? x yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/6/2011	5.0	1.86E-13	0.22	411	82.20	0.08	82.1	1.57E-11	7.73E-13	3.130	**3.134**	Michelle North /3963478
β	12:37	5.0	2.29E-12	6.29	1241	248.2	66.52	181.7	3.17E-11	1.25E-12	0.003		Michelle North
α	5/6/2011	5.0	1.86E-13	0.22	148	29.60	0.08	29.5	5.63E-12	4.64E-13	1.125	**1.126**	Michelle North/ 3963478
β	13:37	5.0	2.29E-12	6.29	583	116.6	66.52	50.1	8.75E-12	8.67E-13	0.001		Michelle North
α	5/10/2011	5.0	1.86E-13	0.22	1	0.20	0.08	<DL	N/A	N/A	N/A	N/A	Atallah /6654231
β	8:10	5.0	2.30E-12	6.32	343	68.6	67.08	<DL	N/A	N/A	N/A		5-10-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)

β = **1.E-08** (Default = 1E-8)

Reviewer:
HID: ~~3963478~~ TWO H0759605 5-16-11 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101265

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: WB

Sample Type:(F, V, L, P): V

Date On: 5/6/2011	Date Off: 5/6/2011	Average Flow (F):	1.45 CFM
Time On: 9:44	Time Off: 12:35	Total Flow:	247.95 Ft^3
Flow On: 1.500 CFM	Flow Off: 1.400 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 171 min.	β self-absorption (Ea):	1

Comments: Rhodes WP-1101265 WB Recovery Entry 5-6-11 Gooseneck # re-12-13597 outside

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/6//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3326	50	COUNT ROOM
5/10//2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? x yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/6/2011	5.0	1.86E-13	0.22	411	82.20	0.08	82.1	1.57E-11	7.73E-13	3.130	3.134	Michelle North /3963478
β	12:37	5.0	2.29E-12	6.29	1241	248.2	66.52	181.7	3.17E-11	1.25E-12	0.003		Michelle North
α	5/6/2011	5.0	1.86E-13	0.22	148	29.60	0.08	29.5	5.63E-12	4.64E-13	1.125	1.126	Michelle North/ 3963478
β	13:37	5.0	2.29E-12	6.29	583	116.6	66.52	50.1	8.75E-12	8.67E-13	0.001		Michelle North
α	5/10/2011	5.0	1.86E-13	0.22	1	0.20	0.08	<DL	N/A	N/A	N/A	N/A	Atallah /6654231
β	8:10	5.0	2.30E-12	6.32	343	68.6	67.08	<DL	N/A	N/A	N/A		5-10-11
α							N/A						
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: ~~3963478~~ 5-16-11 H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101295**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					Comments:
☐ Work Progress	2404 Complex / WB / 200W	Date On: 5/10/2011	Date Off: 5/10/2011	Average Flow (F): 5.15 CFM		Curiel WP-1101295 WB Recovery AM Entry 5-10-11 Radeco H-ASRD7-664
☐ Down Posting	Location Description: 2404 WB/Inside	Time On: 10:24	Time Off: 12:20	Total Flow: 597.4 Ft^3		
☒ General Area		Flow On: 5.300 CFM	Flow Off: 5.000 CFM	α self-absorption (Ea): 1		
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 116 min.	β self-absorption (Ea): 1		

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	7.74E-14	0.22	3258	651.60	0.08	651.5	5.15E-11	9.03E-13	10.308	**10.319**	Atallah / 6654231
β	12:35	5.0	9.56E-13	6.32	7648	1529.6	67.08	1462.5	1.06E-10	1.27E-12	0.011		[signature] / 5-16-11
α	5/10/2011	5.0	7.74E-14	0.22	1005	201.00	0.08	200.9	1.59E-11	5.02E-13	3.179	**3.182**	Atallah / 6654231
β	13:45	5.0	9.56E-13	6.32	2329	465.8	67.08	398.7	2.89E-11	7.05E-13	0.003		[signature] / 5-16-11
α	5/10/2011	5.0	7.74E-14	0.22	46	9.20	0.08	9.1	7.21E-13	1.07E-13	0.144	0.144	CHADDERDON 4837929
β	17:30	5.0	9.56E-13	6.32	464	92.8	67.08	25.7	1.86E-12	3.23E-13	0.000		[signature]
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** **(Default = 5E-12)**

β = **1.E-08** **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-16-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) **GWP1101295**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB / 200W

Location Description: 2404 WB/Inside

Sample Type:(F, V, L, P): V

Date On: 5/10/2011	Date Off: 5/10/2011	Average Flow (F):	5.15 CFM
Time On: 10:24	Time Off: 12:20	Total Flow:	597.4 Ft^3
Flow On: 5.300 CFM	Flow Off: 5.000 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 116 min.	β self-absorption (Ea):	1

Comments: Curiel WP-1101295 WB Recovery AM Entry 5-10-11 Radeco H-ASRD7-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
5/10/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3354	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/10/2011	5.0	7.74E-14	0.22	3258	651.60	0.08	651.5	5.15E-11	9.03E-13	10.308	**10.319**	Atallah / 6654231
β	12:35	5.0	9.56E-13	6.32	7648	1529.6	67.08	1462.5	1.06E-10	1.27E-12	0.011		[signature] / 5-16-11
α	5/10/2011	5.0	7.74E-14	0.22	1005	201.00	0.08	200.9	1.59E-11	5.02E-13	3.179	**3.182**	Atallah / 6654231
β	13:45	5.0	9.56E-13	6.32	2329	465.8	67.08	398.7	2.89E-11	7.05E-13	0.003		[signature] / 5-16-11
α	5/10/2011	5.0	7.74E-14	0.22	46	9.20	0.08	9.1	7.21E-13	1.07E-13	0.144	0.144	CHADDERDON 4837929
β	17:30	5.0	9.56E-13	6.32	464	92.8	67.08	25.7	1.86E-12	3.23E-13	0.000		[signature]
α							NA						
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): **α = 5.E-12** **(Default = 5E-12)**

β = 1.E-08 **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-16-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101364

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W
Location Description: 2404 OUTSIDE WB RECOVERY
Sample Type:(F, V, L, P): V

Date On: 5/16/2011	Date Off: 5/16/2011	Average Flow (F):	1.75 CFM
Time On: 9:47	Time Off: 11:11	Total Flow:	147 Ft^3
Flow On: 1.750 CFM	Flow Off: 1.750 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 84 min.	β self-absorption (Ea):	1

Comments: MCKenna WP-1101364 OUTSIDE OF 2404 WB INSIDE OF CA. AM ENTRY GOOSENECK 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
N/A										

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/16/2011	5.0	2.96E-13	0.19	180	36.00	0.06	35.9	1.16E-11	8.63E-13	2.311	2.313	NORTH 3963478
β	11:25	5.0	3.90E-12	6.34	684	136.8	67.52	69.3	2.04E-11	1.58E-12	0.002		Michelle North 5/16/11
α	5/16/2011	5.0	2.96E-13	0.19	27	5.40	0.06	5.3	1.72E-12	3.34E-13	0.343	0.343	NORTH 3963478
β	12:45	5.0	3.90E-12	6.34	364	72.8	67.52	<DL	N/A	N/A	N/A		Michelle North 5/16/11
α	5/16/2011	5.0	2.96E-13	0.19	7	1.40	0.06	1.3	4.31E-13	1.70E-13	0.086	0.086	NORTH 3963478
β	13:50	5.0	3.90E-12	6.34	330	66.0	67.52	<DL	N/A	N/A	N/A		Michelle North 5/16/11
α						N/A							
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-16-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101364**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W

Location Description: 2404 OUTSIDE WB RECOVERY

Sample Type:(F, V, L, P): V

Date On:	5/16/2011	Date Off:	5/16/2011	Average Flow (F):	1.75 CFM
Time On:	9:47	Time Off:	11:11	Total Flow:	147 Ft^3
Flow On:	1.750 CFM	Flow Off:	1.750 CFM	α self-absorption (Ea):	1
Collection Eff (Ef):	0.9584	Duration (Ts):	84 min.	β self-absorption (Ea):	1

Comments: MCKenna WP-1101364 OUTSIDE OF 2404 WB INSIDE OF CA. AM ENTRY GOOSENECK 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/16/2011	5.0	2.96E-13	0.19	180	36.00	0.06	35.9	1.16E-11	8.63E-13	2.311	**2.313**	NORTH 3963478
β	11:25	5.0	3.90E-12	6.34	684	136.8	67.52	69.3	2.04E-11	1.58E-12	0.002		Michelle North 5/16/11
α	5/16/2011	5.0	2.96E-13	0.19	27	5.40	0.06	5.3	1.72E-12	3.34E-13	0.343	**0.343**	NORTH 3963478
β	12:45	5.0	3.90E-12	6.34	364	72.8	67.52	<DL	N/A	N/A	N/A		Michelle North 5/16/11
α	5/16/2011	5.0	2.96E-13	0.19	7	1.40	0.06	1.3	4.31E-13	1.70E-13	0.086	0.086	NORTH 3963478
β	13:50	5.0	3.90E-12	6.34	330	66.0	67.52	<DL	N/A	N/A	N/A		Michelle North 5/16/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-16-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

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Log No: G (RSR #) GWP1101311

Air Sample Collection:

PURPOSE/TYPE:

- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W

Location Description: 2404 OUTSIDE WB RECOVERY

Sample Type:(F, V, L, P): V

Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	1.8 CFM
Time On: 9:25	Time Off: 16:10	Total Flow:	729 Ft^3
Flow On: 1.800 CFM	Flow Off: 1.800 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 405 min.	β self-absorption (Ea):	1

Comments: WILHELM 16515. GOOSENECK 12-RE-13597 - OUTSIDE OF WB IN CA. 1ST ENTRY/2ND ENTRY. WP-1101311

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	6.34E-14	0.22	186	37.20	0.08	37.1	2.41E-12	1.77E-13	0.481	0.482	CHADDERDON 4837929
β	16:20	5.0	7.79E-13	6.29	727	145.4	66.36	79.0	4.70E-12	3.28E-13	0.000		Chadderdon 5/12/11
α	5/12/2011	5.0	6.34E-14	0.22	80	16.00	0.08	15.9	1.03E-12	1.16E-13	0.206	0.207	CHADDERDON 4837929
β	17:20	5.0	7.79E-13	6.29	510	102.0	66.36	35.6	2.12E-12	2.77E-13	0.000		Chadderdon 5/12/11
α	5/12/2011	5.0	6.34E-14	0.22	50	10.00	0.08	9.9	6.43E-13	9.17E-14	0.129	0.129	CHADDERDON 4837929
β	18:40	5.0	7.79E-13	6.29	463	92.6	66.36	26.2	1.56E-12	2.65E-13	0.000		Chadderdon 5/12/11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101311

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W

Location Description: 2404 OUTSIDE WB RECOVERY

Sample Type:(F, V, L, P) V

Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	1.8 CFM
Time On: 9:25	Time Off: 16:10	Total Flow:	729 Ft^3
Flow On: 1.800 CFM	Flow Off: 1.800 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 405 min.	β self-absorption (Ea):	1

Comments: WILHELM 16515. GOOSENECK 12-RE-13597 - OUTSIDE OF WB IN CA. 1ST ENTRY/2ND ENTRY. WP-1101311

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	6.34E-14	0.22	186	37.20	0.08	37.1	2.41E-12	1.77E-13	0.481	**0.482**	CHADDERDON 4837929
β	16:20	5.0	7.79E-13	6.29	727	145.4	66.36	79.0	4.70E-12	3.28E-13	0.000		5/12/11
α	5/12/2011	5.0	6.34E-14	0.22	80	16.00	0.08	15.9	1.03E-12	1.16E-13	0.206	**0.207**	CHADDERDON 4837929
β	17:20	5.0	7.79E-13	6.29	510	102.0	66.36	35.6	2.12E-12	2.77E-13	0.000		5/12/11
α	5/12/2011	5.0	6.34E-14	0.22	50	10.00	0.08	9.9	6.43E-13	9.17E-14	0.129	0.129	CHADDERDON 4837929
β	18:40	5.0	7.79E-13	6.29	463	92.6	66.36	26.2	1.56E-12	2.65E-13	0.000		5/12/11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)

β = **1.E-08** (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP11001334

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W
Location Description: HCA AIR SAMPLE 2ND ENTRY
Sample Type:(F, V, L, P): V

Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	5.6 CFM
Time On: 14:10	Time Off: 15:23	Total Flow:	408.8 Ft^3
Flow On: 5.800 CFM	Flow Off: 5.400 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 73 min.	β self-absorption (Ea):	1

Comments: HENDRICKS 94819. HCA AIR SAMPLE IN 2404 WB INSIDE SUPPORT. 2ND ENTRY. RADECO H-ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no
Protection Factor? 1,000
Type of Respiratory Protection: PAPR
Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	1.13E-13	0.22	2139	427.80	0.08	427.7	4.94E-11	1.07E-12	9.889	**9.900**	CHADDERDON 4837929
β	15:45	5.0	1.39E-12	6.29	5094	1018.8	66.36	952.4	1.01E-10	1.52E-12	0.010		Chadderdon 5/12/11
α	5/12/2011	5.0	1.13E-13	0.22	667	133.40	0.08	133.3	1.54E-11	5.97E-13	3.083	**3.085**	CHADDERDON 4837929
β	16:45	5.0	1.39E-12	6.29	1649	329.8	66.36	263.4	2.79E-11	8.69E-13	0.003		Chadderdon 5/12/11
α	5/12/2011	5.0	1.13E-13	0.22	16	3.20	0.08	3.1	3.61E-13	9.26E-14	0.072	0.072	CHADDERDON 4837929
β	21:40	5.0	1.39E-12	6.29	352	70.4	66.36	<DL	N/A	N/A	N/A		Chadderdon 5/12/11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)
β = **1.E-08** (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101341

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W

Location Description: 2404 OUTSIDE WB RECOVERY

Sample Type:(F, V, L, P) V

Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	1.6 CFM
Time On: 18:16	Time Off: 20:40	Total Flow:	230.4 Ft^3
Flow On: 1.700 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 144 min.	β self-absorption (Ea):	1

Comments: CONLEY WP-1101341 OUTSIDE OF 2404 WB INSIDE OF CA. SWING SHIFT GOOSENECK 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/13/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3413	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	2.01E-13	0.22	211	42.20	0.08	42.1	8.64E-12	5.96E-13	1.728	1.730	CHADDERDON 4837929
β	20:45	5.0	2.46E-12	6.29	904	180.8	66.36	114.4	2.15E-11	1.15E-12	0.002		[signature] 5/12/11
α	5/12/2011	5.0	2.01E-13	0.22	103	20.60	0.08	20.5	4.21E-12	4.16E-13	0.842	0.843	CHADDERDON 4837929
β	21:45	5.0	2.46E-12	6.29	535	107.0	66.36	40.6	7.64E-12	8.96E-13	0.001		[signature] 5/12/11
α	5/13/2011	5.0	1.74E-13	0.15	15	3.00	0.04	3.0	6.07E-13	1.59E-13	0.121	0.122	~~Duane E. Tubbs / H0106412~~
β	8:30	5.0	2.50E-12	6.37	388	77.6	68.26	9.3	1.76E-12	7.72E-13	0.000		[signature]
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0259605 Name (print): T. Terry

Signature: [signature] Date: 5-20-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101341

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W
Location Description: 2404 OUTSIDE WB RECOVERY
Sample Type:(F, V, L, P) V

Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	1.6 CFM
Time On: 18:16	Time Off: 20:40	Total Flow:	230.4 Ft³
Flow On: 1.700 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 144 min.	β self-absorption (Ea):	1

Comments: CONLEY WP-1101341 OUTSIDE OF 2404 WB INSIDE OF CA. SWING SHIFT GOOSENECK 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/13/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3413	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	2.01E-13	0.22	211	42.20	0.08	42.1	8.64E-12	5.96E-13	1.728	1.730	CHADDERDON 4837929
β	20:45	5.0	2.46E-12	6.29	904	180.8	66.36	114.4	2.15E-11	1.15E-12	0.002		5/12/11
α	5/12/2011	5.0	2.01E-13	0.22	103	20.60	0.08	20.5	4.21E-12	4.16E-13	0.842	0.843	CHADDERDON 4837929
β	21:45	5.0	2.46E-12	6.29	535	107.0	66.36	40.6	7.64E-12	8.96E-13	0.001		5/12/11
α	5/13/2011	5.0	1.74E-13	0.15	15	3.00	0.04	3.0	6.07E-13	1.59E-13	0.121	0.122	Duane E. Tubbs / H0106412
β	8:30	5.0	2.50E-12	6.37	388	77.6	68.26	9.3	1.76E-12	7.72E-13	0.000		
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0259605 Name (print): T. Terry
Signature: T Terry Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP11001342

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					Comments:
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F):	5.35 CFM	TUBBS WP-1101342. HCA AIR SAMPLE 2404 WB INSIDE SUPPORT. SWING SHIFT. RADECO H-ASSA1-664
[ ] Down Posting	Location Description: HCA AIR SAMPLE	Time On: 18:20	Time Off: 20:25	Total Flow:	668.75 Ft^3	
[x] General Area		Flow On: 5.600 CFM	Flow Off: 5.100 CFM	α self-absorption (Ea):	1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 125 min.	β self-absorption (Ea):	1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/13/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3413	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	6.91E-14	0.22	2810	562.00	0.08	561.9	3.97E-11	7.49E-13	7.942	**7.950**	CHADDERDON 4837929
β	20:35	5.0	8.49E-13	6.29	6508	1301.6	66.36	1235.2	8.00E-11	1.05E-12	0.008		[signature] 5/12/11
α	5/12/2011	5.0	6.91E-14	0.22	879	175.80	0.08	175.7	1.24E-11	4.19E-13	2.484	**2.486**	CHADDERDON 4837929
β	21:35	5.0	8.49E-13	6.29	2143	428.6	66.36	362.2	2.35E-11	6.04E-13	0.002		[signature] 5/12/11
α	5/13/2011	5.0	6.01E-14	0.15	17	3.40	0.04	3.4	2.37E-13	5.83E-14	0.047	0.047	Duane E Tubbs / H0106412
β	8:20	5.0	8.61E-13	6.37	365	73.0	68.26	<DL	N/A	N/A	N/A		[signature]
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): **α = 5.E-12** **(Default = 5E-12)**

β = 1.E-08 **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-20-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP11001342

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area				Comments:
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On: 5/12/2011	Date Off: 5/12/2011	Average Flow (F): 5.35 CFM	TUBBS WP-1101342. HCA AIR SAMPLE 2404 WB INSIDE SUPPORT. SWING SHIFT. RADECO H-ASSA1-664
[ ] Down Posting	Location Description	Time On: 18:20	Time Off: 20:25	Total Flow: 668.75 Ft³	
[x] General Area	HCA AIR SAMPLE	Flow On: 5.600 CFM	Flow Off: 5.100 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 125 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/12/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3318	50	COUNT ROOM
5/13/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3413	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/12/2011	5.0	6.91E-14	0.22	2810	562.00	0.08	561.9	3.97E-11	7.49E-13	7.942	7.950	CHADDERDON 4837929
β	20:35	5.0	8.49E-13	6.29	6508	1301.6	66.36	1235.2	8.00E-11	1.05E-12	0.008		[signature] 5/12/11
α	5/12/2011	5.0	6.91E-14	0.22	879	175.80	0.08	175.7	1.24E-11	4.19E-13	2.484	2.486	CHADDERDON 4837929
β	21:35	5.0	8.49E-13	6.29	2143	428.6	66.36	362.2	2.35E-11	6.04E-13	0.002		[signature] 5/12/11
α	5/13/2011	5.0	6.01E-14	0.15	17	3.40	0.04	3.4	2.37E-13	5.83E-14	0.047	0.047	Duane E Tubbs / H0106412
β	8:20	5.0	8.61E-13	6.37	365	73.0	68.26	<DL	N/A	N/A	N/A		[signature]
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101370

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404/WB/200W

Location Description: 2404 WB outside Gooseneck

Sample Type:(F, V, L, P): V

Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F):	1.5 CFM
Time On: 9:30	Time Off: 15:40	Total Flow:	555 Ft[3]
Flow On: 1.500 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 370 min.	β self-absorption (Ea):	1

Comments: BERG 16555 Outside A/S for WB entry Gooseneck 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM

N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	7.24E-14	0.15	311	62.20	0.04	62.2	5.29E-12	3.00E-13	1.059	1.060	MASSIE/ H0527264
β	15:50	5.0	1.04E-12	6.38	1025	205.0	68.30	136.7	1.07E-11	5.08E-13	0.001		5/18/11
α	5/17/2011	5.0	7.24E-14	0.15	120	24.00	0.04	24.0	2.04E-12	1.87E-13	0.408	0.408	MASSIE/ H0527264
β	15:50	5.0	1.04E-12	6.38	573	114.6	68.30	46.3	3.61E-12	3.85E-13	0.000		5/18/11
α	5/18/2011	5.0	8.33E-14	0.22	7	1.40	0.08	1.3	1.12E-13	4.52E-14	0.022	0.022	MASSIE/ H0527264
β	23:35	5.0	1.02E-12	6.26	345	69.0	65.82	<DL	N/A	N/A	N/A		5/18/11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101370**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404/WB/200W
Location Description: 2404 WB outside Gooseneck
Sample Type:(F, V, L, P): V

Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F): 1.5 CFM	Comments: BERG 16555 Outside A/S for WB entry Gooseneck 12-RE-13597
Time On: 9:30	Time Off: 15:40	Total Flow: 555 Ft³	
Flow On: 1.500 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea): 1	
Collection Eff (Ef): 0.9584	Duration (Ts): 370 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	7.24E-14	0.15	311	62.20	0.04	62.2	5.29E-12	3.00E-13	1.059	**1.060**	MASSIE/ H0527264
β	15:50	5.0	1.04E-12	6.38	1025	205.0	68.30	136.7	1.07E-11	5.08E-13	0.001		[signature] 5-18-11
α	5/17/2011	5.0	7.24E-14	0.15	120	24.00	0.04	24.0	2.04E-12	1.87E-13	0.408	**0.408**	MASSIE/ H0527264
β	15:50	5.0	1.04E-12	6.38	573	114.6	68.30	46.3	3.61E-12	3.85E-13	0.000		[signature] 5-18-11
α	5/18/2011	5.0	8.33E-14	0.22	7	1.40	0.08	1.3	1.12E-13	4.52E-14	0.022	0.022	MASSIE/ H0527264
β	23:35	5.0	1.02E-12	6.26	345	69.0	65.82	<DL	N/A	N/A	N/A		[signature] 5-18-
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: [signature] Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101378

Page 1 of 1

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area			
☐ Work Progress	2404/WB/ 200W	Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F): 5.7 CFM
☐ Down Posting	Location Description: 2404 WB Inside	Time On: 14:27	Time Off: 15:20	Total Flow: 302.1 Ft^3
☒ General Area		Flow On: 5.800 CFM	Flow Off: 5.600 CFM	α self-absorption (Ea): 1
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 53 min.	β self-absorption (Ea): 1

Comments: DINGER 17319 5-17-2011 2ND ENTRY DAYS WB entry A/S ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.33E-13	0.15	4061	812.20	0.04	812.2	1.27E-10	1.99E-12	25.411	25.436	MASSIE/ H0527264
β	15:55	5.0	1.91E-12	6.38	9196	1839.2	68.30	1770.9	2.54E-10	2.75E-12	0.025		[signature] 5-18-11
α	5/17/2011	5.0	1.33E-13	0.15	1473	294.60	0.04	294.6	4.61E-11	1.20E-12	9.216	9.224	MASSIE/ H0527264
β	16:55	5.0	1.91E-12	6.38	3200	640.0	68.30	571.7	8.20E-11	1.63E-12	0.008		[signature] 5-18-11
α	5/18/2011	5.0	1.53E-13	0.22	5	1.00	0.08	0.9	1.44E-13	7.02E-14	0.029	0.029	MASSIE/ H0527264
β	23:40	5.0	1.87E-12	6.26	315	63.0	65.82	<DL	N/A	N/A	N/A		[signature] 5-18-11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101378

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404/WB/ 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F):	5.7 CFM
Time On: 14:27	Time Off: 15:20	Total Flow:	302.1 Ft³
Flow On: 5.800 CFM	Flow Off: 5.600 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 53 min.	β self-absorption (Ea):	1

Comments: DINGER 17319 5-17-2011 2ND ENTRY DAYS WB entry A/S ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.33E-13	0.15	4061	812.20	0.04	812.2	1.27E-10	1.99E-12	25.411	25.436	MASSIE/ H0527264
β	15:55	5.0	1.91E-12	6.38	9196	1839.2	68.30	1770.9	2.54E-10	2.75E-12	0.025		Jack Massie / 5-18-11
α	5/17/2011	5.0	1.33E-13	0.15	1473	294.60	0.04	294.6	4.61E-11	1.20E-12	9.216	9.224	MASSIE/ H0527264
β	16:55	5.0	1.91E-12	6.38	3200	640.0	68.30	571.7	8.20E-11	1.63E-12	0.008		Jack Massie / 5-18-11
α	5/18/2011	5.0	1.53E-13	0.22	5	1.00	0.08	0.9	1.44E-13	7.02E-14	0.029	0.029	MASSIE/ H0527264
β	23:40	5.0	1.87E-12	6.26	315	63.0	65.82	<DL	N/A	N/A	N/A		Jack Massie / 5-18-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101379

Air Sample Collection:

PURPOSE/TYPE:				
[ ] Work Progress	Location: Building/Room/Area 2404/WB/200W	Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F): 1.625 CFM
[ ] Down Posting	Location Description 2404 WB outside Gooseneck	Time On: 18:11	Time Off: 20:47	Total Flow: 253.5 Ft^3
[x] General Area		Flow On: 1.750 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 156 min.	β self-absorption (Ea): 1

Comments: ATALLAH 17329 Outside A/S SWINGS for WB entry Gooseneck 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.59E-13	0.15	350	70.00	0.04	70.0	1.30E-11	6.98E-13	2.609	2.611	MASSIE/ H0527264
β	21:15	5.0	2.27E-12	6.38	1091	218.2	68.30	149.9	2.56E-11	1.15E-12	0.003		5/8-11
α	5/17/2011	5.0	1.59E-13	0.15	139	27.80	0.04	27.8	5.18E-12	4.40E-13	1.035	1.036	MASSIE/ H0527264
β	22:15	5.0	2.27E-12	6.38	582	116.4	68.30	48.1	8.22E-12	8.48E-13	0.001		5-18-11
α	5/18/2011	5.0	1.82E-13	0.22	5	1.00	0.08	0.9	1.72E-13	8.37E-14	0.034	0.034	MASSIE/ H0527264
β	23:25	5.0	2.23E-12	6.26	373	74.6	65.82	8.8	1.50E-12	6.88E-13	0.000		5/8-11
α									N/A				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101379**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					
☐ Work Progress	2404/WB/200W	Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F):	1.625 CFM	Comments: ATALLAH 17329 Outside A/S SWINGS for WB entry Gooseneck 12-RE-13597
☐ Down Posting	Location Description	Time On: 18:11	Time Off: 20:47	Total Flow:	253.5 Ft^3	
☒ General Area	2404 WB outside Gooseneck	Flow On: 1.750 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1	
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 156 min.	β self-absorption (Ea):	1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _X_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.59E-13	0.15	350	70.00	0.04	70.0	1.30E-11	6.98E-13	2.609	**2.611**	MASSIE/ H0527264
β	21:15	5.0	2.27E-12	6.38	1091	218.2	68.30	149.9	2.56E-11	1.15E-12	0.003		[signature] 5/8-11
α	5/17/2011	5.0	1.59E-13	0.15	139	27.80	0.04	27.8	5.18E-12	4.40E-13	1.035	**1.036**	MASSIE/ H0527264
β	22:15	5.0	2.27E-12	6.38	582	116.4	68.30	48.1	8.22E-12	8.48E-13	0.001		[signature] 5/18-11
α	5/18/2011	5.0	1.82E-13	0.22	5	1.00	0.08	0.9	1.72E-13	8.37E-14	0.034	0.034	MASSIE/ H0527264
β	23:25	5.0	2.23E-12	6.26	373	74.6	65.82	8.8	1.50E-12	6.88E-13	0.000		[signature] 5/8-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** **(Default = 5E-12)**

β = **1.E-08** **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: [signature] Date: 5-20-11

OFFICIAL USE ONLY - Exemption 6

RC-AIR-001 (02-10)

COPY

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101380

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area						
[ ] Work Progress	2404/WB/ 200W	Date On:	5/17/2011	Date Off:	5/17/2011	Average Flow (F):	5.75 CFM
[ ] Down Posting	Location Description 2404 WB Inside	Time On:	18:17	Time Off:	19:08	Total Flow:	293.25 Ft^3
[x] General Area		Flow On:	5.900 CFM	Flow Off:	5.600 CFM	α self-absorption (Ea):	1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef):	0.9584	Duration (Ts):	51 min.	β self-absorption (Ea):	1

Comments: HOSIER 10973 5-17-2011 3ND ENTRY SWINGS WB entry A/S ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.37E-13	0.15	2157	431.40	0.04	431.4	6.95E-11	1.50E-12	13.904	13.917	MASSIE/ H0527264
β	19:55	5.0	1.96E-12	6.38	4803	960.6	68.30	892.3	1.32E-10	2.05E-12	0.013		5-18-11
α	5/17/2011	5.0	1.37E-13	0.15	693	138.60	0.04	138.6	2.23E-11	8.49E-13	4.466	4.470	MASSIE/ H0527264
β	20:55	5.0	1.96E-12	6.38	1696	339.2	68.30	270.9	4.00E-11	1.23E-12	0.004		5-18-11
α	5/18/2011	5.0	1.58E-13	0.22	0	0.00	0.08	<DL	N/A	N/A	N/A	0.000	MASSIE/ H0527264
β	23:30	5.0	1.93E-12	6.26	394	78.8	65.82	13.0	1.92E-12	6.10E-13	0.000		5-18-11
α								N/A					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

COPY

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101380

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [x] Down Posting
- [ ] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404/WB/ 200W
Location Description: 2404 WB Inside
Sample Type:(F, V, L, P): P

Date On: 5/17/2011 | Time On: 18:54 | Flow On: 40.000 CFM | Collection Eff (Ef): 0.7800
Date Off: 5/17/2011 | Time Off: 19:10 | Flow Off: 40.000 CFM | Duration (Ts): 16 min.
Average Flow (F): 40 CFM | Total Flow: 640 Ft^3 | α self-absorption (Ea): 0.82 | β self-absorption (Ea): 1

Comments: HOSIER 10973 5-17-2011 3ND ENTRY SWINGS WB entry A/S STAPLEX #20830

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
				NA						

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	9.41E-14	0.15	105	21.00	0.04	21.0	2.32E-12	2.27E-13	0.464	0.464	MASSIE/ H0527264
β	20:00	5.0	1.11E-12	6.38	519	103.8	68.30	35.5	2.95E-12	3.91E-13	0.000		Jared R. Massie 5-17-11
α	5/17/2011	5.0	9.41E-14	0.15	32	6.40	0.04	6.4	7.04E-13	1.25E-13	0.141	0.141	MASSIE/ H0527264
β	21:00	5.0	1.11E-12	6.38	421	84.2	68.30	15.9	1.32E-12	3.55E-13	0.000		Jared R. Massie 5-17-11
α													
β													
α						NA							
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: 619614 Name (print): C Wielang
Signature: C Zeni Date: MAY 17 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No. G (RSR. #) GWP1101380

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404/WB/ 200W

Location Description: 2404 WB Inside

Sample Type:(F, V, L, P): V

Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F):	5.75 CFM
Time On: 18:17	Time Off: 19:08	Total Flow:	293.25 Ft^3
Flow On: 5.900 CFM	Flow Off: 5.600 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 51 min.	β self-absorption (Ea):	1

Comments: HOSIER 10973 5-17-2011 3ND ENTRY SWINGS WB entry A/S ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/18/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	4	3291	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 10,000

Type of Respiratory Protection: Fresh Air

Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	1.37E-13	0.15	2157	431.40	0.04	431.4	6.95E-11	1.50E-12	13.904	13.917	MASSIE/ H0527264
β	19:55	5.0	1.96E-12	6.38	4803	960.6	68.30	892.3	1.32E-10	2.05E-12	0.013		5-18-11
α	5/17/2011	5.0	1.37E-13	0.15	693	138.60	0.04	138.6	2.23E-11	8.49E-13	4.466	4.470	MASSIE/ H0527264
β	20:55	5.0	1.96E-12	6.38	1696	339.2	68.30	270.9	4.00E-11	1.23E-12	0.004		5-18-11
α	5/18/2011	5.0	1.58E-13	0.22	0	0.00	0.08	<DL	N/A	N/A	N/A	0.000	MASSIE/ H0527264
β	23:30	5.0	1.93E-12	6.26	394	78.8	65.82	13.0	1.92E-12	6.10E-13	0.000		5-18-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-20-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area: 2404/WB/ 200W	Date On: 5/17/2011	Date Off: 5/17/2011
[ ] Work Progress			Average Flow (F): 40 CFM
[X] Down Posting	Location Description: 2404 WB Inside	Time On: 18:54	Time Off: 19:10	Total Flow: 640 Ft^3
[ ] General Area		Flow On: 40.000 CFM	Flow Off: 40.000 CFM
[ ] Breathing Zone	Sample Type:(F, V, L, P) P	Collection Eff (Ef): 0.7800	Duration (Ts): 16 min.

α self-absorption (Ea): 0.82
β self-absorption (Ea): 1

Comments: HOSIER 10973 5-17-2011 3ND ENTRY SWINGS WB entry A/S STAPLEX #20830

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes ___ no
Protection Factor? 10,000
Type of Respiratory Protection: Fresh Air
Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	9.41E-14	0.15	105	21.00	0.04	21.0	2.32E-12	2.27E-13	0.464	**0.464**	MASSIE/ H0527264
β	20:00	5.0	1.11E-12	6.38	519	103.8	68.30	35.5	2.95E-12	3.91E-13	0.000		5-17-11
α	5/17/2011	5.0	9.41E-14	0.15	32	6.40	0.04	6.4	7.04E-13	1.25E-13	0.141	0.141	MASSIE/ H0527264
β	21:00	5.0	1.11E-12	6.38	421	84.2	68.30	15.9	1.32E-12	3.55E-13	0.000		5-17-11
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: 619614 Name (print): C. Wieclaw
Signature: Date: MAY 17 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101397

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W/ Rm 107/200W~~ 2404 WB /200W 7-13-11

Location Description: 2404 WB inside

Sample Type:(F, V, L, P) V

Date On: 5/19/2011	Date Off: 5/19/2011	Average Flow (F):	6 CFM
Time On: 9:35	Time Off: 11:18	Total Flow:	618 Ft^3
Flow On: 6.000 CFM	Flow Off: 6.000 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 103 min.	β self-absorption (Ea):	1

Comments: Dinger 17319 Inside A/S for WB entry ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/19/2011	5.0	5.81E-14	0.11	1361	272.20	0.02	272.2	2.08E-11	5.64E-13	4.163	**4.167**	Schultz / 8881802
β	11:30	5.0	9.17E-13	6.27	3125	625.0	66.12	558.9	3.92E-11	7.88E-13	0.004		5-23-11
α	5/19/2011	5.0	5.81E-14	0.11	443	88.60	0.02	88.6	6.77E-12	3.22E-13	1.355	**1.356**	North 3963478
β	12:30	5.0	9.17E-13	6.27	1234	246.8	66.12	180.7	1.27E-11	4.99E-13	0.001		Michelle North 5/19/11
α	5/19/2011	5.0	5.81E-14	0.11	133	26.60	0.02	26.6	2.03E-12	1.76E-13	0.407	**0.407**	Schultz /08881802
β	13:45	5.0	9.17E-13	6.27	596	119.2	66.12	53.1	3.72E-12	3.52E-13	0.000		5-23-11
α	5/19/2011	5.0	5.81E-14	0.11	40	8.00	0.02	8.0	6.10E-13	9.67E-14	0.122	0.122	Massie/0527264
β	15:35	5.0	9.17E-13	6.27	401	80.2	66.12	14.1	9.87E-13	2.92E-13	0.000		5-19-11

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-23-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101397

Page ~~1 of 1~~ 2 of 2

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W/ Rm 107/ 200W~~ 2404 WB / 200W T 7-13-11

Location Description: 2404 WB inside staplex

Sample Type:(F, V, L, P) P

Date On: 5/19/2011	Date Off: 5/19/2011	Average Flow (F):	40 CFM
Time On: 13:24	Time Off: 13:34	Total Flow:	400 Ft^3
Flow On: 40.000 CFM	Flow Off: 40.000 CFM	α self-absorption (Ea):	0.82
Collection Eff (Ef): 0.7800	Duration (Ts): 10 min.	β self-absorption (Ea):	1

Comments: Dinger 17319 Inside A/S for WB entry Staplex 219019 PAGE 2

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _X_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/19/2011	5.0	1.35E-13	0.11	143	28.60	0.02	28.6	5.06E-12	4.23E-13	1.012	1.013	Schultz / 8881802
β	13:40	5.0	1.74E-12	6.27	618	123.6	66.12	57.5	7.65E-12	6.79E-13	0.001		5.23.11
α	5/19/2011	5.0	1.35E-13	0.11	54	10.80	0.02	10.8	1.91E-12	2.60E-13	0.382	0.382	North 3963478
β	14:40	5.0	1.74E-12	6.27	440	88.0	66.12	21.9	2.91E-12	5.79E-13	0.000		5.23.11
α	5/19/2011	5.0	1.35E-13	0.11	11	2.20	0.02	2.2	3.86E-13	1.17E-13	0.077	0.077	Massie/0527264
β	15:45	5.0	1.74E-12	6.27	343	68.6	66.12	<DL	N/A	N/A	N/A		5.19.11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 5-23-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101406

Air Sample Collection:

PURPOSE/TYPE:	Location			Comments:
[ ] Work Progress	Location: Building/Room/Area ~~2336 W/ Rm 107/ 200W~~ 2404 WB/200W TT 7-13-11	Date On: 5/19/2011	Date Off: 5/19/2011	Average Flow (F): 1.7 CFM
[ ] Down Posting	Location Description: 2404 WB outside Gooseneck	Time On: 9:30	Time Off: 13:23	Total Flow: 396.1 Ft^3
[x] General Area		Flow On: 1.700 CFM	Flow Off: 1.700 CFM	α self-absorption (Ea): 1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 233 min.	β self-absorption (Ea): 1

Comments: Curiel CA outside A/S for WB entry gooseneck 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM
										NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _X_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/19/2011	5.0	9.07E-14	0.11	237	47.40	0.02	47.4	5.65E-12	3.67E-13	1.131	**1.132**	Schultz / 8881802
β	13:30	5.0	1.43E-12	6.27	925	185.0	66.12	118.9	1.30E-11	6.77E-13	0.001		5-23-11
α	5/19/2011	5.0	9.07E-14	0.11	69	13.80	0.02	13.8	1.64E-12	1.98E-13	0.329	**0.329**	Schultz / 8881802
β	14:47	5.0	1.43E-12	6.27	436	87.2	66.12	21.1	2.30E-12	4.74E-13	0.000		5-23-11
α	5/19/2011	5.0	9.07E-14	0.11	13	2.60	0.02	2.6	3.08E-13	8.61E-14	0.062	0.062	MASSIE/0527264
β	15:50	5.0	1.43E-12	6.27	535	107.0	66.12	40.9	4.47E-12	5.21E-13	0.000		5-19-11
α								NA					
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): **α = 5.E-12** (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Jerry

Signature: T. Terry Date: 5-23-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101372

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB/ 200W
Location Description: 2404 WB Inside
Sample Type:(F, V, L, P): V

Date On: 5/17/2011	Date Off: 5/17/2011	Average Flow (F):	5.5 CFM
Time On: 9:30	Time Off: 11:00	Total Flow:	495 Ft³
Flow On: 5.700 CFM	Flow Off: 5.300 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 90 min.	β self-absorption (Ea):	1

Comments: WP-1101372 Pomeroy 17342 5-17-2011am WB entry Radeco ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3415	50	COUNT ROOM
5/24/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3333	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no
Protection Factor? 1,000
Type of Respiratory Protection: PAPR
Total DAC Action Level: 0.2

Sample Sent to Laboratory? __ yes x no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/17/2011	5.0	8.12E-14	0.15	4239	847.80	0.04	847.8	8.09E-11	1.24E-12	16.188	16.203	North / 3963478
β	11:30	5.0	1.16E-12	6.38	9038	1807.6	68.30	1739.3	1.52E-10	1.67E-12	0.015		Michelle North 5 23 11
α	5/17/2011	5.0	8.12E-14	0.15	836	167.20	0.04	167.2	1.60E-11	5.52E-13	3.192	3.195	North / 3963478
β	12:30	5.0	1.16E-12	6.38	1888	377.6	68.30	309.3	2.71E-11	7.67E-13	0.003		Michelle North 5-23-11
α	5/24/2011	5.0	7.26E-14	0.11	1	0.20	0.02	0.2	1.72E-14	1.92E-14	0.003	0.003	Atallah / 6654231
β	13:00	5.0	1.15E-12	6.30	322	64.4	66.66	<DL	N/A	N/A	N/A		[signature] 5/24/11
α									N/A				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. TERRY
Signature: T. Terry Date: 5-24-11

OFFICIAL USE ONLY - Exemption 6

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101365**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W Rm 107~~ 2404 WB 200W 7-13-11

Location Description: 2404 WB Inside

Sample Type (F, V, L, P): V

Date On:	5/16/2011	Date Off:	5/16/2011	Average Flow (F):	6 CFM
Time On:	14:43	Time Off:	15:17	Total Flow:	204 Ft^3
Flow On:	6.200 CFM	Flow Off:	5.800 CFM	α self-absorption (Ea):	1
Collection Eff (Ef):	0.9584	Duration (Ts):	34 min.	β self-absorption (Ea):	1

Comments: Hendricks 94819 WB entry A/S ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/16/2011	5.0	2.13E-13	0.19	622	124.40	0.06	124.3	2.88E-11	1.16E-12	5.761	**5.767**	Schultz / 8881802
β	15:30	5.0	2.81E-12	6.34	1785	357.0	67.52	289.5	6.15E-11	1.81E-12	0.006		5-19-11
α	5/16/2011	5.0	2.13E-13	0.19	148	29.60	0.06	29.5	6.84E-12	5.64E-13	1.369	**1.370**	Schultz / 8881802
β	16:45	5.0	2.81E-12	6.34	614	122.8	67.52	55.3	1.17E-11	1.08E-12	0.001		5-19-11
α	5/19/2011	5.0	1.76E-13	0.11	0	0.00	0.02	<DL	N/A	N/A	N/A	N/A	Schultz / 881802
β	8:00	5.0	2.78E-12	6.27	314	62.8	66.12	<DL	N/A	N/A	N/A		5-19-11
α									NA				
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wieland

Signature: MAY 24 2011

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101366

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area ~~2336 W/ Rm 107~~ 2404 WB 200W 11-7-13-11

Location Description: 2404 WB outside Gooseneck

Sample Type:(F, V, L, P) V

Date On: 5/16/2011	Date Off: 5/16/2011	Average Flow (F): 1.6 CFM	Comments: Pomeroy 17342 Outside A/S for WB entry Gooseneck 12-RE-13597
Time On: 14:37	Time Off: 16:15	Total Flow: 156.8 Ft^3	
Flow On: 1.600 CFM	Flow Off: 1.600 CFM	α self-absorption (Ea): 1	
Collection Eff (Ef): 0.9584	Duration (Ts): 98 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/16/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3376	50	COUNT ROOM
5/19/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3306	50	COUNT ROOM

NA

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _X_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/16/2011	5.0	2.77E-13	0.19	165	33.00	0.06	32.9	9.93E-12	7.74E-13	1.986	1.987	Schultz / 8881802
β	16:30	5.0	3.65E-12	6.34	666	133.2	67.52	65.7	1.81E-11	1.46E-12	0.002		5.19.11
α	5/16/2011	5.0	2.77E-13	0.19	30	6.00	0.06	5.9	1.79E-12	3.30E-13	0.358	0.358	Schultz / 8881802
β	17:30	5.0	3.65E-12	6.34	401	80.2	67.52	12.7	3.50E-12	1.15E-12	0.000		5.19.11
α	5/19/2011	5.0	2.29E-13	0.11	0	0.00	0.02	<DL	N/A	N/A	N/A	N/A	Schultz / 8881802
β	8:05	5.0	3.62E-12	6.27	328	65.6	66.12	<DL	N/A	N/A	N/A		5.19.11
α													
β													

NA

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 619614 Name (print): C Wielang

Signature: MAY 24 2011

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) GWP1101487

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex /WB / 200W

Location Description: 2404 WB inside south posted CA

Sample Type:(F, V, L, P): V

Date On: 5/27/2011	Date Off: 5/27/2011	Average Flow (F): 4.7 CFM	
Time On: 9:50	Time Off: 11:28	Total Flow: 460.6 Ft³	
Flow On: 4.900 CFM	Flow Off: 4.500 CFM	α self-absorption (Ea): 1	
Collection Eff (Ef): 0.9584	Duration (Ts): 98 min.	β self-absorption (Ea): 1	

Comments: Dinger (17319) WP 1101487 Inside A/S for WB entry ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/27/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3349	50	COUNT ROOM
5/27/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3349	50	COUNT ROOM
5/31/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3461	50	COUNT ROOM
										N/A

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _X_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	5/27/2011	5.0	9.44E-14	0.19	2274	454.80	0.06	454.7	4.67E-11	9.79E-13	9.332	9.342	C. Wieland For Park/7274392
β	11:40	5.0	1.24E-12	6.31	5715	1143.0	66.98	1076.0	1.01E-10	1.43E-12	0.010		
α	5/27/2011	5.0	9.44E-14	0.19	505	101.00	0.06	100.9	1.04E-11	4.61E-13	2.071	2.073	C. Wieland For Park/7274392
β	12:50	5.0	1.24E-12	6.31	1296	259.2	66.98	192.2	1.81E-11	6.86E-13	0.002		
α	5/31/2011	5.0	8.73E-14	0.15	10	2.00	0.04	2.0	2.01E-13	6.50E-14	0.040	0.040	Atallah / 6654231
β	9:40	5.0	1.26E-12	6.42	352	70.4	69.22	<DL	N/A	N/A	N/A		5-31-11
α							N/A						
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 5-31-11

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RC-AIR-001 (02-10)

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

COPY

Log No: G (RSR. #) GWP1101526

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 Complex / WB/ 200W
Location Description: 2404 WB Inside CA over Taped HCA
Sample Type:(F, V, L, P): V

Date On: 5/24/2011	Date Off: 6/2/2011	Average Flow (F):	1.6 CFM
Time On: 10:50	Time Off: 13:40	Total Flow:	21008 Ft^3
Flow On: 1.700 CFM	Flow Off: 1.500 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 13130 min.	β self-absorption (Ea):	1

Comments: WP-1101526 McKenna 17327 6-2-2011 Bi-Weekly Air Sample from WB. Gooseneck 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3176	50	COUNT ROOM
				N						
					A					

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _x_ no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes _x_ no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/2/2011	5.0	1.22E-15	0.00	180	36.00	0.00	36.0	8.10E-14	6.04E-15	0.016	0.016	Atallah / 6654231
β	15:30	5.0	2.65E-14	6.15	654	130.8	63.52	67.3	1.39E-13	1.08E-14	0.000		[signature] / 6-2-11
α													
β													
α							N		A				
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: T. Terry Date: 6-6-11

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101526**

Air Sample Collection:

PURPOSE/TYPE:	Location						
[ ] Work Progress	Location: Building/Room/Area: 2404 Complex / WB/ 200W	Date On:	5/24/2011	Date Off:	6/2/2011	Average Flow (F):	1.6 CFM
[ ] Down Posting	Location Description: 2404 WB Inside CA over Taped HCA	Time On:	10:50	Time Off:	13:40	Total Flow:	21008 Ft^3
[x] General Area		Flow On:	1.700 CFM	Flow Off:	1.500 CFM	α self-absorption (Ea):	1
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef):	0.9584	Duration (Ts):	13130 min.	β self-absorption (Ea):	1

Comments:
WP-1101526 McKenna 17327 6-2-2011 Bi-Weekly Air Sample from WB. Gooseneck 12-RE-13597

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Background Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
5/17/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	0	3176	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes _x_ no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___ yes _x_ no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/2/2011	5.0	1.22E-15	0.00	180	36.00	0.00	36.0	8.10E-14	6.04E-15	0.016	0.016	Atallah / 6654231
β	15:30	5.0	2.65E-14	6.15	654	130.8	63.52	67.3	1.39E-13	1.08E-14	0.000		[signature] / 6-2-11
α													
β													
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 6-6-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101591**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area					
☐ Work Progress	2404 WB	Date On: 6/8/2011	Date Off: 6/8/2011	Average Flow (F):	5.4 CFM	Comments: WP1101591 WILHELM 16515 2404 HCA Air Sample Radeco
☐ Down Posting	Location Description: 2404 WB HCA General Area	Time On: 10:50	Time Off: 12:30	Total Flow:	540 Ft^3	
☒ General Area		Flow On: 5.600 CFM	Flow Off: 5.200 CFM	α self-absorption (Ea):	1	
☐ Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef): 0.9584	Duration (Ts): 100 min.	β self-absorption (Ea):	1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_c) α	Efficiency (E_c) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
6/8/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3361	50	COUNT ROOM
6/8/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3361	50	COUNT ROOM
6/8/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	2	3361	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? X yes __ no

Protection Factor? 1,000

Type of Respiratory Protection: PAPR

Total DAC Action Level: **0.2**

Sample Sent to Laboratory? __ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/8/2011	5.0	7.44E-14	0.15	645	129.00	0.04	129.0	1.13E-11	4.45E-13	2.257	**2.259**	RAMI ATALLAH 6654231
β	13:30	5.0	1.06E-12	6.33	1641	328.2	67.22	261.0	2.09E-11	6.56E-13	0.002		6-8-11
α	6/8/2011	5.0	7.44E-14	0.15	92	18.40	0.04	18.4	1.61E-12	1.68E-13	0.321	**0.322**	RAMI ATALLAH 6654231
β	15:00	5.0	1.06E-12	6.33	511	102.2	67.22	35.0	2.81E-12	3.74E-13	0.000		/ 6-8-11
α	6/8/2011	5.0	7.44E-14	0.15	13	2.60	0.04	2.6	2.24E-13	6.32E-14	0.045	0.045	Jared R Massie/ 0527264
β	23:00	5.0	1.06E-12	6.33	333	66.6	67.22	<DL	N/A	N/A	N/A		/ 6-8-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = **5.E-12** (Default = 5E-12)
β = **1.E-08** (Default = 1E-8)

Reviewer:

HID: 6197614 Name (print): C Wielang

Signature: ______ Date: 6-9-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101652**

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 COMPLEX / WB / 200W
Location Description: 2404 WB RECOVERY
Sample Type:(F, V, L, P): V

Date On: 6/14/2011	Date Off: 6/14/2011	Average Flow (F):	4.65 CFM
Time On: 10:10	Time Off: 14:40	Total Flow:	1255.5 Ft³
Flow On: 5.500 CFM	Flow Off: 3.800 CFM	α self-absorption (Ea):	1
Collection Eff (Ef): 0.9584	Duration (Ts): 270 min.	β self-absorption (Ea):	1

Comments: HOSIER WP-1101652 WB RECOVERY ASSA1-664

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (Ec) α	Efficiency (Ec) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	N/A	NA	NA	N/A	NA	NA	NA	NA	NA	N/A
6/14/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3386	50	COUNT ROOM
6/14/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	1	3386	50	COUNT ROOM
6/15/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3384	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___yes _X_ no
Protection Factor? 1
Type of Respiratory Protection: N/A
Total DAC Action Level: **0.2**

Sample Sent to Laboratory? ___yes _x_ no
Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/14/2011	5.0	2.86E-14	0.11	2729	545.80	0.02	545.8	2.05E-11	3.93E-13	4.109	**4.113**	CHADDERDON 4837929
β	14:55	5.0	4.57E-13	6.35	5647	1129.4	67.72	1061.7	3.66E-11	5.20E-13	0.004		[signature]
α	6/14/2011	5.0	2.86E-14	0.11	909	181.80	0.02	181.8	6.84E-12	2.27E-13	1.369	**1.370**	ATALLAH/6654231
β	16:00	5.0	4.57E-13	6.35	1976	395.2	67.72	327.5	1.13E-11	3.09E-13	0.001		[signature] 6-15-11
α	6/15/2011	5.0	3.46E-14	0.19	21	4.20	0.06	4.1	1.56E-13	3.45E-14	0.031	0.031	ATALLAH/6654231
β	8:00	5.0	4.57E-13	6.35	360	72.0	67.68	<DL	N/A	N/A	N/A		[signature] 6-15-11
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)
β = 1.E-08 (Default = 1E-8)

Reviewer:
HID: H0759605 Name (print): T. Terry
Signature: [signature] Date: 6-27-11

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RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) **GWP1101665**

Air Sample Collection:

PURPOSE/TYPE:	Location: Building/Room/Area						Comments:
[ ] Work Progress	2404 COMPLEX / WB / 200W	Date On:	6/15/2011	Date Off:	6/15/2011	Average Flow (F): 4.75 CFM	McKenna WP-1101665 WB RECOVERY
[ ] Down Posting	Location Description: 2404 WB RECOVERY	Time On:	13:12	Time Off:	14:35	Total Flow: 394.25 Ft^3	
[x] General Area		Flow On:	5.000 CFM	Flow Off:	4.500 CFM	α self-absorption (Ea): 1	
[ ] Breathing Zone	Sample Type:(F, V, L, P) V	Collection Eff (Ef):	0.9584	Duration (Ts):	83 min.	β self-absorption (Ea): 1	

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA		NA	NA		NA	NA	NA	NA	NA	
6/15/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3384	50	COUNT ROOM
6/15/2011	LUDLUM/SCLL4-0064	10/6/2011	LUDLUM/DTLLC-0074	10/6/2011	0.351	0.383	3	3384	50	COUNT ROOM

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/15/2011	5.0	1.10E-13	0.19	3013	602.60	0.06	602.5	7.22E-11	1.32E-12	14.446	14.459	Berg/3344063
β	15:00 PM	5.0	1.45E-12	6.35	6189	1237.8	67.68	1170.1	1.29E-10	1.73E-12	0.013		Lindsay Berg 6/27/11
α	6/15/2011	5.0	1.10E-13	0.19	5	1.00	0.06	0.9	1.13E-13	5.38E-14	0.023	0.023	Massie/0527264
β	23:30 PM	5.0	1.45E-12	6.35	362	72.4	67.68	<DL	N/A	N/A	N/A		[signature] 6-15-11
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 **(Default = 5E-12)**

β = 1.E-08 **(Default = 1E-8)**

Reviewer:

HID: H0759605 Name (print): T. Terry

Signature: T. Terry Date: 6-27-11

OFFICIAL USE ONLY - Exemption 6

RADIOLOGICAL CONTROL GRAB AIR ANALYSIS RECORD

Log No: G (RSR. #) *see comments

Air Sample Collection:

PURPOSE/TYPE:
- [ ] Work Progress
- [ ] Down Posting
- [x] General Area
- [ ] Breathing Zone

Location: Building/Room/Area: 2404 WB SW End

Location Description: Near HCA

Sample Type:(F, V, L, P): V

Date On:	6/8/2011	Date Off:	6/15/2011	Average Flow (F):	1.55 CFM
Time On:	12:35	Time Off:	9:27	Total Flow:	15333 Ft^3
Flow On:	1.500 CFM	Flow Off:	1.600 CFM	α self-absorption (Ea):	1
Collection Eff (Ef):	0.9584	Duration (Ts):	9892 min.	β self-absorption (Ea):	1

Comments:
Gooseneck air sampler # 12-RE-13597
Best management Practice. ~~weekly~~ TT 6-27-11
*NOT attached to a survey.

Equipment Information:

Date	Counter Model/ID No.	Cal Due	Counter/Detector Model/ID No.	Cal Due	Efficiency (E_C) α	Efficiency (E_C) β	Background Gross Counts (Nb) α	Background Gross Counts (Nb) β	Count Time (min) (Tb)	Counter/Instrument Location
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
6/22/2011	Ludlum 2929	10/6/2011	SCLL4-0064/DTLLC-0074	10/6/2011	0.351	0.383	1	3389	50	2336 W Count Room

Respiratory Protection Information:

Respiratory Protection Worn? ___ yes X no

Protection Factor? 1

Type of Respiratory Protection: N/A

Total DAC Action Level: 0.2

Sample Sent to Laboratory? ___ yes x no

Sample Number:

Counting Data and Sample Results:

α/β	Date Counted / Time	Counting Time (min) Tg	MDC (uCi/mL)	DL (cpm)	Gross Counts Observed (Ng)	Gross cpm (Rg)	Bkg cpm (Rb)	Net cpm (Rn)	Sample Conc. uCi/mL	σ uCi/mL	DAC Fraction	Total DAC (α+β)	COUNTING RCT: Print Name/HID: Signature/Date:
α	6/22/2011	5.0	2.34E-15	0.11	6	1.20	0.02	1.2	3.64E-15	1.51E-15	0.001	0.001	Nadia Rhodes/ H1552305
β	15:45	5.0	3.74E-14	6.35	354	70.8	67.78	<DL	N/A	N/A	N/A		[signature] / 6.22.11
α													
β													
α													
β													
α													
β													

Ea = Self Absorption Coefficient
Ec = Instrument Efficiency
Ef = Fractional Collection Efficiency
F = Flow Rate (cubic feet per min (CFM))
Ng = Gross Counts Observed (sample)
Rg = Gross Count Rate (cpm)
Rb = Background Count Rate (cpm)

Rn Net Sample Count Rate (cpm)
Tb Background Count Time (min)
Tg Gross Sample Count Time (min)
Ts Sampling Duration (min)
6.29E10 = Conversion Constant (dpm-mL/uCi-ft^3)
P = annular kinetic impactor using oil
V = Versapor filter

Nb = Total background counts
F=Fluoropore filter
L=LB5211 filter

See PRC-PRO-RP-40035, for explantion of formulae used.

DAC (uCi/ml): α = 5.E-12 (Default = 5E-12)

β = 1.E-08 (Default = 1E-8)

Reviewer:

HID: 40759605 Name (print): T. Terry

Signature: T. Terry Date: 6-27-11

Attachment II

CHPRC RADIOLOGICAL CONTROL AIR SAMPLE ANALYSIS RECORD

Batch ID	Date	Page
WP - 23,924	June 8, 2011 Wednesday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Sample Location or EDP Code Smear Location, Serial No., Sample Purpose / Counting Time	Filter Media	ON: Date Time / OFF: Date Time	Flow Rate		DL (cpm)	Tg (min.)	MDC µci/ml	Ng (counts)	Rn (cpm)	Sample Activity µci/ml	σ (µci/ml)	DAC Fraction	Survey No.
2404 WB HCA Weekly Routine Air Sample 15:39	Versapore	6/2/2011 1:35:00PM	1.5	α	0.35	1.0	1.66E-014	15	14.96	7.30E-014	1.89E-014	0.01	Best Managment Practice - Environmental Air Sample
		6/8/2011 12:35:00PM	1.5	β	1.99	1.0	2.09E-014	37	35.53	1.11E-013	1.90E-014	0.00	

COF.

Definition: Ef = 0.95, Fractional collection efficiency
Tb = background counting interval
Nb = number of background counts recorded during background counting interval (Tb).
Rb = Background count rate (Nb/Tb).
σ = Counting error

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Ec = instrument counting efficiency (cpm/dpm).
Cf = instrument correction factor (1/Ec)
DL = Decision Level

DAC Conc. Used:
α = 5.0 E-12 β = 1.0 E-08
Bold text is ≥0.2 DAC
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDC = Minimum Detectable Concentration

Note: All samples general area unless otherwise denoted.

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature] 6-8-11

Log Validated By (Print, Sign, Date): T. Terry / T. Terry 6-9-11

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Rev Date 12/2009

C:\Program Files\Tennelec Systems\Eclipse\Air Sample Filter Alpha-Beta.rpt

CHPRC RADIOLOGICAL CONTROL AIR SAMPLE ANALYSIS RECORD

Batch ID: WP -23,954 | Date: June 15, 2011 Wednesday | Page: 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Sample Location or EDP Code Smear Location, Serial No., Sample Purpose Counting Time	Filter Media	ON: Date Time / OFF: Date Time	Flow Rate		DL (cpm)	Tg (min.)	MDC µci/ml	Ng (counts)	Rn (cpm)	Sample Activity µci/ml	σ (µci/ml)	DAC Fraction	Survey No.
Weekly Environmental Air Sample WB	Versapore	6/8/2011 12:35:00PM	1.5	α	0.35	1.0	1.40E-014	30	29.96	1.23E-013	2.24E-014	0.02	Best Managment Practice 2404 WB HCA Air Sample
10:50		6/15/2011 9:27:00AM	1.6	β	1.99	1.0	1.76E-014	65	63.53	1.67E-013	2.12E-014	0.00	

COP

Definition: Ef = 0.95, Fractional collection efficiency
Tb = background counting interval
Nb = number of background counts recorded during background counting interval (Tb).
Rb = Background count rate (Nb/Tb)
σ = Counting error

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Ec = instrument counting efficiency (cpm/dpm).
Cf = instrument correction factor (1/Ec)
DL = Decision Level

DAC Conc. Used:
α = 5.0 E-12 β = 1.0 E-08
Bold text is ≥0.2 DAC
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDC = Minimum Detectable Concentration

Note: All samples general area unless otherwise denoted.

RCT (Print, Payroll #, Sign, Date): R. Atallah, 17329, [signature], 6-15-11

Log Validated By (Print, Sign, Date): T. Terry [signature] 6-21-11

Rev Date 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Air Sample Filter Alpha-Beta.rpt

Attachment III

(?RC RADIOLOGICAL CONTROL LAPEL SAMPLE ⁄ ⁄LYSIS RECORD

Batch ID	Date	Page
WP -23,637	May 1, 2011 Sunday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	4	3.96	14.85	7.51	0.01	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.01 Total DAC-Hrs	14:29		β	1.99	1.0	16.11	0.00000	3	1.53	<DL	N/A	0.00	
Curiel 17339 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	3	2.96	11.09	6.50	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	14:30		β	1.99	1.0	16.11	0.00000	7	5.53	13.30	6.36	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	1	0.96	3.59	3.75	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	14:32		β	1.99	1.0	16.11	0.00000	4	2.53	6.09	4.81	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	1	0.96	3.59	3.75	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	14:33		β	1.99	1.0	16.11	0.00000	6	4.53	10.90	5.89	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	0	0.00	<DL	N/A	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	14:34		β	1.99	1.0	16.11	0.00000	1	0.00	<DL	N/A	0.00	
Collins 87903 Pump # 4090 RWP-574 PF 10,000		Versapore	α	0.35	1.0	12.80	0.01	0	0.00	<DL	N/A	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	14:35		β	1.99	1.0	16.11	0.00000	4	2.53	6.09	4.81	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1000

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

MAY 04 2011

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17324, [signature] 5-1-11

Log Validated By (Print, Sign, Date): [signature]

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample On PAPR with MDACHR.rpt

(?RC RADIOLOGICAL CONTROL LAPEL SAMPLE / .LYSIS RECORD

Batch ID	Date	Page
WP - 23,639	May 1, 2011 Sunday	1 of 1

Counter:

Alpha: Tennelec S5-XLB 0403421 / 2/1/2012 (Instrument Model & ID No./Cal Expiration) — 1924 (Detector ID No.) — 26.64 / 3.75 (Ec / CF) — 45.00 / 1,000.00 (Nb (counts)/Tb (min)) — 0.05 (Rb (cpm)) — 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Beta: Tennelec S5-XLB 0403421 / 2/1/2012 (Instrument Model & ID No./Cal Expiration) — 1924 (Detector ID No.) — 41.58 / 2.41 (Ec / CF) — 1,468.00 / 1,000.00 (Nb (counts)/Tb (min)) — 1.47 (Rb (cpm)) — 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	16	15.96	59.90	15.02	0.02	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.02 Total DAC-Hrs	18:24		β	1.99	1.0	16.11	0.00000	13	11.53	27.74	8.67	0.00	
Dinger 17319 Pump # 4544 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	7	6.96	26.11	9.93	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:25		β	1.99	1.0	16.11	0.00000	18	16.53	39.76	10.20	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	6	5.96	22.36	9.20	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:27		β	1.99	1.0	16.11	0.00000	13	11.53	27.74	8.67	0.00	
Olsen 66828 Pump # 4543 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	6	5.96	22.36	9.20	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:28		β	1.99	1.0	16.11	0.00000	13	11.53	27.74	8.67	0.00	
Tachell 5T305 Pump # 2123 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	9	8.96	33.62	11.26	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:29		β	1.99	1.0	16.11	0.00000	18	16.53	39.76	10.20	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	8	7.96	29.87	10.62	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:30		β	1.99	1.0	16.11	0.00000	15	13.53	32.55	9.32	0.00	
Kovis 16708 Pump # 2937 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	8	7.96	29.87	10.62	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:31		β	1.99	1.0	16.11	0.00000	15	13.53	32.55	9.32	0.00	
Butler 16919 Pump # 4095 RWP 574 PF=10,000		Versapore	α	0.35	1.0	12.80	0.01	4	3.96	14.85	7.51	0.01	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.01 Total DAC-Hrs	18:33		β	1.99	1.0	16.11	0.00000	12	10.53	25.33	8.33	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1000

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg)
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COF

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature] 5-4-11

Log Validated By (Print, Sign, Date): [signature] MAY 04 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,647 | Date: May 2, 2011 Monday | Page: 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	26	1.19	4.48	0.91	**1.76**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
1.76 Total DAC-Hrs	3:12		β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
Curiel 17339 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	9	0.38	1.44	0.54	0.56	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.56 Total DAC-Hrs	3:34		β	0.44	21.0	2.42	0.000	36	0.25	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	20	0.91	3.41	0.80	**1.34**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
1.34 Total DAC-Hrs	3:55		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	82	3.86	14.49	1.62	**5.68**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
5.68 Total DAC-Hrs	4:16		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.00 Total DAC-Hrs	4:37		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
Collins 87903 Pump # 4090 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	15	0.67	2.51	0.69	0.99	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.99 Total DAC-Hrs	4:59		β	0.44	21.0	2.42	0.000	41	0.48	1.16	0.74	0.00	

COP.

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 88723 MAY 02 2011

Log Validated By (Print, Sign, Date): MAY 04 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP - 23,654 | Date: May 2, 2011 Monday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	131	6.21	24.98	2.19	**9.79**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
9.79 Total DAC-Hrs	9:26		β	0.46	21.0	2.67	0.001	46	0.58	1.49	0.83	0.00	
Dinger 17319 Pump # 4544 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	57	2.68	10.80	1.45	**4.23**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
4.23 Total DAC-Hrs	9:48		β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	82	3.87	15.59	1.74	**6.11**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
6.11 Total DAC-Hrs	10:09		β	0.46	21.0	2.67	0.001	50	0.77	1.98	0.86	0.00	
Olsen 66828 Pump # 4543 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	17	0.78	3.13	0.79	**1.23**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
1.23 Total DAC-Hrs	10:30		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 2123 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	24	1.11	4.47	0.94	**1.75**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
1.75 Total DAC-Hrs	10:51		β	0.46	21.0	2.67	0.001	37	0.16	<DL	N/A	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	6	0.25	1.03	0.47	0.40	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.40 Total DAC-Hrs	11:13		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
Kovis 16708 Pump # 2937 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	89	4.21	16.93	1.81	**6.64**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
6.64 Total DAC-Hrs	11:34		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
Butler 16919 Pump # 4095 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	10	0.45	1.79	0.61	0.70	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.70 Total DAC-Hrs	11:55		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 83723 MAY 02 2011

Log Validated By (Print, Sign, Date): MAY 04 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,661 | Date: May 3, 2011 Tuesday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000 **10.17** Total DAC-Hrs	2:35	Versapore	α	0.06	21.0	1.03	0.41	136	6.45	25.94	2.23	**10.17**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	48	0.68	1.73	0.85	0.00	
Dinger 17319 Pump # 4544 RWP 574 PF=10,000 **4.38** Total DAC-Hrs	2:56	Versapore	α	0.06	21.0	1.03	0.41	59	2.78	11.18	1.47	**4.38**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000 **4.98** Total DAC-Hrs	3:18	Versapore	α	0.06	21.0	1.03	0.41	67	3.16	12.71	1.57	**4.98**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	43	0.44	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP 574 PF=10,000 0.63 Total DAC-Hrs	3:39	Versapore	α	0.06	21.0	1.03	0.41	9	0.40	1.60	0.58	0.63	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	22	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 2123 RWP 574 PF=10,000 **1.30** Total DAC-Hrs	4:00	Versapore	α	0.06	21.0	1.03	0.41	18	0.83	3.32	0.81	**1.30**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000 0.25 Total DAC-Hrs	4:21	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	
Kovis 16708 Pump # 2937 RWP 574 PF=10,000 **5.28** Total DAC-Hrs	4:42	Versapore	α	0.06	21.0	1.03	0.41	71	3.35	13.48	1.61	**5.28**	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
Butler 16919 Pump # 4095 RWP 574 PF=10,000 0.93 Total DAC-Hrs	5:04	Versapore	α	0.06	21.0	1.03	0.41	13	0.59	2.37	0.69	0.93	Dinger WP-1101184 5/1/2011 @ 1700 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
			β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ [signature] 98727 MAY 0 3 2011 Log Validated By (Print, Sign, Date): [signature] MAY 0 4 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,662 | Date: May 3, 2011 Tuesday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	19	0.86	3.23	0.78	**1.27**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
1.27 Total DAC-Hrs	2:36		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
Curiel 17339 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	7	0.29	1.08	0.47	0.42	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.42 Total DAC-Hrs	2:57		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	16	0.72	2.69	0.72	**1.06**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
1.06 Total DAC-Hrs	3:18		β	0.44	21.0	2.42	0.000	38	0.34	<DL	N/A	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	106	5.00	18.78	1.84	**7.36**	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
7.36 Total DAC-Hrs	3:39		β	0.44	21.0	2.42	0.000	48	0.82	1.97	0.80	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.07 Total DAC-Hrs	4:01		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Collins 87903 Pump # 4090 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	10	0.43	1.62	0.57	0.63	Tubbs WP-1101182 5/1/2011 @ 1300 WB Recovery 1st Entry Intial Count
0.63 Total DAC-Hrs	4:22		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L SCHULTZ 83723 MAY 03 2011

Log Validated By (Print, Sign, Date): MAY 04 2011

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP - 23,672 | Date: May 4, 2011 Wednesday | Page 1 of 1

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 PUMP #4091 RWP-574. PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	48	2.24	8.41	1.24	**3.30**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
3.30 Total DAC-Hrs	4:11		β	0.44	21.0	2.42	0.000	40	0.44	<DL	N/A	0.00	
BUTLER 16919 PUMP # 4095 RWP-574. PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	17	0.76	2.87	0.74	**1.13**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
1.13 Total DAC-Hrs	4:32		β	0.44	21.0	2.42	0.000	41	0.48	1.16	0.74	0.00	
COLLINS 87903 PUMP # 4090 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	76	3.57	13.42	1.56	**5.26**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
5.26 Total DAC-Hrs	4:53		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	
POMEROY 17342 PUMP # 2015 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	102	4.81	18.07	1.81	**7.08**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
7.08 Total DAC-Hrs	5:14		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
KOVIS 16708 PUMP # 2937 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	182	8.62	32.37	2.41	**12.69**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
12.69 Total DAC-Hrs	5:36		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
TUBBS 9D098 PUMP # 4596 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	41	1.91	7.16	1.15	**2.81**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
2.81 Total DAC-Hrs	5:57		β	0.44	21.0	2.42	0.000	23	0.00	<DL	N/A	0.00	
DINGER 17319 PUMP # 4544 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	20	0.91	3.41	0.80	**1.34**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
1.34 Total DAC-Hrs	6:18		β	0.44	21.0	2.42	0.000	20	0.00	<DL	N/A	0.00	
WILHELM 16515 PUMP #4553 RWP-574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	188	8.91	33.44	2.45	**13.11**	WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA Initial Count.
13.11 Total DAC-Hrs	6:39		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 88723 MAY 04 2011

Log Validated By (Print, Sign, Date): MAY 10 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP-23,671	May 4, 2011 Wednesday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Dinger 17319 Pump # 4544 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
0.07 Total DAC-Hrs	2:03		β	0.44	21.0	2.42	0.000	40	0.44	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	11	0.48	1.80	0.59	0.70	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
0.70 Total DAC-Hrs	2:25		β	0.44	21.0	2.42	0.000	41	0.48	1.16	0.74	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	146	6.91	25.93	2.16	**10.17**	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
10.17 Total DAC-Hrs	2:46		β	0.44	21.0	2.42	0.000	38	0.34	<DL	N/A	0.00	
Kovis 16708 Pump # 2937 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	71	3.34	12.52	1.51	**4.91**	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
4.91 Total DAC-Hrs	3:07		β	0.44	21.0	2.42	0.000	38	0.34	<DL	N/A	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	7	0.29	1.08	0.47	0.42	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
0.42 Total DAC-Hrs	3:28		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	34	1.57	5.91	1.04	**2.32**	Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 2nd Entry Intial Count
2.32 Total DAC-Hrs	3:49		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ [signature] 84725 MAY 04 2011

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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(?RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD	Batch ID WP -23,670	Date May 4, 2011 Wednesday	Page 1 of 1

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.03 Total DAC-Hrs	2:02		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Rhodes 16558 Pump # 4554 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	8	0.35	1.41	0.54	0.55	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.55 Total DAC-Hrs	2:23		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	32	1.49	6.01	1.08	**2.35**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
2.35 Total DAC-Hrs	2:45		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Collins 87903 Pump # 44090 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	51	2.40	9.65	1.37	**3.78**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
3.78 Total DAC-Hrs	3:06		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.00 Total DAC-Hrs	3:27		β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	70	3.30	13.29	1.60	**5.21**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
5.21 Total DAC-Hrs	3:48		β	0.46	21.0	2.67	0.001	40	0.30	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 98723 MAY 0 4 2011 Log Validated By (Print, Sign, Date): MAY 10 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY~~ - ~~Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,688	May 5, 2011 Thursday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	581	27.64	111.21	4.62	**43.60**	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
43.60 Total DAC-Hrs	16:01		β	0.46	21.0	2.67	0.001	88	2.58	6.59	1.14	0.00	
McKenna 17327 Pump # 4545 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	18	0.83	3.32	0.81	**1.30**	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
1.30 Total DAC-Hrs	16:22		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	166	7.87	31.69	2.47	**12.42**	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
12.42 Total DAC-Hrs	16:44		β	0.46	21.0	2.67	0.001	66	1.54	3.92	0.99	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	14	0.64	2.56	0.72	**1.00**	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
1.00 Total DAC-Hrs	17:05		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
0.18 Total DAC-Hrs	17:26		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	7	0.30	1.22	0.51	0.48	WP-1101224 Rhodes @1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
0.48 Total DAC-Hrs	17:47		β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Barbara Stancil, #17306, B Stan 5-5-11

Log Validated By (Print, Sign, Date): Wielang W. MAY 10 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD	Batch ID WP -23,689	Date May 5, 2011 Thursday	Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.00 Total DAC-Hrs	18:08		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Rhodes 16558 Pump # 4554 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	8	0.35	1.41	0.54	0.55	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.55 Total DAC-Hrs	18:30		β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	25	1.16	4.67	0.96	**1.83**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
1.83 Total DAC-Hrs	18:51		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	
Collins 87903 Pump # 44090 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	48	2.25	9.07	1.33	**3.56**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
3.56 Total DAC-Hrs	19:12		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
0.03 Total DAC-Hrs	19:33		β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	90	4.25	17.12	1.82	**6.71**	McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 2nd Entry SCBA PF=10,000 Initial cout.
6.71 Total DAC-Hrs	19:55		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Barbara Francil, #17306, B. [signature] 5-5-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

.IPRC RADIOLOGICAL CONTROL LAPEL SAMPLE . .ALYSIS RECORD

Batch ID	Date	Page
WP - 23,687	May 5, 2011 Thursday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	590	28.06	112.94	4.65	**44.27**	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
44.27 Total DAC-Hrs	8:05		β	0.46	21.0	2.67	0.001	83	2.35	5.98	1.11	0.00	
McKenna 17327 Pump # 4545 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	20	0.92	3.71	0.86	**1.45**	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
1.45 Total DAC-Hrs	8:26		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	94	4.45	17.89	1.86	**7.01**	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
7.01 Total DAC-Hrs	8:48		β	0.46	21.0	2.67	0.001	47	0.63	1.61	0.84	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	13	0.59	2.37	0.69	0.93	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
0.93 Total DAC-Hrs	9:09		β	0.46	21.0	2.67	0.001	40	0.30	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	6	0.25	1.03	0.47	0.40	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
0.40 Total DAC-Hrs	9:30		β	0.46	21.0	2.67	0.001	37	0.16	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	11	0.49	1.98	0.64	0.78	WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team Initial Count PF 10,000
0.78 Total DAC-Hrs	9:51		β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 84723 MAY 0 5 2011 Log Validated By (Print, Sign, Date): MAY 10 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

(?RC RADIOLOGICAL CONTROL LAPEL SAMPLE / .LYSIS RECORD

Batch ID	Date	Page
WP -23,697	May 6, 2011 Friday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Breshears 16592 Pump # 4095 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.21 Total DAC-Hrs	4:05		β	0.44	21.0	2.42	0.000	42	0.53	1.28	0.75	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.14 Total DAC-Hrs	4:26		β	0.44	21.0	2.42	0.000	40	0.44	<DL	N/A	0.00	
Hobbs 16921 Pump #4551 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	4:47		β	0.44	21.0	2.42	0.000	23	0.00	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.35 Total DAC-Hrs	5:08		β	0.44	21.0	2.42	0.000	33	0.10	<DL	N/A	0.00	
Dinger 17319 Pump # 4544 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.14 Total DAC-Hrs	5:30		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
Rhodes 16588 Pump #4554 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	5	0.19	0.72	0.40	0.28	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.28 Total DAC-Hrs	5:51		β	0.44	21.0	2.42	0.000	42	0.53	1.28	0.75	0.00	
Wilhelm 16515 Pump # 4553 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM I AM INITIAL COUNT Lapel ON PAPR PF=1000
0.21 Total DAC-Hrs	6:12		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): DARRELL Orth, 8D561, OO, 5-6-11

Log Validated By (Print, Sign, Date): Wieland W

MAY 10 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~

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PRC RADIOLOGICAL CONTROL LAPEL SAMPLE ALYSIS RECORD

Batch ID	Date	Page
WP -23,700	May 6, 2011 Friday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	545	25.91	97.27	4.17	**38.13**	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
38.13 Total DAC-Hrs	12:03		β	0.44	21.0	2.42	0.000	95	3.06	7.35	1.12	0.00	
McKenna 17327 Pump # 4545 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	29	1.34	5.02	0.96	**1.97**	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
1.97 Total DAC-Hrs	12:24		β	0.44	21.0	2.42	0.000	38	0.34	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	147	6.96	26.11	2.17	**10.24**	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
10.24 Total DAC-Hrs	12:45		β	0.44	21.0	2.42	0.000	43	0.58	1.39	0.76	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	15	0.67	2.51	0.69	0.99	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
0.99 Total DAC-Hrs	13:06		β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	14	0.62	2.33	0.67	0.91	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
0.91 Total DAC-Hrs	13:27		β	0.44	21.0	2.42	0.000	23	0.00	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF=10000		Versapore	α	0.08	21.0	1.06	0.42	16	0.72	2.69	0.72	**1.06**	Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team 1st Decay Count PF 10,000
1.06 Total DAC-Hrs	13:49		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Darrell Orth 8D561, [signature], 5/6/11

Log Validated By (Print, Sign, Date): Wieland [signature] MAY 10 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~

C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID	Date	Page
WP -23,713	May 9, 2011 Monday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 PUMP #4091 RWP-574. PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	40	1.87	7.54	1.21	**2.96**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
2.96 Total DAC-Hrs	17:30		β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	
BUTLER 16919 PUMP # 4095 RWP-574. PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	9	0.40	1.60	0.58	0.63	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
0.63 Total DAC-Hrs	17:51		β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	
COLLINS 87903 PUMP # 4090 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	85	4.02	16.16	1.77	**6.34**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
6.34 Total DAC-Hrs	18:13		β	0.46	21.0	2.67	0.001	45	0.54	1.37	0.82	0.00	
POMEROY 17342 PUMP # 2015 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	68	3.21	12.91	1.58	**5.06**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
5.06 Total DAC-Hrs	18:34		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
KOVIS 16708 PUMP # 2937 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	169	8.02	32.26	2.49	**12.65**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
12.65 Total DAC-Hrs	18:55		β	0.46	21.0	2.67	0.001	43	0.44	<DL	N/A	0.00	
TUBBS 9D098 PUMP # 4596 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	44	2.06	8.31	1.27	**3.26**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
3.26 Total DAC-Hrs	19:16		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
DINGER 17319 PUMP # 4544 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	14	0.64	2.56	0.72	**1.00**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
1.00 Total DAC-Hrs	19:38		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
WILHELM 16515 PUMP #4553 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	199	9.45	38.01	2.70	**14.90**	7 Day Recount WP-1101205 CHADDERDON 05/03/11. 2404 WB 2ND ENTRY. Lapels ON SCBA.
14.90 Total DAC-Hrs	19:59		β	0.46	21.0	2.67	0.001	47	0.63	1.61	0.84	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): MChadderdon, 17324, Mchadderdon, 5/9/11

Log Validated By (Print, Sign, Date): [signature]

MAY 10 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,707 | Date: May 9, 2011 Monday | Page 1 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Colling 80325 pump #4553 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.14 Total DAC-Hrs	4:19		β	0.44	21.0	2.42	0.000	20	0.00	<DL	N/A	0.00	
Curiel 17339 pump #2123 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.00 Total DAC-Hrs	4:40		β	0.44	21.0	2.42	0.000	24	0.00	<DL	N/A	0.00	
Hosirt 10973 pump #2937 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.00 Total DAC-Hrs	5:01		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	
Pomeroy 17342 pump #2694 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.07 Total DAC-Hrs	5:22		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Atallah 17329 pump #4544 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.00 Total DAC-Hrs	5:44		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Wilhelm 16515 pump #4546 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.00 Total DAC-Hrs	6:05		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Butler 16919 pump #4554 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.00 Total DAC-Hrs	6:26		β	0.44	21.0	2.42	0.000	27	0.00	<DL	N/A	0.00	
Downing 85574 pump #4545 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	10	0.43	1.62	0.57	0.63	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.64 Total DAC-Hrs	6:47		β	0.44	21.0	2.42	0.000	49	0.87	2.08	0.81	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 5-9-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID	Date	Page
WP -23,707	May 9, 2011 Monday	2 of 2

'ounter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job. Date and time collected, type of count (initial/decay)
Hayden 16707 pump #4092 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.07 Total DAC-Hrs	7:09		β	0.44	21.0	2.42	0.000	27	0.00	<DL	N/A	0.00	
Kovis 16708 pump #4095 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.14 Total DAC-Hrs	7:30		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Olsen 66828 pump #4551 RWP-574 PF-1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	WP- 1101259 Wilhelm 5-6-11. 2404 WB LAPELS on PAPR PF=1000
0.07 Total DAC-Hrs	7:51		β	0.44	21.0	2.42	0.000	19	0.00	<DL	N/A	0.00	

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Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Ata'ah, 17329, [signature], 5-9-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID	Date	Page
WP -23,709	May 9, 2011 Monday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
MCKENNA 17327 Pump #4545 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	135	6.40	25.75	2.23	**10.09**	Seven day decay count WP-1101184 5-1-2011@1700
10.09 Total DAC-Hrs	9:20		β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	
DINGER 17319 Pump #4544 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	56	2.64	10.61	1.43	**4.16**	Seven day decay count WP-1101184 5-1-2011@1700
4.16 Total DAC-Hrs	9:41		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
HOSIER 10973 Pump #4092 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	66	3.11	12.52	1.56	**4.91**	Seven day decay count WP-1101184 5-1-2011@1700
4.91 Total DAC-Hrs	10:02		β	0.46	21.0	2.67	0.001	45	0.54	1.37	0.82	0.00	
OLSEN 66828 Pump #4543 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	9	0.40	1.60	0.58	0.63	Seven day decay count WP-1101184 5-1-2011@1700
0.63 Total DAC-Hrs	10:24		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
TACHELL 5T305 Pump #2123 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	30	1.40	5.62	1.05	**2.20**	Seven day decay count WP-1101184 5-1-2011@1700
2.20 Total DAC-Hrs	10:45		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
BROWN 16603 Pump #4091 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	6	0.25	1.03	0.47	0.40	Seven day decay count WP-1101184 5-1-2011@1700
0.40 Total DAC-Hrs	11:06		β	0.46	21.0	2.67	0.001	43	0.44	<DL	N/A	0.00	
KOVIS 16708 Pump # 2937 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	93	4.40	17.70	1.85	**6.94**	Seven day decay count WP-1101184 5-1-2011@1700
6.94 Total DAC-Hrs	11:27		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
BUTLER 16919 Pump #4095 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	13	0.59	2.37	0.69	0.93	Seven day decay count WP-1101184 5-1-2011@1700
0.93 Total DAC-Hrs	11:49		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Co[illegible] error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 5-9-11

Log Validated By (Print, Sign, Date): [signature]

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Rev Date: 12/2009

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C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID: WP -23,710 | Date: May 9, 2011 Monday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	16	0.72	2.69	0.72	**1.06**	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
1.06 Total DAC-Hrs	9:19		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Curiel 17339 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	12	0.53	1.98	0.62	0.77	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
0.77 Total DAC-Hrs	9:40		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	16	0.72	2.69	0.72	**1.06**	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
1.06 Total DAC-Hrs	10:01		β	0.44	21.0	2.42	0.000	24	0.00	<DL	N/A	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	95	4.48	16.82	1.74	**6.59**	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
6.59 Total DAC-Hrs	10:22		β	0.44	21.0	2.42	0.000	33	0.10	<DL	N/A	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10.000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
0.00 Total DAC-Hrs	10:44		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	
Collins 87903 Pump # 4090 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	5	0.19	0.72	0.40	0.28	Tubbs WP-1101182 5/1/2011 WB Recovery 1st Entry 7 Day Decay Count
0.28 Total DAC-Hrs	11:05		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

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Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 5-9-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,712 | Date: May 9, 2011 Monday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
McKenna 17327 Pump # 4545 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
0.14 Total DAC-Hrs	17:20		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Rhodes 16558 Pump # 4554 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	16	0.72	2.69	0.72	**1.06**	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
1.06 Total DAC-Hrs	17:41		β	0.44	21.0	2.42	0.000	25	0.00	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	22	1.00	3.76	0.84	**1.48**	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
1.48 Total DAC-Hrs	18:02		β	0.44	21.0	2.42	0.000	26	0.00	<DL	N/A	0.00	
Collins 87903 Pump # 44090 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	55	2.57	9.66	1.33	**3.79**	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
3.79 Total DAC-Hrs	18:23		β	0.44	21.0	2.42	0.000	40	0.44	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
0.00 Total DAC-Hrs	18:45		β	0.44	21.0	2.42	0.000	39	0.39	<DL	N/A	0.00	
Brown 16603 Pump # 4091 RWP 574 PF=10,000		Versapore	α	0.08	21.0	1.06	0.42	88	4.15	15.56	1.68	**6.10**	7 Day Recount McKenna WP-1101204 5/3/2011 @ 1530 WP Recovery 1st Entry SCBA PF=10,000
6.10 Total DAC-Hrs	19:06		β	0.44	21.0	2.42	0.000	45	0.67	1.62	0.77	0.00	

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Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 5-10-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

Rev Date: 12/2009

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C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,714	May 9, 2011 Monday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Dinger 17319 Pump # 4544 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
0.00 Total DAC-Hrs	19:27		β	0.44	21.0	2.42	0.000	22	0.00	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4553 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	10	0.43	1.62	0.57	0.63	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
0.63 Total DAC-Hrs	19:48		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	154	7.29	27.36	2.22	**10.73**	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
10.73 Total DAC-Hrs	20:10		β	0.44	21.0	2.42	0.000	42	0.53	1.28	0.75	0.00	
Kovis 16708 Pump # 2937 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	60	2.81	10.56	1.39	**4.14**	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
4.14 Total DAC-Hrs	20:31		β	0.44	21.0	2.42	0.000	43	0.58	1.39	0.76	0.00	
Butler 16919 Pump # 4095 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	7	0.29	1.08	0.47	0.42	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
0.42 Total DAC-Hrs	20:52		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF 10,000		Versapore	α	0.08	21.0	1.06	0.42	36	1.67	6.27	1.07	**2.46**	7 Day Recount Tubbs WP-1101209 5/3/2011 @ 1500 WB Recovery 3rd Entry
2.46 Total DAC-Hrs	21:13		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	

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Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 5-10-11

Log Validated By (Print, Sign, Date): [signature] MAY 10 2011

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP -23,722 | Date: May 10, 2011 Tuesday | Page 1 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Hosier 10973 Pump # 4551 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.07 Total DAC-Hrs	4:07		β	0.44	21.0	2.42	0.000	33	0.10	<DL	N/A	0.00	
Colling 80325 Pump # 2694 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	5	0.19	0.72	0.40	0.28	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.28 Total DAC-Hrs	4:28		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Wampole 8A863 Pump # 4095 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.35 Total DAC-Hrs	4:50		β	0.44	21.0	2.42	0.000	39	0.39	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4546 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.07 Total DAC-Hrs	5:11		β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	
Dinger 17319 Pump # 4554 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.00 Total DAC-Hrs	5:32		β	0.44	21.0	2.42	0.000	38	0.34	<DL	N/A	0.00	
Collins 87903 Pump # 4094 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.14 Total DAC-Hrs	5:53		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Kovis 16708 Pump # 4547 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.00 Total DAC-Hrs	6:15		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Olsen 66828 Pump # 4093 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
0.07 Total DAC-Hrs	6:36		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): Ram Atallah 17329 [signature] 5-10-11

Log Validated By (Print, Sign, Date): [signature]

MAY 12 2011

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID	Date	Page
WP - 23,722	May 10, 2011 Tuesday	2 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Downing 85574 Pump # 4544 RWP 574 PF=1000 0.14 Total DAC-Hrs	6:57	Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
			β	0.44	21.0	2.42	0.000	21	0.00	<DL	N/A	0.00	
Callaway 82453 Pump # 4092 RWP 574 PF=1000 0.00 Total DAC-Hrs	7:18	Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	Initial count Dinger WP-1101277 5/9/2011 @ 1028 WB Recovery on PAPR
			β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Ram Atallah, 17329, [signature], 5-10-11

Log Validated By (Print, Sign, Date): [signature]

MAY 12 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,724 | Date: May 10, 2011 Tuesday | Page: 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Downing 85574 Pump #4549 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101283 McKenna WB Recovery 5/9/11 @ 1444 PAPR
0.00 Total DAC-Hrs	7:40		β	0.44	21.0	2.42	0.000	20	0.00	<DL	N/A	0.00	
Colling 80325 Pump #4548 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	WP-1101283 McKenna WB Recovery 5/9/11 @ 1444 PAPR
0.00 Total DAC-Hrs	8:01		β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	
McKenna 17327 Pump #4552 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101283 McKenna WB Recovery 5/9/11 @ 1444 PAPR
0.00 Total DAC-Hrs	8:22		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17324, [signature], 5-10-11

Log Validated By (Print, Sign, Date): Wielang W[signature] MAY 12 2011

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP -23,726 | Date: May 10, 2011 Tuesday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Rhodes 16588 Pump # 4554 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	593	28.21	113.51	4.67	**44.50**	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
44.50 Total DAC-Hrs	15:30		β	0.46	21.0	2.67	0.001	82	2.30	5.86	1.10	0.00	
McKenna 17327 Pump # 4545 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	27	1.25	5.05	1.00	**1.98**	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
1.98 Total DAC-Hrs	15:51		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
Hosier 10973 Pump # 4092 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	163	7.73	31.11	2.45	**12.20**	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
12.20 Total DAC-Hrs	16:12		β	0.46	21.0	2.67	0.001	62	1.35	3.43	0.96	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	15	0.68	2.75	0.74	**1.08**	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
1.08 Total DAC-Hrs	16:34		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 4093 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
0.33 Total DAC-Hrs	16:55		β	0.46	21.0	2.67	0.001	24	0.00	<DL	N/A	0.00	
Olsen 66828 Pump # 4543 RWP-574 PF=10000		Versapore	α	0.06	21.0	1.03	0.41	7	0.30	1.22	0.51	0.48	7 Day Recount WP-1101224 Rhodes @ 1230 2404 WB Recovery 1st Team PF 10,000
0.48 Total DAC-Hrs	17:16		β	0.46	21.0	2.67	0.001	40	0.30	<DL	N/A	0.00	

COPY

Definitions:
- Ec = instrument counting efficiency (cpm/dpm).
- CF = instrument correction factor (1/Ec).
- Tb = background counting interval
- **PF = 1 (No respiratory protection)**
- Rb = Background count rate (Nb/Tb).
- DL = Decision Level
- Nb = number of background counts recorded during background counting interval (Tb).
- MD DAC-hr = Minimum Detectable DAC-hr
- Tg = Sample Counting Time
- Ng = Gross Counts measured during sample counting time (Tg).
- Rn = Sample Count Rate ((Ng/Tg)-Rb)
- MDA = Minimum Detectable Activity
- σ = Counting error
- Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
- Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
- Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): M. Chadderdon, 17324, [signature], 5/10/11

Log Validated By (Print, Sign, Date): [signature]

MAY 12 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,743 | Date: May 11, 2011 Wednesday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Collins 87903 Pump # 4090 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.07 Total DAC-Hrs	3:37		β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
Brown 16603 Pump # 2122 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	8	0.34	1.26	0.51	0.49	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.49 Total DAC-Hrs	3:58		β	0.44	21.0	2.42	0.000	33	0.10	<DL	N/A	0.00	
Butler 16919 Pump # 4545 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.14 Total DAC-Hrs	4:19		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
McKenna 17327 Pump # 1549 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.14 Total DAC-Hrs	4:40		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Dinger 17319 Pump # 4091 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.21 Total DAC-Hrs	5:02		β	0.44	21.0	2.42	0.000	37	0.29	<DL	N/A	0.00	
Curiel 17339 Pump # 2123 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.14 Total DAC-Hrs	5:23		β	0.44	21.0	2.42	0.000	45	0.67	1.62	0.77	0.00	
Hendricks 94819 Pump # 4553 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	Curiel WP-1101295 5/10/11 WB Recovery 1st Entry INITIAL COUNT.
0.14 Total DAC-Hrs	5:44		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting Error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

MAY 11 2011

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 83723 ~~MAY 11 2011~~ 5-11-11

Log Validated By (Print, Sign, Date): Wielang W MAY 12 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE / .LYSIS RECORD

Batch ID: WP -23,744 | Date: May 11, 2011 Wednesday | Page 1 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
OLSEN 66828 PUMP # 4549 RWP-574 PF=1,000 0.07 Total DAC-Hrs	6:05	Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
CALLAWAY 82453 PUMP # 4095 RWP-574 PF-1,000 0.14 Total DAC-Hrs	6:27	Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	24	0.00	<DL	N/A	0.00	
BROWN 16603 PUMP # 4544 RWP-574 PF=1,000 0.07 Total DAC-Hrs	6:48	Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	27	0.00	<DL	N/A	0.00	
COLLINS 87903 PUMP # 4092 RWP-574 PF=1,000 0.00 Total DAC-Hrs	7:09	Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
POMEROY 17342 PUMP # 4552 RWP-574 PF=1,000 0.28 Total DAC-Hrs	7:30	Versapore	α	0.08	21.0	1.06	0.42	5	0.19	0.72	0.40	0.28	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
COLLING 80325 PUMP # 2694 RWP-574 PF=1,000 0.21 Total DAC-Hrs	7:52	Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	23	0.00	<DL	N/A	0.00	
TUBBS 9D098 PUMP # 4548 RWP-574 PF=1,000 0.14 Total DAC-Hrs	8:13	Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
WILHELM 16515 PUMP # 4546 RWP-574 PF=1,000 0.35 Total DAC-Hrs	8:34	Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
			β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 86723 MAY 11 2011

Log Validated By (Print, Sign, Date): MAY 12 2011

Rev Date: 12/2009

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(?RC RADIOLOGICAL CONTROL LAPEL SAMPLE / ıLYSIS RECORD

Batch ID	Date	Page
WP -23,744	May 11, 2011 Wednesday	2 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
STRAWN 5W657 PUMP # 4554 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
0.14 Total DAC-Hrs	8:55		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
DOWNING 85574 PUMP # 4547 RWP-574 PF-1,000		Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
0.35 Total DAC-Hrs	9:17		β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
SPAITE 16545 PUMP # 2937 RWP-574 PF=1,000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	INTIAL COUNT. WP-1101290 POMEROY 05/10/11. 2404 WB 2ND ENTRY. PF=1,000
0.00 Total DAC-Hrs	9:38		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 88723 MAY 11 2011

Log Validated By (Print, Sign, Date): MAY 12 2011

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,745 | Date: May 11, 2011 Wednesday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Breshears 16592 Pump # 4095 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	16:32		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
Callaway 82453 Pump # 4552 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	16:54		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Hobbs 16921 Pump #4551 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.07 Total DAC-Hrs	17:15		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4546 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	17:36		β	0.44	21.0	2.42	0.000	23	0.00	<DL	N/A	0.00	
Dinger 17319 Pump # 4544 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.35 Total DAC-Hrs	17:57		β	0.44	21.0	2.42	0.000	29	0.00	<DL	N/A	0.00	
Rhodes 16588 Pump #4554 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	18:19		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4553 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	7 Day Recount WP -1101187 WILHELM 16515 2404 WB RECOVERY TEAM 1 AM Lapel ON PAPR PF=1000
0.07 Total DAC-Hrs	18:40		β	0.44	21.0	2.42	0.000	22	0.00	<DL	N/A	0.00	

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Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Chadderdon, 17324, [signature] 5/11/11

Log Validated By (Print, Sign, Date): [signature] MAY 12 2011

Rev Date: 12/2009

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C 'RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP - 23,755 | Date: May 12, 2011 Thursday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Downing 85574 Pump # 1448 RWP-574 PF=1000 0.18 Total DAC-Hrs	2:32	Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
Brown 16603 Pump # 2123 RWP-574 PF=1000 0.33 Total DAC-Hrs	2:53	Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	40	0.30	<DL	N/A	0.00	
Olson 66828 Pump # 1874 RWP-574 PF=1000 0.25 Total DAC-Hrs	3:14	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	
Collins 87903 Pump # 2122 RWP-574 PF=1000 0.33 Total DAC-Hrs	3:36	Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
Kovis 16708 Pump # 4551 RWP-574 PF=1000 0.10 Total DAC-Hrs	3:57	Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	
Pomeroy 17342 Pump # 4545 RWP-574 PF=1000 0.18 Total DAC-Hrs	4:18	Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	41	0.35	<DL	N/A	0.00	
Wilhelm 17515 Pump # 4094 RWP-574 PF=1000 0.70 Total DAC-Hrs	4:39	Versapore	α	0.06	21.0	1.03	0.41	10	0.45	1.79	0.61	0.70	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	37	0.16	<DL	N/A	0.00	
Wampole 8A863 Pump # 4093 RWP-574 PF=1000 0.25 Total DAC-Hrs	5:00	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	

Definitions:
- Ec = instrument counting efficiency (cpm/dpm).
- CF = instrument correction factor (1/Ec).
- Tb = background counting interval
- **PF = 1 (No respiratory protection)**
- Rb = Background count rate (Nb/Tb).
- DL = Decision Level
- Nb = number of background counts recorded during background counting interval (Tb).
- MD DAC-hr = Minimum Detectable DAC-hr
- Tg = Sample Counting Time
- Ng = Gross Counts measured during sample counting time (Tg).
- Rn = Sample Count Rate ((Ng/Tg)-Rb)
- MDA = Minimum Detectable Activity

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Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

MAY 12 2011

RCT (Print, Payroll #, Sign, Date): Rami Atallah, [signature], 5-12-11

Log Validated By (Print, Sign, Date): [signature]

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,755 | Date: May 12, 2011 Thursday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Hosier 10973 Pump # 2694 RWP-574 PF=1000 0.55 Total DAC-Hrs	5:22	Versapore	α	0.06	21.0	1.03	0.41	8	0.35	1.41	0.54	0.55	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	47	0.63	1.61	0.84	0.00	
Hendricks 94819 Pump # 4549 RWP-574 PF=1000 0.25 Total DAC-Hrs	5:43	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	Initial Count - WP-1101314 Wilhelm 17515 @ 1330 2404 WB Recovery 1st Team PF 1,000
			β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, [signature] 5-12-11

Log Validated By (Print, Sign, Date): Wieland [signature] MAY 12 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,756 | Date: May 12, 2011 Thursday | Page 1 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Callaway 82453 PUMP # 1549 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	6:04		β	0.46	21.0	2.67	0.001	23	0.00	<DL	N/A	0.00	
Kovis 16708 PUMP # 4551 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	6:25		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
Hayden 16707 PUMP # 4095 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	6:47		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
Breshears 16592 PUMP # 4090 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.03 Total DAC-Hrs	7:08		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
Dinger 17319 PUMP # 4546 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	7:29		β	0.46	21.0	2.67	0.001	24	0.00	<DL	N/A	0.00	
Hendricks 94819 PUMP # 4553 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.33 Total DAC-Hrs	7:50		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
McKenna 17327 PUMP # 4543 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.18 Total DAC-Hrs	8:11		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
Wampole 8A863 PUMP # 2937 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.03 Total DAC-Hrs	8:33		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature] 5-12-11

Log Validated By (Print, Sign, Date): [signature] MAY 12 2011

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,756 | Date: May 12, 2011 Thursday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Tubbs 8D098 PUMP # 4091 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	8:54		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
Hobbs 16921 PUMP # 4544 RWP-574 PF-1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	Initial Count - WP-1101312 Wampole 8A863 05-11-11 @ 1500 WB Recovery Team #2 PM entry PF 1,000
0.10 Total DAC-Hrs	9:15		β	0.46	21.0	2.67	0.001	40	0.30	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

MAY 12 2011

RCT (Print, Payroll #, Sign, Date): Ram Atwilah, 17329, [signature], 5-12-11

Log Validated By (Print, Sign, Date): [signature]

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP-23,769 | Date: May 13, 2011 Friday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 Pump # 4552 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	9	0.38	1.44	0.54	0.56	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.56 Total DAC-Hrs	4:15		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
TACHELL 5T305 Pump # 4554 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.21 Total DAC-Hrs	4:37		β	0.44	21.0	2.42	0.000	40	0.44	<DL	N/A	0.00	
KOVIS 16708 Pump # 4092 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.21 Total DAC-Hrs	4:58		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
BUTLER 16919 Pump # 4548 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.07 Total DAC-Hrs	5:19		β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
COLLINS 87903 Pump # 2122 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	9	0.38	1.44	0.54	0.56	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.56 Total DAC-Hrs	5:40		β	0.44	21.0	2.42	0.000	36	0.25	<DL	N/A	0.00	
TUBBS 9D098 Pump # 1549 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	3	0.10	0.37	0.31	0.14	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.14 Total DAC-Hrs	6:02		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	
MCKENNA 17327 Pump # 2694 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.21 Total DAC-Hrs	6:23		β	0.44	21.0	2.42	0.000	26	0.00	<DL	N/A	0.00	
SPAITE 16545 Pump # 2937 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.07 Total DAC-Hrs	6:44		β	0.44	21.0	2.42	0.000	39	0.39	<DL	N/A	0.00	

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): D.E. Tubbs 8D098 [signature] 5-13-11

Log Validated By (Print, Sign, Date): T. Terry / T. Terry 5-20-11

Rev Date: 12/2009

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RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,769	May 13, 2011 Friday	2 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
DINGER 17319 Pump # 4547 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	10	0.43	1.62	0.57	0.63	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.63 Total DAC-Hrs	7:05		β	0.44	21.0	2.42	0.000	33	0.10	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): D.E. Tubbs 8D098 5-13-11

Log Validated By (Print, Sign, Date): T. Terry T. Terry 5-20-11

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE ANALYSIS RECORD

Batch ID: WP -23,767 | Date: May 13, 2011 Friday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
CALLAWAY 82453 Pump # 2694 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.18 Total DAC-Hrs	4:15		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
OLSON 66828 Pump # 4937 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.33 Total DAC-Hrs	4:36		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
BUTLER 16919 Pump # 2122 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.25 Total DAC-Hrs	4:57		β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	
MCBROOM 16710 Pump # 4554 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.18 Total DAC-Hrs	5:18		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
KOVIS 16708 Pump # 4547 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.25 Total DAC-Hrs	5:40		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
COLLINS 87903 Pump # 4552 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.00 Total DAC-Hrs	6:01		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
WAMPOLE 8A863 Pump # 4548 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.10 Total DAC-Hrs	6:22		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
HENDRICKS 94819 Pump # 4092 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
0.18 Total DAC-Hrs	6:43		β	0.46	21.0	2.67	0.001	26	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): D.E. Tubbs 8D098 [signature] 5-13-11

Log Validated By (Print, Sign, Date): T. Terry [signature] 5-20-11

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD	Batch ID WP -23,767	Date May 13, 2011 Friday	Page 2 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
CURIEL 17339 Pump # 1549 RWP-574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928
0.33 Total DAC-Hrs	7:05		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	Lapel ON PAPR PF=1000

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date) D.E. Tubbs 8D098 5-13-11

Log Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP - 23,768 | Date: May 13, 2011 Friday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 PUMP # 4545 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs	7:26		β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	
BUTLER 16919 PUMP # 4095 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.10 Total DAC-Hrs	7:47		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
DOWNING 85574 PUMP # 4091 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs	8:08		β	0.46	21.0	2.67	0.001	23	0.00	<DL	N/A	0.00	
KOVIS 16708 PUMP # 4543 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs	8:30		β	0.46	21.0	2.67	0.001	42	0.39	<DL	N/A	0.00	
CURIEL 17339 PUMP # 4553 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs	8:51		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
DINGER 17319 PUMP # 4093 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.33 Total DAC-Hrs	9:12		β	0.46	21.0	2.67	0.001	24	0.00	<DL	N/A	0.00	
HENDRICKS 94819 PUMP # 4094 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs	9:33		β	0.46	21.0	2.67	0.001	26	0.00	<DL	N/A	0.00	
MCKENNA 17327 PUMP # 4549 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	7	0.30	1.22	0.51	0.48	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.48 Total DAC-Hrs	9:54		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): D.E. Tubbs 8D098 5-13-11

Log Validated By (Print, Sign, Date): T. Terry T. Terry 5-20-11

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

(RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID: WP - 23,768 | Date: May 13, 2011 Friday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF) / Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
POMEROY 17342 PUMP # 4546 PF=1000 pump disconect	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs 10:16		β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): D.E. Tubbs 8D098 [signature] 5-13-11

Log Validated By (Print, Sign, Date): Terry [signature] 5-20-11

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,783 | Date: May 15, 2011 Sunday | Page 1 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 PUMP # 4545 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs	14:15		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	
BUTLER 16919 PUMP # 4095 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs	14:36		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
DOWNING 85574 PUMP # 4091 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs	14:57		β	0.46	21.0	2.67	0.001	25	0.00	<DL	N/A	0.00	
KOVIS 16708 PUMP # 4543 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.00 Total DAC-Hrs	15:19		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
CURIEL 17339 PUMP # 4553 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.10 Total DAC-Hrs	15:40		β	0.46	21.0	2.67	0.001	26	0.00	<DL	N/A	0.00	
DINGER 17319 PUMP # 4093 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs	16:01		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
HENDRICKS 94819 PUMP # 4094 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.10 Total DAC-Hrs	16:22		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	
MCKENNA 17327 PUMP # 4549 RWP 574 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.10 Total DAC-Hrs	16:44		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	

Definitions:
- Ec = instrument counting efficiency (cpm/dpm).
- CF = instrument correction factor (1/Ec).
- Tb = background counting interval
- **PF = 1 (No respiratory protection)**
- Rb = Background count rate (Nb/Tb).
- DL = Decision Level
- Nb = number of background counts recorded during background counting interval (Tb).
- MD DAC-hr = Minimum Detectable DAC-hr
- Tg = Sample Counting Time
- Ng = Gross Counts measured during sample counting time (Tg).
- Rn = Sample Count Rate ((Ng/Tg)-Rb)
- MDA = Minimum Detectable Activity
- σ = Counting error
- Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
- Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
- Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 88723 MAY 16 2011

Log Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A. .LYSIS RECORD

Batch ID: WP -23,783 | Date: May 15, 2011 Sunday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF) Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
POMEROY 17342 PUMP # 4546 PF=1000 pump disconect	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101334 Hendricks 94819 5/12/11 @ 1410 PAPR = 1000
0.03 Total DAC-Hrs 17:05		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 83723 MAY 16 2011 Log Validated By (Print, Sign, Date): T. Terry / T. Terry 5-20-11

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP-23,781 | Date: May 15, 2011 Sunday |

Counter:

Alpha: Tennelec S5-XLB 0403421 / 2/1/2012 (Instrument Model & ID No./Cal Expiration) | 1924 (Detector ID No.) | 26.64 / 3.75 (Ec / CF) | 45.00 / 1,000.00 (Nb (counts)/Tb (min)) | 0.05 (Rb (cpm)) | 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Beta: Tennelec S5-XLB 0403421 / 2/1/2012 (Instrument Model & ID No./Cal Expiration) | 1924 (Detector ID No.) | 41.58 / 2.41 (Ec / CF) | 1,468.00 / 1,000.00 (Nb (counts)/Tb (min)) | 1.47 (Rb (cpm)) | 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
BROWN 16603 Pump # 4552 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	6	0.24	0.90	0.44	0.35	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.35 Total DAC-Hrs	11:05		β	0.44	21.0	2.42	0.000	34	0.15	<DL	N/A	0.00	
TACHELL 5T305 Pump # 4554 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	11:26		β	0.44	21.0	2.42	0.000	22	0.00	<DL	N/A	0.00	
KOVIS 16708 Pump # 4092 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	11:48		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
BUTLER 16919 Pump # 4548 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	12:09		β	0.44	21.0	2.42	0.000	35	0.20	<DL	N/A	0.00	
COLLINS 87903 Pump # 2122 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	12:30		β	0.44	21.0	2.42	0.000	26	0.00	<DL	N/A	0.00	
TUBBS 9D098 Pump # 1549 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	12:51		β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	
MCKENNA 17327 Pump # 2694 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	4	0.15	0.55	0.36	0.21	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.21 Total DAC-Hrs	13:12		β	0.44	21.0	2.42	0.000	31	0.01	<DL	N/A	0.00	
SPAITE 16545 Pump # 2937 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	0	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	13:34		β	0.44	21.0	2.42	0.000	25	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.20E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 85723 MAY 16 2011

Log Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009

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C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,781	May 15, 2011 Sunday	2 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
DINGER 17319 Pump # 4547 RWP-574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	WP-1101324 TUBBS 8D098 05-12-11 @ 18:20. PF=1000
0.00 Total DAC-Hrs	13:55		β	0.44	21.0	2.42	0.000	28	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 83723 MAY 16 2011 Log Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID	Date	Page
WP -23,782	May 15, 2011 Sunday	1 of 2

Counter:

Alpha: Tennelec S5-XLB 75063 / 8/3/2011 (Instrument Model & ID No./Cal Expiration) — 1430 (Detector ID No.) — 24.85 / 4.02 (Ec / CF) — 31.00 / 1,000.00 (Nb (counts)/Tb (min)) — 0.03 (Rb (cpm)) — 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Beta: Tennelec S5-XLB 75063 / 8/3/2011 (Instrument Model & ID No./Cal Expiration) — 1430 (Detector ID No.) — 39.22 / 2.55 (Ec / CF) — 1,606.00 / 1,000.00 (Nb (counts)/Tb (min)) — 1.61 (Rb (cpm)) — 200W/2336-W/109 (Counter Location (i.e., Area/Facility/Room))

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
CALLAWAY 82453 Pump # 2694 RWP-574 PF=1000 0.03 Total DAC-Hrs	11:04	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	
OLSON 66828 Pump # 4937 RWP-574 PF=1000 0.03 Total DAC-Hrs	11:25	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	24	0.00	<DL	N/A	0.00	
BUTLER 16919 Pump # 2122 RWP-574 PF=1000 0.03 Total DAC-Hrs	11:46	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
MCBROOM 16710 Pump # 4554 RWP-574 PF=1000 0.03 Total DAC-Hrs	12:08	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
KOVIS 16708 Pump # 4547 RWP-574 PF=1000 0.00 Total DAC-Hrs	12:29	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	37	0.16	<DL	N/A	0.00	
COLLINS 87903 Pump # 4552 RWP-574 PF=1000 0.00 Total DAC-Hrs	12:50	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
WAMPOLE 8A863 Pump # 4548 RWP-574 PF=1000 0.10 Total DAC-Hrs	13:11	Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	43	0.44	<DL	N/A	0.00	
HENDRICKS 94819 Pump # 4092 RWP-574 PF=1000 0.00 Total DAC-Hrs	13:32	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	20	0.00	<DL	N/A	0.00	

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

COPY

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 83722 MAY 16 2011 Log Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009 ~~OFFICIAL USE ONLY - Exemption 6 - Personal Privacy~~ C:\Program Files\Tennelec Systems\Eclipse\Lapel Sample Off Mask with MDACHR.rpt

C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP -23,782 | Date: May 15, 2011 Sunday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF) / Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
CURIEL 17339 Pump # 1549 RWP-574 PF=1000 0.00 Total DAC-Hrs 13:54	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101334 HENDRICKS 94819 2404 WB RECOVERY TEAM 1 5/12/11 @ 0928 Lapel ON PAPR PF=1000
		β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ 88723 MAY 16 2011

Validated By (Print, Sign, Date): T. Terry 5-20-11

Rev Date: 12/2009

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C RC RADIOLOGICAL CONTROL LAPEL SAMPLE A LYSIS RECORD

Batch ID: WP -23,796 | Date: May 17, 2011 Tuesday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	26.64 / 3.75	45.00 / 1,000.00	0.05	200W/2336-W/109
Beta:	Tennelec S5-XLB 0403421 / 2/1/2012	1924	41.58 / 2.41	1,468.00 / 1,000.00	1.47	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Colling 80325 Pump # 4553 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Hendricks WP 1101365 5/16/2011 @ 1600 WB Recovery on PAPR
0.07 Total DAC-Hrs	1:34		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
Hendricks 94819 Pump # 4549 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	Hendricks WP 1101365 5/16/2011 @ 1600 WB Recovery on PAPR
0.00 Total DAC-Hrs	1:55		β	0.44	21.0	2.42	0.000	22	0.00	<DL	N/A	0.00	
Downing 85574 Pump # 4095 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	2	0.05	<DL	N/A	0.07	Hendricks WP 1101365 5/16/2011 @ 1600 WB Recovery on PAPR
0.07 Total DAC-Hrs	2:16		β	0.44	21.0	2.42	0.000	32	0.06	<DL	N/A	0.00	
Kelm 0321100 Pump # 4552 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	Hendricks WP 1101365 5/16/2011 @ 1600 WB Recovery on PAPR
0.00 Total DAC-Hrs	2:37		β	0.44	21.0	2.42	0.000	30	0.00	<DL	N/A	0.00	
Vesely 7742254 Pump # 4547 RWP 574 PF=1000		Versapore	α	0.08	21.0	1.06	0.42	1	0.00	<DL	N/A	0.00	Hendricks WP 1101365 5/16/2011 @ 1600 WB Recovery on PAPR
0.00 Total DAC-Hrs	2:59		β	0.44	21.0	2.42	0.000	22	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): TERRY L. SCHULTZ [signature] 48723 MAY 17 2011

Log Validated By (Print, Sign, Date): T. Terry [signature] 5-20-11

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,808 | Date: May 18, 2011 Wednesday |

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
B.POMEROY 17342 PUMP # 4547 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.03 Total DAC-Hrs	8:29		β	0.46	21.0	2.67	0.001	29	0.00	<DL	N/A	0.00	
J. HOSIER 10973 PUMP # 2694 RWP-574 PF-10,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.10 Total DAC-Hrs	8:50		β	0.46	21.0	2.67	0.001	28	0.00	<DL	N/A	0.00	
M. MCKENNA 17327 PUMP # 4093 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.00 Total DAC-Hrs	9:11		β	0.46	21.0	2.67	0.001	19	0.00	<DL	N/A	0.00	
D. TUBBS 9D098 PUMP # 4092 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.03 Total DAC-Hrs	9:33		β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	
R. TACHELL 5T305 PUMP # 4554 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.03 Total DAC-Hrs	9:54		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
J. KOVIS 16708 PUMP # 2129 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.18 Total DAC-Hrs	10:15		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
C. BUTLER 16919 PUMP # 4095 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.00 Total DAC-Hrs	10:36		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
T. CALLAWAY 82453 PUMP # 4548 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.10 Total DAC-Hrs	10:57		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): JAREDMASSIE/16575/[signature]/5-18-11

Log Validated By (Print, Sign, Date): T. Terry/[signature] 5-20-11

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,808	May 18, 2011 Wednesday	2 of 2

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
L. COLLINS 87903 PUMP # 4549 RWP-574 PF=10,000		Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.25 Total DAC-Hrs	11:19		β	0.46	21.0	2.67	0.001	16	0.00	<DL	N/A	0.00	
F. KELM 0321100 PUMP # 4543 RWP-574 PF-10,000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	INTIAL COUNT. WP-1101380 HOSIER SWING 05/17/11. 2404 WB 3ND ENTRY. PF=10,000
0.00 Total DAC-Hrs	11:40		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): JAREOMASSIE / 16575 / [signature] / 5-18-11

Log Validated By (Print, Sign, Date): T. Terry / [signature] 5-20-11

Rev Date: 12/2009

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(RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,807	May 18, 2011 Wednesday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Tachell 5T305 Pump #2122 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.18 Total DAC-Hrs	6:00		β	0.46	21.0	2.67	0.001	22	0.00	<DL	N/A	0.00	
kovis 16708 Pump #4552 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.25 Total DAC-Hrs	6:21		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	
Butler 16919 Pump # 4541 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.10 Total DAC-Hrs	6:43		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Brown 16603 Pump # 2655 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.03 Total DAC-Hrs	7:04		β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	
Tubbs 9D098 Pump # 4094 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.10 Total DAC-Hrs	7:25		β	0.46	21.0	2.67	0.001	24	0.00	<DL	N/A	0.00	
Dinger 17319 Pump # 4542 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.18 Total DAC-Hrs	7:46		β	0.46	21.0	2.67	0.001	21	0.00	<DL	N/A	0.00	
Curiel 17339 Pump #4553 RWP-574 PF 10,000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	WP-1101378 DINGER 17319 5-17-2011@ 1300 Initial count 2404 WB recovery SCBA PF 10,000
0.18 Total DAC-Hrs	8:08		β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb = Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Jeffrey Vilhelm 16515 [signature] 5-18-11

Log Validated By (Print, Sign, Date): T. Terry [signature] 5-20-11

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,806 | Date: May 18, 2011 Wednesday |

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Downing 85574 Pump #4091 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.03 Total DAC-Hrs	2:49		β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	
Kovis 16708 Pump #4543 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.10 Total DAC-Hrs	3:10		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
Tachell 5T305 Pump # 2937 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	8	0.35	1.41	0.54	0.55	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.55 Total DAC-Hrs	3:32		β	0.46	21.0	2.67	0.001	30	0.00	<DL	N/A	0.00	
Butler 16919 Pump #2694 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	8	0.35	1.41	0.54	0.55	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.55 Total DAC-Hrs	3:53		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
Colling 80325 Pump #4551 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.10 Total DAC-Hrs	4:14		β	0.46	21.0	2.67	0.001	25	0.00	<DL	N/A	0.00	
Hendricks 94819 Pump #4544 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.18 Total DAC-Hrs	4:35		β	0.46	21.0	2.67	0.001	23	0.00	<DL	N/A	0.00	
Colling 80325 Pump #4551 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.25 Total DAC-Hrs	4:57		β	0.46	21.0	2.67	0.001	33	0.00	<DL	N/A	0.00	
Poneroy 17342 Pump # 4090 RWP-574 PF=1,000		Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.10 Total DAC-Hrs	5:18		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

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RCT (Print, Payroll #, Sign, Date): Jeffrey Vilhelm 16515 [signature] 5-18-11

Log Validated By (Print, Sign, Date): T. Terry [signature] 5-20-11

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID	Date	Page
WP -23,806	May 18, 2011 Wednesday	2 of 2

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF) Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Curiel 17339 Pump # 4545 RWP-574 PF=1,000	Versapore	α	0.06	21.0	1.03	0.41	3	0.11	0.45	0.33	0.18	POMEROY WP-1101372 5/17/11 WB Recovery 1st Entry INITIAL COUNT.
0.18 Total DAC-Hrs 5:39		β	0.46	21.0	2.67	0.001	38	0.20	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Jeffrey Wilhelm 16515 JW 5-18-11

Log Validated By (Print, Sign, Date): T. Terry T. Terry 5-20-11

Rev Date: 12/2009

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('RC RADIOLOGICAL CONTROL LAPEL SAMPLE A .LYSIS RECORD

Batch ID: WP -23,825 | Date: May 20, 2011 Friday |

Counter

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Kovis 16708 Pump #2655 RWP-574 PF=1000 0.25 Total DAC-Hrs	3:36	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	37	0.16	<DL	N/A	0.00	
Brown 16603 Pump # 4542RWP-574 PF=1000 0.25 Total DAC-Hrs	3:57	Versapore	α	0.06	21.0	1.03	0.41	4	0.16	0.64	0.38	0.25	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	36	0.11	<DL	N/A	0.00	
McKenna 17327 Pump #4094 RWP-574 PF=1000 0.03 Total DAC-Hrs	4:18	Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	39	0.25	<DL	N/A	0.00	
Dinger 17319 Pump # 5442 RWP-574 PF=1000 0.33 Total DAC-Hrs	4:40	Versapore	α	0.06	21.0	1.03	0.41	5	0.21	0.83	0.43	0.33	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	48	0.68	1.73	0.85	0.00	
Hosier 10973 Pump #4553 RWP-574 PF=1000 0.10 Total DAC-Hrs	5:01	Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	43	0.44	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4091 RWP-574 PF=1000 0.00 Total DAC-Hrs	5:22	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
Rhodes 16588 Pump #4541 RWP-574 PF=1000 0.10 Total DAC-Hrs	5:43	Versapore	α	0.06	21.0	1.03	0.41	2	0.06	0.26	0.27	0.10	WP -1101397 Dinger 4552 2404 WB RECOVERY TEAM 5/19/11 INITIAL@ 0 Lapel ON PAPR PF=1000
			β	0.46	21.0	2.67	0.001	34	0.01	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): NPARK 8B662 [signature] 5-20-11

Log Validated By (Print, Sign, Date): [signature] MAY 24 2011

Rev Date: 12/2009

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CHPRC RADIOLOGICAL CONTROL LAPEL SAMPLE ANALYSIS RECORD

Batch ID: WP - 23,921 | Date: June 8, 2011 Wednesday | Page 1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Colling 80325 Pump # 4547 RWP-611 PF=1000		Versapore	α	0.29	1.0	13.24	0.01	2	1.97	7.92	5.69	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	13:46		β	2.09	1.0	17.55	0.00000	10	8.39	21.40	8.06	0.00	
Wilhelm 16515 Pump # 4551 RWP-611 PF=1000		Versapore	α	0.29	1.0	13.24	0.01	3	2.97	11.95	6.97	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	13:47		β	2.09	1.0	17.55	0.00000	9	7.39	18.85	7.65	0.00	
Olson 66828 Pump # 2694 RWP-611 PF=1000		Versapore	α	0.29	1.0	13.24	0.01	0	0.00	<DL	N/A	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	13:48		β	2.09	1.0	17.55	0.00000	2	0.39	<DL	N/A	0.00	
King 6A952 Pump # 2122 RWP-611 PF=1000		Versapore	α	0.29	1.0	13.24	0.01	0	0.00	<DL	N/A	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	13:50		β	2.09	1.0	17.55	0.00000	6	4.39	11.20	6.25	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1000

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah, 17329, [signature], 6-8-11

Log Validated By (Print, Sign, Date): T. Terry [signature] 6-9-11

Rev Date: 12/2009

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CHPRC RADIOLOGICAL CONTROL LAPEL SAMPLE ANALYSIS RECORD

Batch ID	Date	Page
WP -23,931	June 9, 2011 Thursday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF)	Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
Colling 80325 Pump # 4547 RWP-611 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	2:48		β	0.46	21.0	2.67	0.001	27	0.00	<DL	N/A	0.00	
Wilhelm 16515 Pump # 4551 RWP-611 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	3:09		β	0.46	21.0	2.67	0.001	26	0.00	<DL	N/A	0.00	
Olson 66828 Pump # 2694 RWP-611 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.00 Total DAC-Hrs	3:31		β	0.46	21.0	2.67	0.001	31	0.00	<DL	N/A	0.00	
King 6A952 Pump # 2122 RWP-611 PF=1000		Versapore	α	0.06	21.0	1.03	0.41	1	0.02	<DL	N/A	0.03	WP-1101591 Wilhelm 16515 @ 1330 6-8-11 2404 WB Recovery Initial Count
0.03 Total DAC-Hrs	3:52		β	0.46	21.0	2.67	0.001	35	0.06	<DL	N/A	0.00	

COPY

Definitions:
Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Rami Atallah 17329, [signature] 6-9-11
Log Validated By (Print, Sign, Date): Terry [signature] 6-9-11

Rev Date: 12/2009
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CHPRC RADIOLOGICAL CONTROL LAPEL SAMPLE ANALYSIS RECORD

Batch ID	Date	Page
WP -24,048	July 1, 2011 Friday	1 of 1

Counter:

	Instrument Model & ID No./Cal Expiration	Detector ID No.	Ec / CF	Nb (counts)/Tb (min)	Rb (cpm)	Counter Location (i.e., Area/Facility/Room)
Alpha:	Tennelec S5-XLB 75063 / 8/3/2011	1430	24.85 / 4.02	31.00 / 1,000.00	0.03	200W/2336-W/109
Beta:	Tennelec S5-XLB 75063 / 8/3/2011	1430	39.22 / 2.55	1,606.00 / 1,000.00	1.61	200W/2336-W/109

Person, Payroll #, Pump #, etc. (RWP, PF) / Counting Time	Sample Media		DL (cpm)	Tg (min.)	MDA (dpm)	MD DAC-hr	Ng (counts)	Rn (cpm)	Lapel Activity (dpm)	σ (dpm/smear)	DAC-hr	Survey No., HPT Covering Job, Date and time collected, type of count (initial/decay)
North 17059 Pump #2921 RWP-611 PF=1	Versapore	α	0.06	21.0	1.03	0.41	0	0.00	<DL	N/A	0.00	WP -1101782 North 17059 6/30/11 WB Investigative Entry on Spill Pallet PF=1
0.00 Total DAC-Hrs 4:08		β	0.46	21.0	2.67	0.001	32	0.00	<DL	N/A	0.00	

COPY

Definitions: Ec = instrument counting efficiency (cpm/dpm).
CF = instrument correction factor (1/Ec).
Tb = background counting interval
PF = 1 (No respiratory protection)

Rb =Background count rate (Nb/Tb).
DL = Decision Level
Nb = number of background counts recorded during background counting interval (Tb).
MD DAC-hr = Minimum Detectable DAC-hr

Tg = Sample Counting Time
Ng = Gross Counts measured during sample counting time (Tg).
Rn = Sample Count Rate ((Ng/Tg)-Rb)
MDA = Minimum Detectable Activity

σ = Counting error
Gross Alpha DAC Hrs = [(0.392)Rn]/[Ec(PF)]
Gross Beta DAC Hrs = [(2.0E-04)Rn]/[Ec(PF)]
Total DAC-Hrs = Gross Alpha DAC Hrs + Gross Beta DAC Hrs

RCT (Print, Payroll #, Sign, Date): Lindsey Berg 116555 Lindsey Berg 7/1/11

Log Validated By (Print, Sign, Date): T. Terry / T. Terry 7-1-11

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Attachment IV

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101182

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/1/2011	0700 / 1430	200 WEST / 2404 WB / N/A / N/A	WP-574 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB Recovery 1st Entry. ENTRY MADE USING SCBA's

Comments: NO TECH SMEARS (T/S) WERE TAKEN ON THIS ENTRY PER MANAGEMENT DIRECTION DUE TO TIME RESTRAINTS (SCBA), PHYSICAL HAZARDS & PRIORITY TO CONTAIN THE SPILL. T/S WILL BE PERFORMED DURING SUBSIQUENT ENTRIES.
LAWs PERFORMED AS PER WMP-350 SECT. 6.2.

INITIAL ENTRY INTO 2404WB TO PREFORM RECOVERY PLAN. PERFORMED INVESTIGATIVE SURVEYS TO DETERMINE INITAL CONDITIONS (LAWs & DIRECTS). STARTED AIR SAMPLE NEAR LEAKING DRUM / SPILL AREA. LAYED DOWN LARGE TARP IN MIDDLE OF BUILDING FOR PLACING CONTAMINATED PALLETS / DRUMS ON.

DIRECT READING USING BWCP 40 Rad/hr = 33 Million dpm/probe * 2.25 (CF to 100 cm2) = 74.25 Million Jpm/100cm2
DIRECT READING USING BWCP 2 Rad/hr = 1.6 Million dpm/probe * 2.25 (CF to 100 cm2) = 3.6 Million dpm/100cm2

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs OF 2404WB FLOOR	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C2	DIRECTS OF FLOOR	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A†	N/A†
C3	DIRECT OF SPILL AREA w/ BWCP (Rad/hr)	N/A	0	N/A	40	N/A†	74.3M†	N/A	1	N/A†	N/A†
C4	DIRECT OF SPILL AREA ON PALLET w/ BWCP (Rad/hr)	N/A	0	N/A	2	N/A†	3.6M†	N/A	1	N/A†	N/A†
C5	LAWs OF 1st PALLET IN ROW 8	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	600/LAW †

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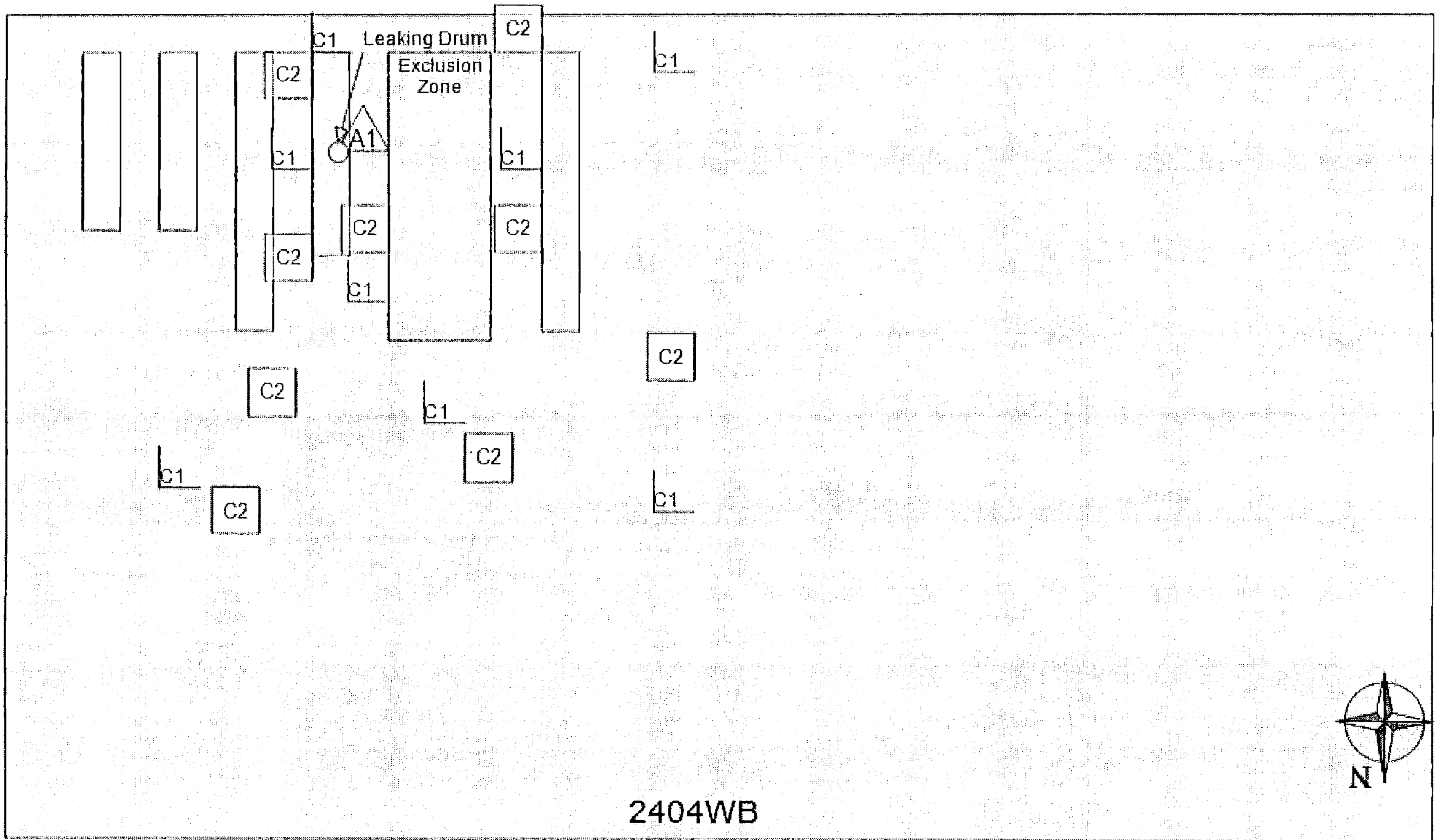
Map/Sketch

Building is posted HCA / ARA / RA / RMA



Building is posted HCA / ARA / RA / RMA

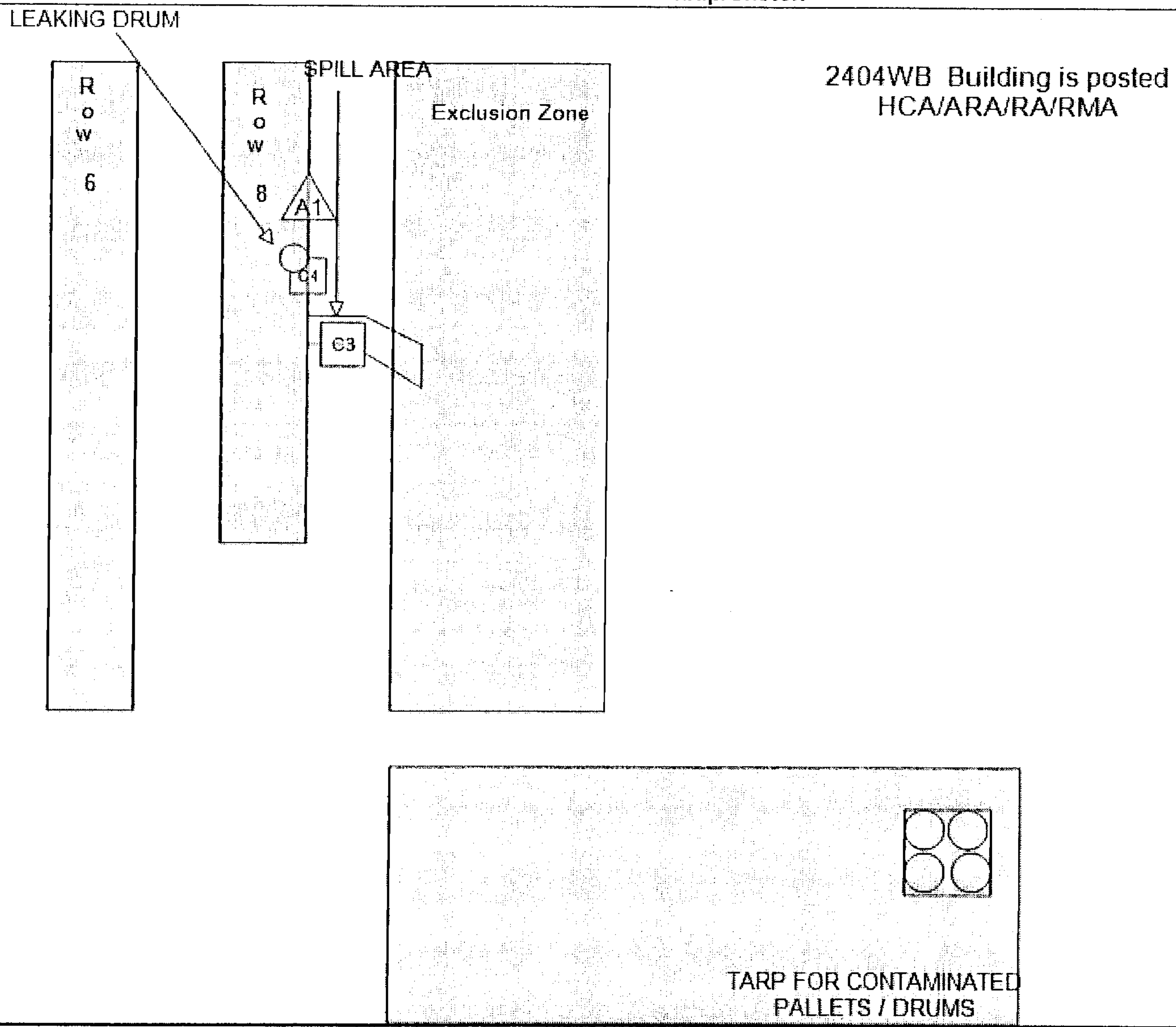
Map Name: 2404BW			Map Description: 2404 WB RECOVERY 1st ENTRY					
Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

(designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101182	

Map/Sketch



Map Name: 2404WB	Map Description: 2404WB Spill detail

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - (designation inside) - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101182	

Air Sample Measurements

A1	GWP1101182	A2	WP-23637

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Black Widow CP	ICHN1-0001	N/A	N/A
PAM	CMBC3-0002	DTHN2-0445	0.1
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.37α0.35
TENNELEC	00403421	1924	β0.43α0.27
PAM	ACHN2-0615	DTHN3-0658	0.16
RADECO	ASRD7-3344	N/A	N/A
PAM	ACHN2-0324	DTHN3-0999	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-11-11	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 12 2011	[signature]

History

2011-05-10 10:55:46 - Submitted
2011-05-11 04:01:42 - UnSubmitted Corrections
2011-05-11 04:16:34 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101183

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/1/2011	0700 / 2030	200 WEST / 2404 WB / 2404 WB / Outside East door of 2404WB	WP-574/3

Purpose of Survey

- [x] Material Release
  Number: RSP-WP-10-03;RSP-WP10-001;RSP-WP-10-002
  Released to: RADCON, IH, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [x] Other: Downpost performed per WRAP-RSP-002

Description of Work/Comments:

Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Downpost survey of a CA and RBA outside of the east door to 2404WB. Items released listed in the map section. Survey of drum exiting the CA, and 4 laundry bags. All surveys performed in support of recovery plan WRAP-RP-11-03.

Comments: All equipment, LAWs and smears were moved to a low background area to complete beta-gamma directs. Beta-gamma direct surveys were not completed during the downpost surveys of the CA and RBA due to high background on the GM.
Alpha and beta-gamma directs were taken at all smear locations, except in the RBA and CA, only Alpha directs were performed in the CA.
Tech smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350 sec. 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate of laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate of drum	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of laundry bags(~80%)	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	Tech Smears of laundry bags (2 smears each)	150	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	Laws of all equipment released from CA (~80%)	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	Tech smears of all equipment released from CA (2 per lapel pump/instrument/SCBA bottle, 2 smears per mask, 1 smear per regulator, 2 smears per harness, 2 smears per carryair line.)	150	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C5	LAWs of drum (~40%)	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C6	Tech smears of drum (4 smears)	150	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C7	Directs of all equipment released from CA (100% of all accessable areas.	150	0	150	0	<5000†	<100†	10	6	N/A†	N/A†
C8	LAWs of downpost of CA/RBA	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C9	Smears of downpost in CA/RBA	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	<1000†	<20†
C10	Directs of downpost in CA	N/A	0	N/A	N/A	N/A†	<100†	N/A	6	NA†	NA†

COPY

Map/Sketch

Bottles Released	MASKS RELEASED	HARNESSES RELEASED	LAPELS RELEASE
SP017	WRAP964	A2203	4554
SP001	WRAP969	A8336	4553
SP011	WRAP975	A8340	4546
2067	WRAP974	A2155	4552
2190	WRAP956	A2240	4095
2150	WRAP952	A2013	4090
2058	WRAP950	A2178	4545
2016	WRAP963	A2220	4544
2180	WRAP973	A2171	4092
2187	WRAP977	A2259	4543
2069	WRAP953	A2234	2123
2097	WRAP979	A2237	4071
2205	WRAP968	E2014	2937
2054	WRAP972	A2256	1409
2047		A2179	
2109			
2104			

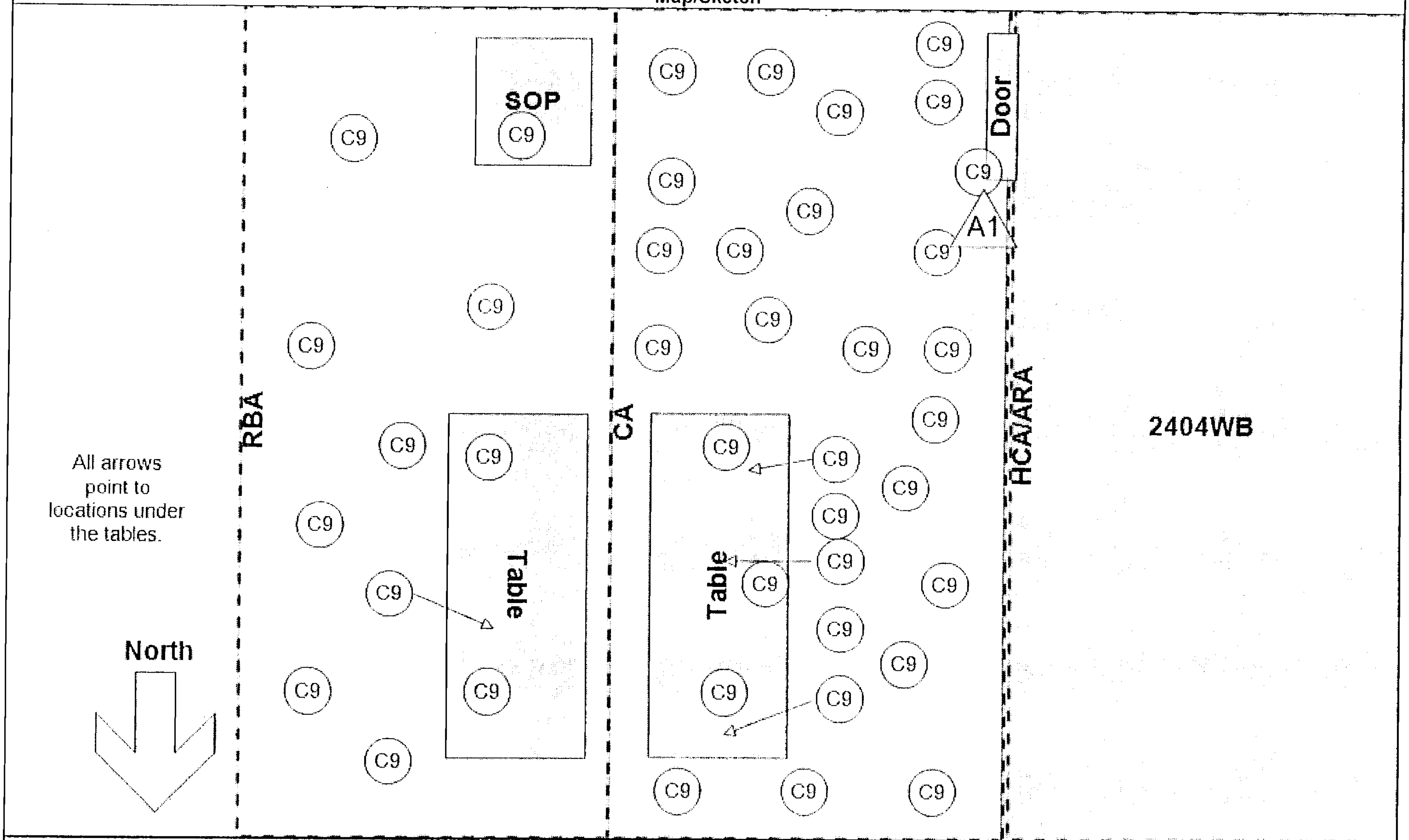
INSTRUMENTS RELEASED

ICHN1-001
DMBC3-002/DTHN2-0445
ACHN2-0615/DTHN3-0658
ACHN2-0490/DTHN3-0814 (PAM WAS DISSASEMBLED FOR DECON)
ACHN2-0324/DTHN3-0999
ACHN2-0010/DTHN3-0731
ACHN2-0031/DTHN3-0379

Map Name: N/A | Map Description: List of instruments and equipment released from the CA

Legend	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



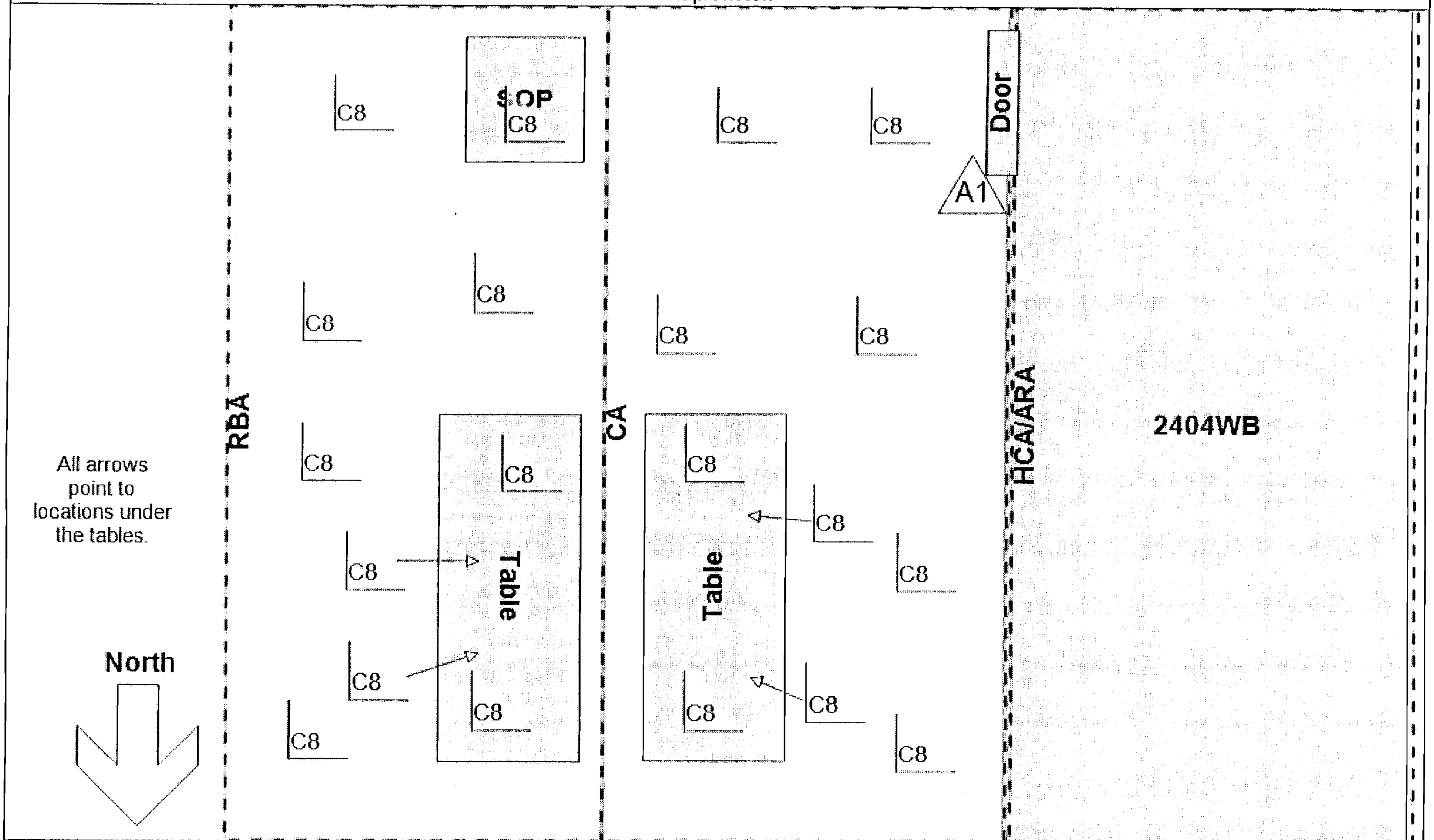
Map Name: East entry to 2404WB	Map Description: Downpost survey

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101183	Page 5 of 6

Map/Sketch



Map Name: 2404WB East Entry	Map Description: LAWs for downpost of CA/RBA

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ----------			Radiological Area Boundary			Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/10/2011 07:25:56

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Air Sample Measurements

A1	GWP1101183

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0324	DTHN3-0999	0.16
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
CP	ICEB3-0046	N/A	N/A
GM	CMEBB-0027	DTEB5-0177	0.10
Gooseneck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-10-11	
Hosier, Judith	h7792254	5.10.11	Judith Hosier

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-10-11	T. Terry

History

2011-05-02 01:36:59 - Submitted
2011-05-05 04:49:20 - UnSubmitted Many errors needed correcting.
2011-05-09 02:52:22 - Submitted
2011-05-10 07:25:26 - UnSubmitted Fixed a few errors

2011-05-10 07:25:56 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101184

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/1/2011	1130 / 1700	200 WEST / 2404 / WB /	RWP-574/ REV.3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

WB recovery 2nd Entry

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

2ND ENTRY RECOVERY TEAM ENTERED 2404 WB AND REMOVED THE PALLET THAT WAS IN FRONT OF THE PALLET WITH THE LEAKING DRUM. THEN PROCEEDED TO TAKE DOWN THE THIRD TIER ATOP THE LEAKING DRUM. THEN THE SECOND TIER. THE NEXT STEP WAS TO MOVE THE PALLET WITH THE LEAKING DRUM TO THE LINER AT THE NORTH END OF ROW 8.(SEE MAP) AFTER IT WAS IN PLACE, C9 (CONTAMINATION MEASUREMENT DESCRIPTION) = A DIRECT READING WAS TAKEN ON THE DRUM AND PALLET WITH THE BWCP WHICH WAS <.5 Rad/hr @ Contact.
NO BETA/GAMMA SURVEYS PERFORMED DUE TO HIGH BACKGROUND.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

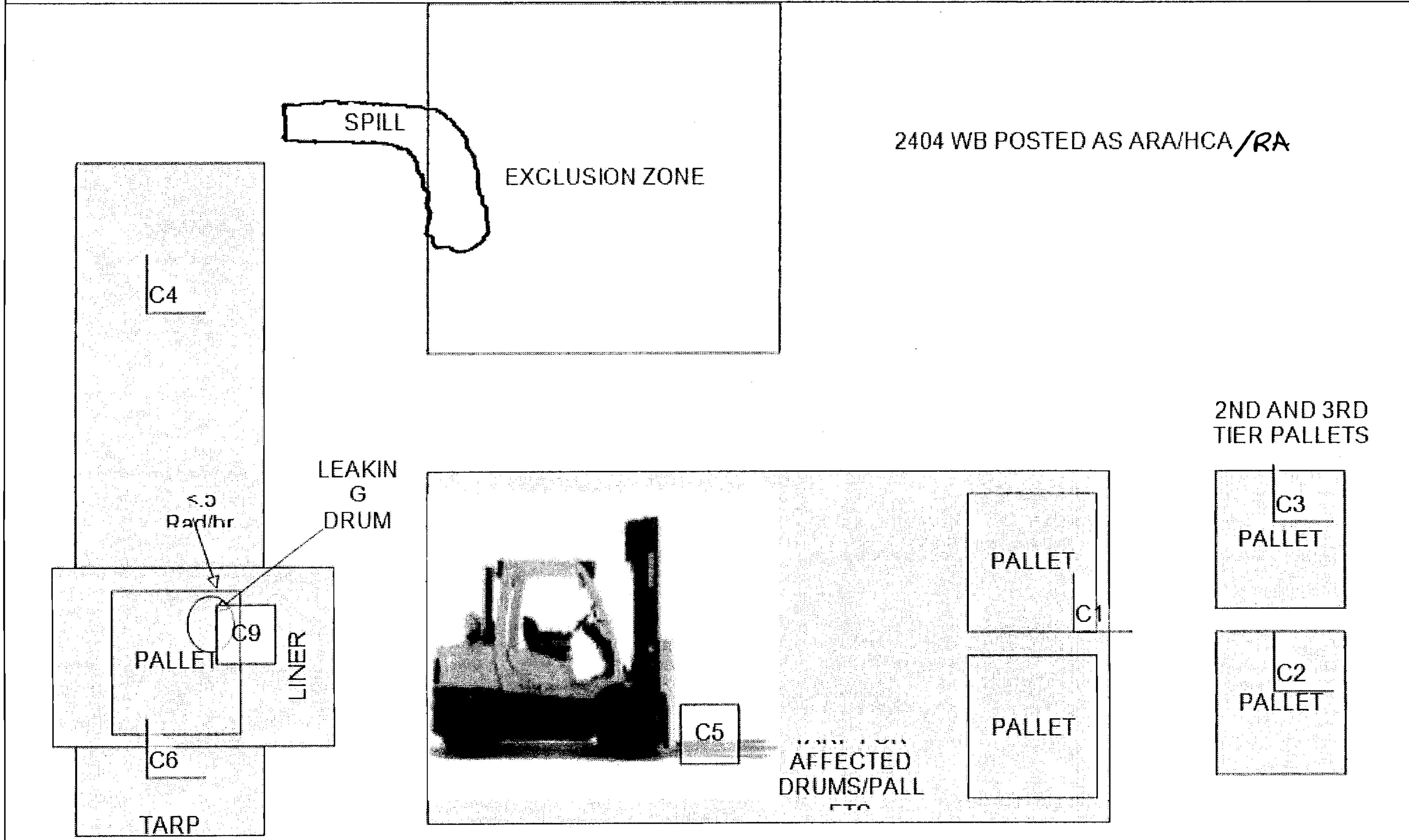
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAW OF PALLET IN FRONT OF PALLET WITH LEAKING DRUM(RIGHT CORNER FOUND WITH CONTAMINATION)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	N/A/LAW †	2000/LAW†
C2	LAWS OF 3RD TIER PALLET AND DRUMS ABOVE LEAKING DRUM	N/A	0	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C3	LAWS OF 2ND TIER PALLET AND DRUMS ABOVE LEAKING DRUM	N/A	0	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C4	LAWS OF TARP ON FLOOR IN FRONT OF PALLET WITH LEAKING DRUM BEFORE IT WAS MOVED TO NORTH END OF ROW 8	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	NA/LAW†	<D/LAW†
C5	DIRECTS OF FORKLIFT TINES AFTER MOVING THE FIRST THREE PALLETS	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A†	N/A†
C6	LAW OF TARP AT NORTH END OF ROW 8 AFTER MOVING PALLET WITH LEAKING DRUM	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	N/A/LAW †	1000/LAW†
C7	DIRECT READING OF PALLET AND DRUM WITH BWCP <.5 Rad/hr.	N/A	0	N/A	N/A	N/A†	N/A†	N/A	1	N/A†	N/A†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101184

Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY | Map Description: WB RECOVERY 2ND ENTRY

Legend | # Direct Measurement | Air Sample | # Smear | # LAW | # Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101184

Air Sample Measurements

A1	GWP-11011184	A2	WP-23,639

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
HIGH ENERGY PAM	CMBC3-0002	DTHN2-0445	0.10
BWCP	ICHN1-0001	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
TeNNELEC	S5-XLB 0403421	1924	β0.42 α0.27
PAM	ACHN2-0324	DTHN3-0999	0.16
RADECO	ASRD7-3344	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	5-5-11	Rebecca L Dinger

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 05 2011	C W

History

2011-05-02 03:46:12 - Submitted
2011-05-05 04:08:04 - UnSubmitted make correction

2011-05-05 04:13:26 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101185

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/1/2011	0900 / 2100	200 WEST / 2404 WB / N/A / Exterior Wall	WP-574/3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [x] Job Coverage: Contamination Survey of 2404 WB vents and doors
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly verification of dose rates at exterior walls of 2404 WB.

Contamination survey of vents and doors of 2404 WB.

Comments: *Door on east side of building was in CA and was surveyed as part of the CA downposting (Survey # WP-1101183).

Tech smears counted per WRP1-OP-1230. Tech Smears not counted for Beta/Gamma prior to counting on scaler.
LAWs of floor in 2404 WB not performed according to WP-SH003 due to Posting: HCA/ARA/RA/RMA.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose Rate on exterior wall of 2404 WB (Highest)	F	3.0	3.0	3	1	<0.2	3	3

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech Smears of vents and doors in 2404 WB (1 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

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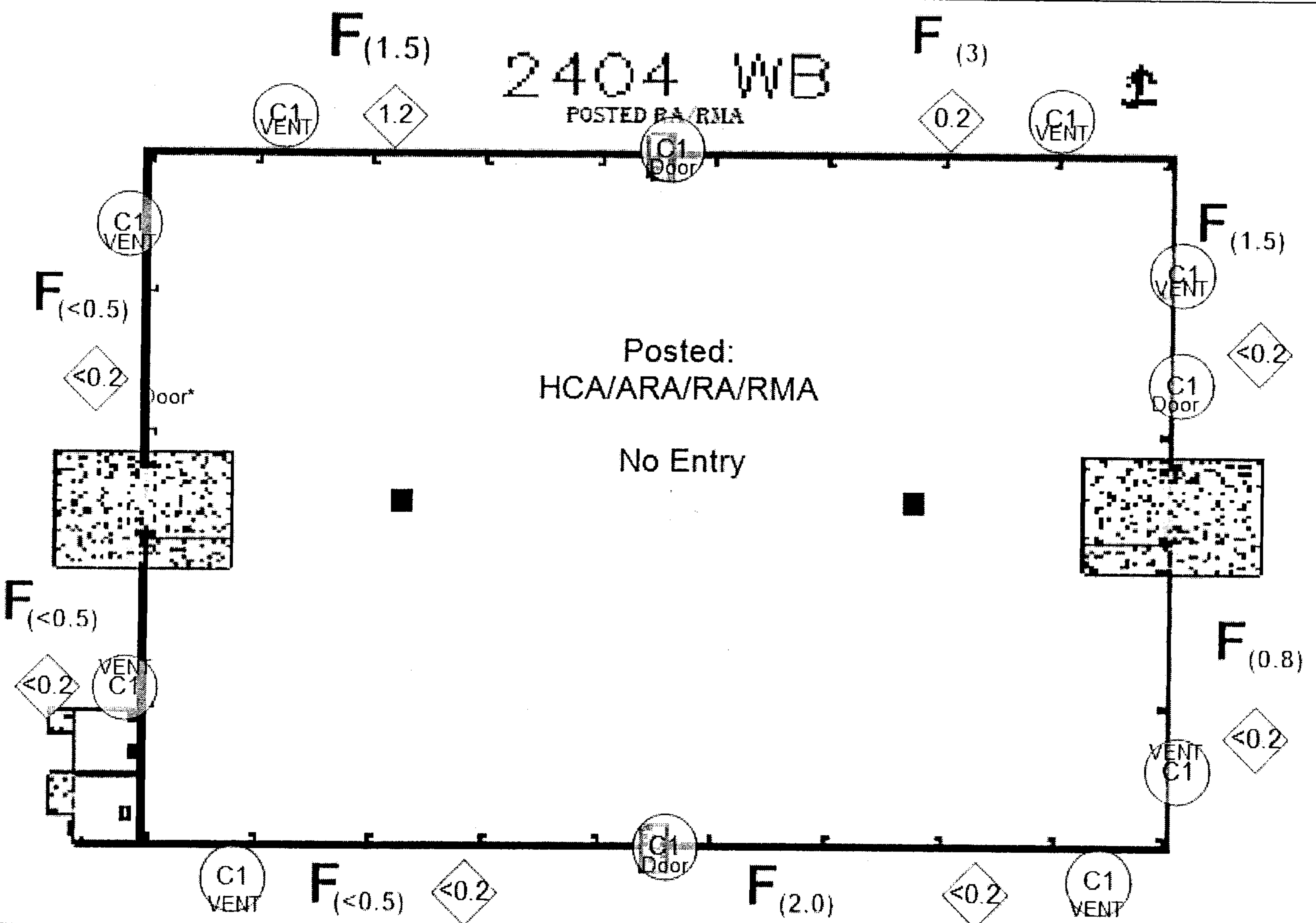
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101185

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Exterior Wall Dose Rates and Tech Smear Locations

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Subr : 05/02/2011 07:01:33

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A-6004 SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101185

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0046	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
PAM	ACHN2-0324	DTHN3-0999	0.16
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5-1-11	M. McKenna

Reviewers

Name	HID	Date	Signature
[illegible]	6197614	MAY 02 2011	[illegible]

History

2011-05-01 08:36:38 - Submitted
2011-05-02 06:44:35 - UnSubmitted Correction
2011-05-02 07:01:33 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101187

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/5/2011	1045 / 1300	200 WEST / 2404 WB / 2404 WB / Inside East door of 2404WB	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [x] Other: Recovery Survey of the 2404WB building.

Description of Work/Comments:

Survey of HCA/ARA/RA decon work in the 2404WB east entryway.

Comments: Tech Smears counted per WRP1-OP-1230.
Beta-gamma directs were not performed due to high background levels.
Air Sample was taken 4 feet off the floor, approximately 5-10 feet from the work area.
See batch WP-23697 for lapel results.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

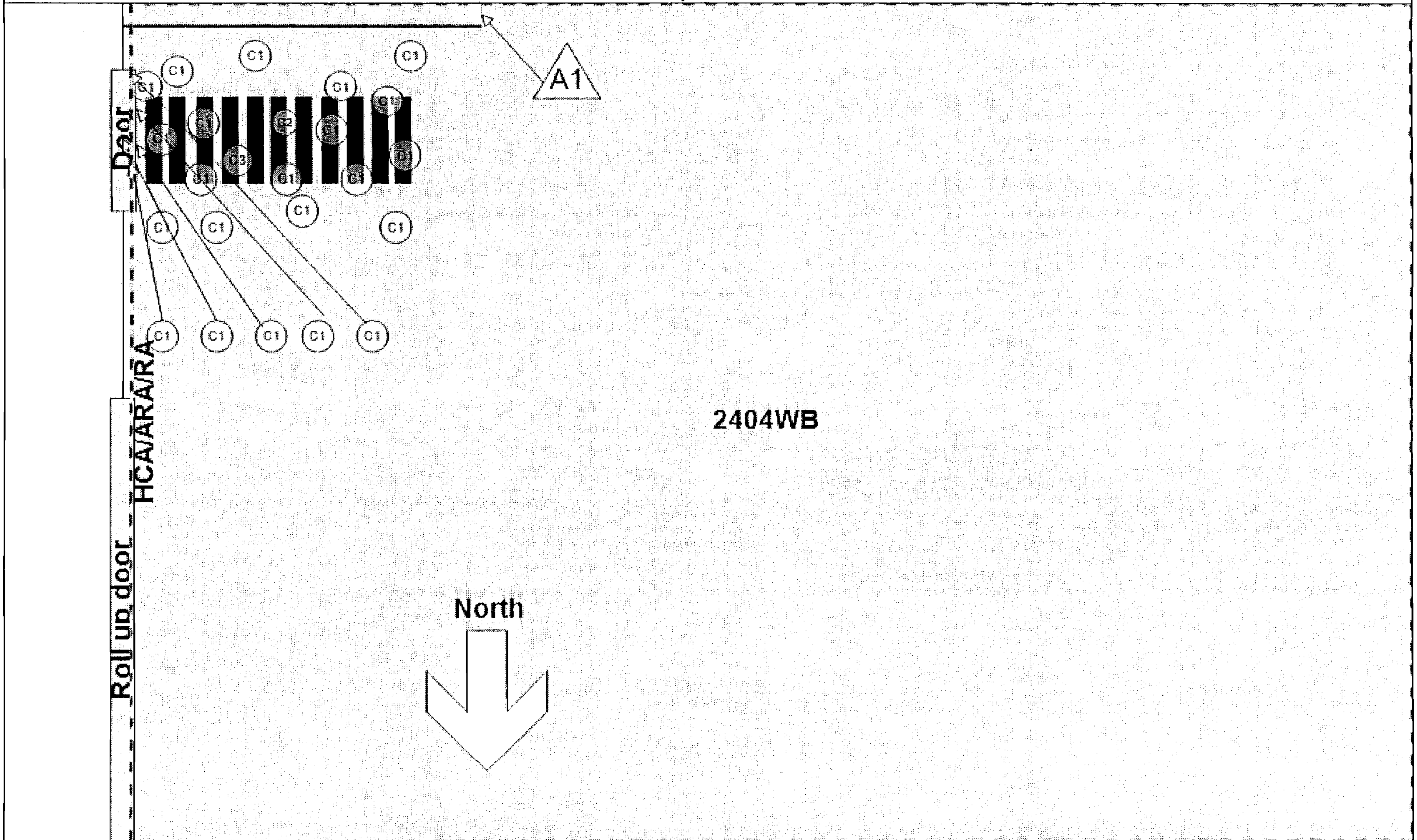
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Tech Smears taken of the deconned area in the 2404WB east entryway.	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C2	Hot tech smears taken of the area before additional decon	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA†	480†
C3	Hot tech smears taken of area before additional decon	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA†	240†
C4	Tech smears of hot areas after after additional decon (C2+C3)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	Direct Measurements of the area prior to smearing	N/A	0	N/A	100	N/A†	600†	N/A	6	N/A†	N/A†
C6	Direct measurements of the area after decon	N/A	0	N/A	0	N/A†	<100†	N/A	6	N/A†	N/A†

Map/Sketch



Map Name: 2404WB

Map Description: Survey of deconned areas

Legend									
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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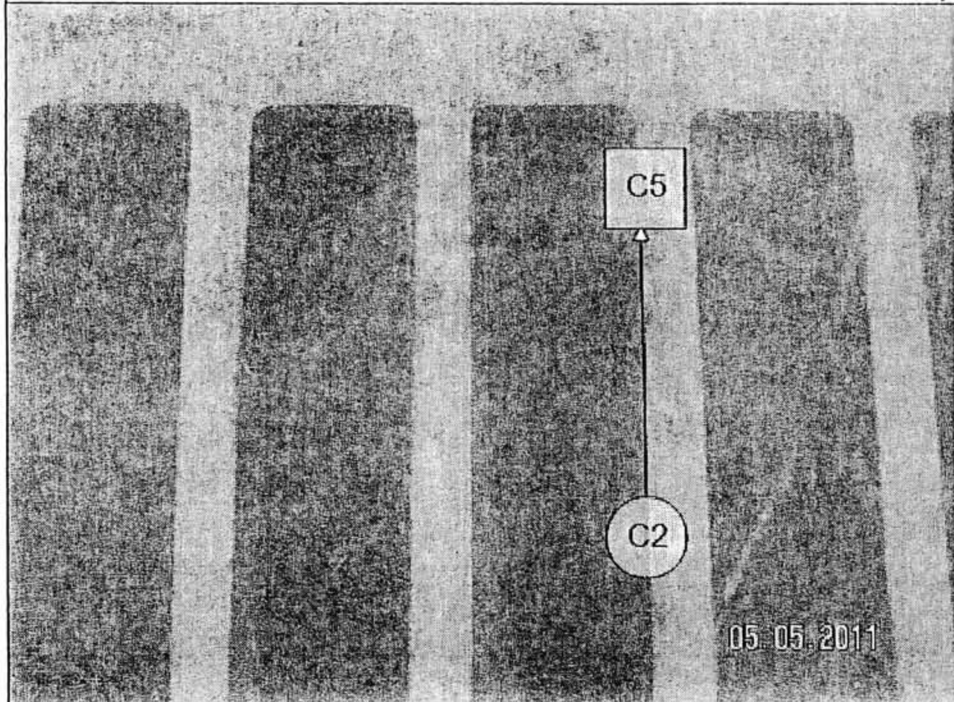
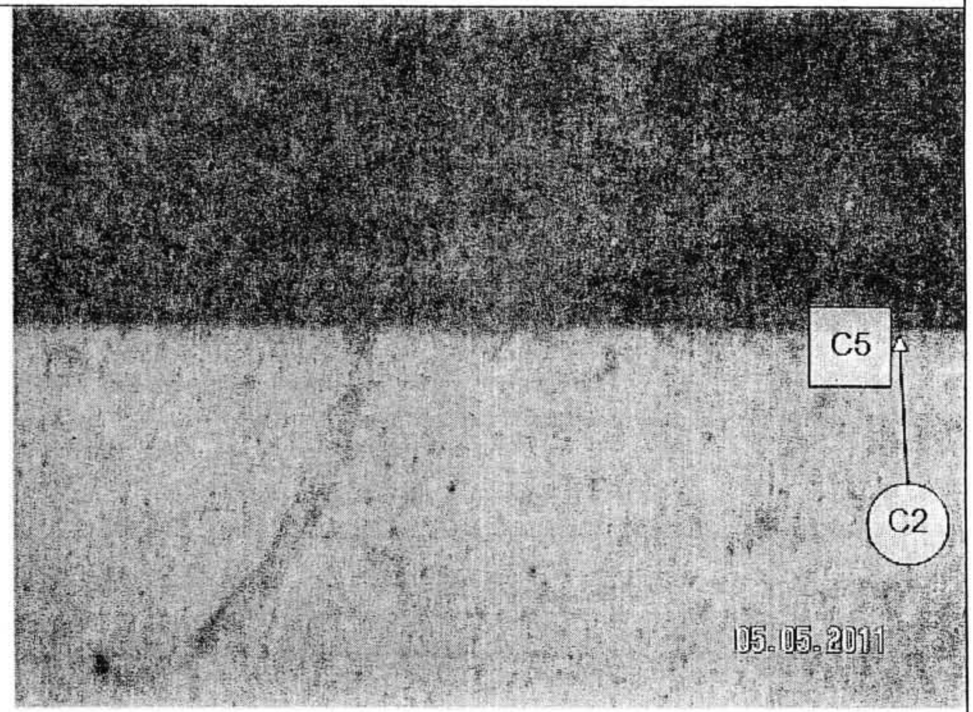
Map/Sketch





Map Name: nonskid survey

Map Description: Survey of the nonskid paper in 2404WB

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101187

Air Sample Measurements

A1	GWP1101187	A2	WP-23697

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0438	DTHN3-1050	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0324	DTHN3-0999	0.16
PAM	ACHN2-0146	DTHN3-0179	0.16
RADECO	H-ASSA1-664	N/A	N/A
Ludlum 2929	SCLL4-0067	DTLLC-0077	α0.36 β0.38
Tennelec	S5-XLB 75063 / 1430	N/A	α0.25 β0.39
Tennelec	S5-XLB 0403421 / 192	N/A	α0.27 β0.42

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-11-11	

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-11-11	T. Terry

History

2011-05-09 03:23:37 - Submitted
2011-05-10 01:31:01 - UnSubmitted Fixing errors
2011-05-11 04:10:41 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101189

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/2/2011	0730 / 1400	200 WEST/WRAP / 2404-WB/2404-WC / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☐ Job Coverage: N/A
- ☑ Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 1 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

ARA, CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	GENERAL WORKING AREA IN 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.2	1.2	2	1	<0.2	1.2	1.2
D4	1 SWB	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	Max dose rate on 120 drums from CWC to 2404WC	F	15	15	2	1	2	17	17
D6	Max dose rate on 118 drums from CWC to 2404WC	F	30	30	2	1	<0.2	30	30

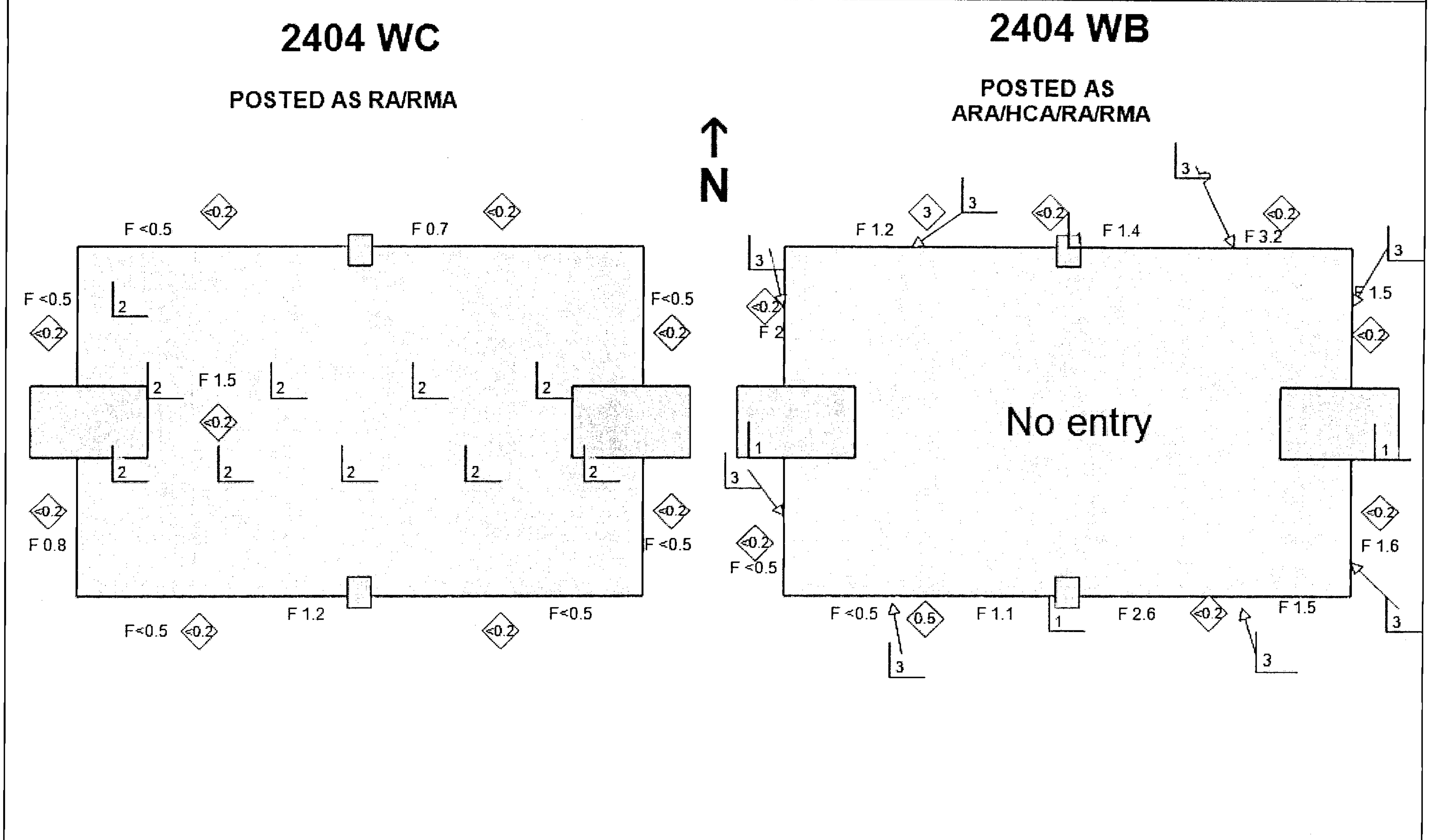
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS AT DOORWAY OF 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	2404 WB 8 exterior louvers	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	SWB (LAW @ 80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	120 drums from CWC to 2404WC (LAW @ 40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	118 drums from CWC to 2404WC (LAW @ 40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101189	

Map/Sketch

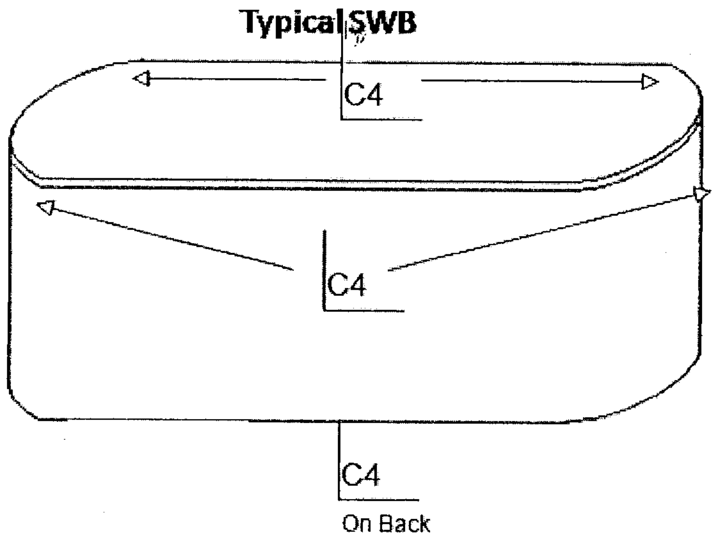


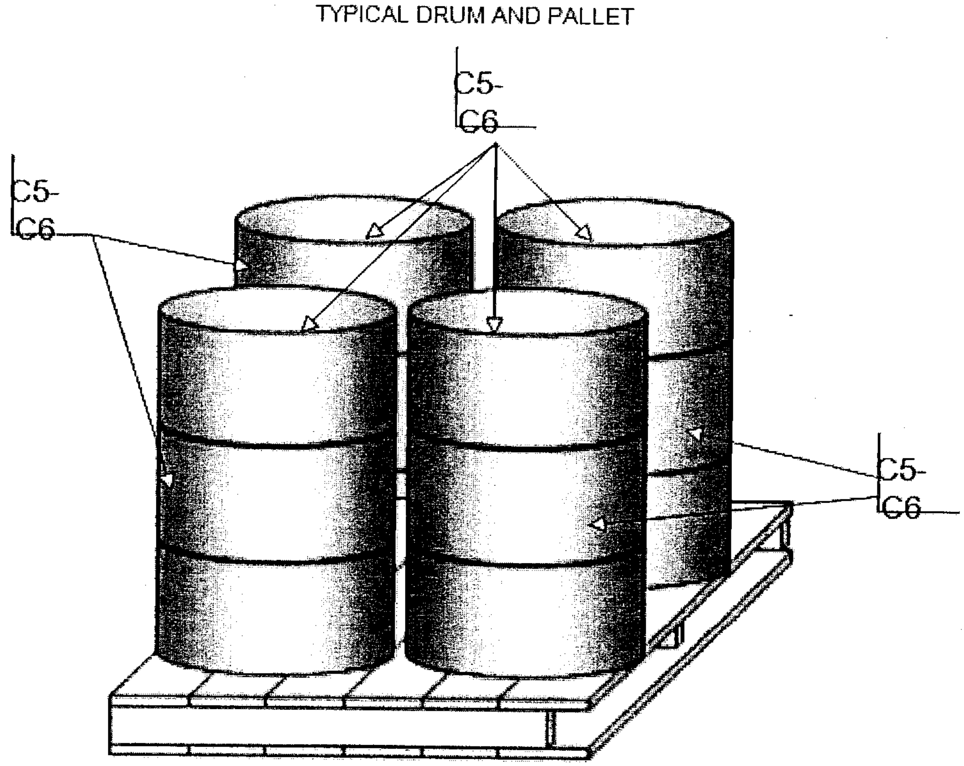
Map Name: 404 WB & 2404 WC	Map Description: WP-SH003 & WP-SH004

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101189	age 3 of 4

Map/Sketch





Map Name: C4Waste Container				Map Description: Waste Container					
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101189	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0039	DTHNC-00408	0.1
PAM	ACHN2-0412	DTHN3-0300	0.16
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	5-2-2011	Harry L North

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	MAY 04 2011	[illegible]

History

2011-05-02 03:21:46 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101197

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/2/2011	1600 / 1900	200 W / 2404 WB / 2404 WC / N/A	RWP-001/REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004 & WP-W035.
- ☑ Job Coverage: DRUM MOVE
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003, WP-SH004, WP-W035.
COMPLETED SHIFTLY AND WEEKLY SURVEYS IN 2404 WC. SHIFTLY SURVEY OF 2404 WB.
SURVEYED 56 DRUMS IN 2404 WC TO BE MOVED TO 2336W.

Comments: SHIFTLY SURVEY OF 2404 WB EXCLUDES LAWS AND TECHNICAL SMEARS AS THE AREA IS ON RESTRICTED ACCESS DUE TO THE HCA/ARA/RA/RMA/BCA POSTING.

TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D2	GENERAL WORKING AREA DOSE RATE 2404 WC	F	0.8	0.8	2	1	<0.2	0.8	0.8
D3	MAX DOSE RATE OUTSIDE 2404 WB	F	1.5	1.5	2	1	1.9	3.4	3.4
D4	MAX DOSE RATE OUTSIDE 2404 WC	F	1.1	1.1	2	1	<0.2	1.1	1.1
D5	DRUM MOVE	F	10	10	2	1	<0.2	10	10

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOORS IN 2404 WC (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	SMEARS ON FLOORS OF 2404 WC (20)	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C3	SMEARS OF VENTS AND DOORS OF 2404 WB (1 EACH)	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAWS OF DRUMS (~40% OF EACH)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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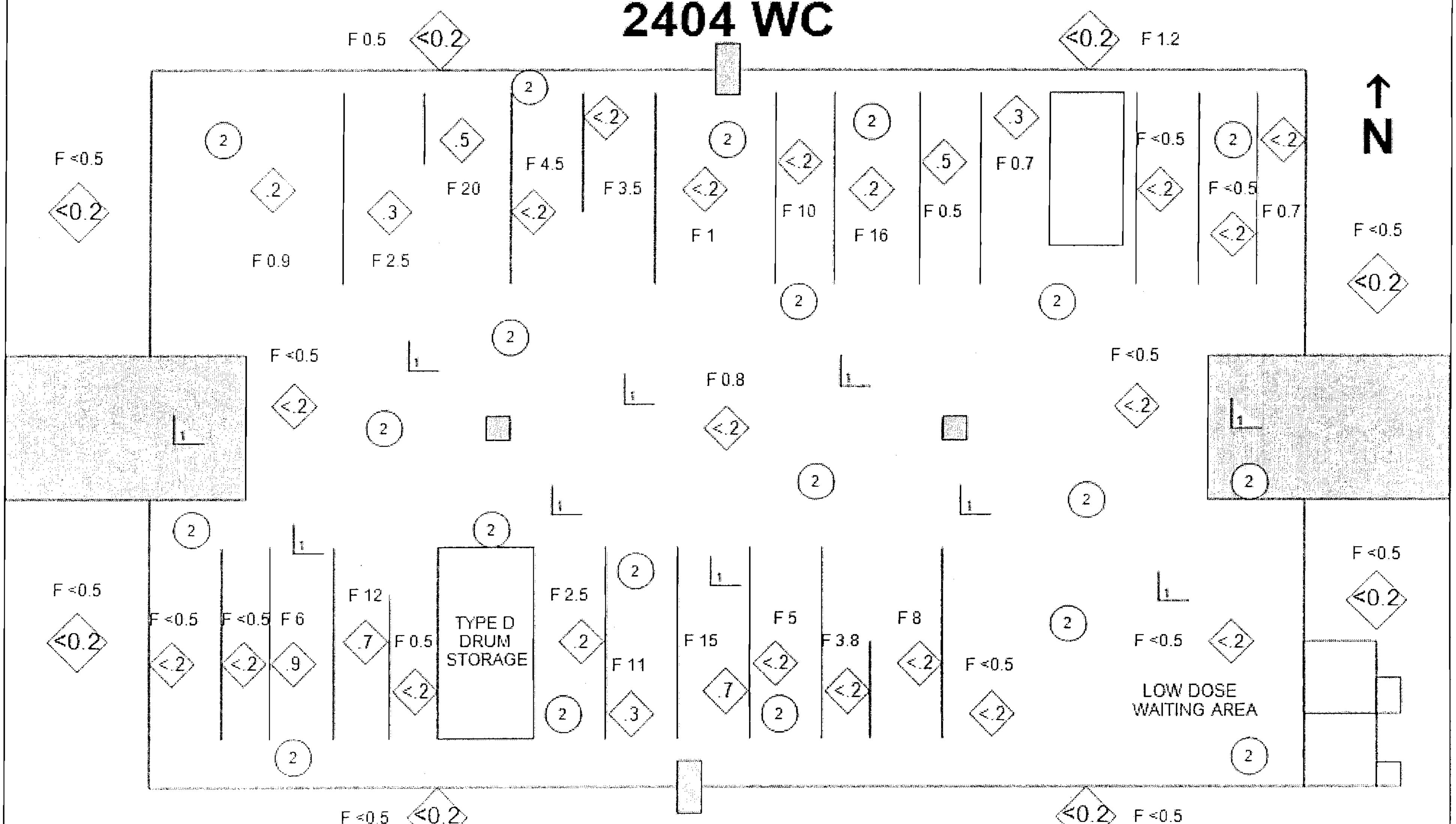
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101197

Map/Sketch

2404 WC



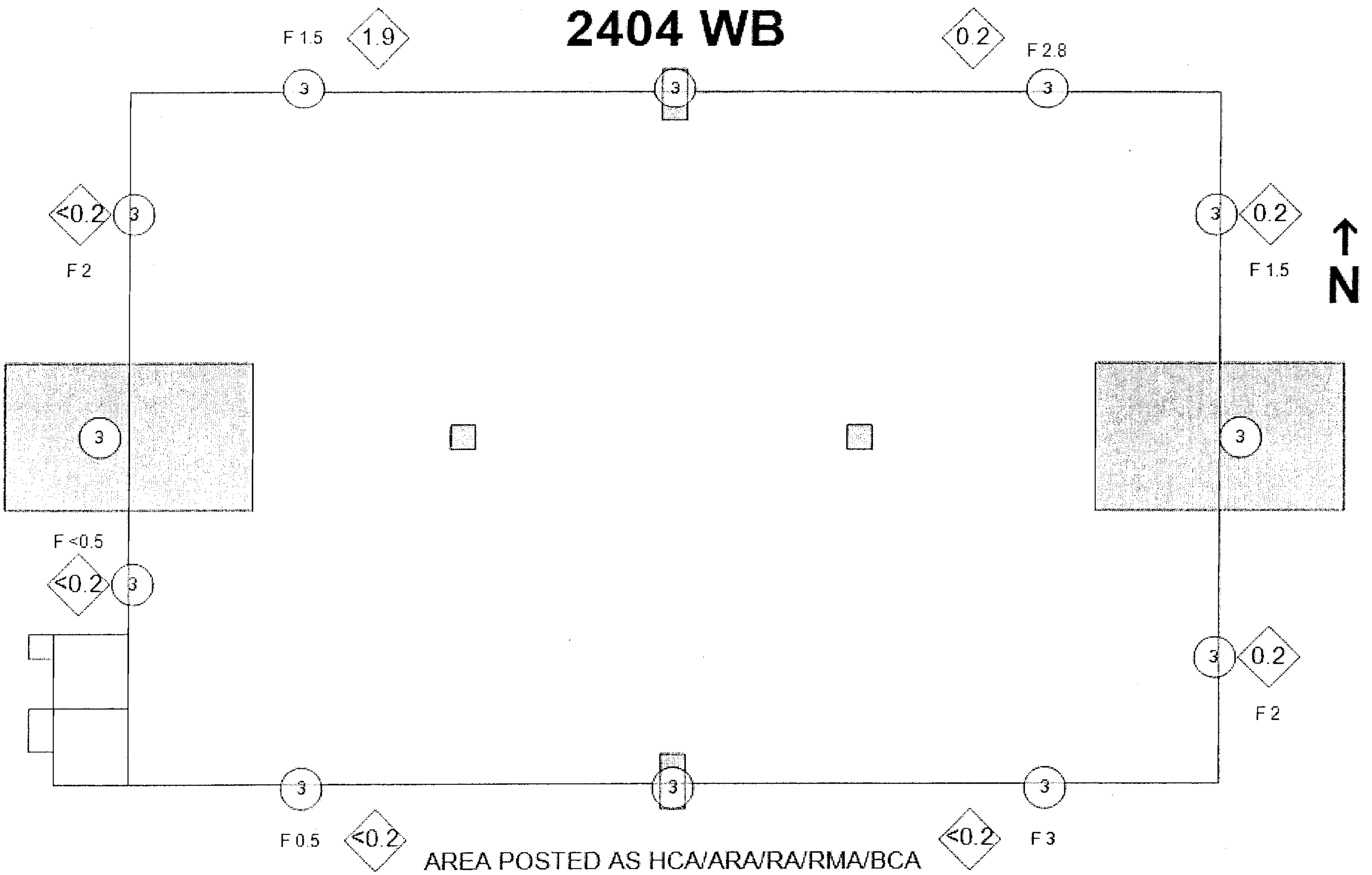
AREA POSTED AS RA/RMA

Map Name: 404 WC	Map Description: WP-SH004 & WP-W035

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101197

Map/Sketch



Map Name: 2404 WB | Map Description: WP-SH003

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101197

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO20	ICEB4-1447	N/A	N/A
SNOOPY	NMNR1-0041	N/A	N/A
PAM	ACHN2-0412	DTHN3-0300	0.16
GM	CMEB3-0039	DTEB9-0458	0.1
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.399α0.353

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Chadderdon, Melissa	H4837929	5-2-11	Melissa Chadderdon

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 04 2011	CRW

History

2011-05-02 11:36:38 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101199

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/3/2011	0730 / 1400	200 WEST/WRAP / 2404-WB/2404-WC / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [x] Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 1 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

ARA, CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	GENERAL WORKING AREA IN 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.2	1.2	2	1	<0.2	1.2	1.2
D4	1 SWB	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	Max dose rate on 108 drums from CWC to 2404WC	F	30	30	2	1	0.3	30.3	30.3

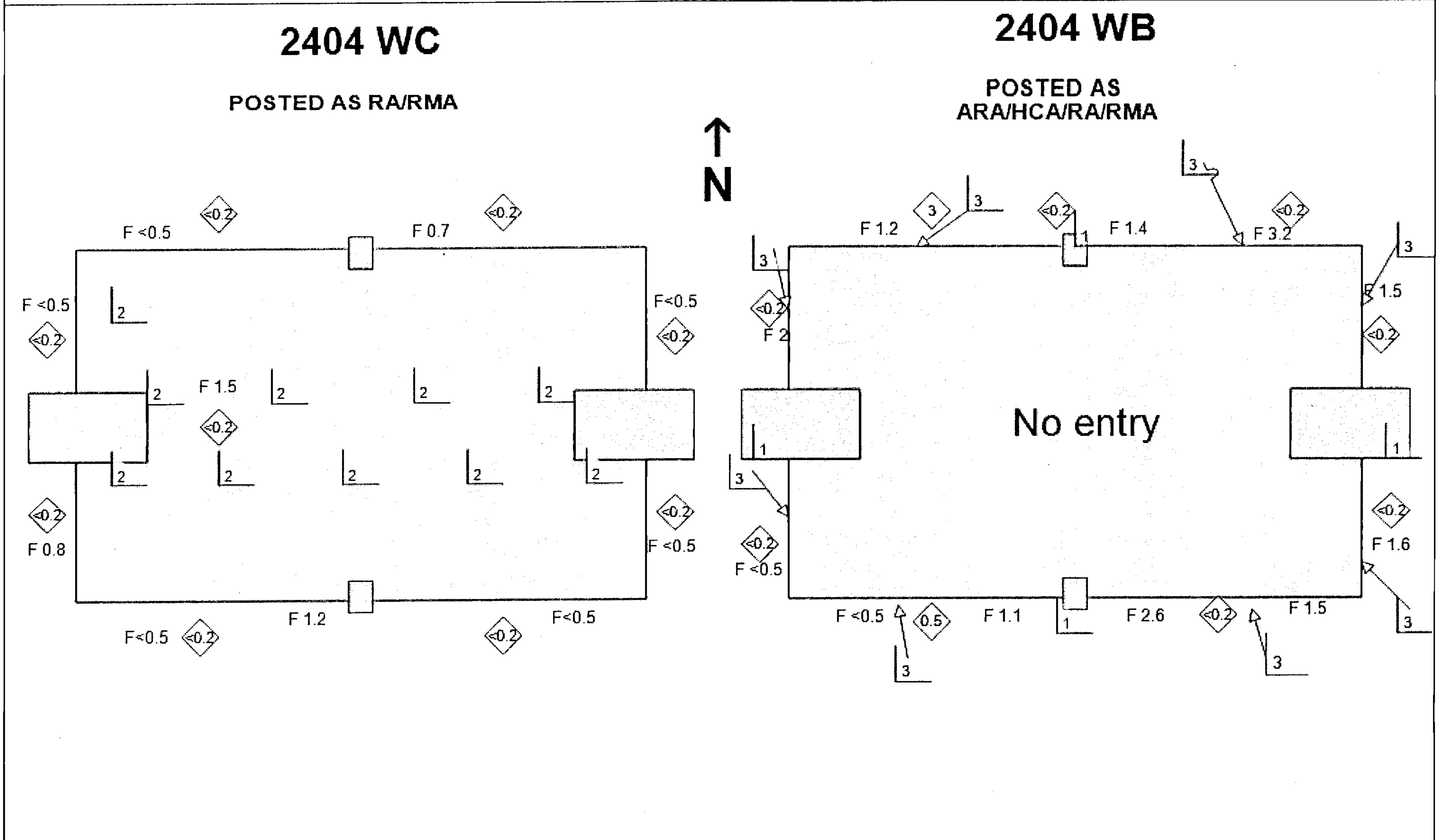
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS AT DOORWAY OF 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	2404 WB 8 exterior louvers	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	SWB (LAW @ 80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	108 drums from CWC to 2404WC (LAW @ 40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 404 WB & 2404 WC	Map Description: WP-SH003 & WP-SH004

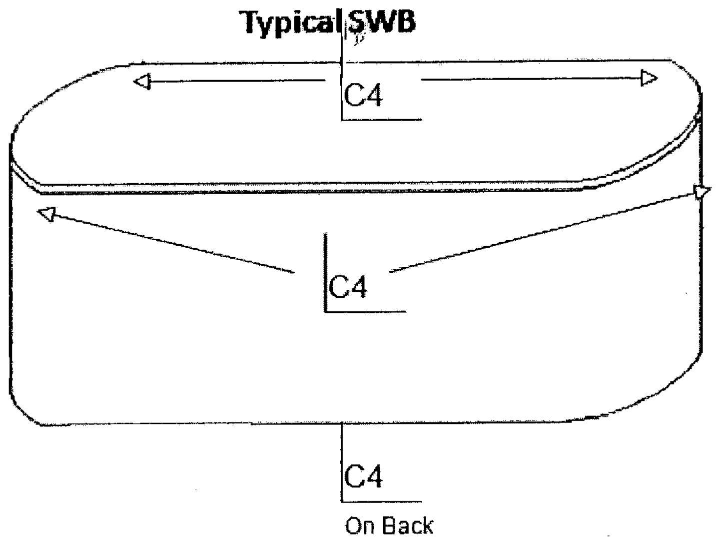
Legend — # Direct Measurement; Air Sample; Smear; LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

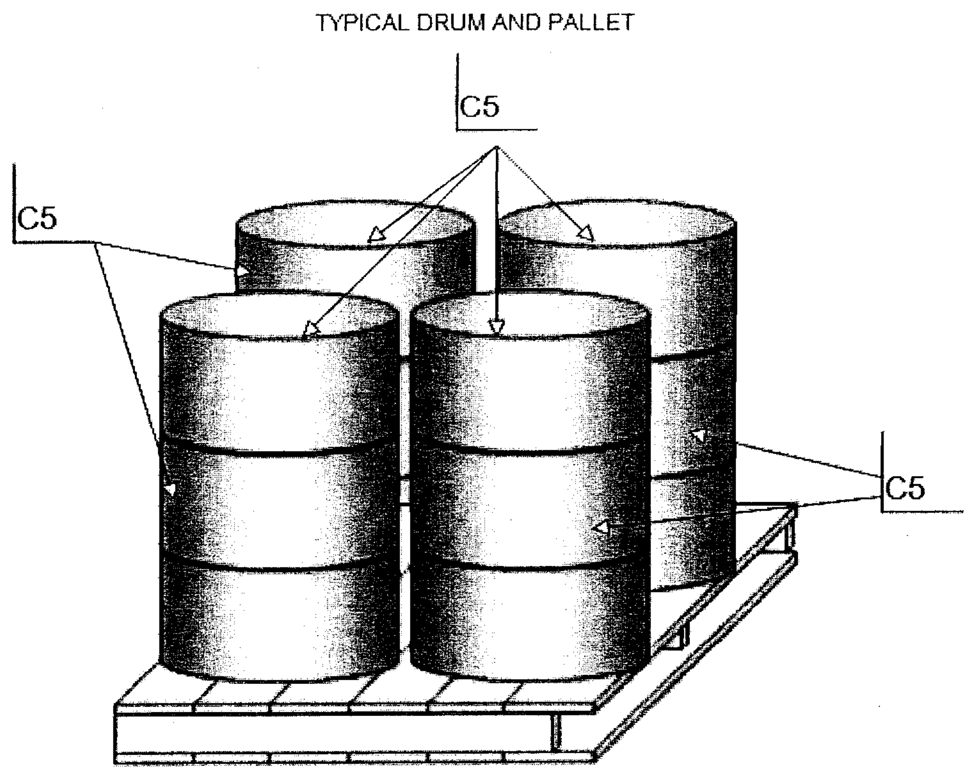
---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101199

Map/Sketch





Map Name: C4Waste Container	Map Description: Waste Container

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101199	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0305	DTHNC-0384	0.1
PAM	ACHN2-0615	DTHN3-0658	0.16
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	5-3-2011	Harry W North

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 04 2011	CW

History

2011-05-03 03:38:03 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101204

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/3/2011	1130 / 1700	200 WEST / 2404 WB / N/A / Southeast Interior Corner	RWP-574/ REV.3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

WB recovery 1st Entry of 5/3/11.

Comments: LAWS performed in accordance with WMP-350 SECTION 6.2.

The first entry team on 5/3/11 laid fresh kraft paper to cover previously contaminated areas caused by leaking drum when moved on pallet to allow access and over packing. They removed 3 drums from the same pallet as the leaking drum using "shower caps" and tape to cover bottoms of drums. They also surveyed the floor near the forklift to determine if area was contaminated.

Surveys during entry did NOT include Beta/Gamma due to high background Beta/Gamma readings.

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No tech smears (T/S) were taken on this entry Per management direction due to time restraints (SCBA), physical hazards & priority to contain the spill. T/S will be performed during subsequent entries.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Walkway with fresh rolled foil paper	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	N/A/LAW†	1200/LAW†
C2	Forklift right side on floor	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW†	1200/LAW†
C3	LAW of Drum #0061302	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW†	600/LAW†
C4	LAW of Drum #0007037	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW†	480/LAW†
C5	LAW of Drum #0061295	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW†	300/LAW†

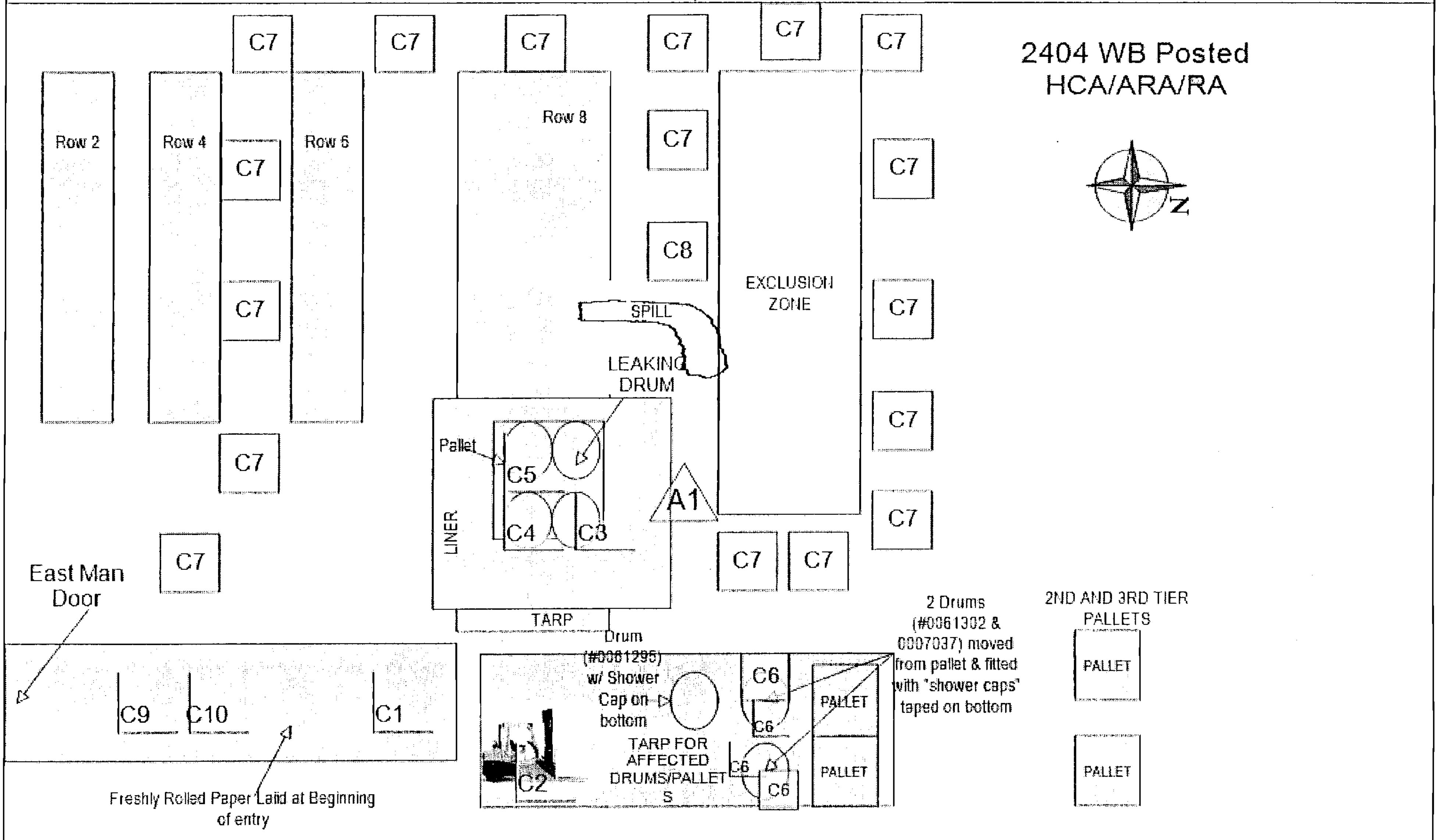
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C6	Direct Reading & LAW of bottom rims drum #0061302 & 0007037 following application of plastic "shower cap" taped to bottom	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C7	Direct surveys of concrete floor	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C8	Direct surveys of concrete floor	N/A	0	N/A	100	N/A†	600†	N/A	6	N/A†	N/A†
C9	LAW of foil paper during exit surveys (~10%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C10	LAW of foil paper during exit surveys (~10%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	1200/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101204	

Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY	Map Description: WB RECOVERY 2ND ENTRY

Legend								
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101204	

Air Sample Measurements

A1	GWP-1101204

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0528	DTHN3-0061	0.16
PAM	ACHN2-0324	DTHN3-0999	0.16
High Energy PAM	CMEBC-0002	DTHN2-0445	0.1
BWCP	ICHN1-0013	N/A	N/A
RADECO	H-ASRD7-3344	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/11/11	M. McKenna
Hosier, Judith	h7792254	5-11-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 11 2011	[illegible]

History

2011-05-05 07:10:35 - Submitted
2011-05-06 09:06:39 - UnSubmitted Correction
2011-05-06 09:09:08 - Submitted
2011-05-10 01:20:03 - UnSubmitted Correction
2011-05-11 04:24:55 - Submitted
2011-05-11 04:25:25 - UnSubmitted Correction
2011-05-11 04:25:50 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101205

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/3/2011	0700 / 2000	200 W / 2404 WB / Outside East Door /	RWP-574/ REV 3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON/IH/OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03.
- [ ] Other: N/A

Description of Work/Comments:

RELEASE OF VARIOUS INSTRUMENTATION, RESPIRATORY EQUIPMENT INCLUDING SCBAs, & LAPEL PUMPS.
ITEMS RELEASED FROM CA LISTED IN MAP SECTION.
SURVEY OF 2 DRUMS AND 5 LAUNDRY BAGS EXITING THE CA.
ALL SURVEYS PERFORMED IN SUPPORT OF RECOVERY PLAN WRAP-RP-11-03.

Comments: NUMBER OF TECHNICAL SMEARS TAKEN PER EQUIPMENT RELEASED FROM CA: LAPELS (2), MASKS (2), INSTRUMENTS (2), SCBA BOTTLES (2), REGULATORS (1), BOTTLE HARNESS (2), DRUMS (2), LAUNDRY BAGS (2) & MISC (2).
MISC ITEMS INCLUDE CLIPBOARD, TOOLS, TUBING, GOOSENECK HEAD, & ETC.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS.

TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	LAUNDRY BAGS	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	DRUMS	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C2	TECH SMEARS OF LAUNDRY BAGS (2 EACH)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	TECH SMEARS OF EQUIPMENT RELEASED FROM CA	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C6	TECH SMEARS OF DRUM (2 EACH)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C7	DIRECTS OF ALL EQUIPMENT RELEASED FROM CA (100% OF ACCESSIBLE AREAS)	100	0	100	0	<5000	<100	10	6	N/A	N/A
C8	HIGH ENERGY PAM SET ASIDE FOR DECON - CMEBC-0002/DTHN2-0445	100	0	100	800	<5000	9600	10	6	N/A	N/A
C9	BOTTLE HARNESS A2222 SET ASIDE FOR DECON	100	0	100	600	<5000	7200	10	6	<1000	<20
C10	LAWs OF DRUMS AND LAUNDRY BAGS	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

Map/Sketch

LAPELS DAY SHIFT: 4554, 4553, 4546, 4545, 4090, 4544, 4092, 4543, 4093, 4091, 2937, 4095

LAPELS SWING SHIFT: 4091, 4095, 4090, 2015, 2937, 4596, 4544, 4553

BOTTLES DAY SHIFT: 2022, 2191, 2115, 2040, 2030, 2074, 2184, 2109, 2069, 2150, 2097,2047, 2016

BOTTLES SWING SHIFT: 2133, 2175, 2129, 2103, 2202, 2012, 2121, 2057

MASKS DAY SHIFT: 971, 958, 965, 978, 976 & 7 UNLABELED MASKS

MASKS SWING SHIFT: 963 & 7 UNLABELED MASKS

HARNESS DAY SHIFT: A1097, A2200, A2222, A1036, A2209, A1074, A1106, A2124, A2203, A2194, A2013, A2078, A2155

HARNESS SWING SHIFT: E2009, 1003, A2134, A2250, A1110, 2270, A2016, A2126

INSTRUMENTS:

PAMs:	LUDLUM 2360s:	CPs
ACHN2-0146/DTHN3-0179	SCLL8-0463/DTLLP-0570	ICEB3-0295
ACHN2-0010/DTHN3-0737	SCLL8-0267/DTLLP-0373	ICHN1-0001
ACHN2-0031/DTHN3-0379		ICHN1-0006
ACHN2-0615/DTHN3-0658		ICHN1-0013
ACHN2-0528/DTHN3-0061		
ACHN2-0324/DTHN3-0999		
ACHN2-0506/DTHN3-0581		
ACHN2-0411/DTHN3-0862		
ACHN2-0268/DTHN3-0317		
CMEBC-0002/DTHN2-0445		

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Map Name: EQUIPMENT

Map Description: RELEASED FROM CA

Legend [#] Direct Measurement; Air Sample; (#) Smear; # LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101205

Air Sample Measurements

A1	GWP1101205

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0146	DTHN3-0179	0.16
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0506	DTHN3-0581	0.16
CP	ICEB3-0295	N/A	N/A
GM	CMEB3-0068	DTHNC-0670	0.10
GM	CMEBB-0027	DTEB5-0177	0.10
Ludlum 2360	SCLL8-0463	DTLLP-0570	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.383α0.351
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.383α0.357

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Chadderdon, Melissa	H4837929	5-12-11	Melissa Chadderdon
Hosier, Judith	h7792254	5-15-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
C Dieloy	6197614	MAY 16 2011	C Dieloy

History

2011-05-03 01:30:51 - UnSubmitted correction
2011-05-03 11:22:39 - Submitted
2011-05-04 04:14:14 - UnSubmitted ADD PACK NUMBERS
2011-05-04 04:38:34 - Submitted
2011-05-12 04:11:40 - UnSubmitted CHANGE COVERAGE
2011-05-12 04:12:30 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101209

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/3/2011	1530 / 2030	200 W / 2404 WB / N/A / N/A	WP-574 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB RECOVERY ENTRY MADE USING SCBA's

Comments: ALL LAWs PERFORMED AS PER WMP-350 SECTION 6.2.

UPON ENTRY INTO 2404WB THE AIR SAMPLE WAS STARTED. NCOs AND RCTs PREPPED THE LEAKING DRUM FOR OVERPACKING. WHEN THE DRUM WAS LIFTED OFF THE PALLET IN ORDER TO PLACE BAG ON BOTTOM OF DRUM, THE AREA OF THE LEAK WAS SURVEYED DIRECT WITH THE BWCP ~ 13.5Mdpm/100cm2 Alpha. A BAG WAS THEN PLACED OVER THE BOTTOM OF THE DRUM AND TAPED. THE DRUM WAS THEN PLACED INTO AN 85 gal OVERPACK DRUM. THE CONTAMIATED PALLET WAS WRAPPED UP IN PLASTIC.
THE AIR SAMPLE WAS SHUT OFF AND COLLECTED. NCOs & RCTs EXITED THE BUILDING.

DIRECT READING USING BWCP 8 Rad/hr = 6 Million dpm/probe * 2.25 (CF to 100 cm2) = 13.5 Million dpm/100cm2

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

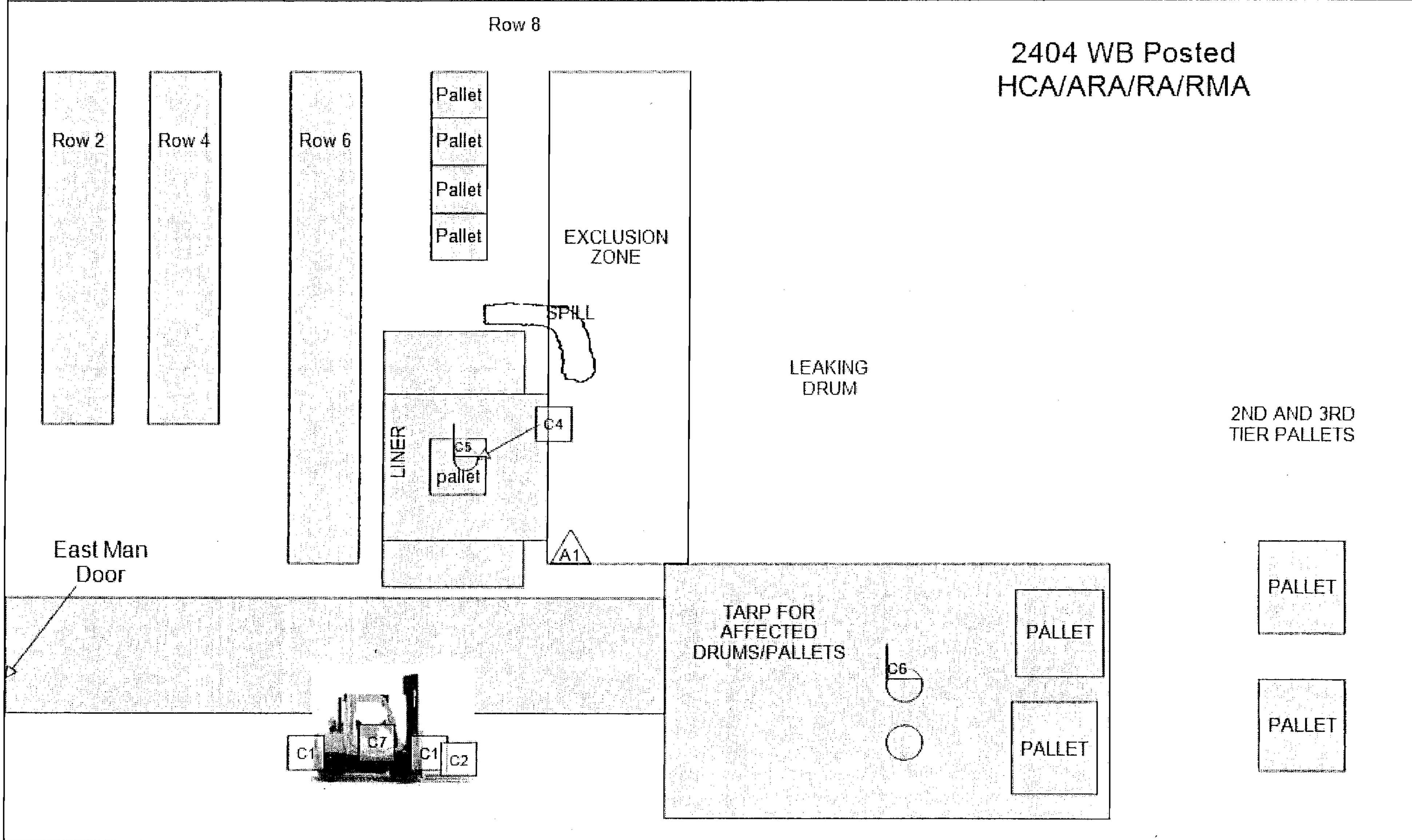
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	HYSTER FORKLIFT LEFT TIRES	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C2	HYSTER FORKLIFT TINES	N/A	0	N/A	40	N/A†	240†	N/A	6	N/A†	N/A†
C4	DIRECT ON LEAKING DRUM PRIOR TO BAGGING DRUM w/ BWCP (in Rad/hr)	N/A	0	N/A	10	N/A†	13.5M†	N/A	1	N/A†	N/A†
C5	TOP OF LEAKING DRUM LAW (~10%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C6	85 gal OVERPACK DRUM LAW (~15%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C7	HYSTER FOOT PEDALS	N/A	0	N/A	800	N/A†	4200†	N/A	6	N/A†	N/A†

COPY

Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY			Map Description: WB RECOVERY 2ND ENTRY						
Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101209	

Air Sample Measurements

A1	GWP1101209	A2	WP-23671

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38α0.35
Black Widow CP	ICHN1-0013	N/A	N/A
RADECO	ASRD7-3344	N/A	N/A
PAM	ACHN2-0528	DTHN3-0061	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
TeNNELEC	00403421	1924	β0.42α0.27

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-11-11	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	619761 4	MAY 12 2011	[signature]

History

2011-05-11 04:07:58 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101213

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/3/2011	1600 / 2220	200W / 2404 WB / 2404 WC /	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☑ Job Coverage: Drum movements, WB door/vent surveys
- ☐ Other: N/A

Description of Work/Comments:
WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Drums intended for movement (42) from WC to 2336.
Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. SMEARS WERE COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate on the outside of 2404 WB	F	1.2	1.2	2	1	1.5	2.7	2.7
D2	Highest dose rate on the outside of 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	Highest 30 cm dose rate on Drum movements from WC to 2336	F	5	5	2	1	0.2	5.2	5.2
D4	Highest GA dose rate in 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

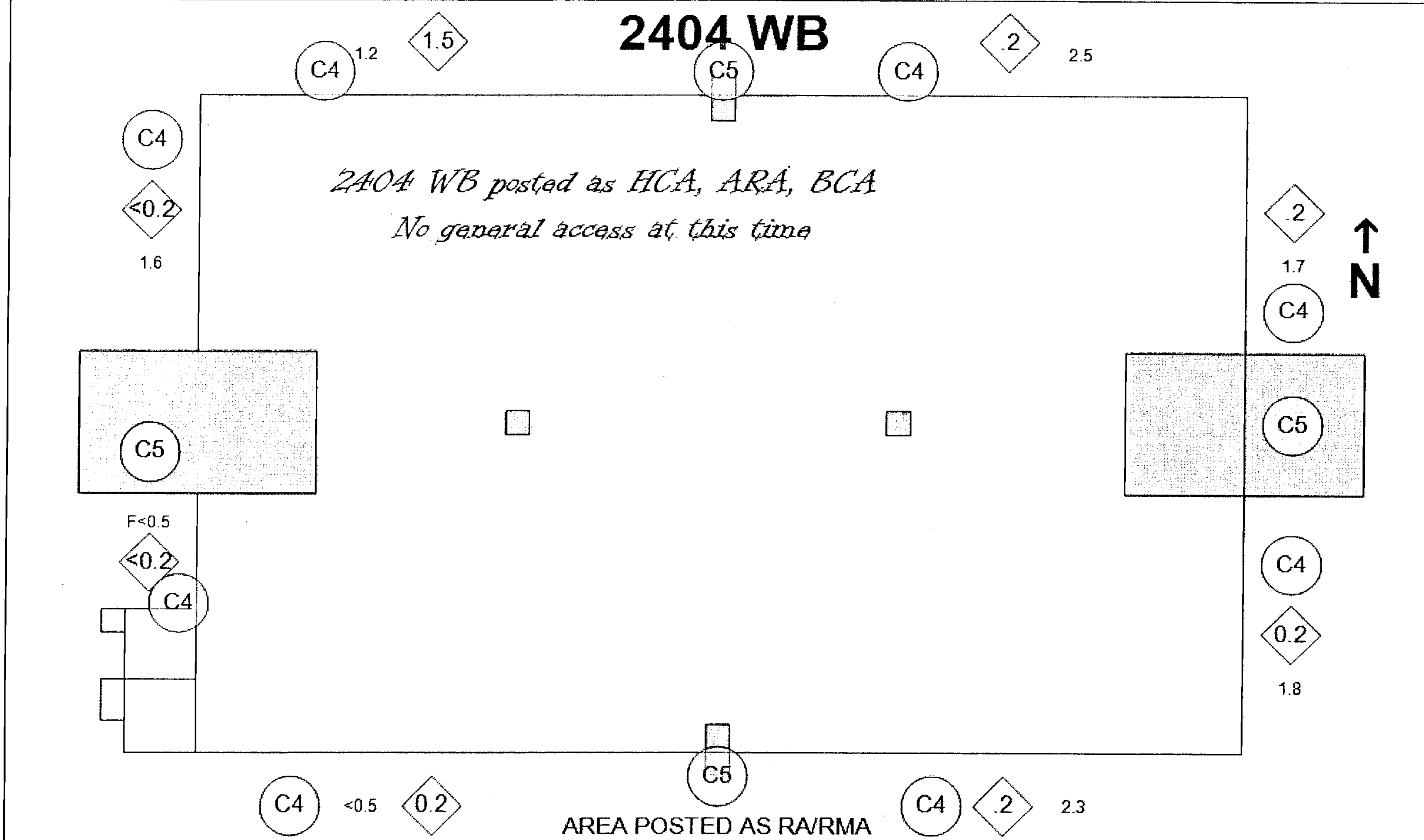
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed large area wipe on the floor in 2404 WC (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	All law's on drum movements (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	Smears of all exhaust vents of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	Smears of all exterior doors of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101213

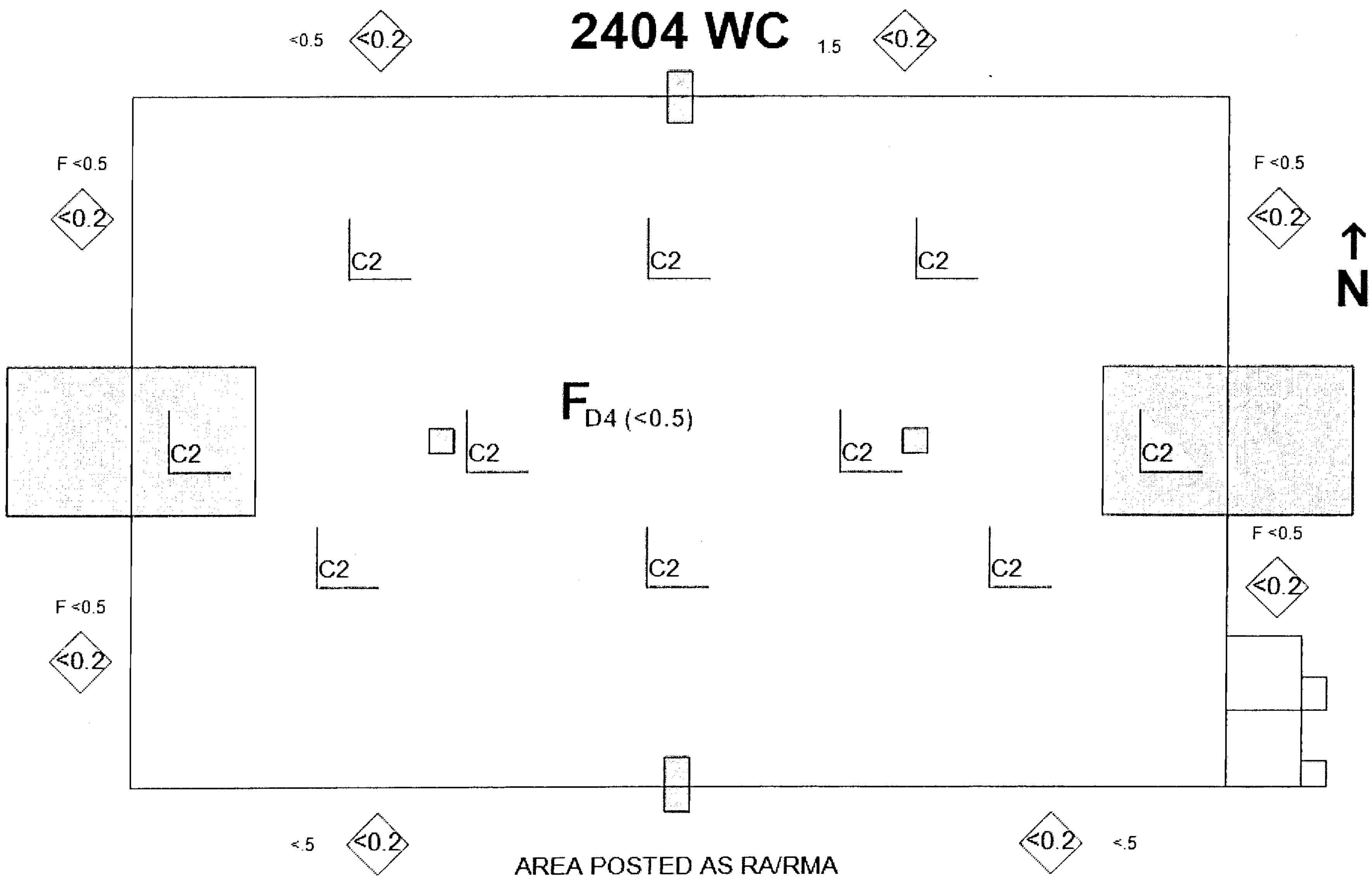
Map/Sketch



Map Name: 2404WB			Map Description: WP-SH003						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

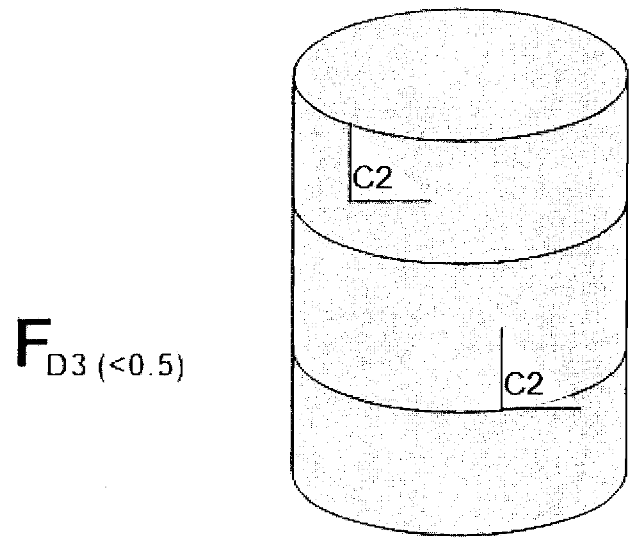
Map/Sketch



AREA POSTED AS RA/RMA

Map Name: 2404 WC		Map Description: WP-SH004							
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: Drums surveyed		Map Description: Drums surveyed for movement						
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101224

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/4/2011	1130 / 1230	200 WEST / 2404 / WB / N/A	WP-574/Rev 3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WB Recovery, WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

2404 WB Entry First Team. Surveyed way up to spill, rolled back brown tarp closest to spill, covered spill and mass contamination with soil cement.

*Beta surveys not performed due to high background.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Air sampler located at the end of exclusion zone, at a height of 5'.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Brown tarp next to wrapped suspect pallet	N/A	0	N/A	2000	N/A†	12000†	N/A	6	N/A†	N/A†
C2	Underside of rolled tarp closest to spill	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	Concrete floor below rolled tarp	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C4	Direct of accessible spill area (50cm probe)	N/A	0	N/A	80000	N/A†	960000†	N/A	6	N/A†	N/A†
C5	Smears of pallet directly behind spill area (4) Field counted only	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<20†
C6	LAW between row 8 and exclusion zone, within 1 foot from spill (100% of 5 foot area/length of first pallet)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	600/LAW †
C7	LAW between row 8 and exclusion zone and within exclusion zone, 5 feet from spill (100% of 5 foot area/length of second pallet from spill)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	240/LAW †

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C8	Two smears in exclusion zone	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<20†
C9	Three smears between row 8 and exclusion zone	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<20†
C10	One smear between row 8 and exclusion zone	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	300†

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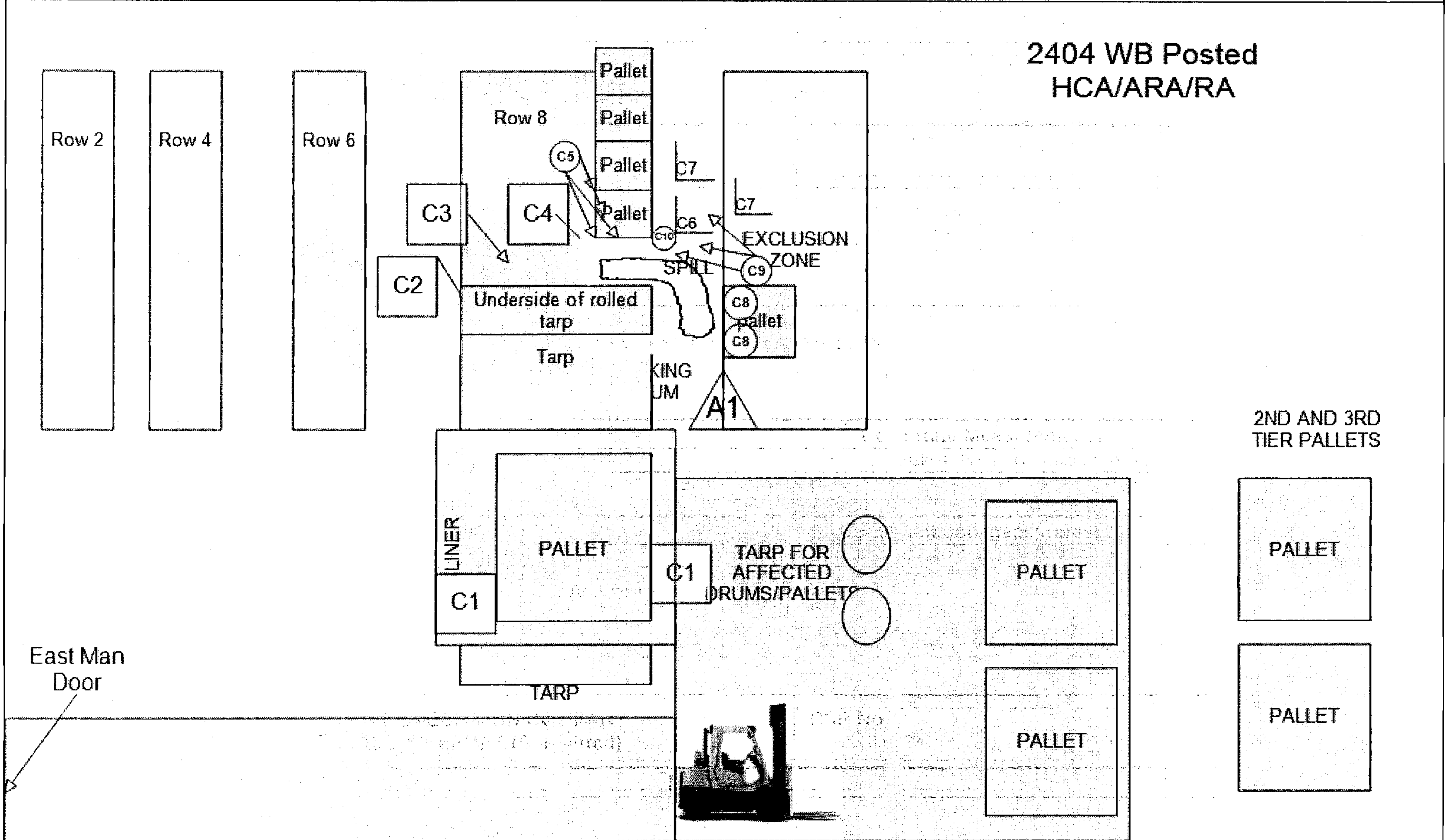
Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY	Map Description: WB RECOVERY 2ND ENTRY

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101224	

Air Sample Measurements

A1	GWP1101224	A2	WP-23688	A3	WP-23687

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0528	DTHN3-0061	0.16
PAM	ACHN2-0146	DTHN3-0179	0.16
RADECO	H-ASRD7-3344	N/A	N/A
Tennelec A	S5-XLB 75063	1430	β0.39 α0.25

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	5-18-11	Nadia Rhodes

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-20-11	T. Terry

History

2011-05-06 02:18:21 - Submitted
2011-05-18 07:46:38 - UnSubmitted Different RWP Rev, added additional information.
2011-05-18 08:05:20 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101225

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/4/2011	0700 / 2030	200 WEST / 2404 WB / 2404 WB / Outside East door of 2404WB	WP-574/3

Purpose of Survey

- [x] Material Release
  Number: RSP-WP-06-008;RSP-WP10-001;RSP-WP-10-002
  Released to: RADCON & OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Survey of CA and RBA outside of the east door to 2404WB. Items released listed in the map section. Survey of 2 drums exting the CA, and 2 laundry bags. All surveys performed in support of recovery plan WRAP-RP-11-03.

Comments: All equipment was moved to a low background area to complete beta-gamma directs. Beta/ Gamma Direct surveys were not completed during the downpost surveys due to high background on the GM.
Tech smears counter per WRAP1-OP-1230. LAWs performed per WMP-350 sec. 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate of laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate of drum	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of laundry bags(~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C2	Tech Smears of laundry bags (2 smears each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C3	Laws of all equipment released from CA (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C4	Tech smears of all equipment released from CA (2 per lapel pump/instrument/SCBA bottle, 2 smear per mask)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	LAWs of drum (~40%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<D/LAW†	<D/LAW†
C6	Tech smears of drum (4 smears)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C7	Directs of all equipment released from CA (100% of all accessable areas.	150	0	150	0	<5000†	<100†	10	6	N/A†	N/A†
C8	LAWs @ 40% of CA/RBA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†

		Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	Smears/directs of downpost in CA/RBA (15 smears in CA, 11 smears in RBA)	N/A	0	N/A	N/A	N/A†	<100†	N/A	6	<1000†	<20†

Map/Sketch

Bottles Released	MASKS RELEASED	PACKS RELEASED	LAPELS RELEASE
2091	6 PFP MASKS	A2163	4554
2208		A1166	4545
2002		A2258	4092
2134		A2227	4552
2189		A2253	4093
2099		A1067	4543

INSTRUMENTS RELEASED

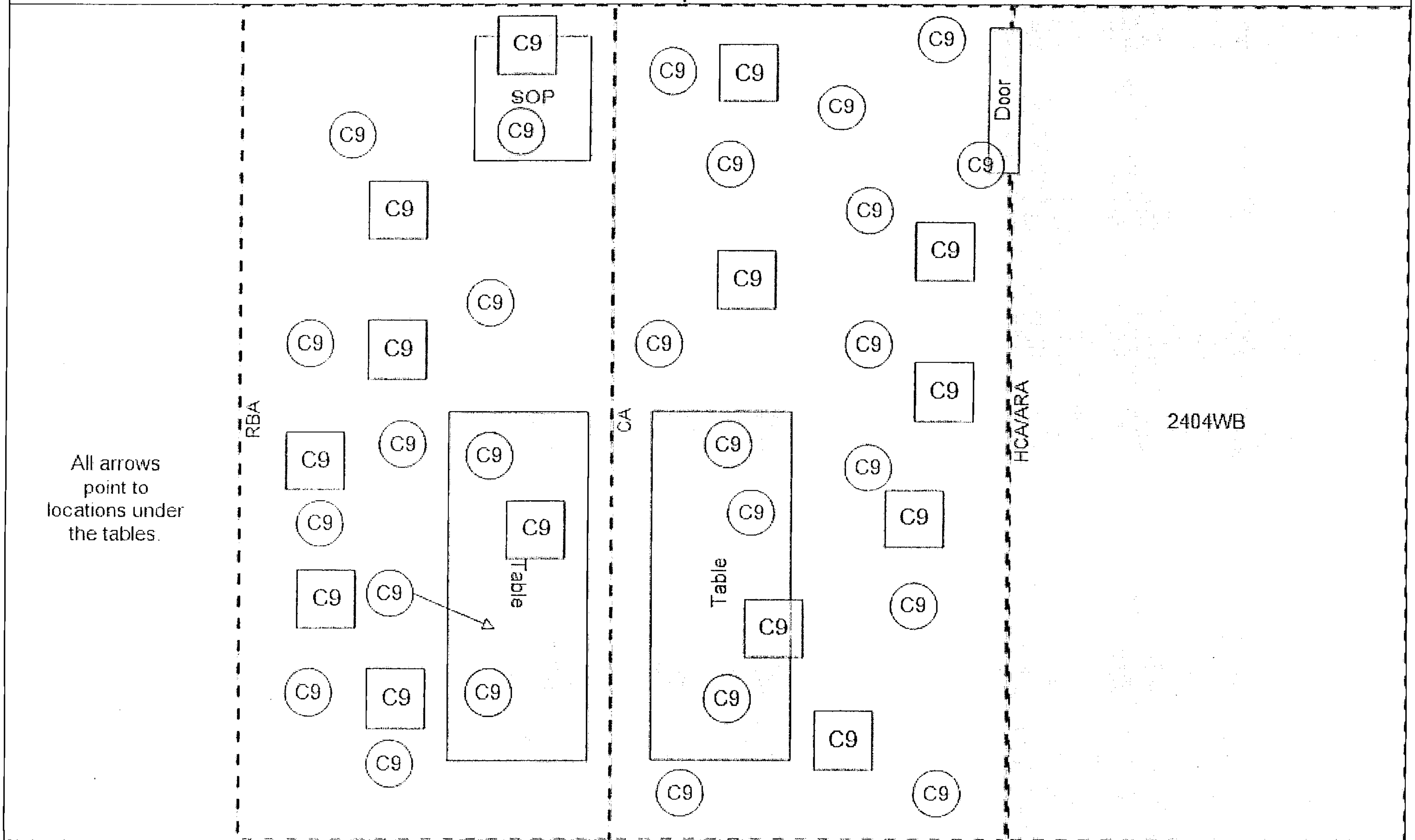
ICHN1-0013
DMBC3-002/DTHN2-0445
ACHN2-0031/DTHN3-0379
ACHN2-0528/DTHN3-0061
ACHN2-0468/DTHN3-0525
ACHN2-0209/DTHN3-1011
ACHN2-0039/DTHN3-0379
ACHN2-0146/DTHN3-0179
SCLL8-0465/DTLLP-0572

Map Name: N/A

Map Description: List of instruments and equipment released from the CA

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: East entry to 2404WB				Map Description: Downpost survey					
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101225

Air Sample Measurements

A1	GWP1101225

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
CP	ICEB3-0295	N/A	N/A
GM	CMEBB-0027	DTEB5-0177	0.10
GooseNeck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

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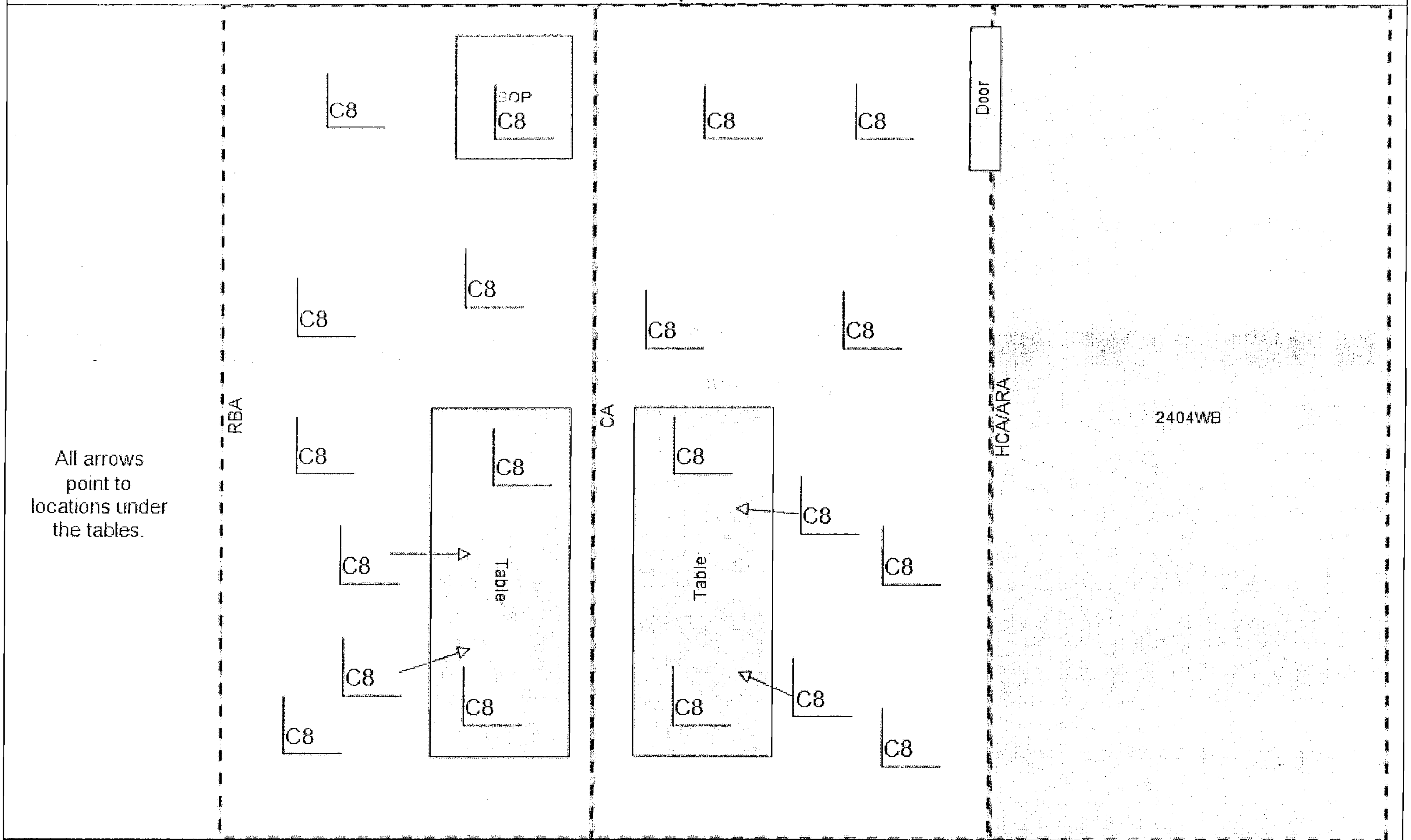
Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 12 2011	[signature]

History

2011-05-09 11:11:17 - Submitted
2011-05-12 09:33:05 - UnSubmitted
2011-05-12 09:33:25 - Submitted

Map/Sketch



Map Name: 2404WB East Entry

Map Description: LAWs for downpost of CA/RBA

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101227

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/4/2011	0730 / 1400	200 WEST/WRAP / 2404-WB/2404-WC / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☐ Job Coverage: N/A
- ☑ Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 4 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC.

41 drums from 24~~2~~4WC to 2336W 0 Law 5-17-11

43 drums from CWC to 2336W

Comments: LAWs performed in accordance with WMP-350 section 6.2.

ARA, CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

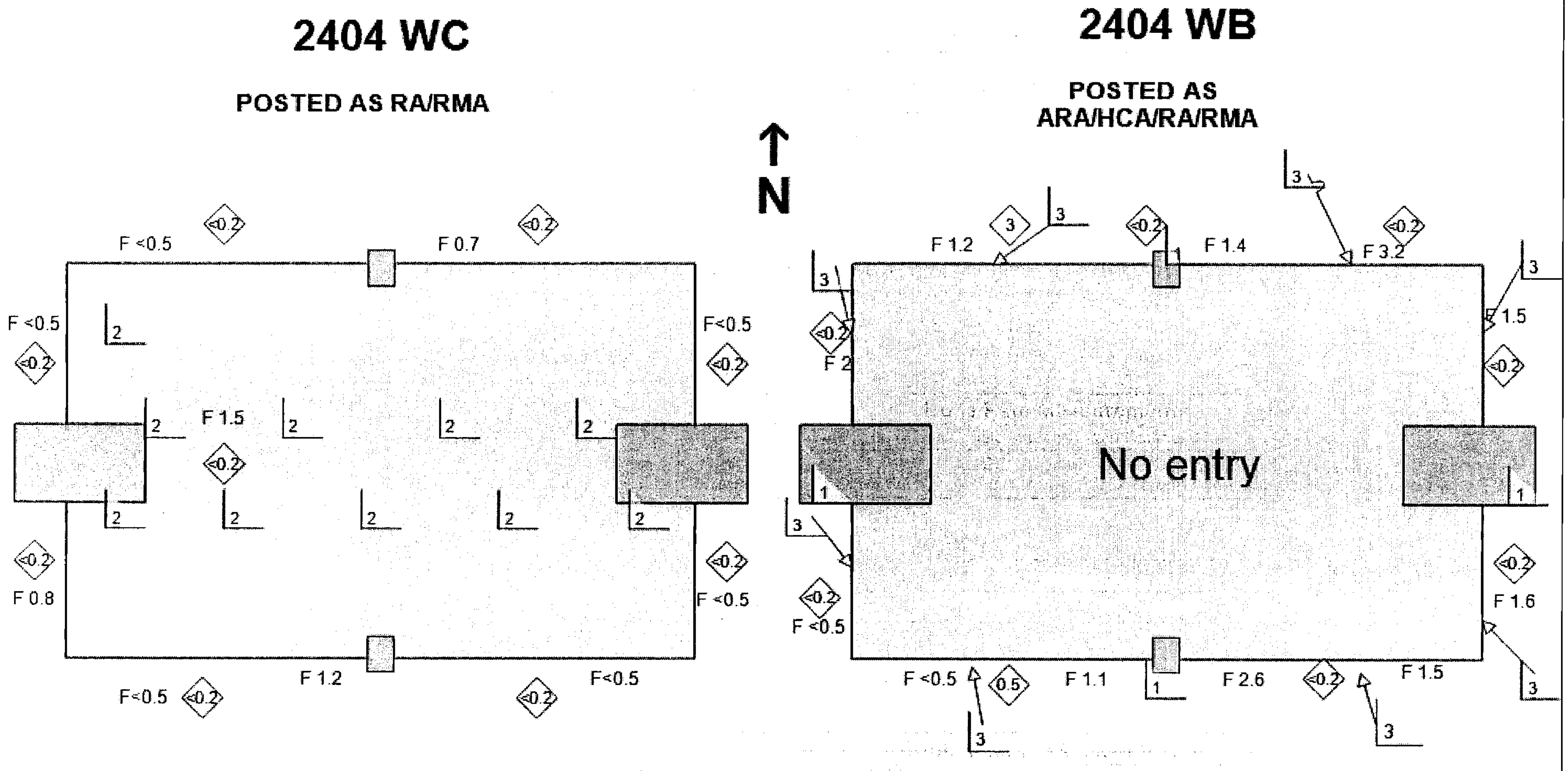
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	GENERAL WORKING AREA IN 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.2	1.2	2	1	<0.2	1.2	1.2
D4	4 SWB's	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	Max dose rate on 41 drums from 2404WC to 2336W	F	8	8	2	1	<0.2	8	8
D6	Max dose rate on 43 drums from CWC to 2336W	F	25	25	2	1	0.2	25.2	25.2

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS AT DOORWAY OF 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	2404 WB 8 exterior louvers	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	4 SWB's (LAW @ 80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	Max dose rate on 41 drums from 2404WC to 2336W	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	Max dose rate on 43 drums from CWC to 2336W	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

Map/Sketch



Map Name: 404 WB & 2404 WC	Map Description: WP-SH003 & WP-SH004

Legend

Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	Transferability	Field	Contact	Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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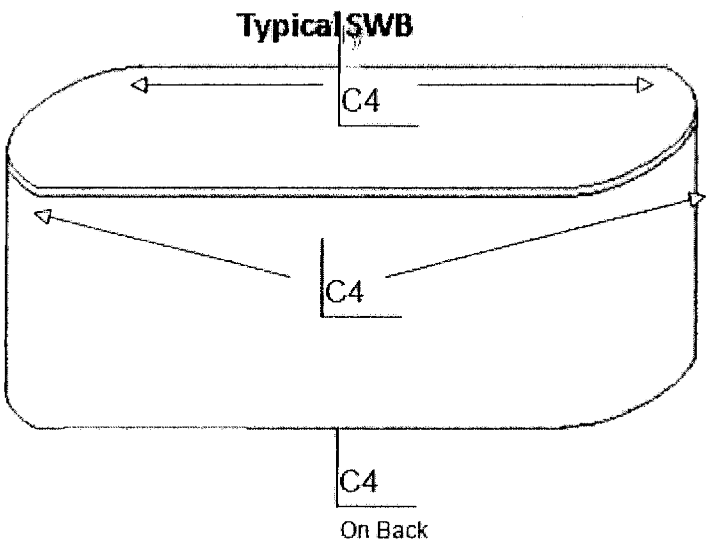
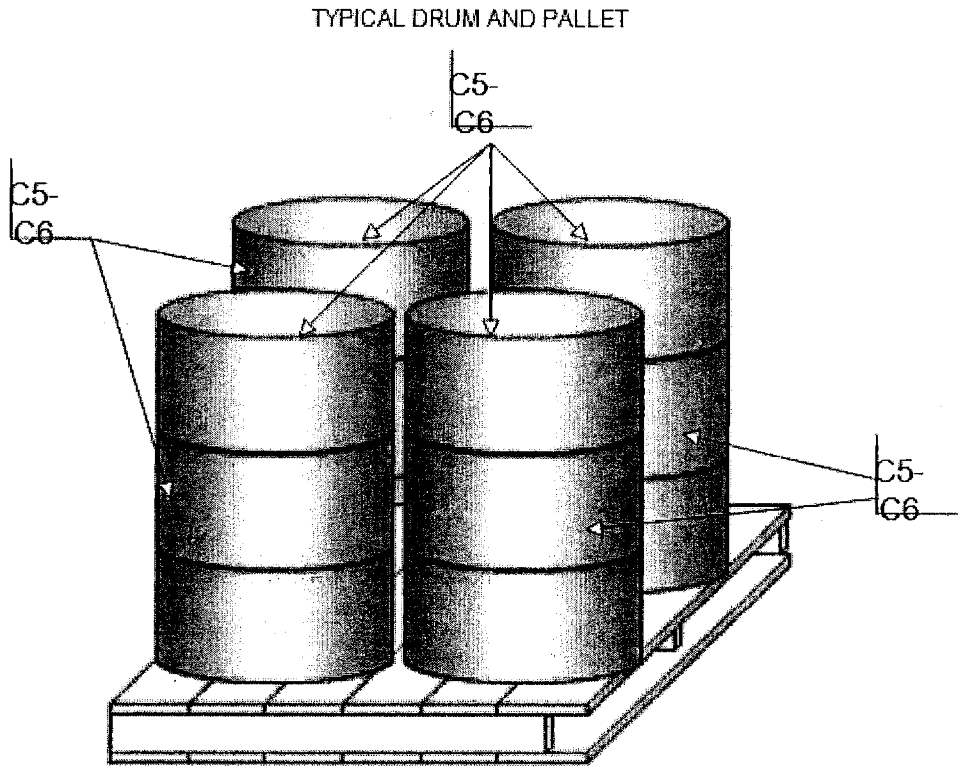
Map/Sketch





Map Name: C4Waste Container			Map Description: Waste Container						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-00068	DTHNC-00670	0.1
PAM	ACHN2-0324	DTHN3-0999	0.16
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	5-16-2011	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 17 2011	[signature]

History

2011-05-04 02:50:04 - Submitted
2011-05-16 07:32:54 - UnSubmitted typo correction
2011-05-16 07:33:35 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101235

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/4/2011	1600 / 2100	200W / 2404 WB / 2404 WC /	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: WB door/vent surveys
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC.
Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. SMEARS WERE COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate on the outside of 2404 WB	F	1.2	1.2	2	1	1.5	2.7	2.7
D2	Highest dose rate on the outside of 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D4	Highest GA dose rate in 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed large area wipe on the floor in 2404 WC (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	Smears of all exhaust vents of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	Smears of all exterior doors of 2404 WB, note: smear of the east door area done on the edge of the CA	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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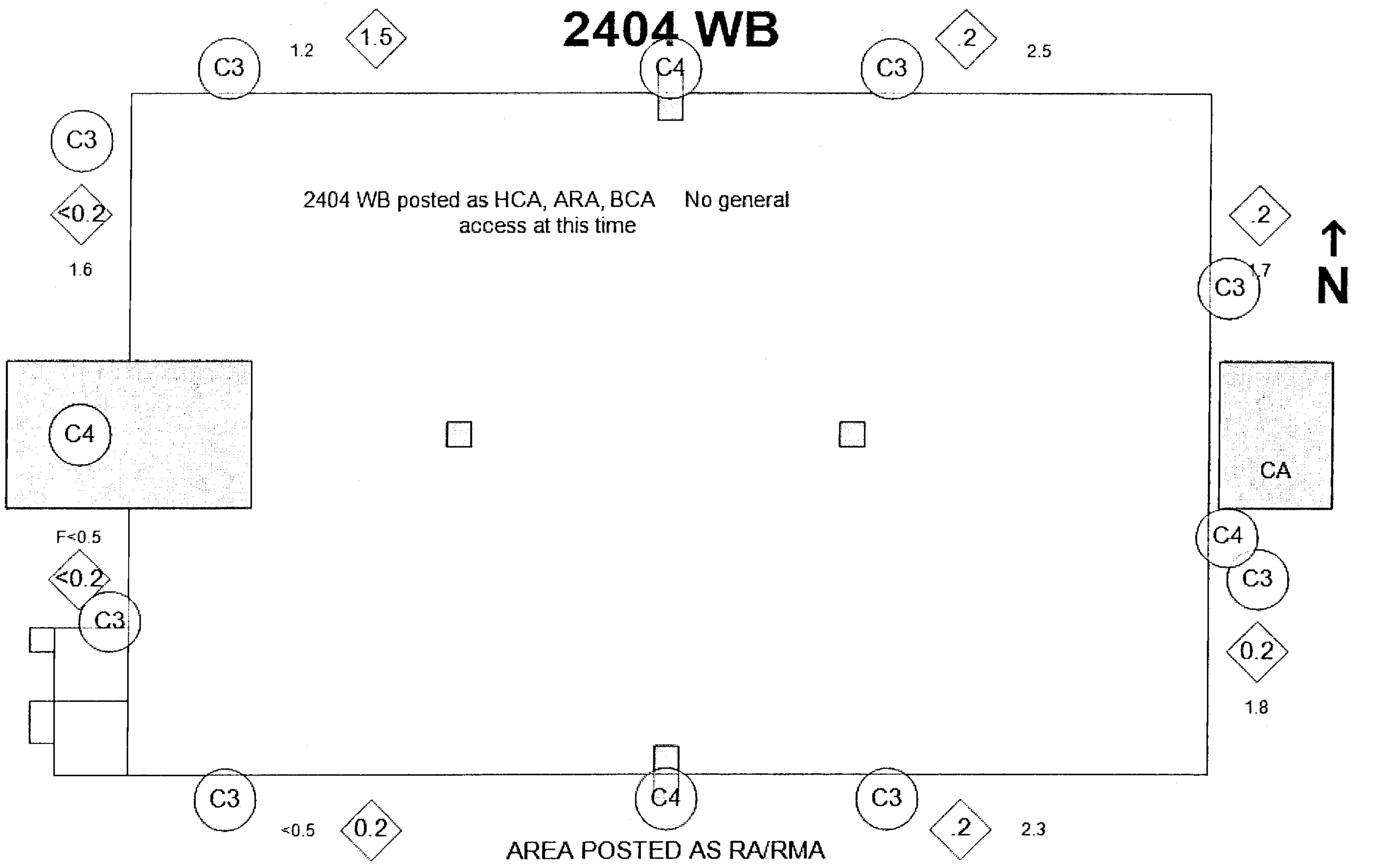
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101235

Map/Sketch

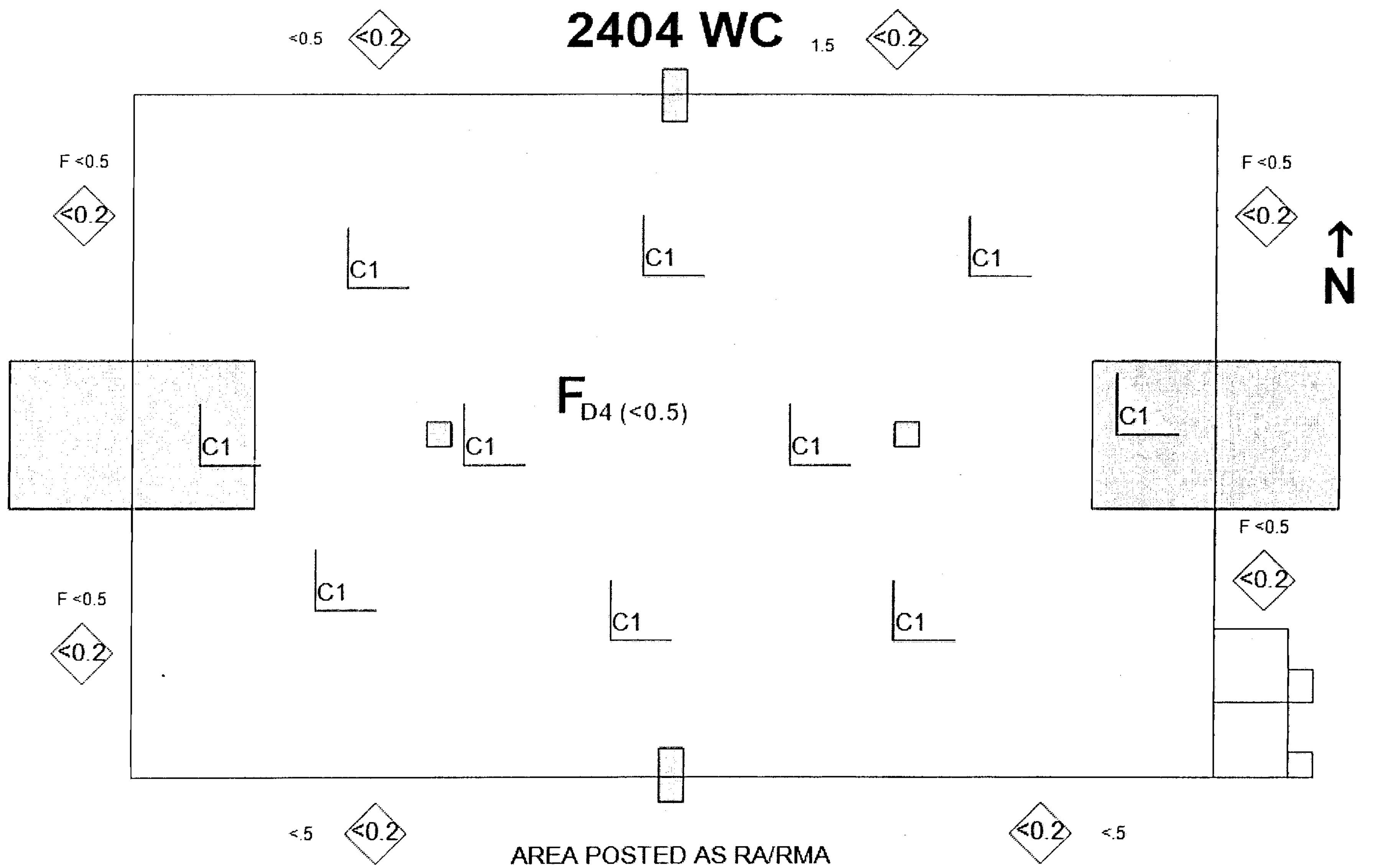


Map Name: 2404WB			Map Description: WP-SH003						
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101235

Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004	

Legend: [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 05/04/2011 09:20:53 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101235	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0412	DTHN3-0300	0.16
GM	CMEB3-0068	DTHNC-0676	0.10
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Park, Nancy	h7274392	5-4-11	NP

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 05 2011	CW

History

2011-05-04 09:20:53 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101247

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/5/2011	0730 / 1530	200 WEST/WRAP / 2404-WB/2404-WC / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☐ Job Coverage: N/A
- ☑ Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 6 SWB to be moved from 2404-WC to 3604W then returned to 2404-WC.

Received & surveyed 6 SWB from CWC to 2404WB.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

ARA, CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	GENERAL WORKING AREA IN 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.2	1.2	2	1	<0.2	1.2	1.2
D4	12 SWB	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS AT DOORWAY OF 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW ON 2404 WB 8 exterior louvers (80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	SWB (LAW @ 80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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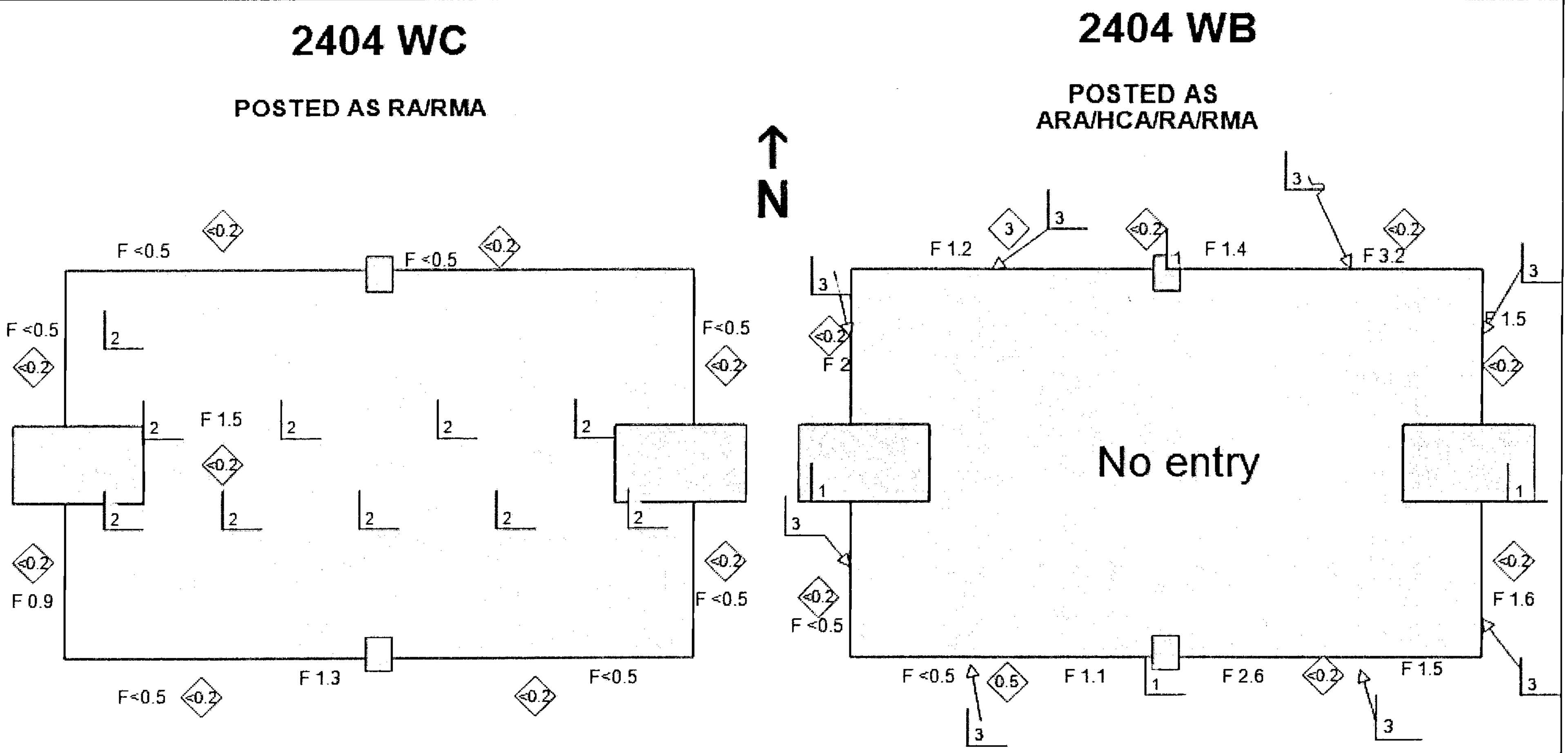
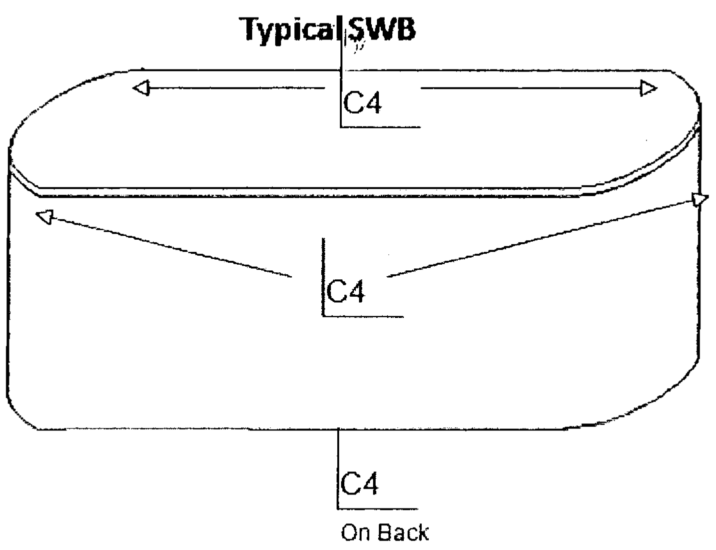
Map/Sketch



Map Name: 404 WB & 2404 WC			Map Description: WP-SH003 & WP-SH004						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101247	

Map/Sketch



Map Name: C4Waste Container	Map Description: Waste Container

Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0292	DTHNC-0890	0.1
PAM	ACHN2-0468	DTHN3-0525	0.16
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	5-5-2011	Harry L North

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	MAY 05 2011	CZW

History

2011-05-05 03:16:35 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101249

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/5/2011	0700 / 2000	200 W / 2404 WB / Outside East Door /	RWP-574/ REV 4

Purpose of Survey

☑ Material Release
Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
Released to: RADCON, OPS
☐ Ram Shipment: N/A
☐ Required Task: N/A
☑ Job Coverage: WRAP-RP-11-003
☐ Other: N/A

Description of Work/Comments:

RELEASE OF VARIOUS INSTRUMENTATION, RESPIRATORY EQUIPMENT INCLUDING SCBAs, & LAPEL PUMPS.
ITEMS RELEASED FROM HCA&-CA LISTED IN MAP SECTION.
SURVEY OF 2 DRUMS AND 5 LAUNDRY BAGS EXITING THE CA.
ALL SURVEYS PERFORMED IN SUPPORT OF RECOVERY PLAN WRAP-RP-11-003.

Comments: NUMBER OF TECHNICAL SMEARS TAKEN PER EQUIPMENT RELEASED FROM CA: LAPELS (2), MASKS (2), INSTRUMENTS (2), DRUMS (2), LAUNDRY BAGS (2) & MISC (2).
MISC ITEMS INCLUDE CLIPBOARD, TOOLS, TUBING, GOOSENECK HEAD, RADIOS & ETC.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS. NO BETA GAMMA DIRECT PERFORMED IN THE CA DUE TO BACKGROUND TOO HIGH.

TECH SMEARS COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Performed dose rate survey on two drums and five laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Performed dose rate survey on two drums and five laundry bags	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct frisk on the picinic table seat inside the CA.	N/A	0	N/A	1000	N/A†	6000†	N/A	6	N/A†	N/A†
C2	Direct frisk on the floor in the CA in front of the door	N/A	0	N/A	N/A	N/A†	1200†	N/A	6	N/A†	N/A†
C3	Direct frisk on the floor in the CA in front of the door	N/A	0	N/A	N/A	N/A†	1200†	N/A	6	N/A†	N/A†
C4	direct frisk on the floor in the ca in front of the door	N/A	0	N/A	N/A	N/A†	3200†	N/A	6	N/A†	N/A†
C5	direct on the floor in ca in front of step off pad (SOP)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	N/A†

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No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C6	directs and tech smear inside RBA and step off pad (SOP)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†
C7	Performed 30 tech smears inside the CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C8	Performed tech smears and directs on all items exited from the CA per their respected survey plans	N/A	0	N/A	N/A	<5,000†	<100†	N/A	6	<1000†	<20†
C9	Performed tech smears on two drums and five laundry bags	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

Map/Sketch

PAMs: Inside HCA

ACHN2-0438/DTHN3-1050
ACHN2-0031/DTHN3-0379
ACHN2-0324/DTHN3-0999
ACHN2-0146/DTHN3-0179

PAMs:
Inside CA

ACHN2-0039/DTHN3-0591
ACHN2-0209/DTHN3-1011

RADIOs:
Inside HCA
#903367

LAPELS
4095,4552,4551,4546,4544,4554, and 4553

PAPR BODY
711,713,703,720,715,707, and 701

MASKS
Tight fitting face piece for the PAPR #919

INSTRUMENTS:

LUDLUM 2360s: Inside RBA

SCLL8-0463/DTLLP-0570
SCLL8-0482/DTLLP-0589

BWCP: Inside the HCA

ICHN1-0001

CP: Inside the RBA
ICEB3-0295

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Map Name: EQUIPMENT

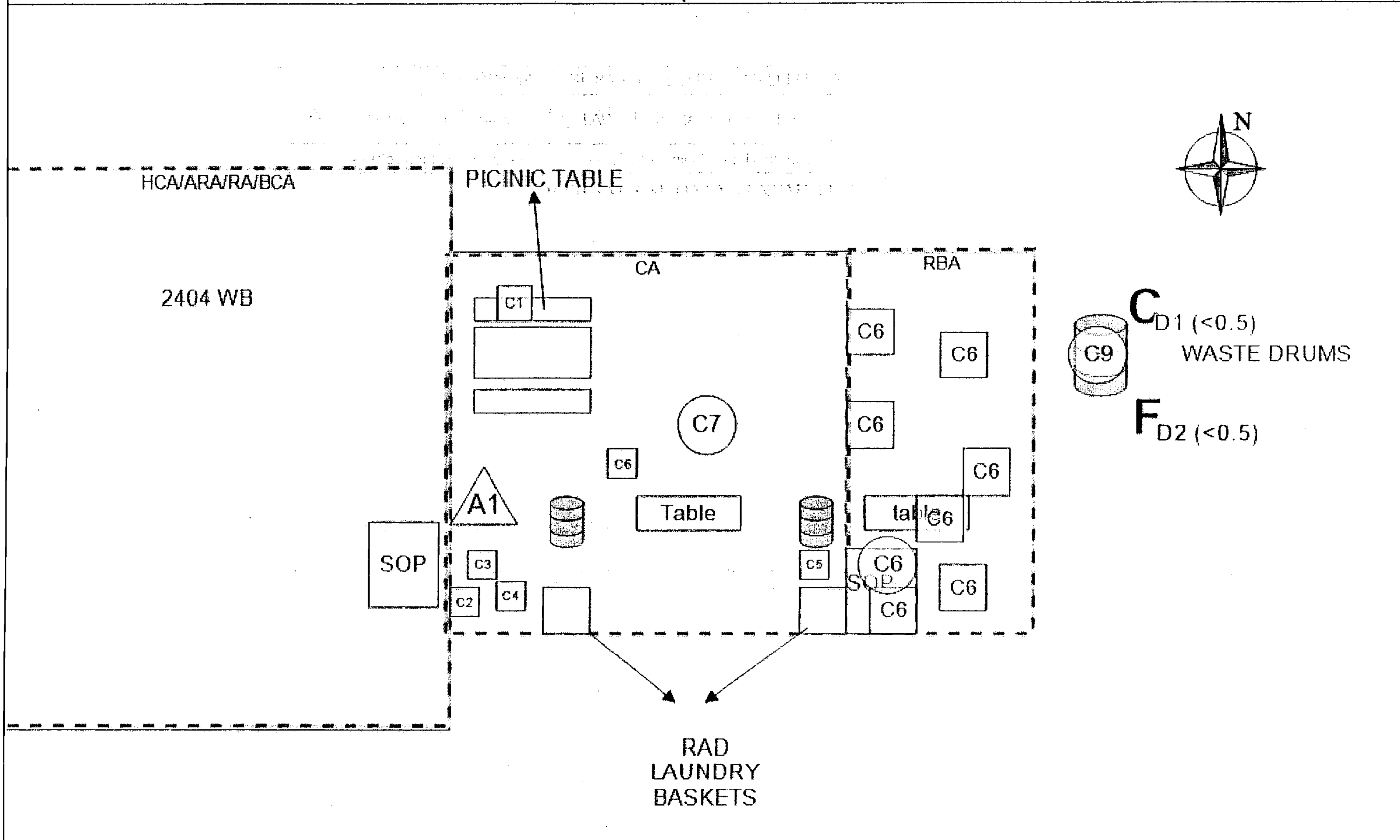
Map Description: RELEASED FROM CA

Legend: # Direct Measurement | Air Sample | # Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB	Map Description: SURVEY OF AREA AND ITEMS FROM THE CA

Legend: # Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101249	

Air Sample Measurements

A1	GWP1101249

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
2360	SCLL8-0463	DTLLP-0570	0.10
2360	SCLL8-0482	DTLLP-0589	0.10
PAM	ACHN2-0039	DTHN3-0591	0.16
CP	ICEB3-0295	N/A	N/A
GM	CMEBB-0027	DTEB5-0177	0.10
GM	CMEB3-0033	DTHNC-0328	0.10
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
GOOSENECK	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5-23-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	MAY 23 2011	[illegible]

History

2011-05-11 09:23:13 - Submitted	
2011-05-15 11:54:16 - UnSubmitted	corrections made
2011-05-15 11:58:14 - Submitted	
2011-05-17 09:56:56 - UnSubmitted	CORRECTIONS MADE
2011-05-23 02:48:08 - Submitted	

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101250

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/5/2011	1600 / 1800	200W / 2404 WB / 2404 WC /	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: DRUM MOVEMENT
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC.
SURVEYED 15 DRUMS IN 2404 WC TO BE MOVED TO 2336W.

Comments: LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.
TECH SMEARS COUNTED PER WRP1-OP-1230.

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Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.1	1.1	2	1	2	3.1	3.1
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	GENERAL AREA 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D4	DRUM MOVE	F	4	4	2	1	<0.2	4	4

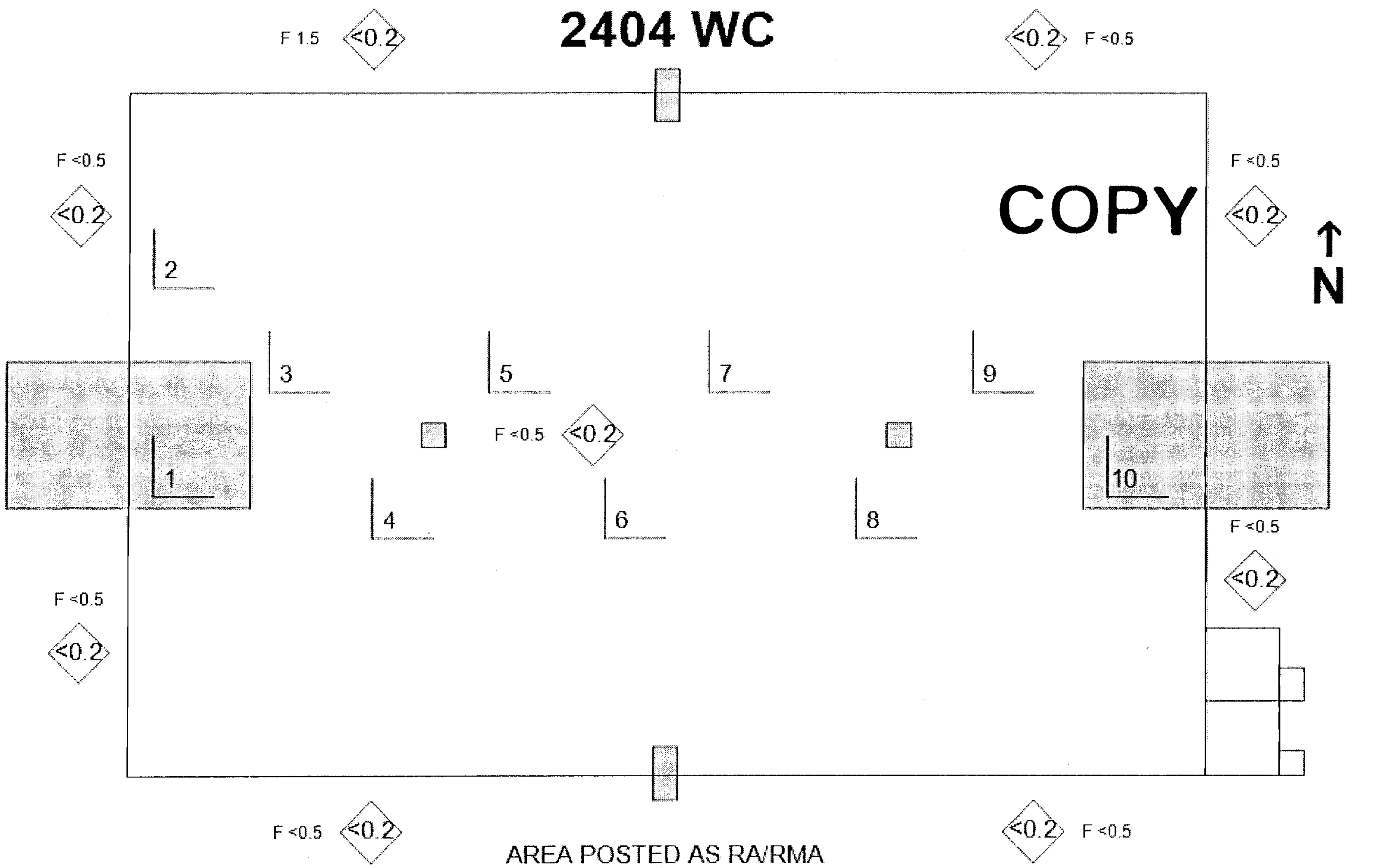
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAWS OF DRUM TO BE MOVED (30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101250	

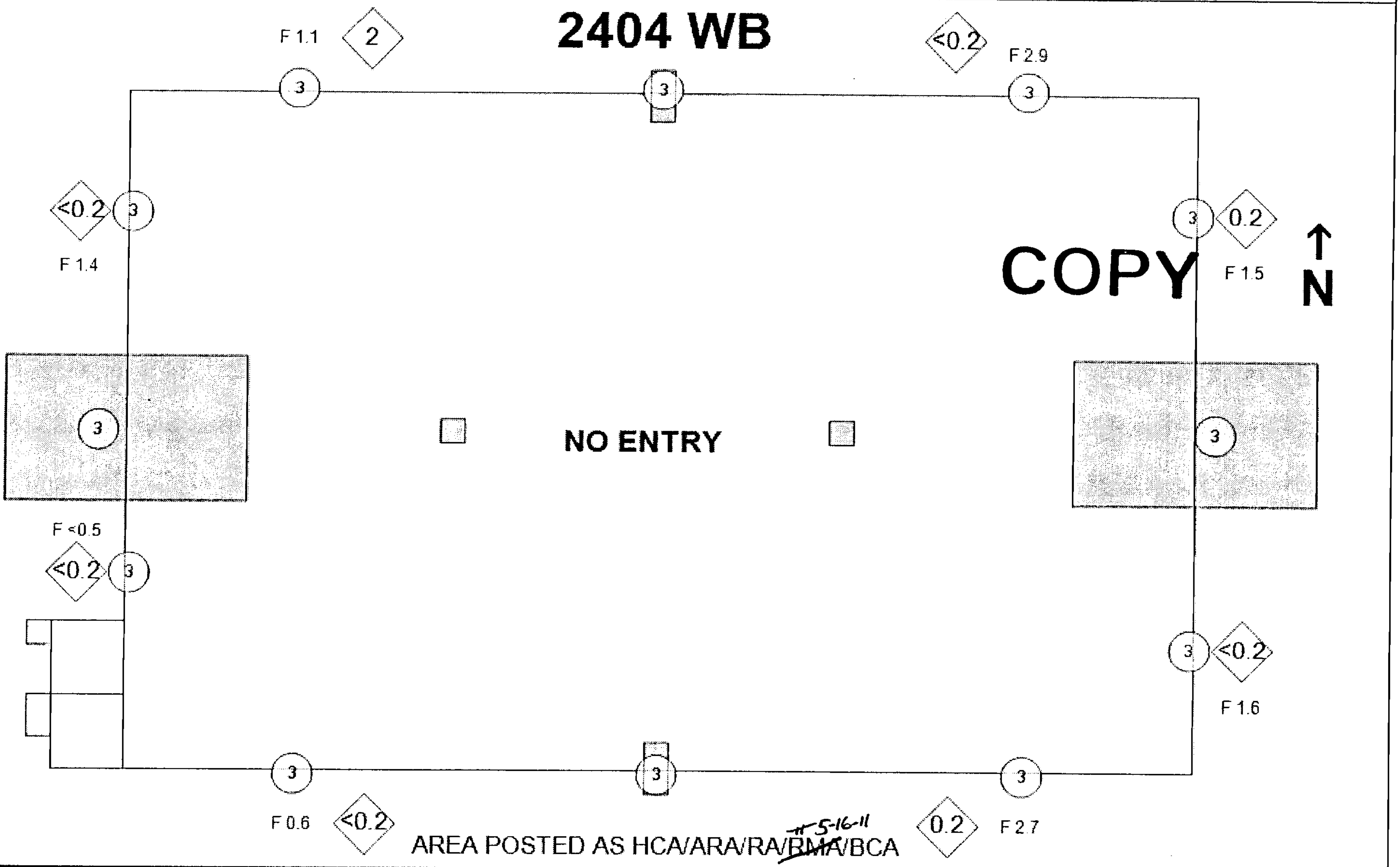
Map/Sketch



Map Name: 2404 WC			Map Description: WP-SH004						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Subm : 05/10/2011 11:53:44 ~~OFFICIAL USE C / - EXEMPTION 6~~ A-6004 SS (Rev. 0)

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101250

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
PAM	ACHN2-0468	DTHN3-0525	0.16
GM	CMEB3-0292	DTHNC-0890	0.10
RO-20	ICEB4-1447	N/A	N/A
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.383α0.357

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Chadderdon, Melissa	H4837929	5-16-11	Melissa Chadderdon

Reviewers

Name	HID	Date	Signature
CWieland	6197614	JUN 30 2011	CRW

History

2011-05-05 06:38:30 - Submitted
2011-05-10 11:51:09 - UnSubmitted ADD INFO
2011-05-10 11:53:44 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101259

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	1030 / 1245	200 WEST / 2404 WB / / Inside east door	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☑ Other: 2404WB recovery survey

Description of Work/Comments:

Survey of the non skid strips directly in the entry of 2404 WB. All contamination was covered with tape in order to prevent cross contamination. 2404WB is posted as RA/HCA/ARA.

Comments: Directs were taken throughout ~100% of all areas where the nonskid strips meets the floor.
Direct measurements were taken to the north of the nonskid strips, decon was attempted but unable to fully remove contamination on this entry.
See batch WP-23707 for lapel results.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

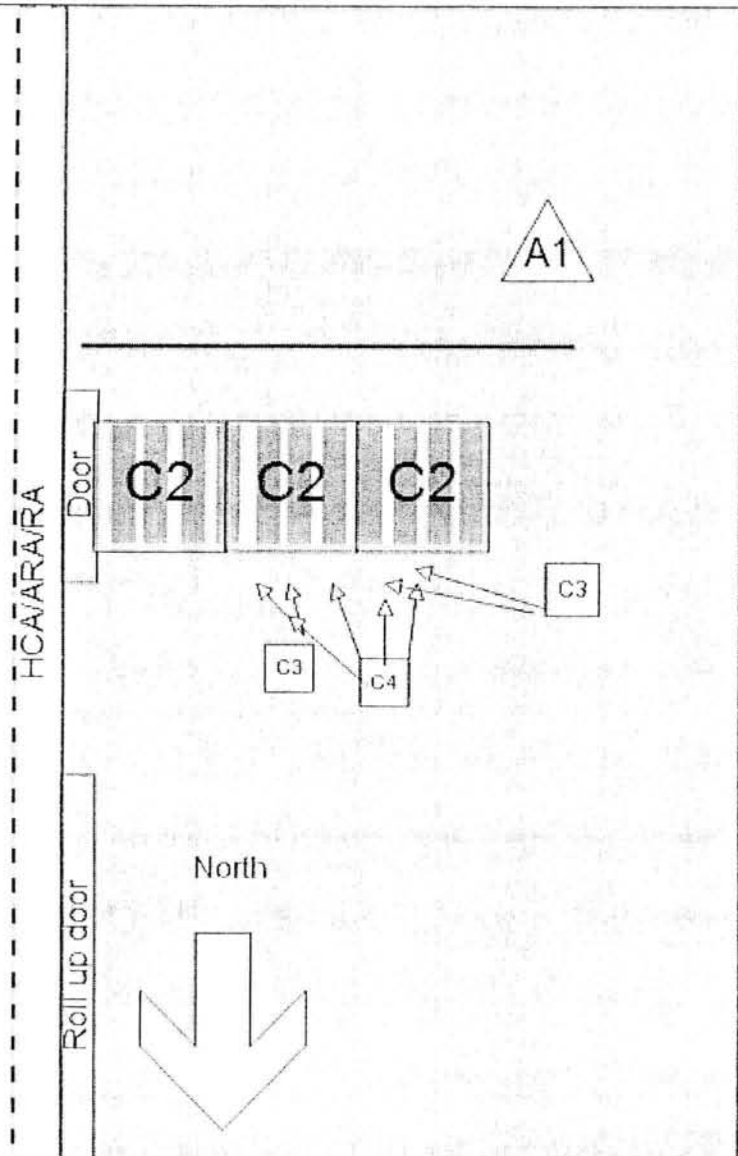
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

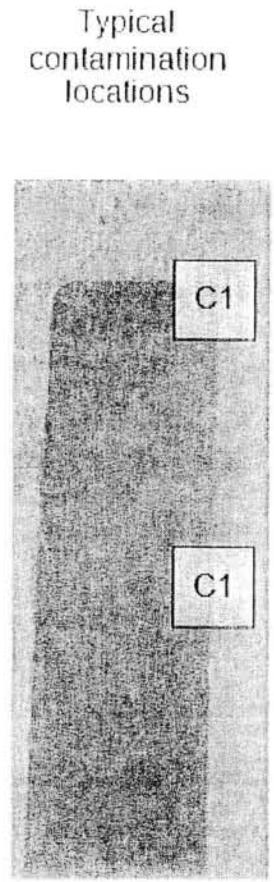
Contamination Measurements

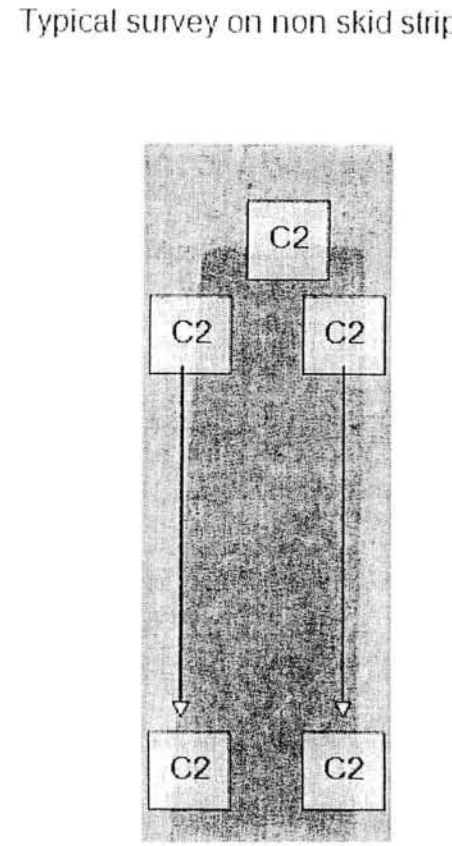
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct survey of nonskid strips	N/A	0	N/A	300	N/A	1800	N/A	6	N/A	N/A
C2	Direct survey of nonskid strips after covering	N/A	0	N/A	0	N/A†	<100†	N/A	6	N/A†	N/A†
C3	Direct survey of area North of the nonskid strips	N/A	0	N/A	600	N/A	3600	N/A	6	N/A	N/A
C4	Direct survey of area north of the nonskid strips after decon efforts (baby wipes/wet rags only)	N/A	0	N/A	100	N/A	600	N/A	6	N/A	N/A

Map/Sketch







Map Name: 2404WB		Map Description: Air Sampler location							
Legend	[#] Direct Measurement	Air Sample	(#) Smear	#_ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101259	

Air Sample Measurements

A1	GWP1101259	A2	WP-23707

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0039	DTHN3-0591	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
RADECO	H-ASSA1-664	N/A	N/A
Tennelec	S5-XLB 75063 / 1430	N/A	α0.25 β0.39
Tennelec	S5-XLB 0403421 / 192	N/A	α0.27 β0.42

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-11-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-11-11	T. Terry

History

2011-05-09 03:20:05 - Submitted
2011-05-10 01:39:32 - UnSubmitted Correcting errors.

2011-05-11 03:56:03 - Submitted
2011-05-11 03:56:29 - UnSubmitted Fixed final errors.
2011-05-11 03:57:30 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101265

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	1300 / 1530	200 WEST / 2404 WB / na / outside	WP-574/Rev 4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, OP's
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Release of respirators, lapels, and instruments from CA in front of 2404WB.

Comments: Used survey plans RSP-WP-10-002, Rev 2; RSP-WP-06-008, Rev 5; RSP-WP-10-001, Rev 1.
Contamination on picnic table covered by tape and then by craft paper.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS.

TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct on picnic table bench	N/A	0	N/A	150	N/A†	900†	N/A	N/A	N/A†	N/A†
C2	Tech smears of released material	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	Directs of released material	100	0	100	0	<5000†	<100†	10	6	N/A†	N/A†
C4	LAW's of released material	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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Map/Sketch

Pam's:
ACHN2-0039
DTHN3-0591

ACHN2-0209
DTHN3-1011

ACHN2-0146
DTHN3-0179

ACHN2-0411
DTHN3-0862

ACHN2-0615
DTHN3-0658

BWCP:
ICHN1-0001

Lapels:
4553
2123
2937
2699
4544
4546
4554
4545
4092
4095
4551

PAPR's:
717
718
711
707
716
703
715
720
701
709
713

Masks:
1002
989
907
1001
910
931

Map Name: WB entry

Map Description: Instruments, respirators released

Legend: [#] Direct Measurement | Air Sample | (#) Smear | #LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary.

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101265	

Air Sample Measurements

A1	GWP1101265

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0615	DTHN3-0658	0.16
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10
Gooseneck	RE-12-13597	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	5-18-11	[signature]

Reviewers

Name	HID	Date	Signature
[signature]	6197614	MAY 19 2011	[signature]

History

2011-05-09 09:08:35 - Submitted
2011-05-18 08:17:25 - UnSubmitted Additional information added.
2011-05-18 08:18:45 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101266

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	0730 / 1530	200 WEST/WRAP / 2404-WB/2404-WC / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [x] Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 7 SWB to be moved from 2404-WC to HERTR then returned to 2404-WC.

Surveyed 1 drum from 2404 WC to 2336W.

Comments: LAWs performed in accordance with WMP-350 section 6.2.
ARA, CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	GENERAL WORKING AREA IN 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D3	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.3	1.3	2	1	<0.2	1.3	1.3
D4	7 SWB max dose rate	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	1 drum mav dose rate	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS AT DOORWAY OF 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW ON 2404 WB 8 exterior louvers (80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	LAWs of 7 SWB (LAW ~ 25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	LAWs of 1 drum (LAW ~ 25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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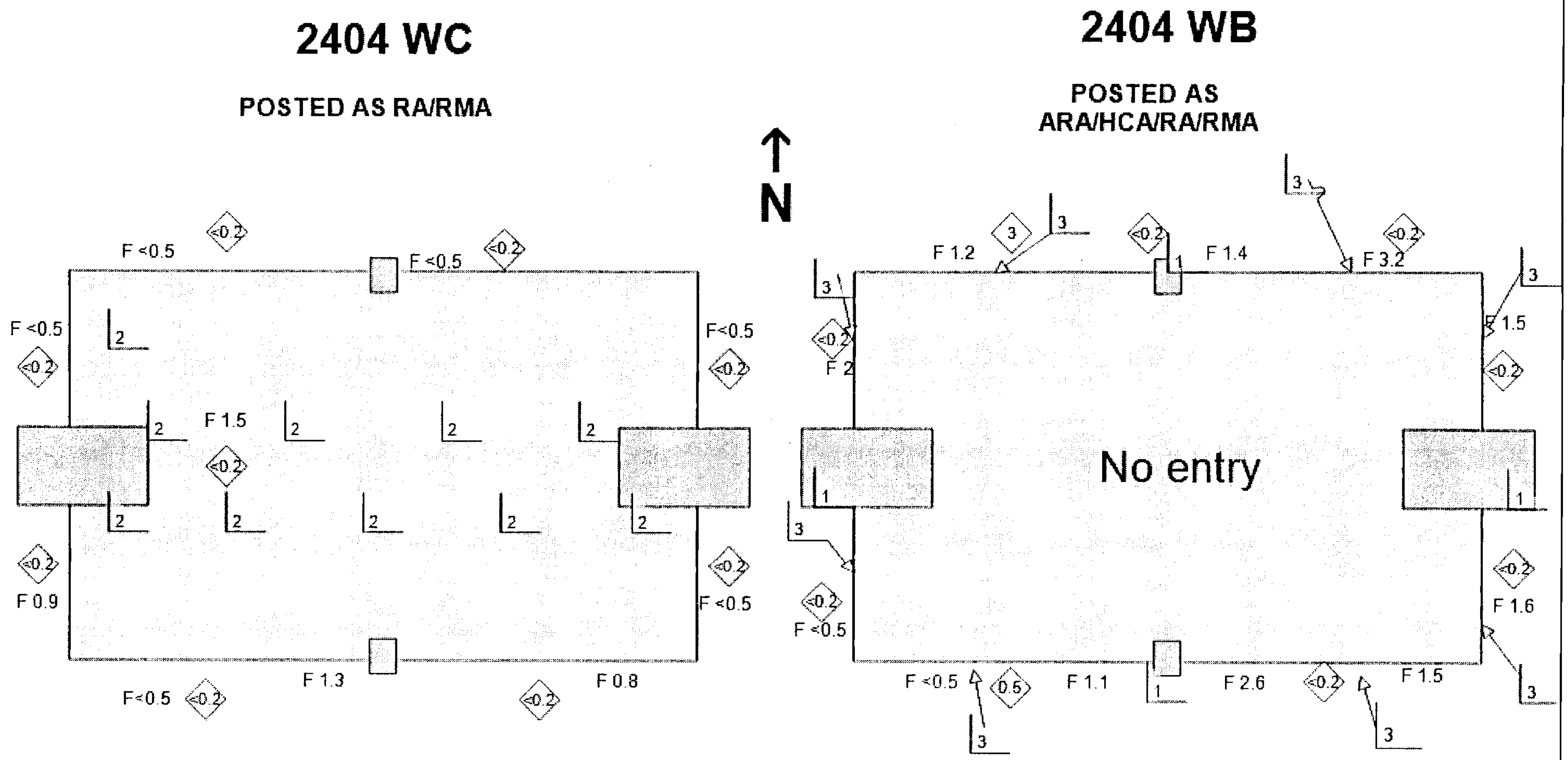
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101266

Map/Sketch



Map Name: 404 WB & 2404 WC	Map Description: WP-SH003 & WP-SH004

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 05/06/2011 02:30:22

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101266

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0292	DTHNC-0890	0.1
PAM	ACHN2-0412	DTHN3-0300	0.16
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Cleveland, Shon	h2820202	5/6/11	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 11 2011	[signature]

History

2011-05-06 02:30:22 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101269

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	0900 / 1530	2404 / WB / na / WRAP	WP-574 Rev. 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: wrap -rp-11-03
- [ ] Other: N/A

Description of Work/Comments:

Entry made into 2404 WB to confirm levels of contamination on the floor inside the HCA/ARA.

Comments: All areas surveyed and found contaminated were covered with duct tape and marked with the counts and the dates on the outside of the tape. SEE WP-1101259 FOR ALL AIR SAMPLE RESULTS. WHITE AREA ON MAP IS AREA SURVEYED NEXT to FORKLIFT AND BELOW RAMP.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct frisk of floor	N/A	0	N/A	200	N/A†	6000†	N/A	6	N/A†	N/A†
C2	Direct frisk on floor	N/A	0	N/A	200	N/A†	3600†	N/A	6	N/A†	N/A†
C3	Direct frisk on floor.	N/A	0	N/A	200	N/A†	600†	N/A	6	N/A†	N/A†
C4	Direct frisk on floor	N/A	0	N/A	800	NA†	3600†	N/A	6	N/A†	N/A†
C5	LAW OF FLOOR FROM END OF RAMP TO THE NORTH END OF THE WHITE TARP	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C6	DIRECT FRISK OF FLOOR TO END OF WHITE TARP AFTER DECON	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	N/A†

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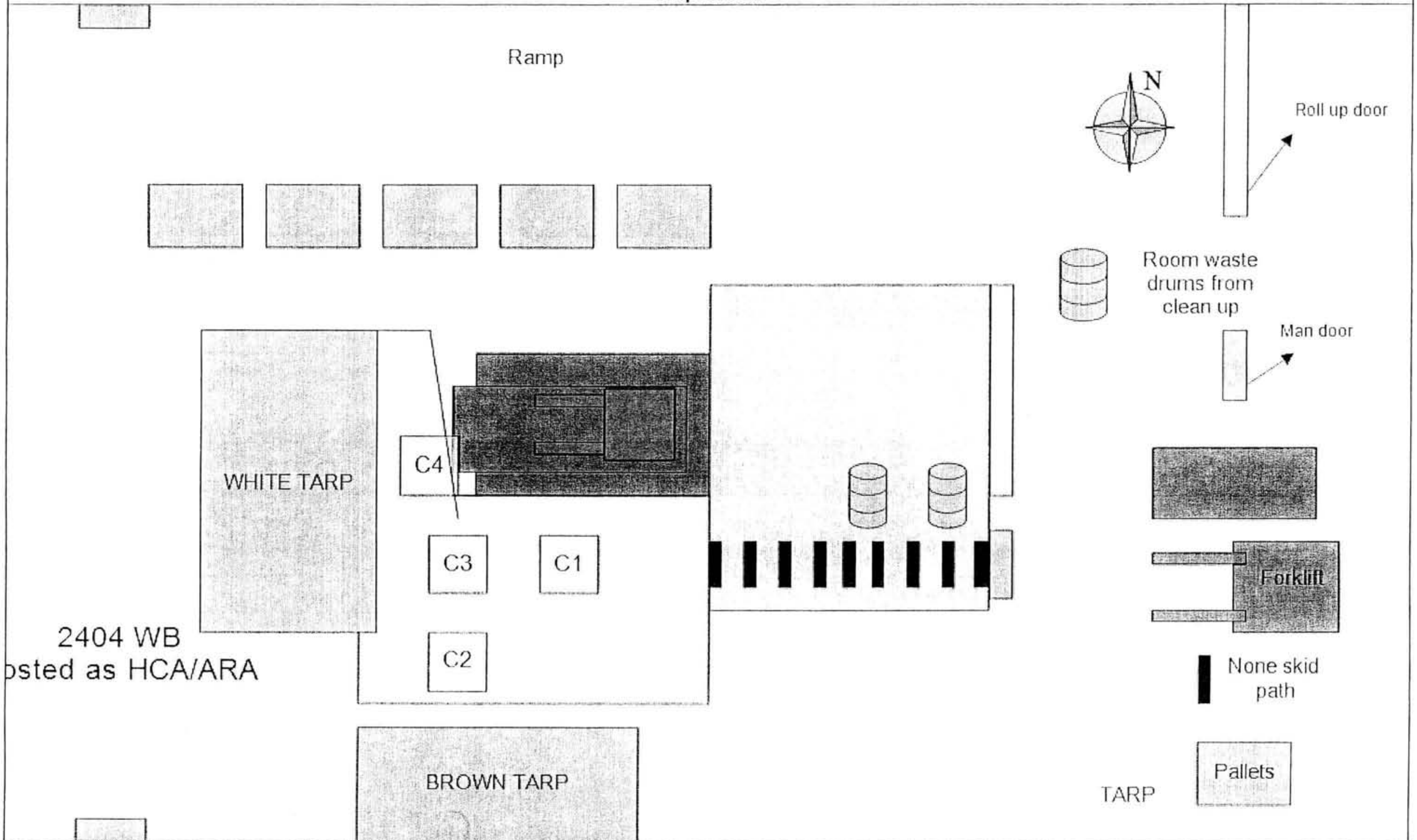
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101269	

Map/Sketch



Map Name: SURVEY OF 2404 WB | Map Description: SURVEY OF FLOOR BELOW RAMP

Legend	# Direct Measurement	Air Sample	Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101269

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
colling, mark	h0062446	5/18/11	Mark Colling

Reviewers

Name	HID	Date	Signature
C Wielang	619761Y	MAY 23 2011	C W

History

2011-05-16 10:20:32 - Submitted
2011-05-18 08:24:44 - UnSubmitted fix
2011-05-18 08:28:35 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101271

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	0900 / 1530	2404 / WB / HCA/ARA / WRAP	WP-574 Rev. 4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-003
- ☐ Other: N/A

Description of Work/Comments:

Entry made into 2404 WB to confirm levels of contamination on the floor inside the HCA/ARA.

Comments: All areas of contamination detected with direct surveys were covered with duct tape and marked with the counts and the date on the outside of the tape. Unable to perform beta gamma survey inside the building due to background too high.

Tech smear was not taken to the count room for analysis due to being accidentally discarded at step off pad.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

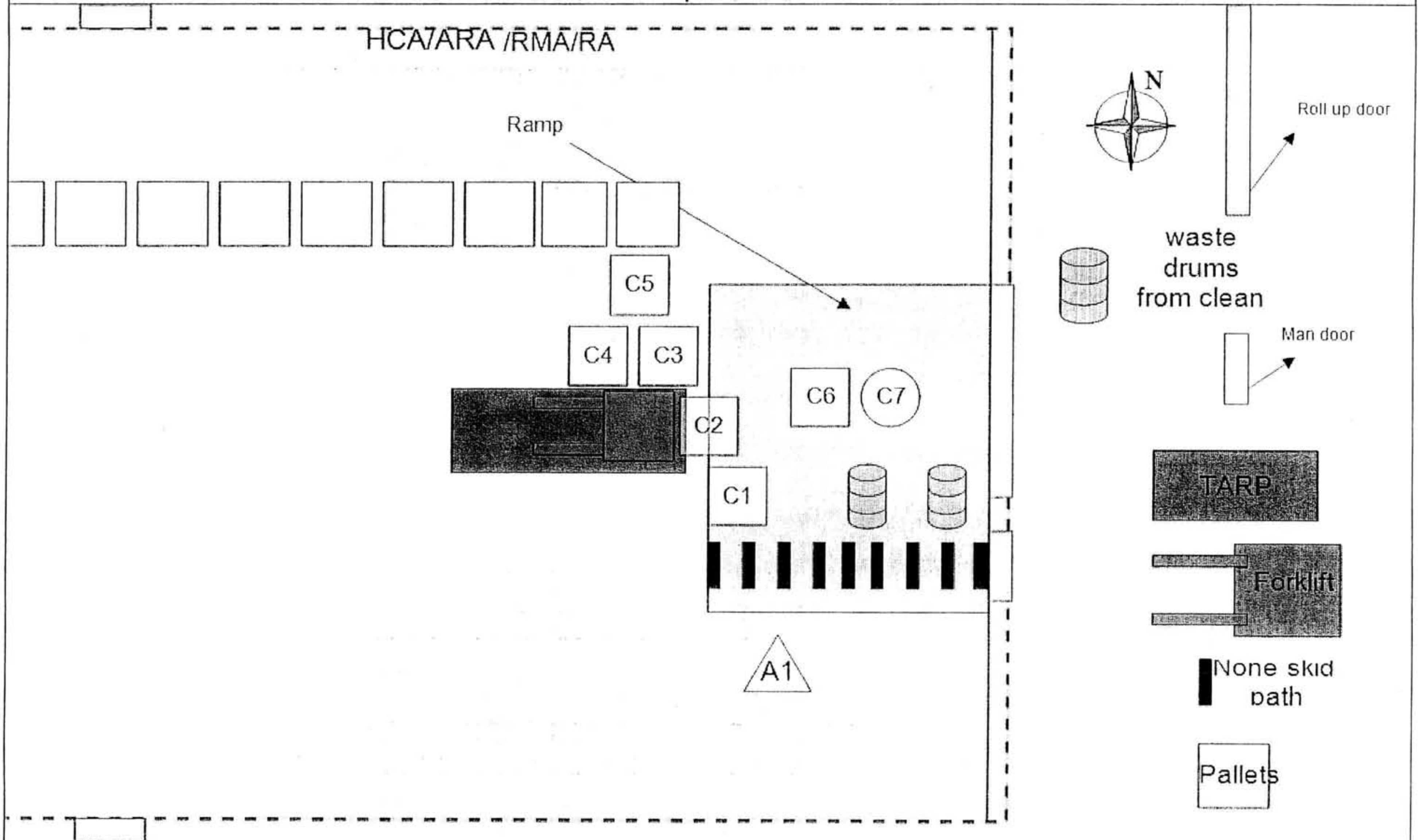
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct frisk of floor near the tarp at end of forklift	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C2	Direct frisk on floor near forklift back right tire on right hand side	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C3	Direct frisk on floor behind forklift in front of tarp.	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C4	Direct frisk on floor near the forklift on the right side	N/A	0	N/A	800	NA†	4800†	N/A	6	N/A†	N/A†
C5	Direct frisk of floor in isle way between the forklift and the row of drums on the north/east side of building	N/A	0	N/A	1200	N/A†	7200†	N/A	6	N/A†	N/A†
C6	Direct frisk on the ramp	N/A	0	N/A	2000	N/A†	12,000†	N/A	6	N/A†	N/A†
C7	Took tech smear on the 12,000 dpm/probe area direct found on the ramp	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	1200†

Map/Sketch



Map Name: 2404 WB

Map Description: VARIFICATION SURVY OF CONTAMINATION LEVELS ON THE FLOOR NEAR THE FORKLIFT AND RAMP

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101271

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

A1	GWP1101259	A2	WP-23707

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
RADECO	H-ASRD7-3344	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5-23-2011	Judith Ho

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 23 2011	CW

History

2011-05-11 08:20:55 - Submitted
2011-05-15 12:00:59 - UnSubmitted CORRECTIONS MADE
2011-05-15 12:11:28 - Submitted
2011-05-17 10:18:28 - UnSubmitted corrections made
2011-05-23 03:29:15 - Submitted
2011-05-23 03:36:02 - UnSubmitted corrections made
2011-05-23 03:36:17 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101272	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/6/2011	0800 / 1400	200 WEST / 2404 Complex / 2404 WB /	RWP-574/ REV.4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

Survey of Forklift (ID Number HO-75-4878) used in 2404 WB recovery effort.
See RSR WP-1101259 for Air Sample and Lapel Information.

Comments: Tech Smears were counted in the field and disposed of. See RSR # WP-1101271 for contamination on floors around fork lift.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct on Forklift Brake Pedal	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C2	Direct on Fork Lift Brake Pedal after Decon	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	Direct & Smears on Fork Lift Seat (4 Smears)	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	<20†
C4	Direct on Fork Lift Deck	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C5	Direct on Fork Lift Deck after Decon	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C6	Direct on Fork Lift Wheels	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C7	Direct & Smear on Fork Lift Wheel after Decon	N/A	0	N/A	75	N/A†	<500†	N/A	6	N/A†	120†
C8	Directs & Smears on Cadwell(2 Smears), Steering Wheel(4 Smears) & Forks	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	<20†
C9	Directs on other Accesible Areas of the Forklift	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†

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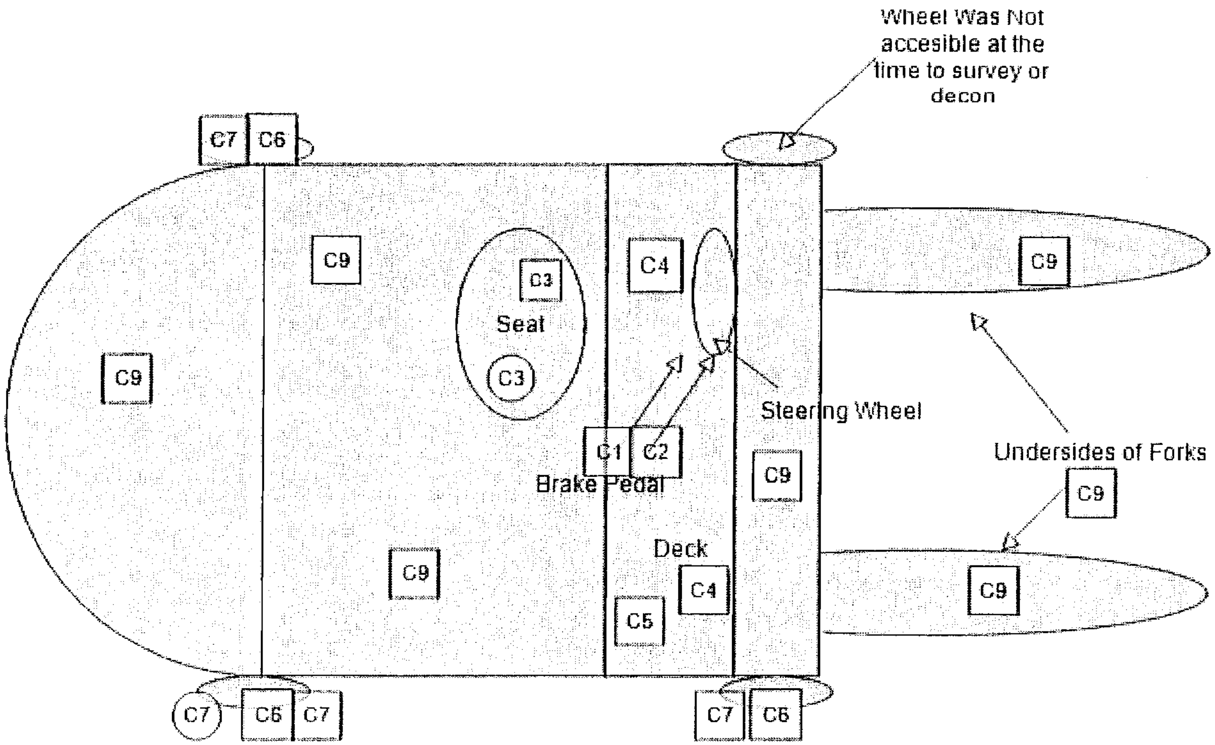
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101272	

Map/Sketch



Map Name: WB Forklift			Map Description: Survey of Fork Lift in 2404 WB					
Legend: # Direct Measurement	Air Sample	# Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101272

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0146	DTHN3-0179	0.16
PAM	ACHN2-0010	DTHN3-0737	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	5-17-11	[signature]

Reviewers

Name	HID	Date	Signature

History

2011-05-10 02:14:32 - Submitted
2011-05-12 01:25:21 - UnSubmitted
2011-05-12 01:26:03 - Submitted
2011-05-16 11:04:42 - UnSubmitted More info
2011-05-17 10:18:04 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101275

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	0800 / 2000	200 WEST / 2404 WB / 2404 WB / Outside 2404 WB East Entry	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01; RSP-WP-10-002-02 & RSP-WP-06-008
  - Released to: RadCon & Operations
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 & WRAP-RSP-002/5
- [ ] Other: N/A

Description of Work/Comments:

Outside support for 2404 WB recovery team including outside air samples for morning and afternoon entries and release of equipment from the HCA/ARA/RA from both entries:

Comments: Followed Release Survey Plans: RSP-WP-10-001-01; RSP-WP-10-002-02 & RSP-WP-06-008-05

Beta/Gamma surveys for tech smears and LAWs not counted in the CA/RBA due to high Beta/Gamma background. Direct surveys for Beta/Gamma on HCA/CA equipment (following release for Alpha based on Tech Smears, LAWs and directs) performed in shielded area outside the CA/RBA. LAWs of CA floor not counted for Beta/Gamma when tech smears counted to <1000 dpm/100 cm2

Two (2) air samples covering both the AM and PM entries are associated with this RSR. All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Area Dose Rate in CA and RBA Outside 2404 WB	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose Rate of 2 Laundry Bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D3	Dose Rate of 2 Laundry Bags	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech smears of 10 Lapel pumps (1 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	Direct surveys and LAWs (~90%) of 10 Lapel pumps	100	0	100	0	<5000†	<100†	10	6	NA/LAW†	<D/LAW†
C3	Tech smears of 10 Lapel heads (1 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C4	Direct surveys and LAWs (~90%) of 10 Lapel heads	100	0	100	0	<5000†	<100†	10	6	N/A/LAW †	<D/LAW†

CoA

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	Tech smears of 6 PAPR masks (2 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	Direct surveys and LAWs (~90%) of 6 PAPR Masks	100	0	100	0	<5000†	<100†	10	6	N/A/LAW †	<D/LAW†
C7	Tech smears on 11 PAPR units (4 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C8	Direct surveys and LAWs (~90%) of 11 PAPR units	100	0	100	0	<5000†	<100†	10	6	N/A/LAW †	<D/LAW†
C9	Tech smear of Map brought out of HCA (1 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C10	Direct survey and LAW (~95%) of Map brought out of HCA	100	0	100	0	<5000†	<100†	10	6	<D/LAW†	<D/LAW†
C11	Tech smears of 2 laundry bags from CA (1 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C12	LAWs (~50%) of 2 laundry bags from CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

Contamination Measurements (Continued); † Manually Calculated by RCT

Map/Sketch

AM Entry Lapels
4551, 2694, 4095, 4546, 4554, 4094, 4547, 4093, 4544, 4092

AM Entry PAPR Body/Battery
715/818,713/801,718/807,716/817,703/806,719/815,707/800,717/809,713/801,709/820,705/814

AM Entry Masks
Tight fitting face pieces for the PAPR
#901,994,981,920,923,1004

PM Entry Lapels
452, 458, 459

PM Entry PAPR Body/Battery
711/819, 720/805, 701/804

PM Entry Masks
920

INSTRUMENTS:

PAMs:
Inside CA
ACHN2-0468/DTHN3-0525
ACHN2-0209/DTHN3-1011
ACHN2-0506/DTHN3-0581

PAMs: Inside HCA
ACHN2-0438/DTHN3-1050
ACHN2-0039/DTHN3-0591
ACHN2-0615/DTHN3-0658
ACHN2-0146/DTHN3-0179
ACHN2-0412/DTHN3-0300

LUDLUM 2360s: Inside RBA
SCLL8-0379/DTLLP-0483
SCLL8-0482/DTLLP-0589

RADIOs:Inside HCA
903819
903344
903329
903326

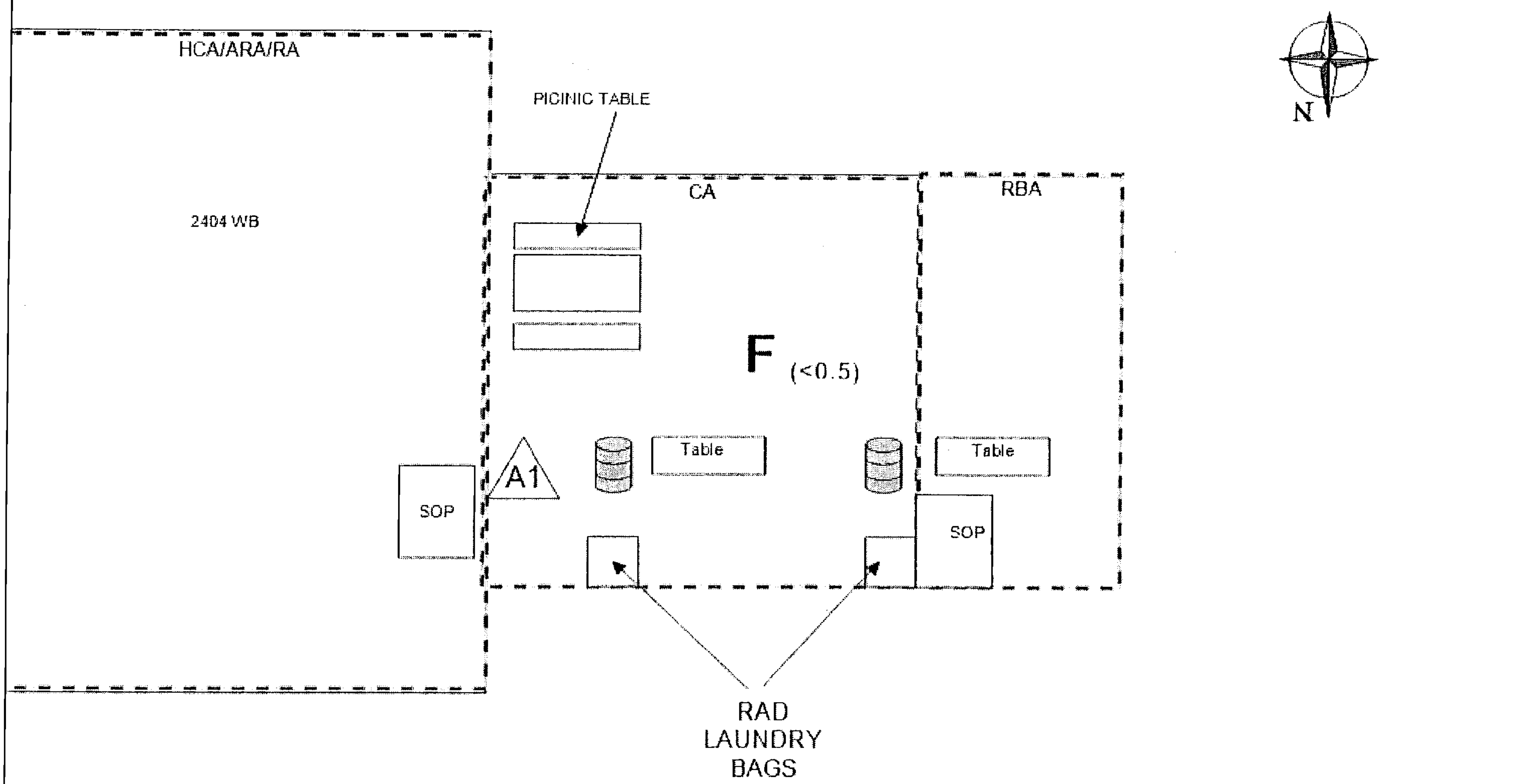
BWCP: Inside the HCA
ICHN1-0001

Map Name: EQUIPMENT	Map Description: RELEASED FROM CA

Legend	# Direct Measurement	# Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

Map/Sketch



Map Name: East End of 2404 WB	Map Description: East End of 2404 WB Including Exit, CA and RBA

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101275

Air Sample Measurements

A1	GWP-1101275

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
BBCP	ICHN2-0009	N/A	N/A
PAM	ACHN2-0468	DTHN3-0525	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0506	DTHN3-0581	0.16
GM	CMEBB-0027	DTEB5-0177	0.10
GM	CMEB3-0072	DTHNC-0958	0.10
Goosneck Air Sampler	12-RE-13597	N/A	N/A
2360	SCLL8-0482	DTLLP-0589	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5-17-11	M. McKenna

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 17 2011	[illegible]

History

2011-05-11 04:17:34 - Submitted
2011-05-15 07:31:16 - UnSubmitted Correction
2011-05-15 07:32:46 - Submitted
2011-05-15 09:00:43 - UnSubmitted Correction
2011-05-15 09:01:08 - Submitted
2011-05-16 07:29:38 - UnSubmitted Correction
2011-05-16 07:30:35 - Submitted
2011-05-16 03:30:39 - UnSubmitted Correction
2011-05-16 03:41:07 - Submitted
2011-05-17 07:12:00 - UnSubmitted Correction
2011-05-17 07:23:14 - Submitted
2011-05-17 09:45:43 - UnSubmitted Correction
2011-05-17 10:12:17 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101276

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1100 / 1400	~~2336 W~~ 2000 W / 2404 / WB / WRAP (initialed 5-24-11)	WP-574 Rev. 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

First entry into WB on SCBAs.

Re-verification and decon of contamination on the floor in the entry way on the ramp inside 2404 WB.

Comments: Performed re-survey(direct only) in area that was surveyed on 5/6/11 refure to RSR WP-1101271 to verify and to perform decon of affected areas. Operater was assisting the RCT in decon activity found from the entry before. Upon re-survey found additonal spots of contamination with direct. Was unable to complete decon of affected areas due to operations support exited the area. Prior to RADCON exiting, the contaminated areas where covered with duct tape and noted with the levels and the date until decon could be performed.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

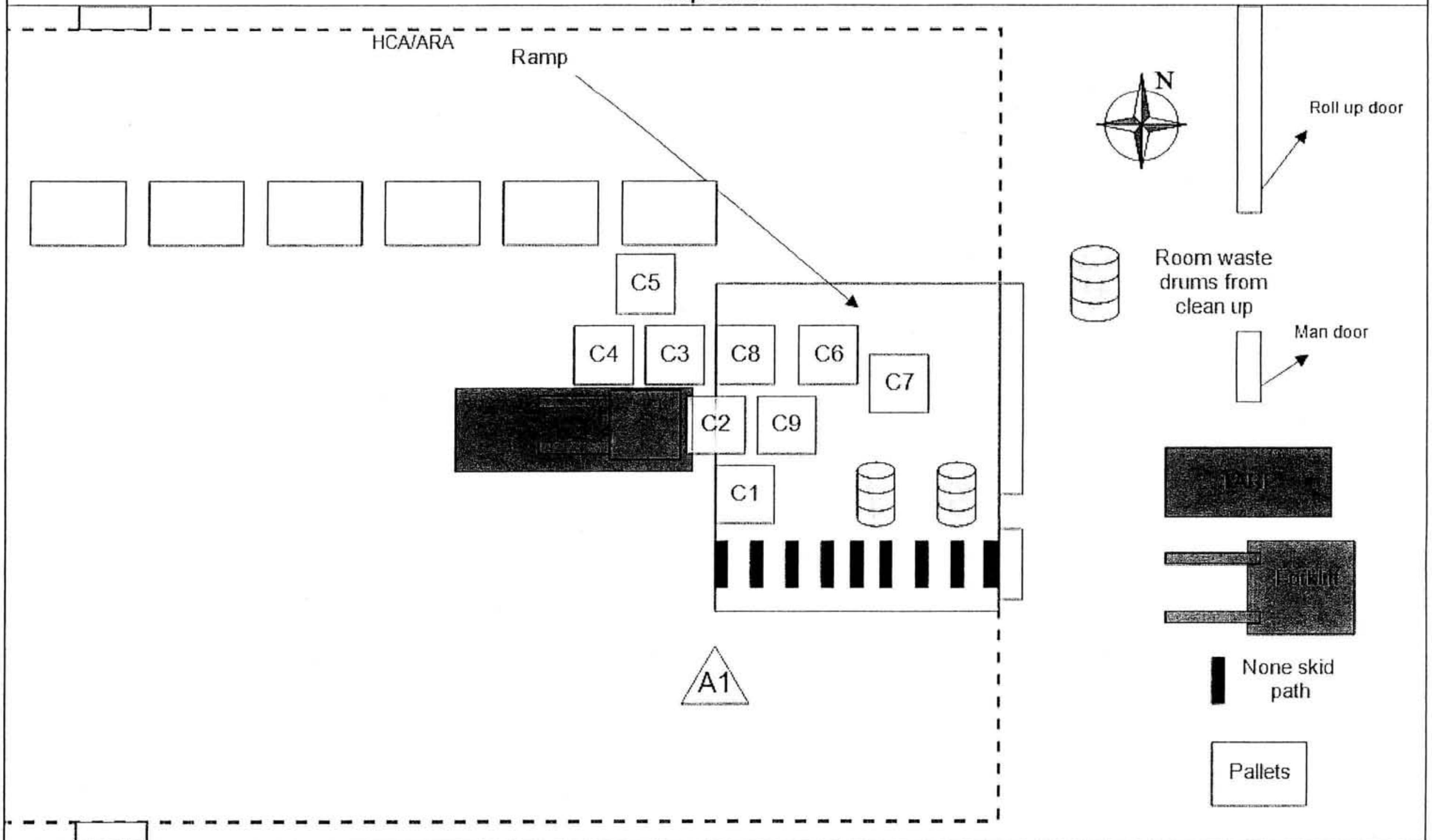
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct frisk of floor near the tarp at end of forklift	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C2	Direct frisk on floor near forklift back right tire on right hand side	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C3	Direct frisk on floor behind forklift in front of tarp.	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C4	Direct frisk on floor near the forklift on the right side	N/A	0	N/A	800	NA†	4800†	N/A	6	N/A†	N/A†

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	Direct frisk of floor in isle way between the forklift and the row of drums on the north/east side of building	N/A	0	N/A	1200	N/A†	7200†	N/A	6	N/A†	N/A†
C6	Re-Direct frisk on the ramp post decon	N/A	0	N/A	2000	N/A†	<500†	N/A	6	N/A†	N/A†
C7	Re-directed the area on the ramp post decon of area.	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	NA†
C8	Direct on the floor near the C2 direct.	N/A	0	N/A	600	N/A†	3600†	N/A	6	N/A†	N/A†
C9	direct on the floor near the back of the forklift near the right side	N/A	0	N/A	400	N/A†	2400†	N/A	6	N/A†	N/A†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101276

Map/Sketch



Map Name: 2404 WB

Map Description: RE-SURVEY OF AREAS ON THE FLOOR FOUND ON 5/6/11

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101276

Air Sample Measurements

A1	gwp1101277	A2	WP23722

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0438	DTHN3-1050	0.16
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
Gooseneck	12-RE-12597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5.24.11	Judith Hos

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 24 2011	C. W.

History

2011-05-11 08:53:47 - Submitted
2011-05-15 12:14:30 - UnSubmitted corrections made

2011-05-15 12:34:25 - Submitted
2011-05-17 09:58:03 - UnSubmitted CORRECTIONS MADE
2011-05-24 08:45:47 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101277

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1130 / 1700	200 WEST / 2404 / WB /	RWP-574/ REV.4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB Recovery Entry

Comments: RECOVERY TEAM ENTERED 2404 WB TO DIRECT SURVEY FOR DECONTAMINATION. ALL AREAS WERE DECONNED TO <100dpm/100cm2 DIRECT ALPHA EXCEPT FOR C1.
NO BETA/GAMMA SURVEYS PERFORMED DUE TO HIGH BACKGROUND.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

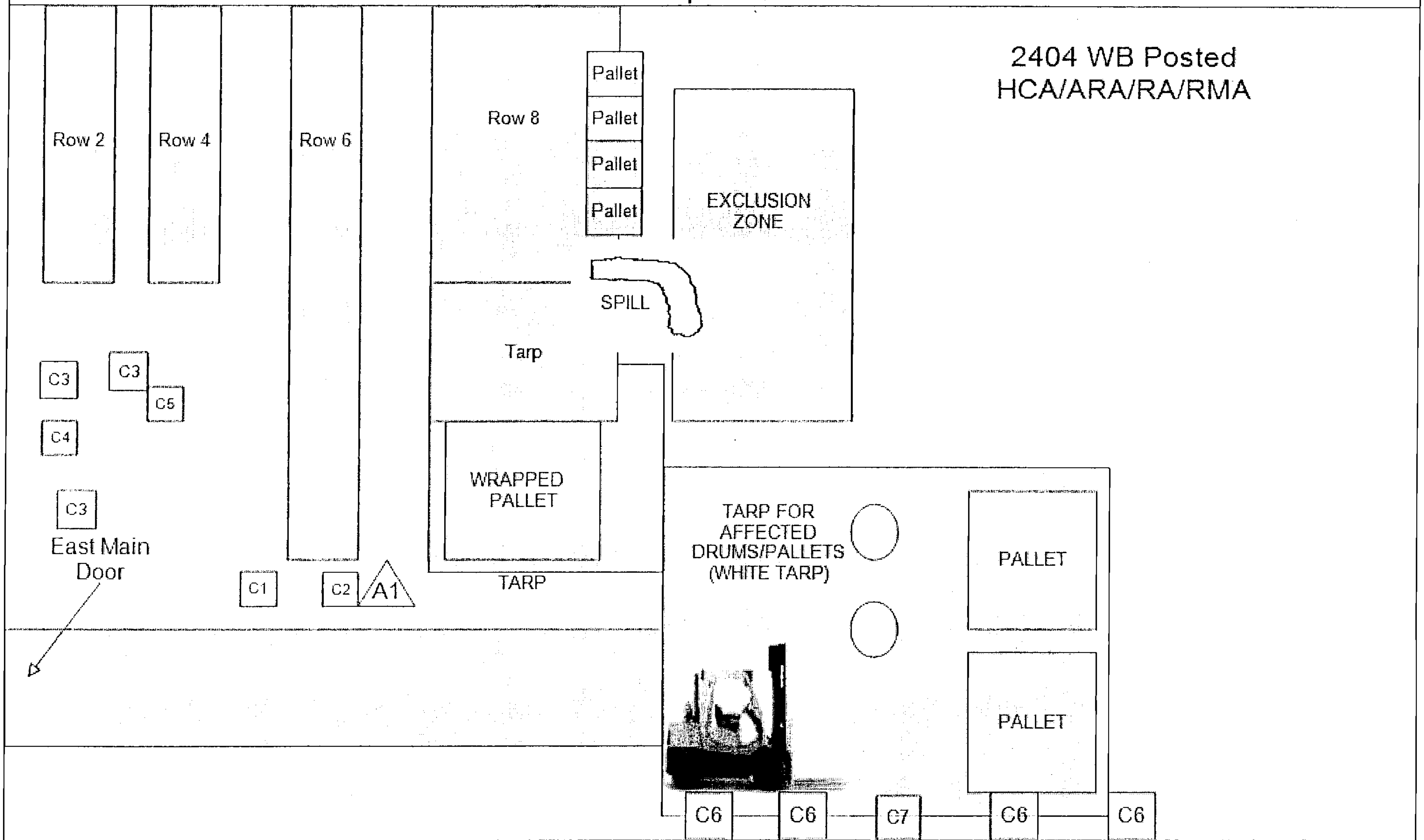
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	DIRECTS ON FLOOR SOUTH EAST CORNER BY RAMP PRE & POST DECON(SMALL HOLE IN THE FLOOR BY RAMP)	N/A	0	N/A	150	N/A	900	N/A	6	N/A	N/A
C2	DIRECTS ON FLOOR SOUTH EAST CORNER PRE DECON	N/A	0	N/A	350	N/A	2100	N/A	6	N/A	N/A
C3	DIRECTS ON FLOOR SOUTH EAST CORNER PRE DECON	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C4	DIRECTS ON FLOOR SOUTH EAST CORNER PRE DECON	N/A	0	N/A	250	N/A	1500	N/A	6	N/A	N/A
C5	DIRECTS ON FLOOR SOUTH EAST CORNER PRE DECON	N/A	0	N/A	300	N/A	1800	N/A	6	N/A	N/A
C6	DIRECTS ON NORTH SIDE FLOOR OF WHITE TARP PRE DECON	N/A	0	N/A	160	N/A	960	N/A	6	N/A	N/A
C7	DIRECTS ON NORTH SIDE FLOOR OF WHITE TARP PRE DECON	N/A	0	N/A	340	N/A	2040	N/A	6	N/A	N/A
C8	DIRECTS OF FLOOR POST DECON	N/A	0	N/A	0	N/A†	<100†	N/A	6	N/A†	N/A†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101277	Page 2 of 3

Map/Sketch



Map Name: WB RECOVERY ENTRY

Map Description: WB RECOVERY ENTRY

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101277	

Air Sample Measurements

A1	GWP-1101277	A2	WP-23,722

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0039	DTHN3-0591	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0146	DTHN3-0179	0.16
TeNNELEC	S5-XLB 0403421	1924	β0.42 α0.27
RADECO	H-ASSA1-664	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	5-13-11	[illegible]

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 16 2011	[illegible]

History

2011-05-13 01:30:04 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101283

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1400 / 1600	2336 W / 2404 WB / N/A / Southeast Interior Corner	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB Recovery PM Entry Including: Inside air sample and survey/decontamination of 2 areas inside 2404 WB.

Comments: Air sampler was placed in the location shown on map since most work on this recovery plan encompassed the entire area indicated on the survey map. In addition, all workers in the HCA/ARA/RA in 2404 WB wore lapel air samplers on their exterior PPE and were counted separately on Tennelec B: Batch No. WP-23724.

Direct surveys during entry did NOT include Beta/Gamma due to high background Beta/Gamma readings.

Instrument and other equipment released from HCA/CA on separate survey (#WP-1101284)

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Highest direct reading on floor prior to decontamination	N/A	0	N/A	1000	N/A†	6000†	N/A	6	N/A†	N/A†
C2	Highest direct reading on floor after decontamination	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	Direct and LAWs of 40 foot area North of Contamination site near staged drums	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†

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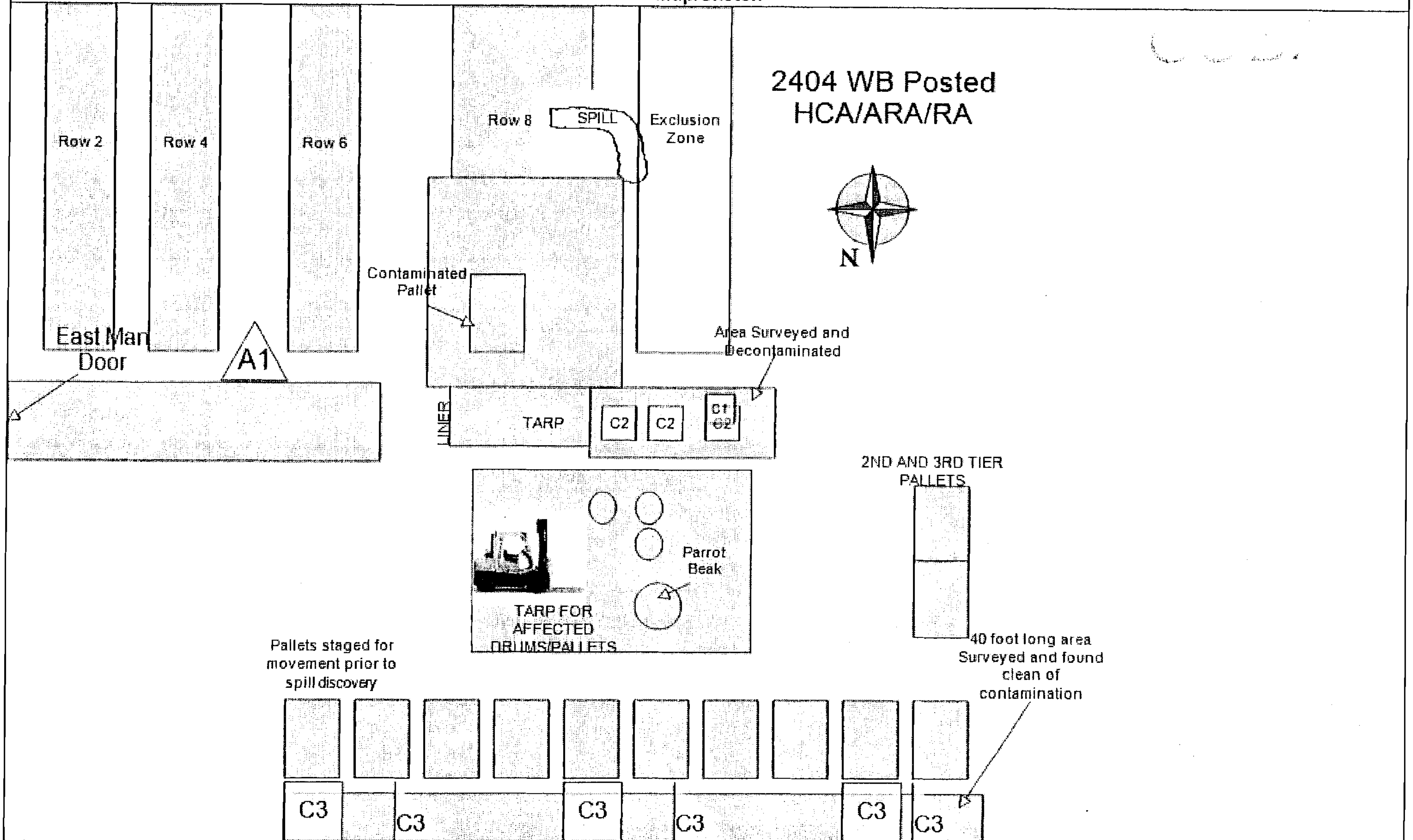
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101283

Map/Sketch



Map Name: WB Recovery	Map Description: WB Recovery 2nd Entry 5/9/11

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

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Air Sample Measurements

A1	GWP-1101283	A2	WP-23724

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0039	DTHN3-0591	0.16
PAM	ACHN2-0438	DTHN3-1050	0.16
RADECO	H-ASSA1-664	N/A	N/A
Tennelec B	S5-CLB 0403421	1974	β0.42 α0.27

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/17/11	M. McKenna
colling, mark	h0062446	5/17/11	M Colling

Reviewers

Name	HID	Date	Signature
C Wielang	0197614	MAY 17 2011	[illegible]

History

2011-05-15 09:06:01 - Submitted
2011-05-17 12:18:56 - UnSubmitted Correction
2011-05-17 12:20:18 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101284

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1540 / 1940	2336 W / 2404 / WB / WRAP	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON TECH & OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-003
- [ ] Other: N/A

Description of Work/Comments:

Release of various items from contaminated area (CA) from 2404 WB second entry in the afternoon. This tasked carried over into swing shift.
Also performed the survey inside the CA to verify posting.

Comments: Performed (3) drum surveys on #0082452,#0082453,and #0082622. These drums are from clean up activity from the CA.
Performed direct beta gamma survey on the items released. Moved items to a lower background area to satisfy required background levels. Unable to perform beta- gamma survey of large area wipe inside CA due to high background.

Smears counted IAW WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate performed on the three drums from the WB clean up.	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate performed on the three drums from the WB clean up.	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed (40) smears and (20) direct frisk inside the CA for confirmitory survey for contamination, no contamination detected	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C2	Performed three drum surveys on waste drums from WB clean up. Took (4) tech smears on each drum	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C3	Performed smear and direct survey on all mask (1) smear each	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†
C4	Performed smears and directs survey on all respiratory equipment bodies and batteries. (2) smears each	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†
C5	Performed smears and directs on all lapels (2) smears each	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†
C6	Performed smears and directs on all instruments used in the CA/HCA, (2) tech smears taken. (1) on probe and (1) on the body	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†
C7	Performed smears and directs on all radio (1) smear on each.	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†
C8	Performed smears and directs on all tools used in the CA. (1) smear on each item	100	0	N/A	N/A	<5000†	<100†	10	6	<1000†	<20†

COPY

Map/Sketch

Items released
from the
HCA/ARA

Instruments
Pam's:

BODY / PROBE
ACHN2-0411/DTHN3-0862
ACHN2-0039/DTHN3-0591
ACHN2-0438/DTHN3-1050
ACHN2-0506/DTHN3-0581

Radio's
903329
903344
903326

Mask
901 1
994 2
981 3
923 4
1004
703

Tools
utility knife
dike/side
cutters
two sets of
knee pads
that where
whorn on
inside of
PC's

Lapel's
Numbers
4551 4554 4544
2694 4094 4092
4095 4547
4546 4093

PAPR Unit
715 718
716 703
719 707
717 713
709 705

Respiratory
batteries
818 807
817 806
815 800
809 801
820 814

Map Name: 2404 WB	Map Description: Items released from the CA

Legend # Direct Measurement | Air Sample | # Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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Map/Sketch

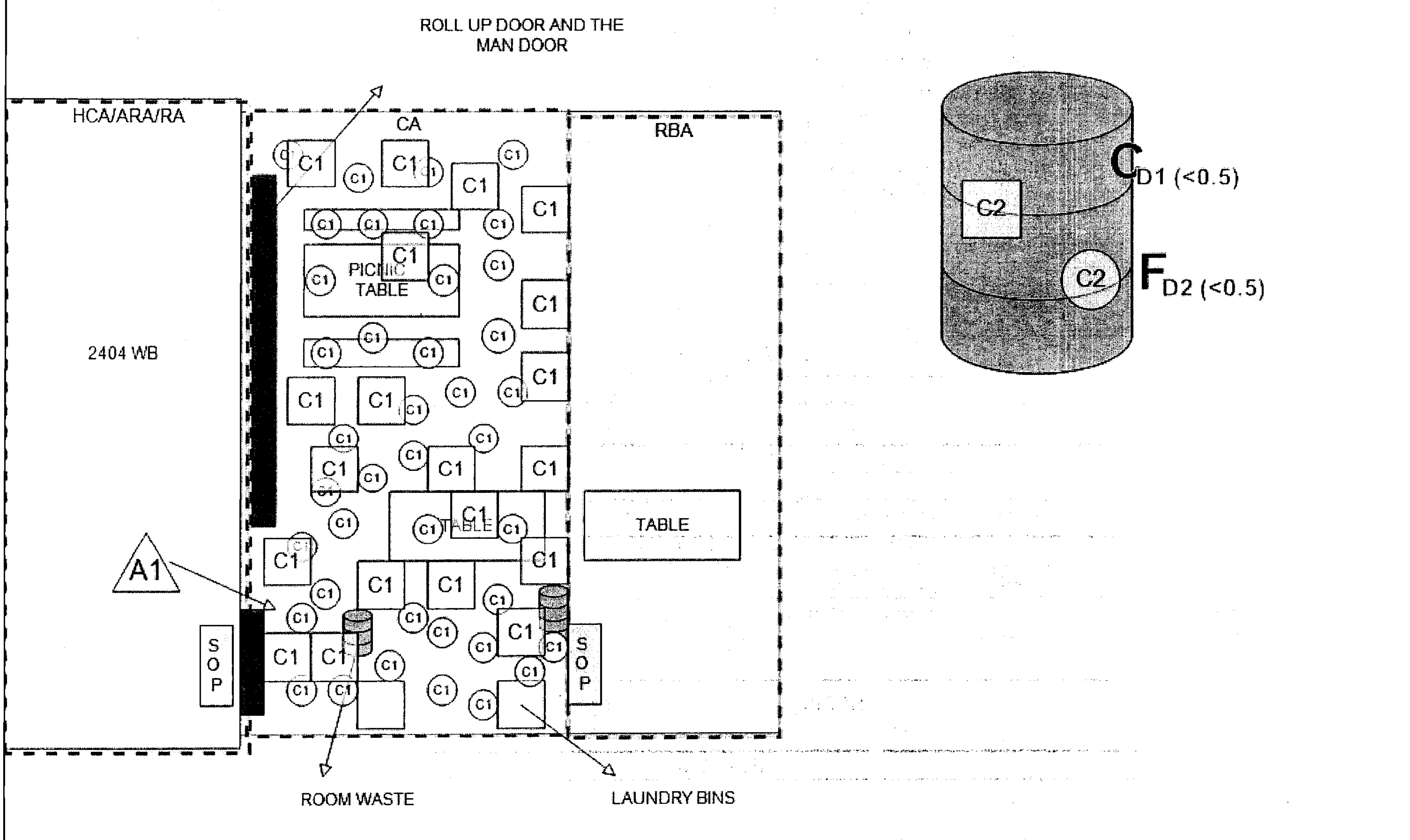
Items released
from the
CA

PAMs
BODY / PROBE
ACHN2-0468/DTHN3-0525
ACHN2-0412/DTHN3-0300

Survey of three drums
#0082542
0082453
0082622

Map Name: 2404 WB			Map Description: Items released						
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB	Map Description: Survey of CA and the three drums

Legend | # Direct Measurement | Air Sample | # Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101284

Air Sample Measurements

A1	gwp1101275

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0468	DTHN3-0525	0.16
GM	CMEBB-0027	DTEB5-0177	0.10
2929	SCLL4-0067	DTLLC-0077	β0.38α0.35
CP	ICEB3-0295	N/A	N/A
Gooseneck	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5.23.2011	Judith Hosier

Reviewers

Name	HID	Date	Signature
C. Delaney	6197614	MAY 23 2011	[illegible]

History

2011-05-15 01:03:06 - Submitted
2011-05-17 09:58:45 - UnSubmitted CORRECTIONS MADE
2011-05-23 03:24:01 - Submitted
2011-05-23 03:32:31 - UnSubmitted corrections made
2011-05-23 03:32:42 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101285

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1600 / 2300	200W / 2404 Complex / 2404 WB/WC /	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: Drum movements,WB door/vent surveys,WB RBA survey,WB laundry and waste drums
- [ ] Other: N/A

D CW
5-11-11

Description of Work/Comments:
WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Drums intended for movement (56) from WC to 2336.
Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB. Performed a verification survey of the exterior RBA of WB. Surveyed 2 waste drums and 6 laundry bags from the WB exterior CA.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. SMEARS WERE COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate on the outside of 2404 WB	F	1.2	1.2	2	1	1.5	2.7	2.7
D2	Highest dose rate on the outside of 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	Highest 30 cm dose rate on Drum movements from WC to 2336	F	6	6	2	1	<0.2	6	6
D4	Highest GA dose rate in 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	2 waste drums and 6 laundry bags from WB exterior CA	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D6	2 waste drums and 6 laundry bags from WB exterior CA	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed large area wipe on the floor in 2404 WC (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	All law's on drum movements (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C3	Smears of all exhaust vents of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	Smears of all exterior doors of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C5	All law's on WB 2 waste drums and 6 laundry bags	150	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C6	Smears on WB 2 waste drums and 6 laundry bags	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C7	WB RBA survey, 20 smears on ground area	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C8	6 laundry bags from WB	150	0	150	0	<1000†	<20†	10	10	N/A†	N/A†

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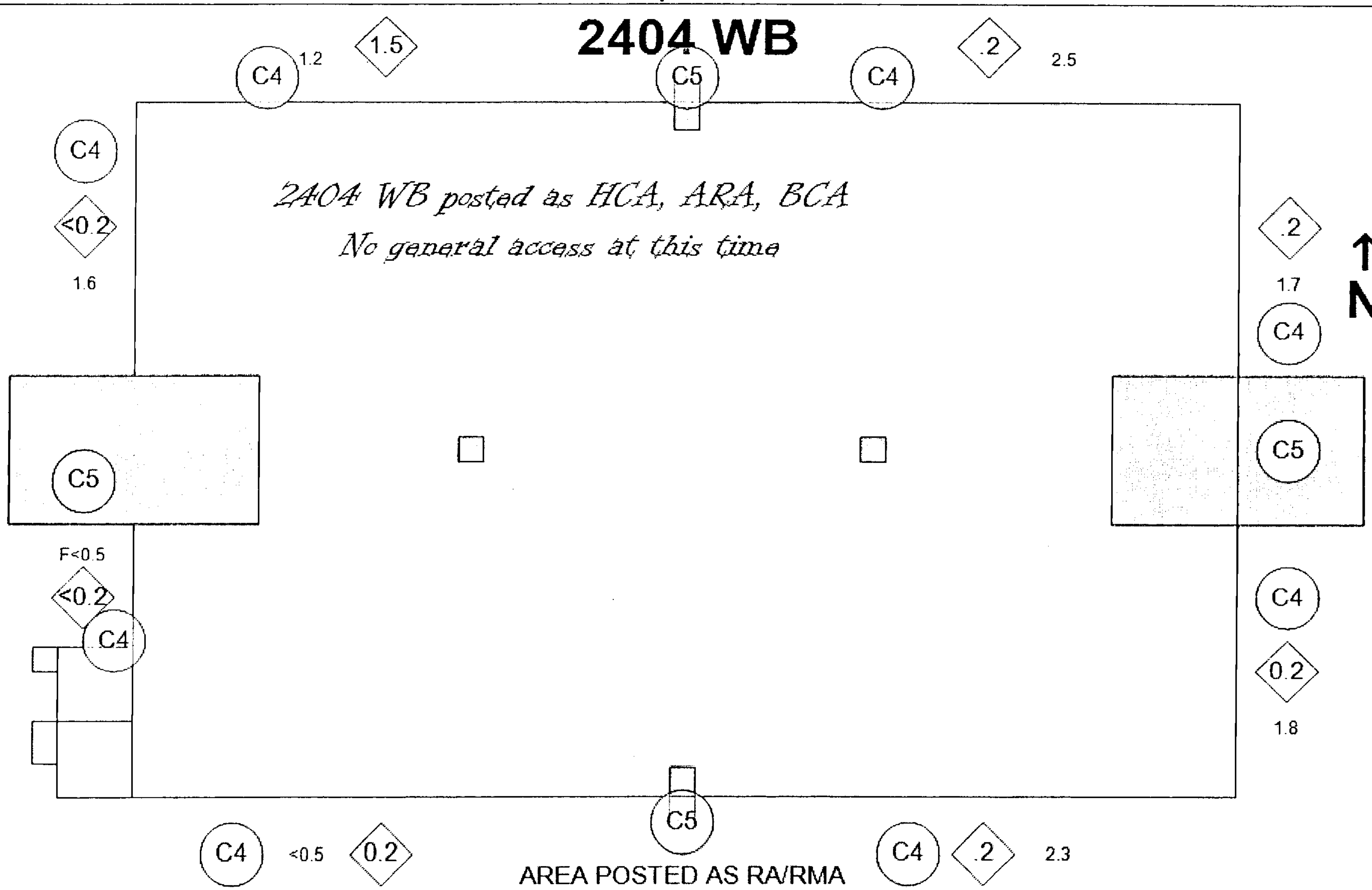
Map/Sketch



Map Name: 2404WB			Map Description: WP-SH003						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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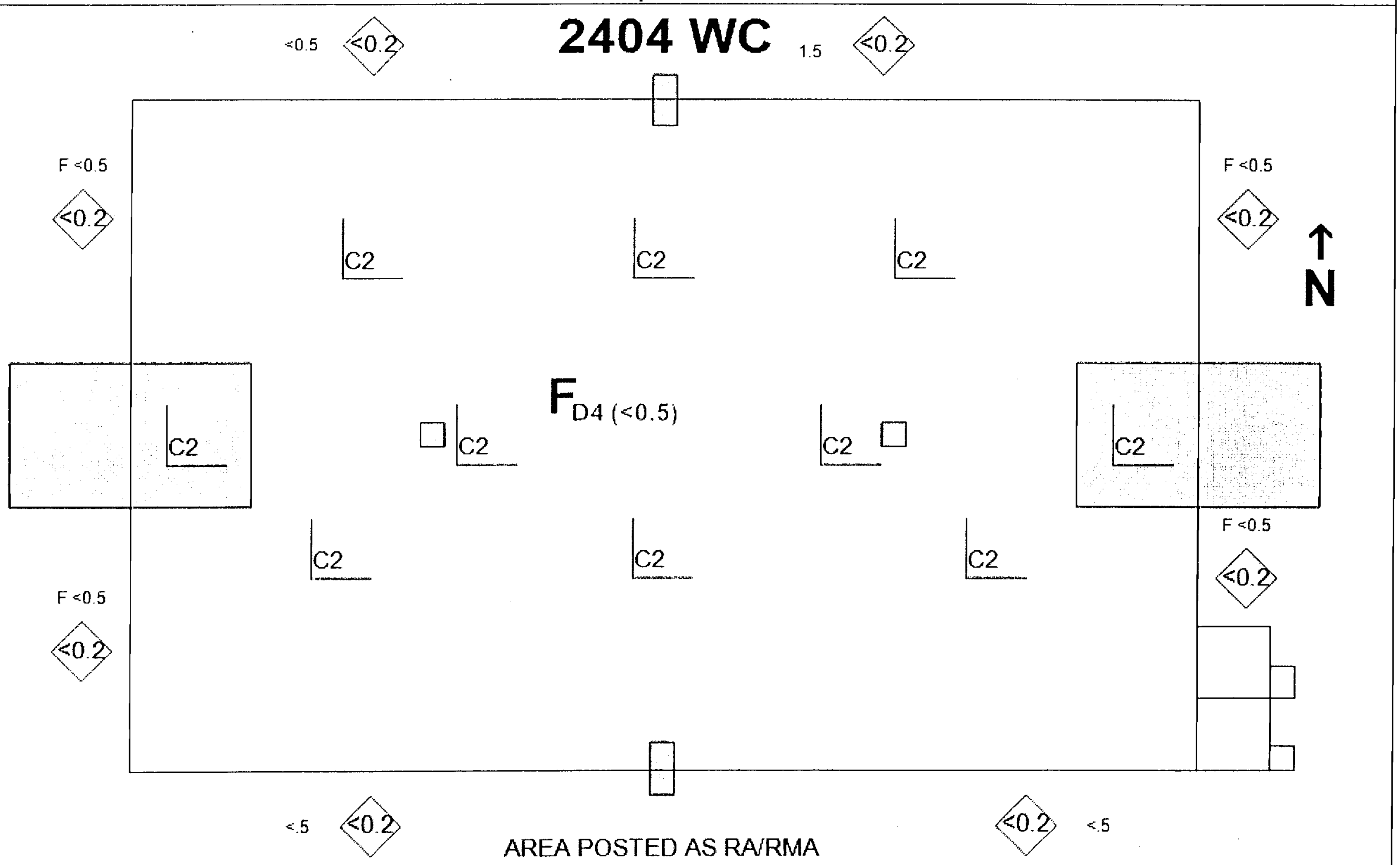
Map/Sketch



Map Name: 2404 WC				Map Description: WP-SH004					
Legend	[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/09/2011 10:48:43 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

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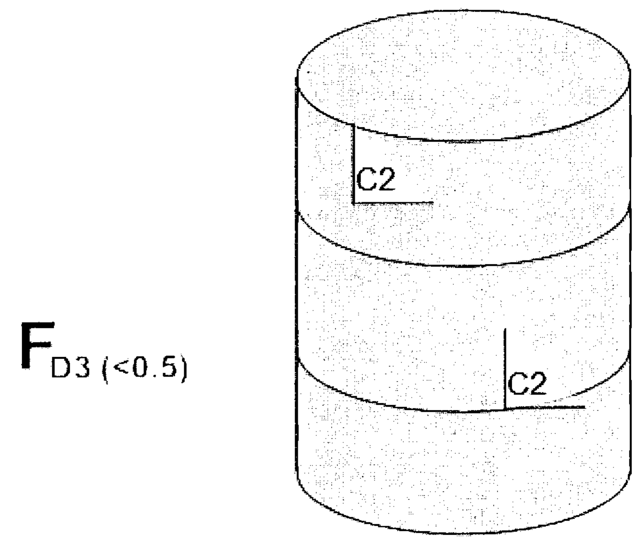
Map/Sketch



Map Name: Drums surveyed			Map Description: Drums surveyed for movement						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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RADIOLOGICAL SURVEY REPORT (Submitted)

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Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0209	DTHN3-1011	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10
CP	ICEB3-0295	N/A	N/A
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Park, Nancy	h7274392	5-9-11	[signature]
MASSIE, JARED	h0527264	5-9-11	[signature]
Stancil, Barbara	h5717168	5-9-11	B. [signature]

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	MAY 11 2011	[signature]

History

2011-05-09 10:48:43 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101290

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1300 / 1630	200 W / 2404 WB / N/A / N/A	WP-574 / Rev 4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

WB INSIDE COVERAGE: MOVING FORK LIFT OFF CONTAMINATED PAPER ON TO CLEAN PAPER.

Comments: ALL LAWs PERFORMED AS PER WMP-350 SECTION 6.2. TECH SMEARS COUNTED IAW WRP1-OP-1230. BETA GAMMA SURVEYS NOT PERFORMED DUE TO BACKGROUND TOO HIGH.

SURVEYED FORK LIFT SEAT, STEERING WHEEL, PEDALS, AND CONTROLS WITH DIRECT'S AND LAW'S. LEVELS WERE <100dpm/100cm2 AND <D/LAW.

TAPED OVER FOFK LIFT WHEELS WITH DUCT TAPE AND LAYED DOWN CLEAN PAPER IN FRONT OF FORK LIFT, THEN MOVED FORK LIFT ON TO CLEAN PAPER AND OFF OF CONTAMINATED PAPER. TOOK UP OLD PAPER AND SURVEYED FLOOR. FLOOR UNDER OLD PAPER WAS FOUND TO HAVE CONTAMINATION LEVELS OF UP TO 6,000 dpm/100cm2 ALPHA. AREA APPROX 5' X 6' WAS TAPED OFF AND MARKED AS CONTAMINATED AS NO TIME WAS LEFT ON ENTRY TO DECON. NCO's & RCT's EXITED THE BUILDING.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	DIRECTS OF FORK LIFT	N/A	0	N/A	0	N/A†	<100†	N/A	6	N/A†	N/A†
C2	LAW's OF FORK LIFT CONTROLS @ 75%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C3	DIRECTS OF FLOOR UNDER OLD PAPER	N/A	0	N/A	1000	N/A	6000	N/A	6	N/A	N/A
C4	DIRECTS OF NEW PAPER AFTER FORK LIFT MOVED	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†

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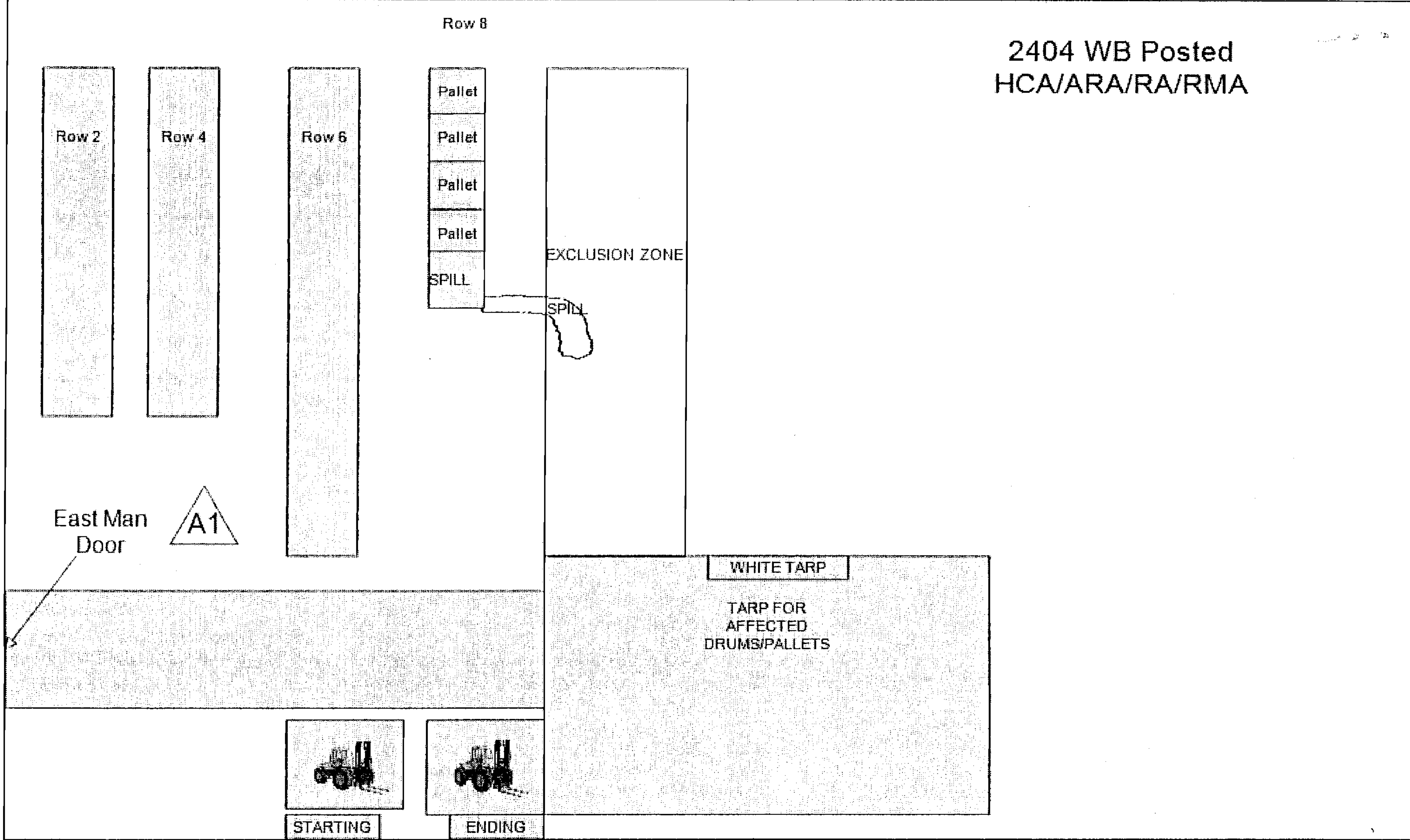
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101290	

Map/Sketch



Map Name: 2404 WB	Map Description: WB RECOVERY

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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Air Sample Measurements

A1	GWP-1101290	A2	WP-23744

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0010	DTHN3-0737	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	**H9792336**	5-24-11	Bryson Pomeroy
Tubbs, Duane	h0106412	5-24-11	[illegible]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 24 2011	[illegible]

History

2011-05-10 10:49:32 - UnSubmitted correction
2011-05-24 11:24:04 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101294

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	0800 / 1500	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004, WP-W040, AND WP-W041
- [x] Job Coverage: DRUM MOVEMENT
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003, WP-SH004, WP-W040, AND WP-W041.
SURVEYED 42 DRUMS IN 2404 WC TO BE MOVED TO 2336W.
SURVEYED 5 SWB'S FOR HERTR.

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.0	1.0	2	1	3.0	4	4
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	WP-W040 MAX. DOSE IN MO-444 AND MO-446	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D4	WP-W041 MAX. DOSE IN SUPERHENC MOBILE ASSAY	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	42 DRUMS SURVEYED FROM 2404WC TO 2336W	F	3	3	2	1	<0.2	3	3
D6	5 SWB'S SURVEYED FROM 2404WC TO HERTR	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF DOORS AND VENTS OF 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS 2 T/S TAKEN ON EACH VENT AND DOOR ACCESIBLE 22 T/S TOTAL	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101294	

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C4	WP-W040 LAW OF MO-444 AND MO-446 40% OF FLOOR SPACE	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	WP-W041 LAW OF SUPERHENC MOBILE ASSAY LAW 40% OF FLOOR AREA	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C6	WP-W041 10T/S TAKEN IN AND AROUND SUPERHENC MOBILE ASSAY	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C7	LAW OF DRUMS AND SWB'S 60% OF EACH	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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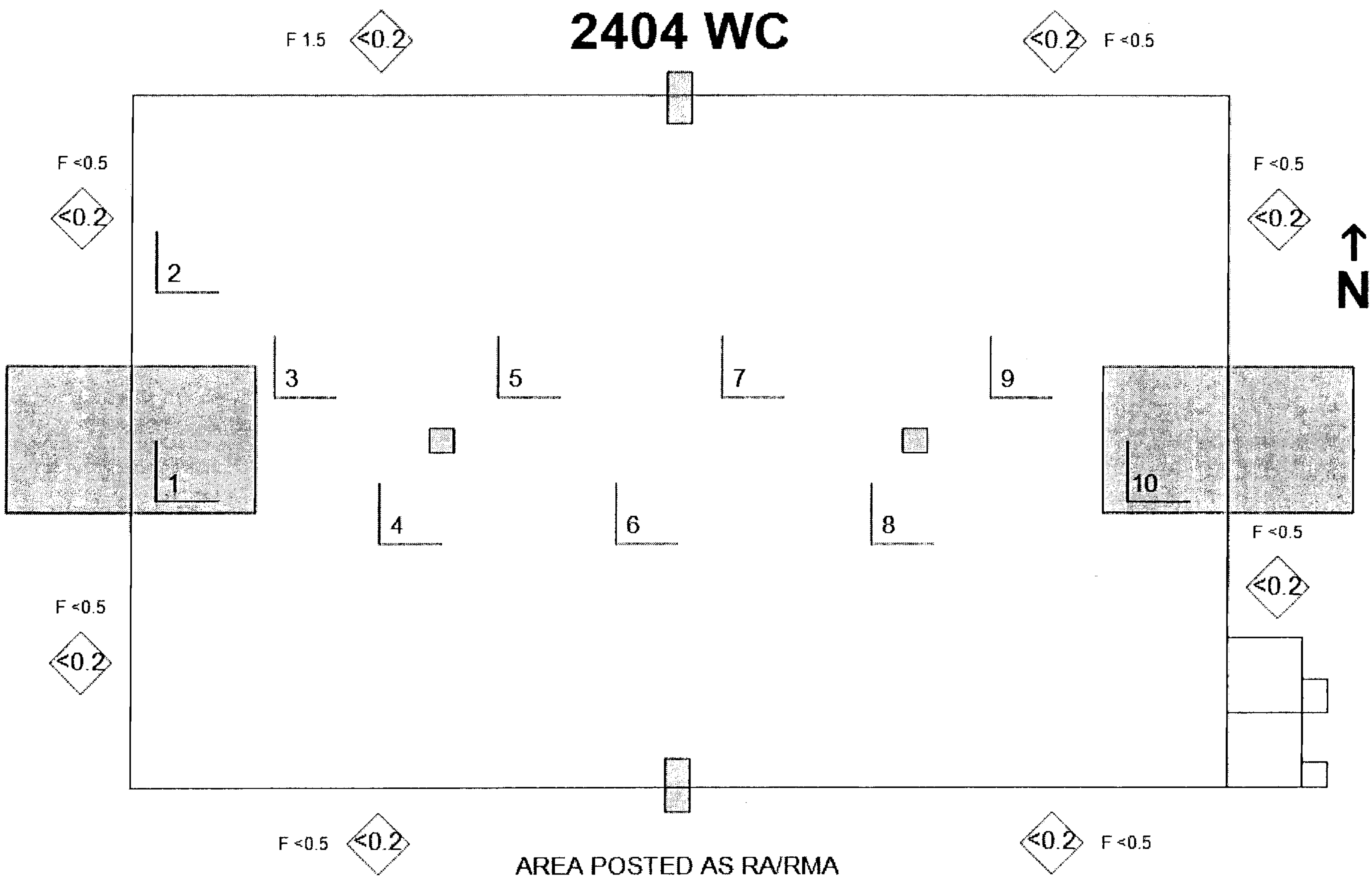
Map/Sketch

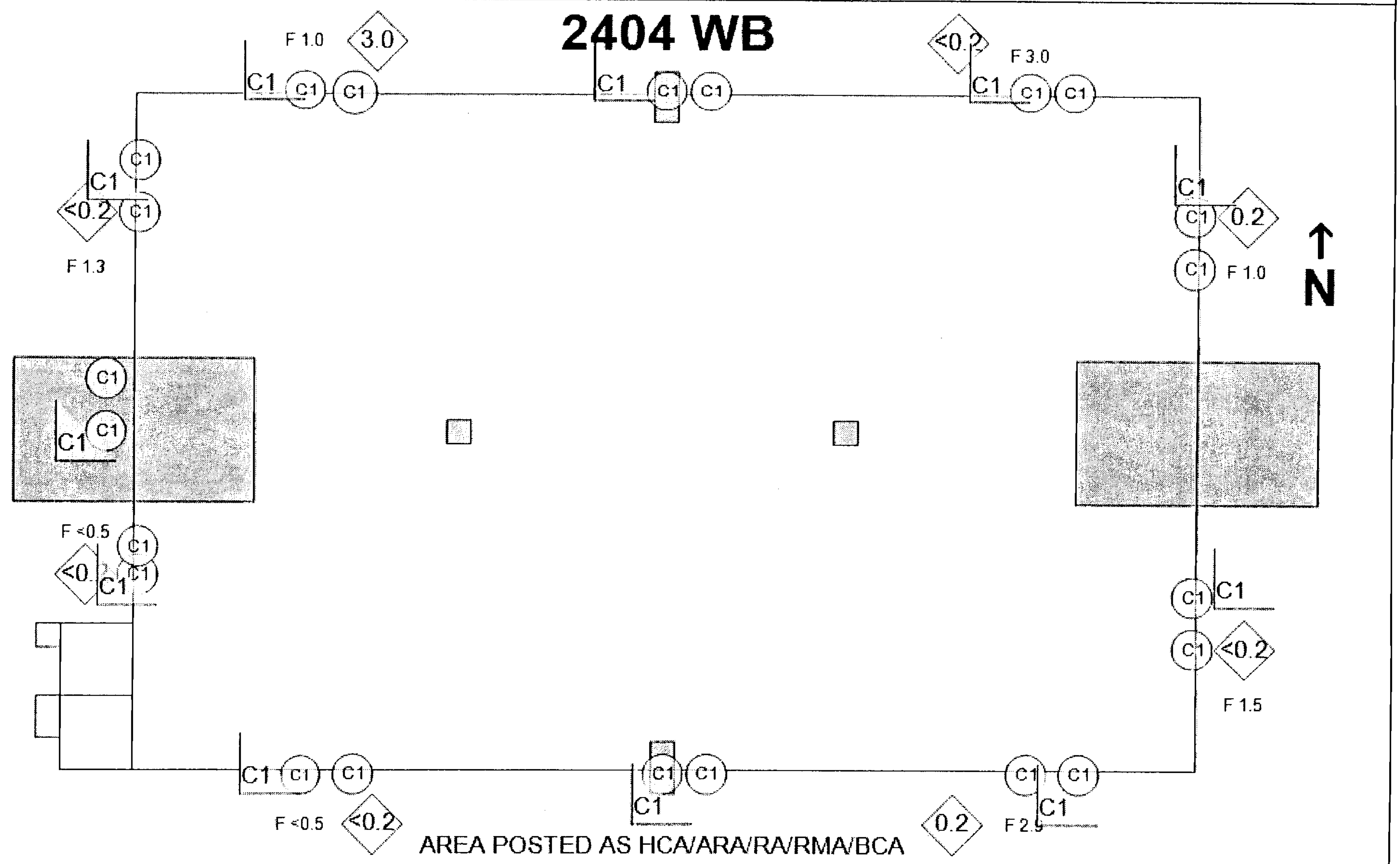


Map Name: 2404 WC	Map Description: WP-SH004

Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101294	Page 4 of 7

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003

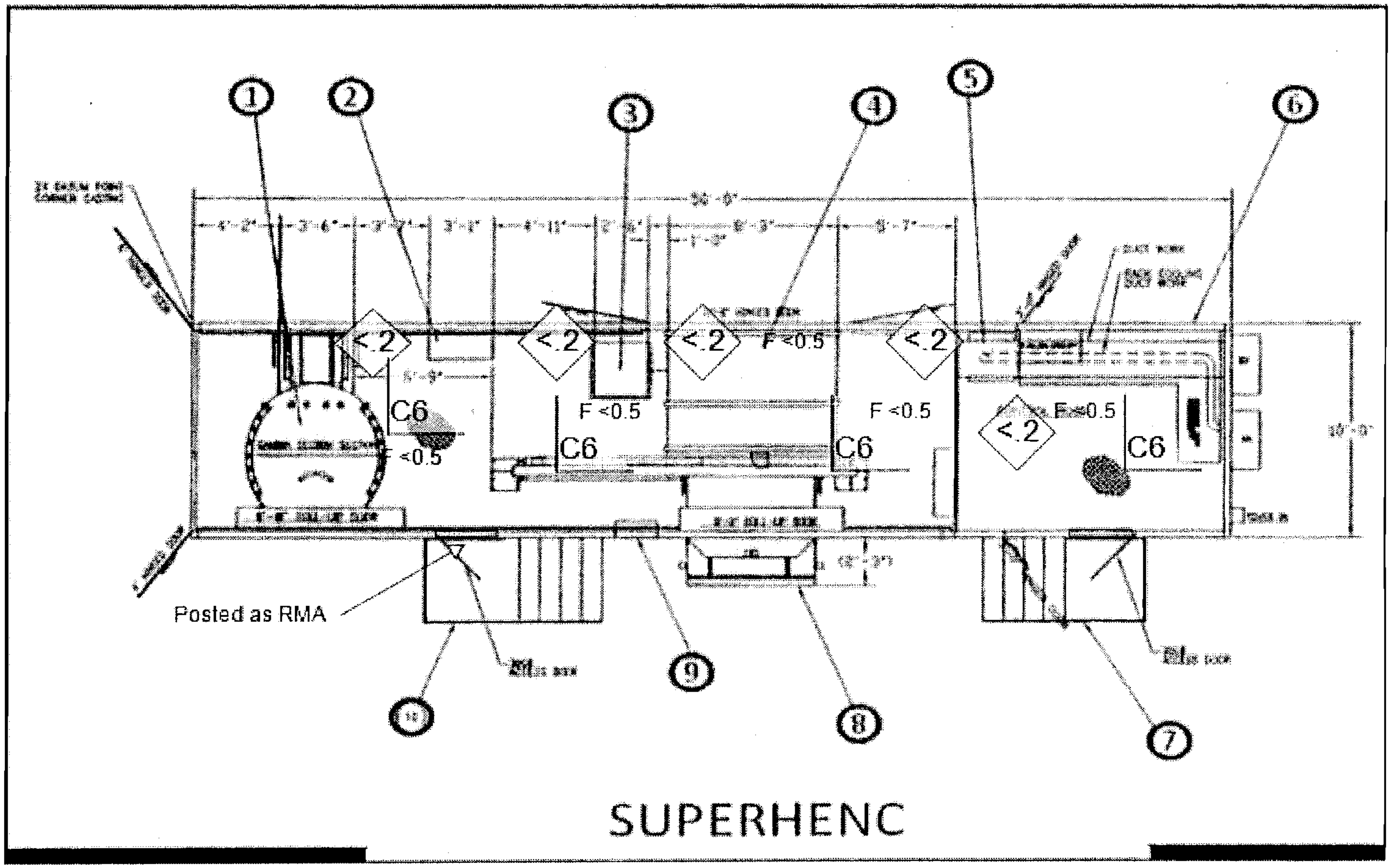
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Subm: 05/10/2011 03:31:28 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004 SS (Rev. 0)

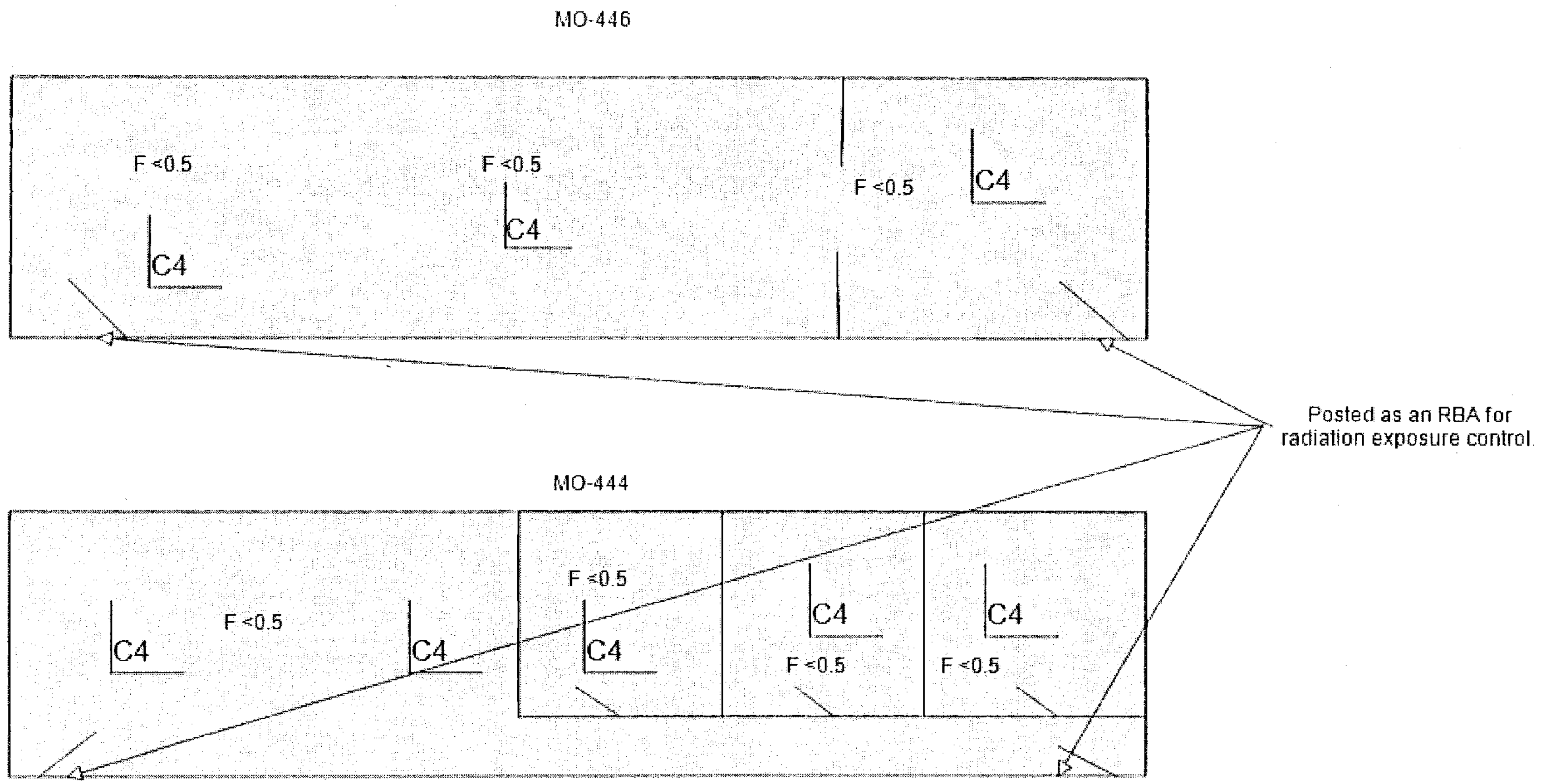
Map/Sketch



Map Name: WP-W041	Map Description: Super HENC

Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: WP-W040			Map Description: MO-444 & MO-446						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101294	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
PAM	ACHN2-0615	DTHN3-0658	0.16
GM	CMEB3-0039	DTEB9-0458	0.10
RO-20	ICEB4-1556	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Berg, Lindsey	H3344063	5/10/11	Lindsey Berg

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 11 2011	

History

2011-05-10 03:31:28 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101295	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	0830 / 1100	200 WEST / 2404 WB / N/A / N/A	RWP-574/ REV.4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

2404 WB AM RECOVERY ENTRY.

Comments: 4 RCTs in HCA to do job. 2 worked on ramp, one on paper tarp and one watching air sampler while doing directs and smears of floor. All smears counted for a min. on portable instruments. All spots with contamination found were taped over if not decontaminated. Air sample was checked every 5 min.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	HIGHEST DIRECTS ON FLOOR (1/4 IN)	N/A	0	N/A	2000	N/A†	12000†	N/A	6	N/A†	N/A†
C2	SEPERATE DIRECTS ON RAMP LESS THAN/ EQUAL TO 500 CPM	N/A	0	N/A	500	N/A†	3000†	N/A	6	N/A†	N/A†
C3	DIRECTS AND SMEARS UNDER PAPER	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	<100†
C4	DIRECTS AND SMEARS AROUND AIR SAMPLER (10 SMEARS)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	<100†

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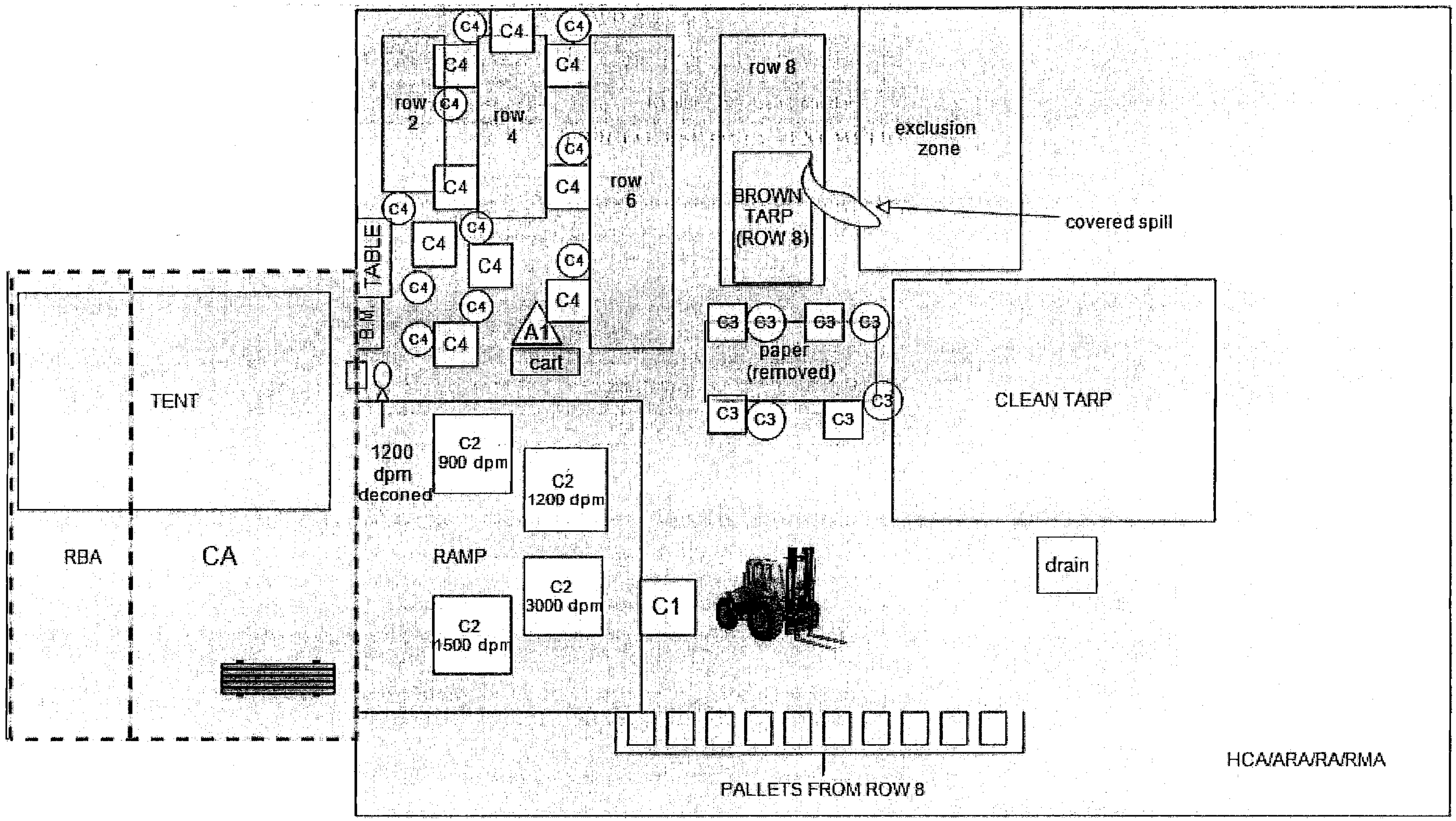
Map/Sketch



Map Name: HCA in WB | Map Description: WB Recovery

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101295	

Air Sample Measurements

A1	WP-1101295

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0468	DTHN3-0525	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
RADECO	H-ASSA1-664	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	5/20/11	Noe Curiel

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 23 2011	

History

2011-05-20 01:39:52 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101300

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1700 / 2330	200 WEST / 2404 / WB / WC	WP-001/REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004, WP-W035
- [x] Job Coverage: Drum/SWB Movements
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003, WP-SH004, WP-W035.
*1 SWB MOVEMENT FROM 2404WC TO 2336W
*28 DRUM MOVEMENT FROM 2404WC TO 2336W

Comments: * Tech smears were counted per WRP1-OP-1230.
* LAW's were taken I.A.W. WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	WP-SH003; Highest Dose	F	3	3	2	1	<0.2	3	3
D2	WP-SH004; Highest Dose	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	WP-W035 HIGHEST	F	16	16	2	1	0.2	16.2	16.2
D4	1 SWB MOVEMENT 2404WC TO 2336W	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	28 DRUMS FROM 2404WC TO 2336W	F	2.6	2.6	2	1	<0.2	2.6	2.6

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	WP-SH003 (12 TECH SMEARS) OF EXTERIOR DOORS AND VENTS OF 2404 WB	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C2	WP-SH004/ WP-W035 (10%) LAWS	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	WP-W035 20 SMEARS	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	1 SWB MOVEMENT 2404WC TO 2336W(LAW ~ 50%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	28 DRUMS FROM 2404WC TO 2336W (LAW ~ 50%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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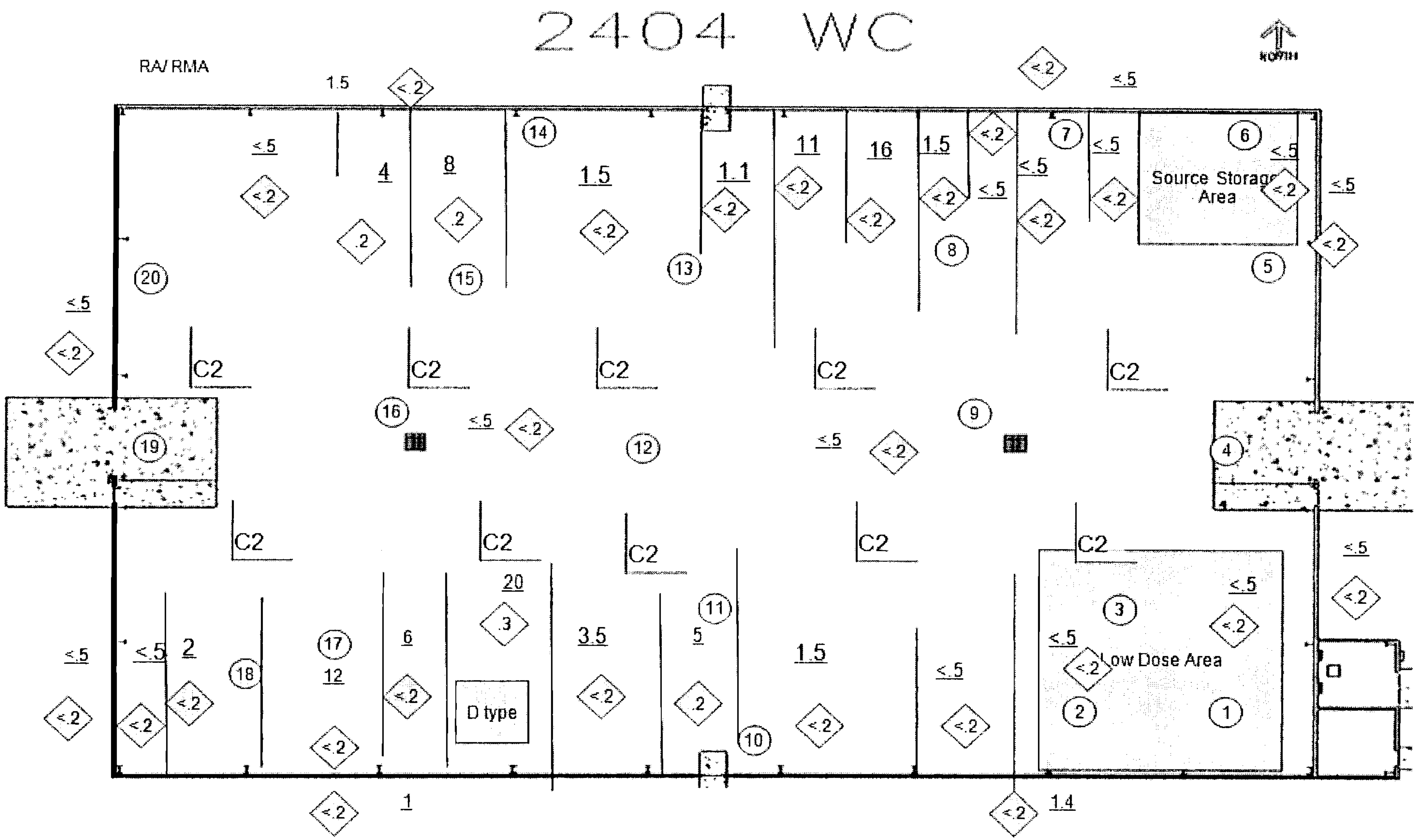
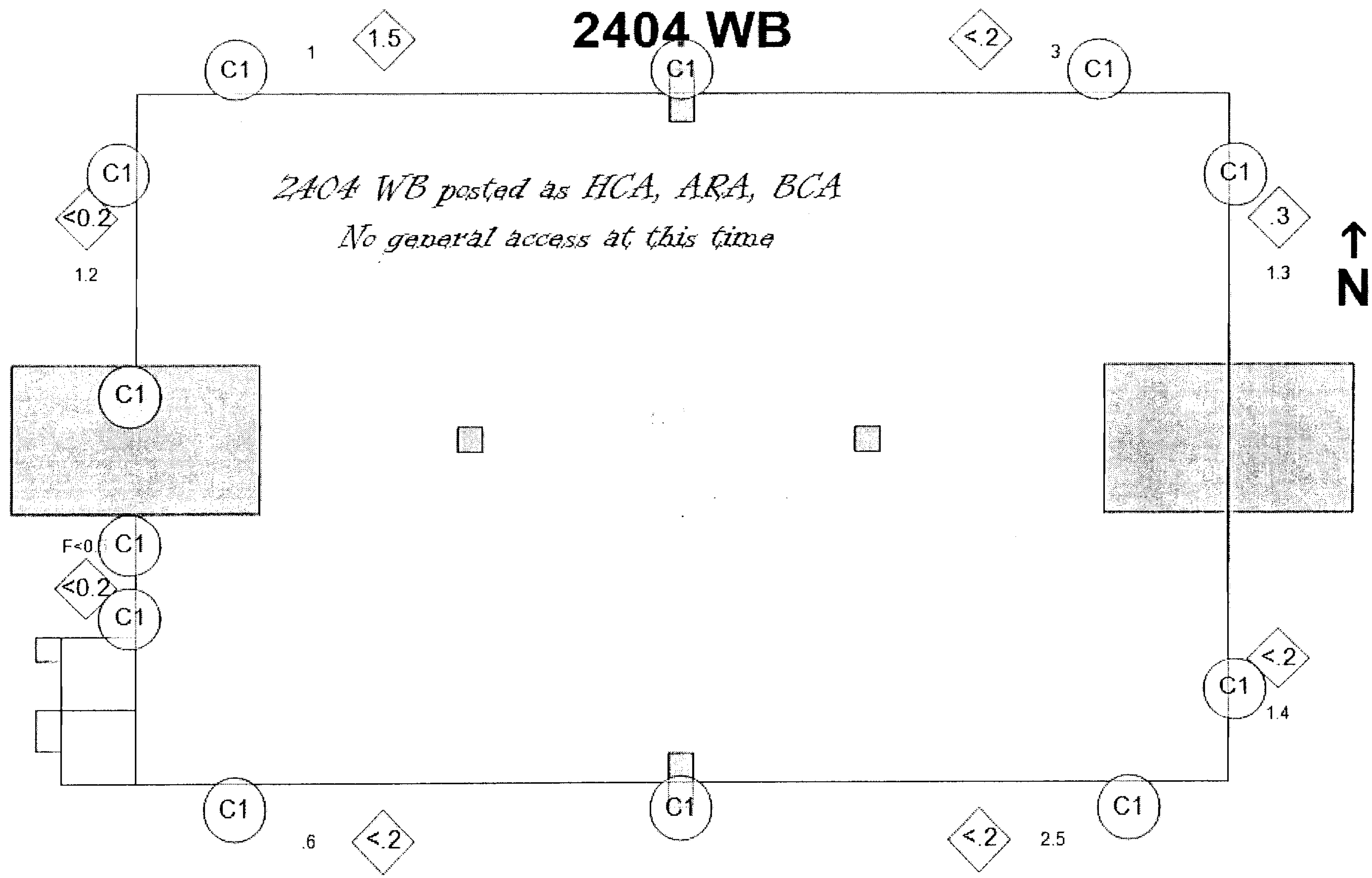
Map/Sketch



Map Name: 4 WC	Map Description: for W-035

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404WB

Map Description: WP-SH003

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101300	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1556	N/A	N/A
GM	CMEB3-0039	DTEB9-0458	0.10
PAM	ACHN2-0615	DTHN3-0658	0.16
Ludlum 2929	SCLL4-0054	DTLLC-0068	β0.377α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	h0527264	5-10-11	[signature]
Stancil, Barbara	h5717168	5-10-11	B. Stancil

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 11 2011	[signature]

History

2011-05-10 11:41:30 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101302

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1020 / 2100	200 W / 2404 / WB / outside CA	wp-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

2404 WB outside CA air sample

Comments: Air sample that was set up inside the CA.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α

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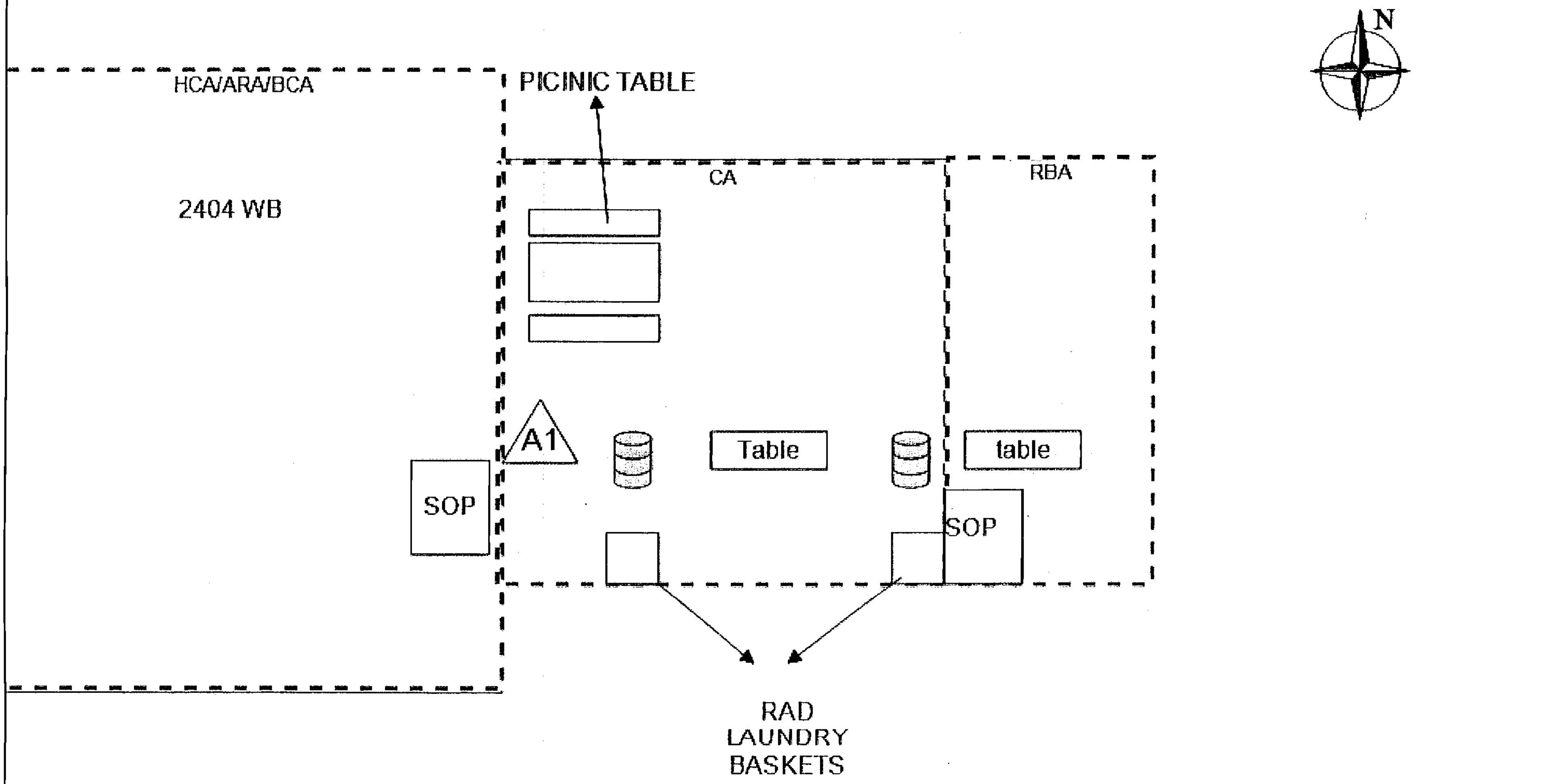
Map/Sketch



Map Name: 2404 WB	Map Description: SURVEY OF AREA AND ITEMS FROM THE CA

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101302	

Air Sample Measurements

A1	gwp-1101302

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
GOOSENECK	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5-15-11	Judith Ho

Reviewers

Name	HID	Date	Signature
CWielang	6097614	MAY 16 2011	

History

2011-05-15 12:50:36 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101303

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	0900 / 1300	200 WEST / 2404WB / N/A / East Entryway	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

Survey of the yellow ramp area in 2404WB east entryway. Decon wet wipes and baby wipes were used to remove contamination.

Comments: No beta-gamma directs were taken due to high background on the GM.
All surfaces deconned were re-surveyed after drying.
Air sample data can be found on RSR# WP-1101277.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

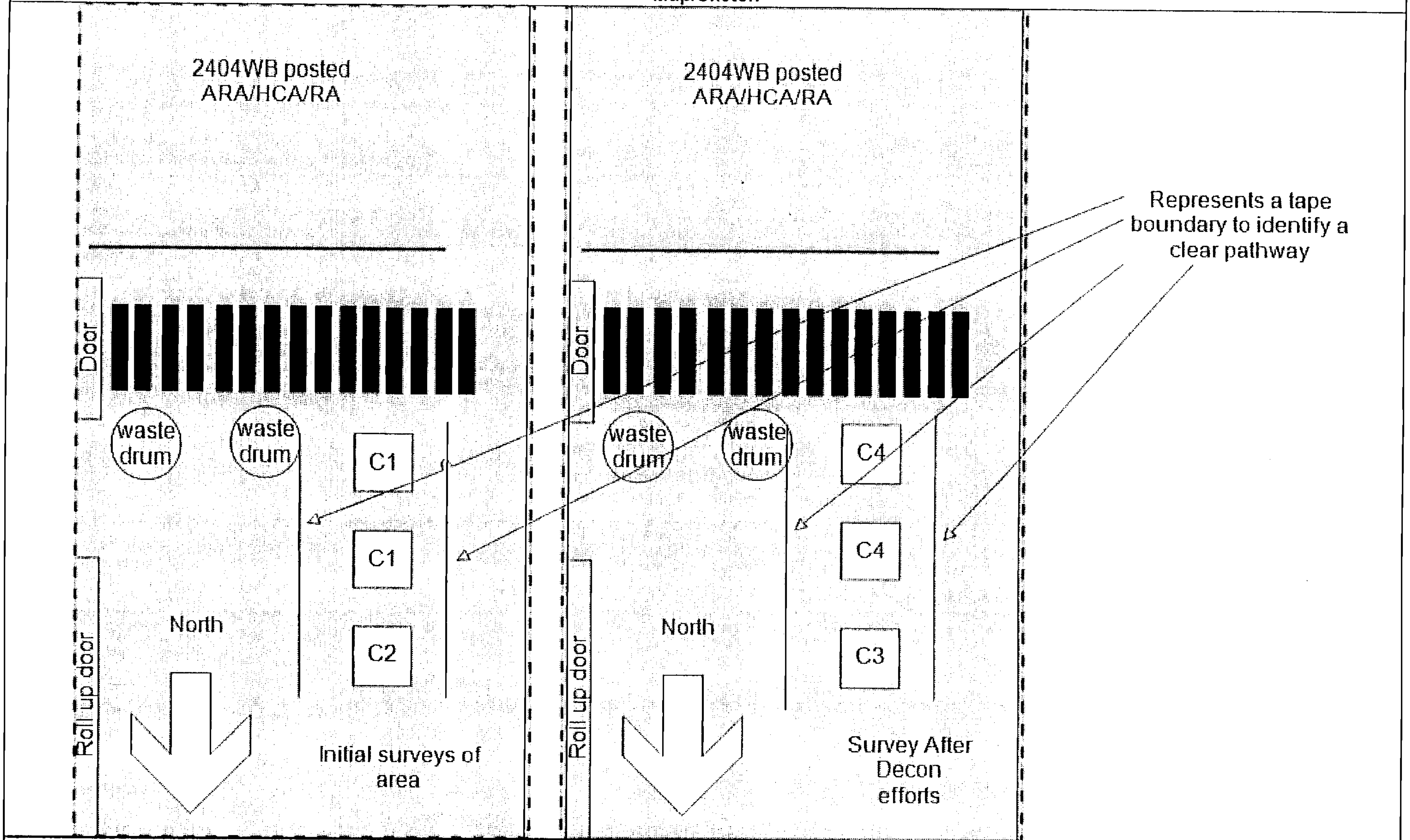
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Direct Contamination survey of the beginning of the cleaned pathway (pre decon)	N/A	0	N/A	100	N/A†	600†	N/A	6	N/A†	N/A†
C2	Direct Contamination survey of the end of the cleaned pathway (pre decon)	N/A	0	N/A	2000	N/A†	12000†	N/A	6	N/A†	N/A†
C3	Direct Contamination survey of the end of the clean pathway (after 1st decon)	N/A	0	N/A	500	N/A†	3000†	N/A	6	N/A†	N/A†
C4	Direct contamination survey of all deconned areas (after decon, final survey)	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101303

Map/Sketch



Map Name: 2404WB

Map Description: Air Sampler location

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0039	DTHN3-0591	0.16
PAM	ACHN2-0438	DTHN3-1050	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-23-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-23-11	T. Terry

History

2011-05-18 07:46:10 - Submitted
2011-05-23 07:22:48 - UnSubmitted Fixed errors.
2011-05-23 07:23:47 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101304

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1000 / 1230	200 WEST / 2404WB / N/A / East entryway	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

Survey for tuesday in 2404WB. A path to the clean forklift surveyed, and the forks/wheels/seat/pedals/steering wheel was surveyed. survey up to spill pallet, survey of random areas in the west side of 2404.

Comments: Drum #0061308 was surveyed off the white tarp and placed into row 24 on a spill pallet. Drum #0069693,0062207,0069707 were placed in row 26 after being surveyed off the white tarp. Drum # 0069702, 0061307, 0069792 were placed in row 28 after being surveyed off the white tarp.
No directs were taken for beta-gamma due to high background on the GM.
2404WB posted as HCA/ARA/RA.
LAWs performed in accordance with WMP-350 sec 6.2.
Air sample results can be found on survey number WP-1101295.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs to clean forklift	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	1200/LAW†
C2	Directs of pathway to clean forklift (pre decon)	N/A	0	N/A	600	N/A†	3600†	N/A	6	N/A†	N/A†
C3	Directs of pathway to clean forklift (post decon)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	N/A†
C4	LAWs to spill pallet/random LAWs to characterize the building	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C5	LAWs and directs of items coming off the white tarp	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†

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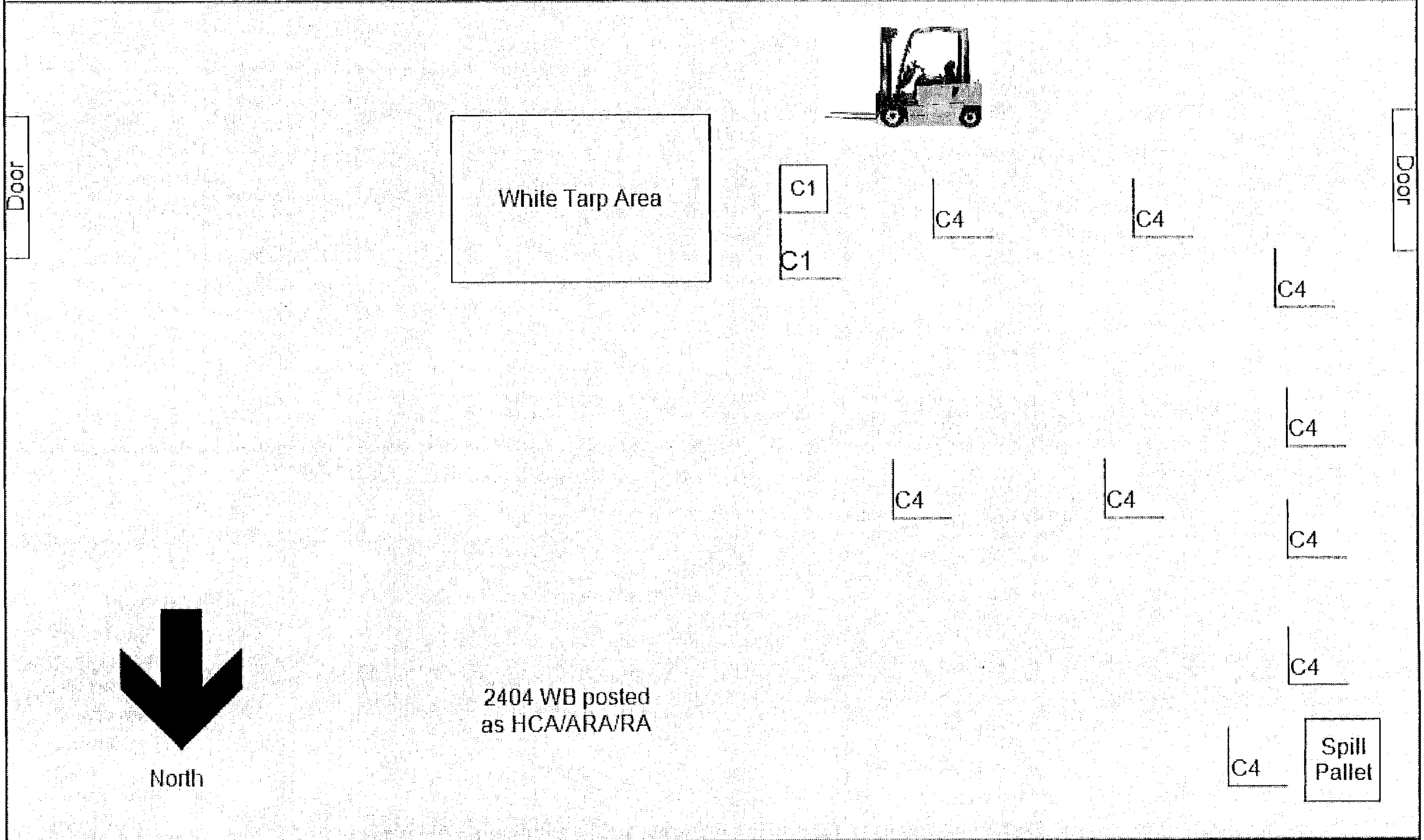
Map/Sketch



Map Name: 2404WB

Map Description: Survey of 2404WB

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101304	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-18-11	JW

Reviewers

Name	HID	Date	Signature
C Wielang	619714	MAY 19 2011	C. Wi

History

2011-05-18 07:49:25 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101308

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1300 / 1530	200 WEST / 2404 WB / na / outside	WP-574/Rev 4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Release of respirators, lapels, and instruments from CA in front of 2404WB.

Comments: Used survey plans RSP-WP-10-002, Rev 2; RSP-WP-06-008, Rev 5; RSP-WP-10-001, Rev 1.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS.
DUE TO HIGH BACKROUND DIRECTS FOR BETA/ GAMMA ON FLOOR WERE NOT TAKEN.
TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	dose rate of 3 laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct on picnic table bench and door way	N/A	0	N/A	150	N/A†	<500†	N/A	N/A	N/A†	N/A†
C2	Tech smears of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Directs of released material	N/A	0	100	0	<5000†	<100†	10	10	N/A†	N/A†
C4	LAW's of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

COPY

Map/Sketch

Pam's:
ACHN2-0209
DTHN3-1011

ACHN2-0468
DTHN3-0525

ACHN2-0010
DTHN3-0737

ACHN2-0411
DTHN3-0862

Lapels:
4549
4095
4544
4092
4552
2694
4548
4546
4554
4547
2937

PAPR's:
719
713
711
716
720
709
717
701
718
707
713

Masks:
932
909
999
1418
926
988

COPY

Map Name: WB entry

Map Description: Instruments, respirators released

Legend

# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101308

Air Sample Measurements

A1	GWP1101308

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0379	DTLLP-0483	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Ludlum 2360	SCLL8-0372	DTLLP-0485	0.10
Bumble Bee CP	ICHN2-0003	N/A	N/A
Goose neck	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	5/16/11	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 16 2011	[signature]

History

2011-05-12 11:21:49 - Submitted
2011-05-16 03:08:47 - UnSubmitted needs additions
2011-05-16 03:12:25 - Submitted
2011-05-16 03:57:03 - UnSubmitted needs fixed
2011-05-16 03:57:26 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101309

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/10/2011	1800 / 1830	200 W / 2336 W / 2404 WB / outside ca	WP-574/REV.4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: Directs for IH sampling
- [ ] Other: N/A

Description of Work/Comments:

2 directs on 2 laundry bags for IH samples.

Comments: Counted directs on bags for 60 sec. per 100 cm2 Alpha. First direct was taken on top of used ppe, second direct was taken on inside edge of laundry bag. Alpha Direct surveys of area taken in same spots on both bags as representative data for Beryllium tech smears per survey plan WRAP-RSP-013-0. All directs were below background. Beta/Gamma directs not performed due to high background.

Survey #11-23198-2404WB Recovery Laundry.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Directs of laundry bag for IH (100 cm2)	N/A	2	N/A	N/A	N/A†	~~N/A†~~ <20 TT 5-11-11	N/A	10	N/A†	~~<20†~~ N/A TT 5-11-11

Map/Sketch

Map Name:

Map Description:

Legend: [#] Direct Measurement; Air Sample; Smear; LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0379	DTLLP-0483	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	5-11-11	Noe Curiel

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101309	Page 2 of 2

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-11-11	T. Terry

History

2011-05-10 11:25:54 - Submitted
2011-05-11 01:18:07 - UnSubmitted   Add comment
2011-05-11 01:38:21 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101311

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	0900 / 1600	200 WEST / 2404 WB / / East entryway	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-03;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, IH, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Release of Various items from CA outside the 2404 WB east entryway. 4 laundry bags and 1 waste drum surveyed out of the CA. Identification numbers of all equipment listed in the maps/sketch area.

Comments: Tech smears counted per WRP1-OP-1230.
LAWs performed in accordance with WMP-350 sec 6.2.
All items were moved to a low background location for direct surveys with a GM.
All RADCON portable instruments were left in the CA staged for second entry.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate of Laundry bags/waste drum	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

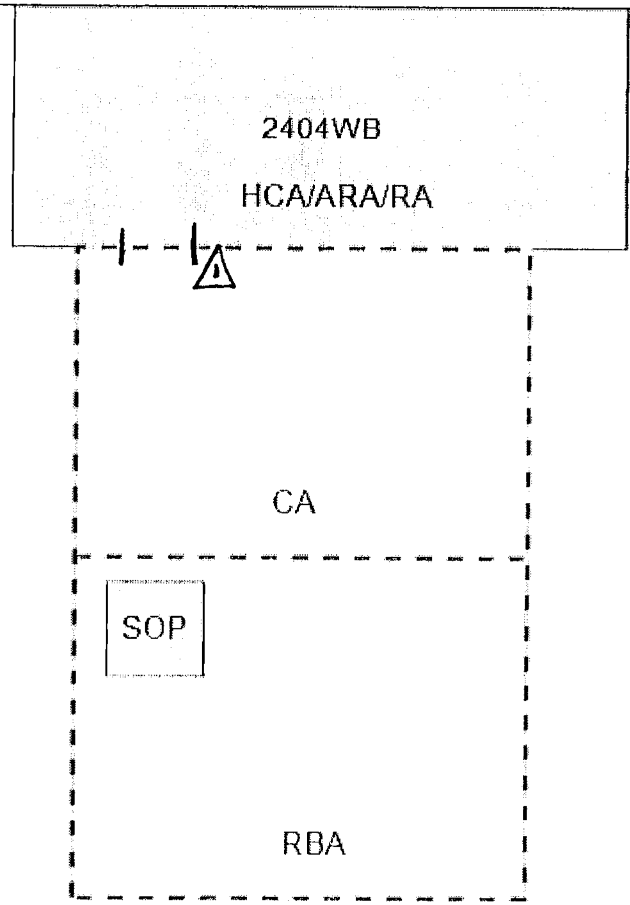
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of all items released from the CA (~100% of all accesable areas)	150	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	Tech Smears of all items (1 per mask, 3 per PAPR units, 2 per lapel pump/hose, 2 per IH wet bulb)	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Direct surveys of all items being released (~100% of all accesable areas)	150	0	N/A	N/A	<5000†	<100†	10	10	N/A†	N/A†
C4	Tech smears of laundry bags (2 smears each)	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C5	Tech smears of waste drum (4 smears)	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†

Map/Sketch

MASKS	PAPR Unit	Lapel Pumps
1480	807	2694
982	809	2123
995	813	2122
998	814	4554
1000	818	4547
1005	806	4552
1472	805	4548
991	801	4092
		1549
		4545
		4095
		4091
		4543
		4553
		4093
		4094
		4549
		4546



Map Name: List of items released from CA

Map Description: List of items released from CA outside 2404WB.

Legend: [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101311

Air Sample Measurements

A1	GWP1101311

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0465	DTLLP-0572	0.10
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10
RO-3B	ICHN2-0009	N/A	N/A
GM	CMEB3-0072	DTHNC-0958	0.10
GM	CMEBB-0027	DTEB5-0177	0.10
Ludlum 2929	SCCL4-0067	DTLLC-0077	α0.36 β0.38

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd -107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5.19.11	JW

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-19-11	T. Terry

History

2011-05-18 07:52:05 - Submitted
2011-05-19 01:02:39 - UnSubmitted Fixed a few errors.
2011-05-19 01:07:57 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101312

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	1330 / 1530	200 WEST / 2404 WB / N/A / inside HCA	WP-574/ REV 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11
- [ ] Other: N/A

Description of Work/Comments:

Survey of white tarped area inside of 2404 WB. One 55 gallon drum wiped down, surveyed and moved to clean area of tarp. Clean pallet obtained and all (3) 55 gallon drums(2 from morning; 1 from afternoon see WP-1101311) placed onto pallet; pallet moved to WB row 17. 85 gallon overpack drum wiped down in place and labeled by operations. Clean spill pallet moved onto white tarp and staged for 85 gallon overpack drum placement. Area of white tarp North of drum hauler and 85-gallon overpack drum still needs surveyed/deconned(see map).

Comments: Range of alpha contamination found: 100-400 cpm in isolated places on the tarp with the highest reading found being the 2000cpm listed in C1. All contamination found was wiped up using damp rags or baby wipes; surveys following decontamination efforts found no further contamination. See map for information about locations surveyed/in need of survey.

Air sampler H-ASSA1-664 set up on cart near end of row 6 at about 3 feet above ground. All individuals involved in recovery plan work INSIDE the HCA wore lapel airsamplers; lapels counted on Tennelec "A" batch 23756. All LAW counted per WMP-350, Section 6.2. Due to high background in WB, unable to perform direct beta checks on the tarp or to check LAWs for beta.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

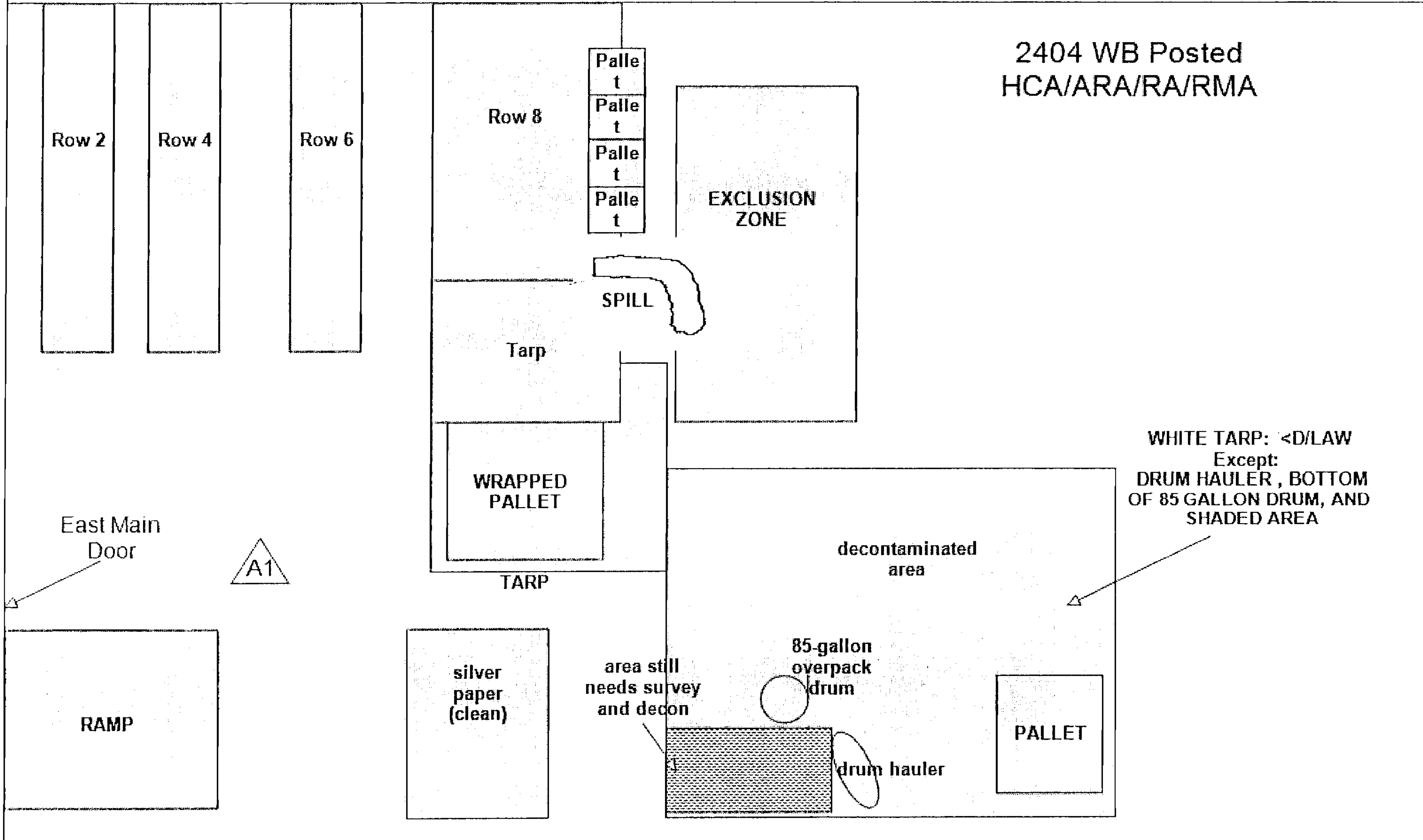
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	direct readings on tarp(max) pre-decon	N/A	0	N/A	2000	N/A†	12000†	N/A	6	N/A†	N/A†
C2	readings in area deconned (after decon)	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C3	LAW and direct survey of 55 gallon drum	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C4	LAW and direct survey of 85 gallon overpack drum	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101312

Map/Sketch



Map Name: WB RECOVERY	Map Description: white tarp 05-11-11 "AS LEFT"

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101312

Air Sample Measurements

A1	GWP-1101312	A2	Tennelec "A" batch number 23756

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
RADECO air sampler	H-ASSA1-664	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Tennelec	S5-XLB 75063	1430	β0.39 α0.25

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wampole, Michelle	h0009131	5-11-11	M Wampole

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	MAY 12 2011	C Wiel

History

2011-05-11 10:24:09 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101313

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/9/2011	1830 / 1930	2336 W / 2404 / WB / CA	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WRAP-RSP-013/0
- ☑ Job Coverage: Directs for IH sampling on used PC's
- ☐ Other: N/A

Description of Work/Comments:

Performed direct survey on used PC's inside laundry bags per IH direction for the 2404 WB clean up. Five bags where surveyed to satisfy the beryllium control. This task was performed inside the contaminated area (CA) on east end of WB building.

Comments: First direct was taken on top of laundry bag opening, second direct was taken on inside on the used PC's. Alpha Direct surveys of area taken in same spots on all bags as representative data for Beryllium tech smears per survey plan WRAP-RSP-013-0. All directs were below background. Beta/Gamma directs not performed due to high background. Chain of custody number 11-23198-2404WB recovery laundry.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Directs of five laundry bag for IH (100 cm2)	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	NA†

Map/Sketch

Map Name:

Map Description:

Legend

# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0468	DTHN3-0525	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101313

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5-11-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-11-11	T. Terry

History

2011-05-11 02:13:48 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101314

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	0900 / 1145	200 WEST / 2404 WB / / East entryway	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Survey of a tarped area in 2404WB. A wrapped pallet was surveyed and no contamination was detected per direct measurements and LAWs. Decon work of the tarp area in order to expand the clean work area on the white tarp. 2 drums were surveyed and wiped down then moved to the clean area of the tarp.

Comments: LAWs performed in accordance with WMP-350 sec 6.2.
No beta gamma directs were taken due to high background on the GM.
2404WB posted as HCA/ARA/RA

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

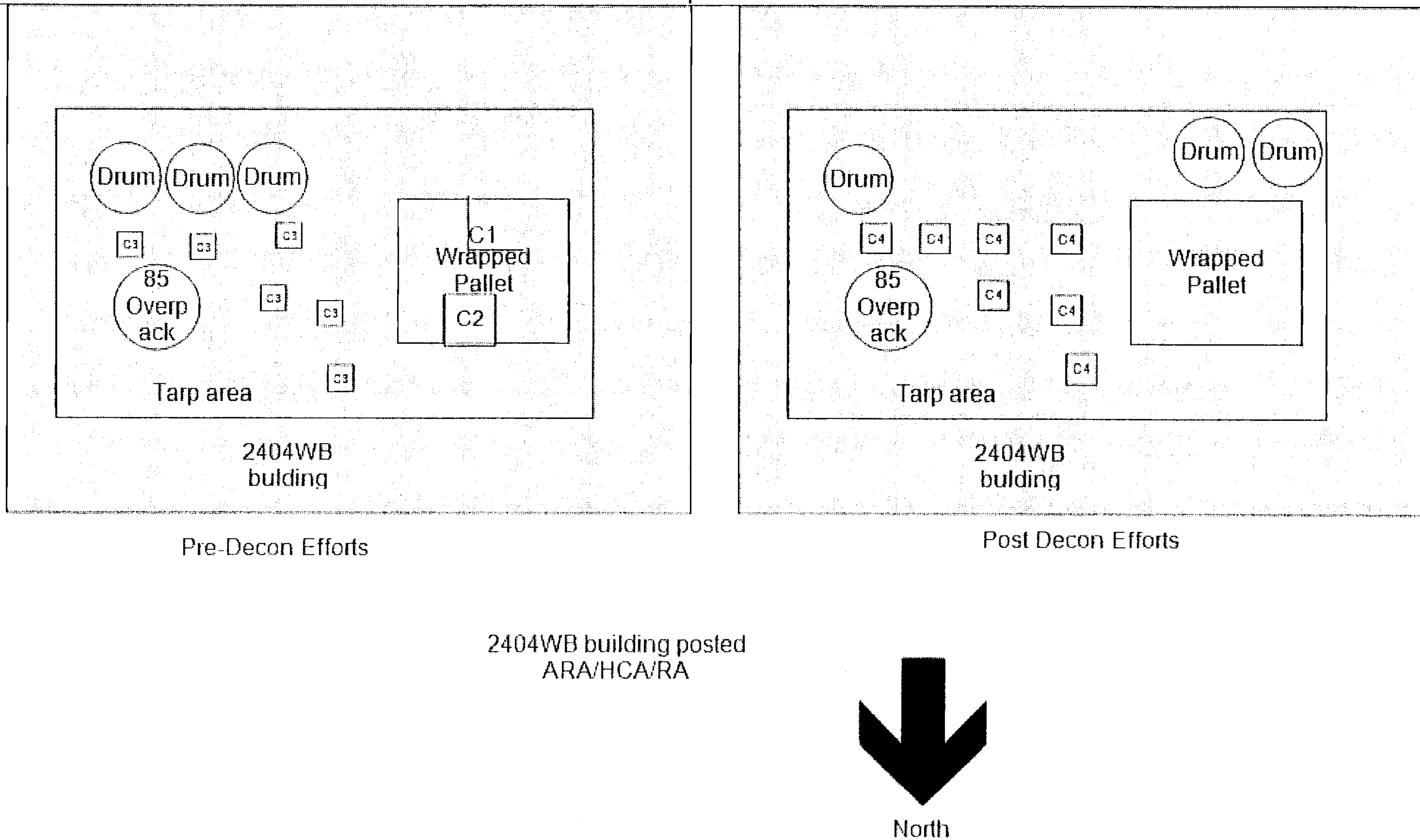
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of the wrapped pallet (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C2	Direct survey of the wrapped pallet	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	Direct survey of tarp area pre decon	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C4	Direct survey of tarp area post decon	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C5	Direct survey of the first drum moved to the clean side of the pallet	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C6	Direct survey of the second drum moved to the clean side of the pallet pre decon	N/A	0	N/A	200	N/A†	1200†	N/A	6	N/A†	N/A†
C7	Direct survey of the second drum moved to the clean side of the pallet post decon	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101314

Map/Sketch

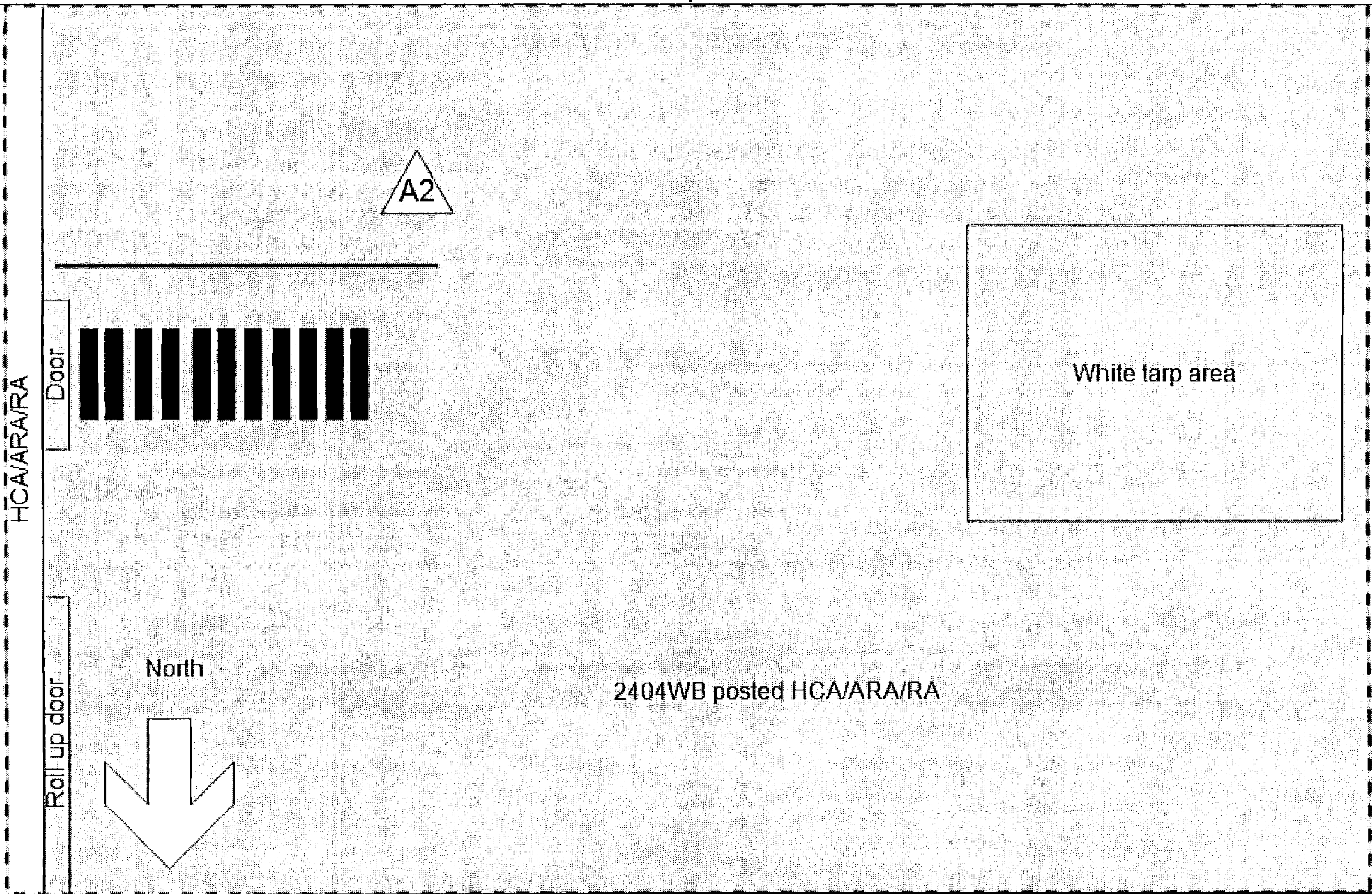


Map Name: Tarp Area in 2404WB	Map Description: Survey of the white tarp area in the 2404WB building

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101314	

Map/Sketch



Map Name: 2404WB

Map Description: Air Sampler location

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	#̲ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101314	

Air Sample Measurements

A1	WP-1101314	A2	GWP1101314

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
Tennelec	S5-XLB 75063	1430	α0.25 β0.39
RADECO	H-ASSA1-664	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-19-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-19-11	T. Terry

History

2011-05-18 07:53:52 - Submitted
2011-05-19 01:14:19 - UnSubmitted Fixed Errors
2011-05-19 01:15:09 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101316

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	0800 / 1500	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 AND WP-SH004
- ☑ Job Coverage: MOVEMENTS
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 AND WP-SH004
SURVEYED 8 SWB'S FOR HERTR.
SURVEYED 2 SWB'S FOR TRANSFER TO CWC.
RECIEVED 8 DRUMS FROM CWC.

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3.0	4.2	4.2
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	MAX. DOSE ON 8 SWB'S	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D4	MAX. DOSE ON 2 SWB'S TO CWC	F	<0.5	<0.5	2	1	3	3	3
D5	MAX. DOSE ON 8 DRUMS RECEIVED	F	1	1	2	1	<0.2	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF DOORS AND VENTS OF 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS 2 T/S TAKEN ON EACH VENT AND DOOR ACCESIBLE 22 T/S TOTAL	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW 60% OF EACH DRUM AND SWB	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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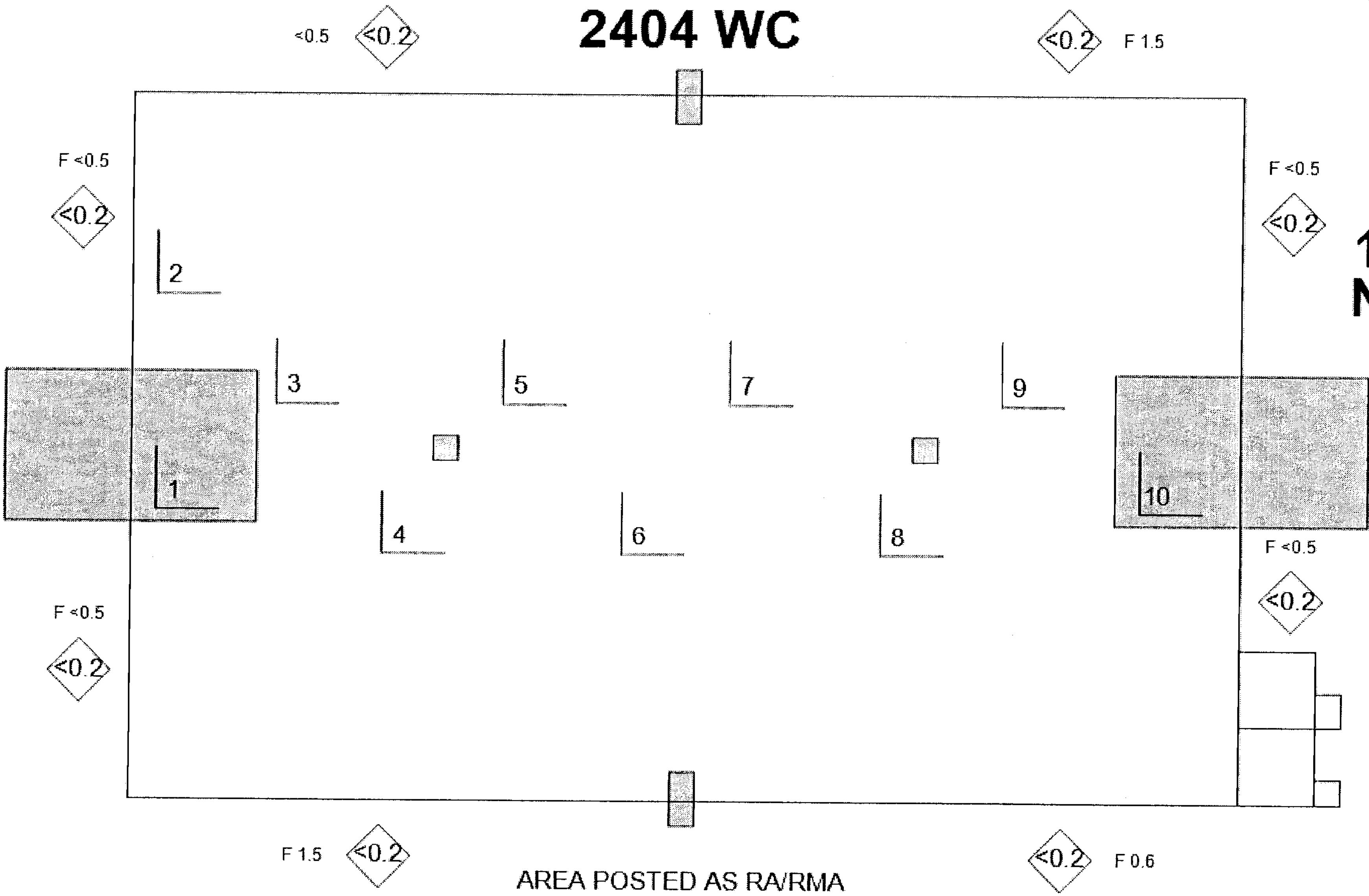
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101316	Page 2 of 4

Map/Sketch



Map Name: 2404 WC

Map Description: WP-SH004

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Subm: 05/12/2011 07:24:03

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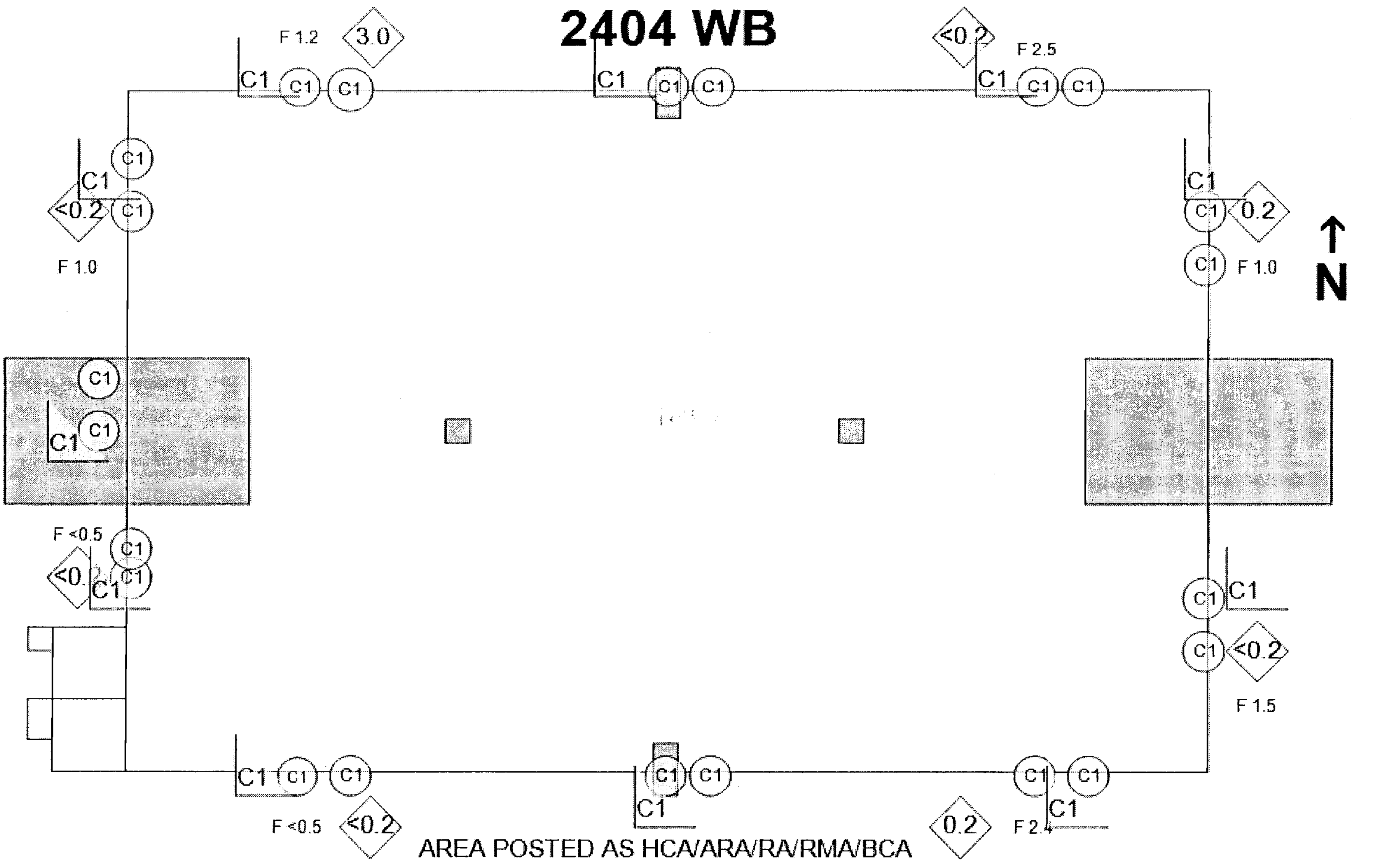
A-6004- SS (Rev. 0)

Map/Sketch



Map Name: 2404 WB			Map Description: WP-SH003						
Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0039	DTHN3-0591	0.16
GM	CMEB3-0033	DTHNC-0328	0.10
RO-20	ICEB4-1556	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Berg, Lindsey	H3344063	5/12/11	Lindsey Berg

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 12 2011	[illegible]

History

2011-05-12 07:24:03 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101317

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	0930 / 1130	2336 W / 2404 / WB / HCA/ARA	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-003
- [ ] Other: N/A

Description of Work/Comments:

First enty into 2404 WB was made in PAPRs.
First entry into 2404 WB perfomed survey of five pallets and drums. These pallets were moved to row 17 & 19 in 2404 WB on a brown tarp.

Comments: Surveyed five of the ten pallets in 2404 WB east end prior to moving to the brown tarp staged in row 17 & 19. Found contamination on a law under the fourth pallet. Wrapped pallet bottom prior to moving to brown tarp. Re-surveyed area with a law and direct, no alpha contamination detected. No beta-gamma surveys performed due to high background in the building.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

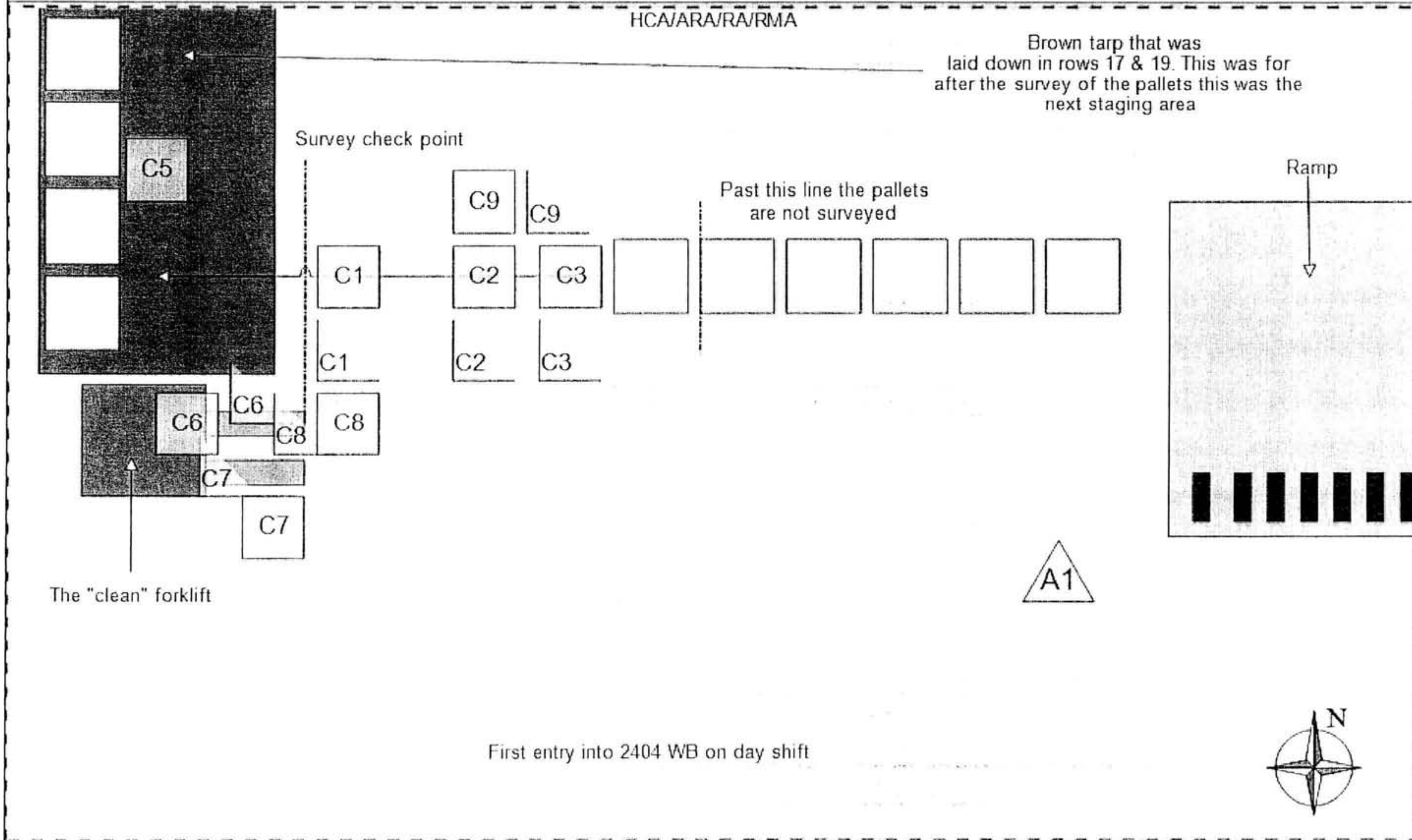
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Performed laws (~75%) on the floor under the first three pallets moved	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C2	Performed law (~75%) on the floor under the fourth pallet	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	1200/LAW†
C3	Performed law(~75%) on the floor under the fifth pallet moved	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C4	Performed direct surveys on/ under all five pallets	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C5	Performed laws(~60%) on all drums on the five pallets prior to movement	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C6	Performed laws (~60%) on the forklift tines left side and direct frisked	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A/LAW †	360/LAW †
C7	Performed laws (~60%) on the forklift tines right side and direct frisked	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C8	Re-survey of law (~80%) on the left tine of forklift	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101317	

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	Re-survey of floor under the fourth pallet with a law (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

Map/Sketch



Map Name: 2404 WB	Map Description: Survey of the ten pallets that where to be moved to rows 17 & 19

Legend [#] Direct Measurement | A Air Sample | (#) Smear | L# LAW | ◇ Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

A1	GWP1101314	A2	WP23755

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
Gooseneck	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	5-23-2011	Judith Hosier

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	MAY 23 2011	[illegible]

History

2011-05-11 06:58:53 - Submitted
2011-05-11 07:04:37 - UnSubmitted corrections made
2011-05-11 07:08:59 - Submitted
2011-05-15 12:00:33 - UnSubmitted CORRECTIONS MADE
2011-05-15 12:42:28 - Submitted
2011-05-17 09:59:31 - UnSubmitted CORRECTIONS MADE
2011-05-23 03:20:28 - Submitted
2011-05-23 03:33:38 - UnSubmitted corrections made
2011-05-23 03:33:51 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101324

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	0900 / 1600	200 WEST / 2404 WB / WB outside ca / East entryway	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, IH, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Release of Various items from CA outside the 2404 WB east entryway. Identification numbers of all equipment listed in the maps/sketch area.

Comments: Tech smears counted per WRP1-OP-1230.
LAWs performed in accordance with WMP-350 sec 6.2.
All items were moved to a low background location to be directed with a GM.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	smears/directs on masks (2 smears each)	50	1	N/A	N/A	<5000†	<100†	N/A	N/A	<1000†	<20†
C2	smears/directs on PAPR units (4 smears each)	50	1	N/A	N/A	<5000†	<100†	N/A	N/A	<1000†	<20†
C3	smears/directs on lapel pumps	50	1	N/A	N/A	<5000†	<100†	N/A	N/A	<1000†	<20†
C4	LAW of masks (90%))	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C5	LAW of PAPR (90%))	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C6	LAW of LAPEL PUMPS (90%))	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW

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Map/Sketch

MASKS	PAPR Unit	Lapel Pumps
1003	703	1448
980	717	2123
922	713	1874
1473	709	2122
985	711	4551
993	720	4545
	715	4094
	719	4093
	701	2694
	718	4549
	707	
	716	

Map Name: List of items released from CA

Map Description: List of items released from CA outside 2404WB.

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101324

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
2360	SCLL8-0465	DTLLP-0572	0.10
2360	SCLL8-0463	DTLLP-0570	0.10
2929	SCLL4-0058	DTLLC-0071	β0.42 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	5/25/11	Noe Curiel

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 26 2011	C W

History

2011-05-20 01:42:35 - Submitted
2011-05-25 07:40:32 - UnSubmitted corrections
2011-05-25 07:41:27 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101325	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	1330 / 1530	200 WEST / 2404 WB / na / HCA	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: See Job Description
- [x] Other: 2404 WB Clean Up

Description of Work/Comments:

Investigative Survey during clean-up of HCA. Remove 5 pallets of drums from spill area. Move forklift to clean area and move 3 drums from Tarped area and place in clean area.

Comments: Page 3 map shows the area in its original configuration and page 4 map is how area looks currently. Pallets and drums were taken to clean area west of spill. LAW'S PERFORMED IN ACCORDANCE WITH WMP.350 SECTION 6.2.
Air Sample Taken At Approx. 4' Elevation.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Work Area	F	1	1	3	1	N/A	1	1

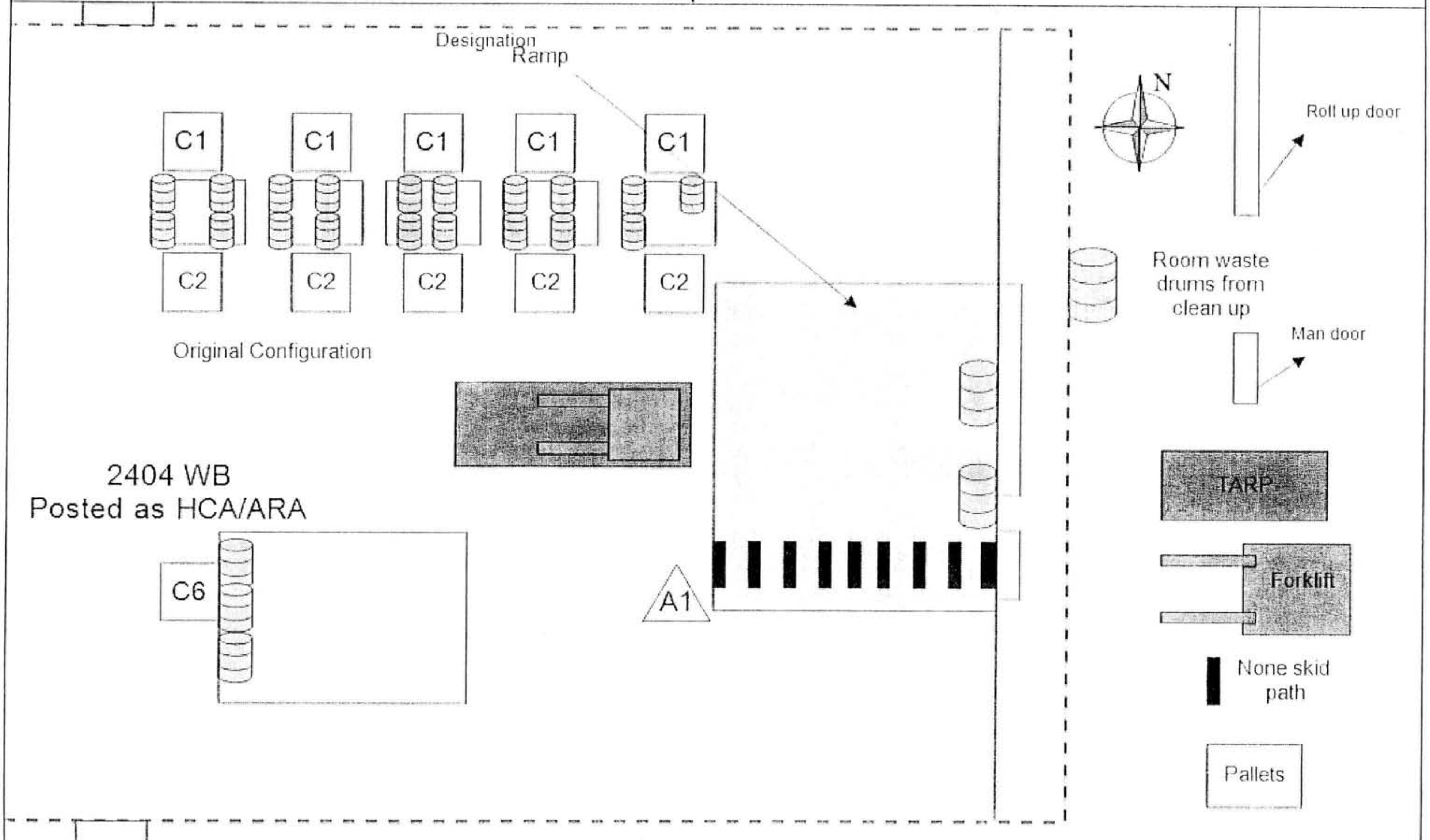
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of pallets and drums prior to move.(80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<D/LAW†
C2	Direct of floor under pallets.	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	LAWs of floor under pallets.	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A†	<D/LAW†
C4	Direct of forklift taped over tires.	N/A	0	N/A	0	NA†	<500†	N/A	6	N/A†	N/A†
C5	Direct and LAWs of tarp and craft paper used to cover floor to move forklift.	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	<D/LAW†
C6	LAWs of 3 drums removed from tarped area	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A†	<D/LAW†
C7	Tech smears random of floor,pallets,drums to quantify negative indications from LAWs and direct readings	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<100†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101325	Page 2 of 4

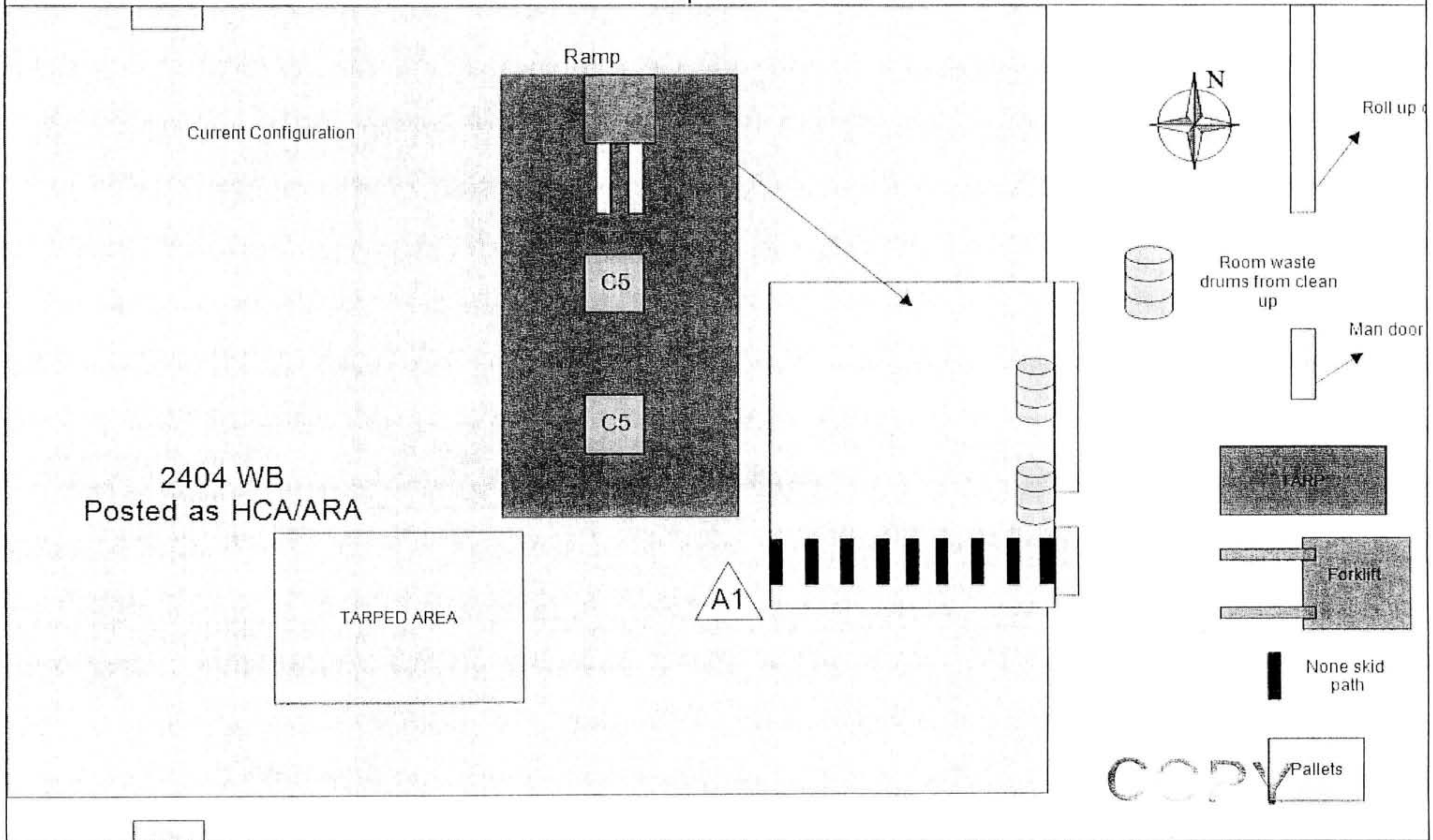
Map/Sketch



Map Name: 2404WB	Map Description: ORIGINAL CONFIGURATION

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404WB				Map Description: CURRENT				
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements

A1	GWP-WP1101312

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
Bumble Bee CP	ICHN2-0003	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hendricks, Gordon	h0070265	5/12/11	[signature]

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	MAY 15 2011	[signature]

History

2011-05-12 06:48:04 - Submitted
2011-05-12 06:52:11 - UnSubmitted SPELLING
2011-05-12 11:38:16 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101327	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	2000 / 2330	200 WEST / 2404 / N/A / Warehouses	WP-001/REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004
- [x] Job Coverage: Drum movement
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003, WP-SH004

22 drum movement from 2404 WC to 2336 W.

Comments: LAWs performed in accordance with WMP-350, Section 6.2. Technical smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	WP-SH003; Highest Dose	F	3	3	2	1	<0.2	3	3
D2	WP-SH004; Highest Dose	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	WP-W035 HIGHEST	F	16	16	2	1	0.2	16.2	16.2
D4	22 drum movement	F	6	6	2	1	<0.2	6	6

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		$\beta\gamma$	α	$\beta\gamma$	α	$\beta\gamma$	α	$\beta\gamma$	α	$\beta\gamma$	α
C1	WP-SH003 (12 TECH SMEARS) OF EXTERIOR DOORS AND VENTS OF 2404 WB	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C2	WP-SH004/ WP-W035 LAWS (~10%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 22 drums (~35%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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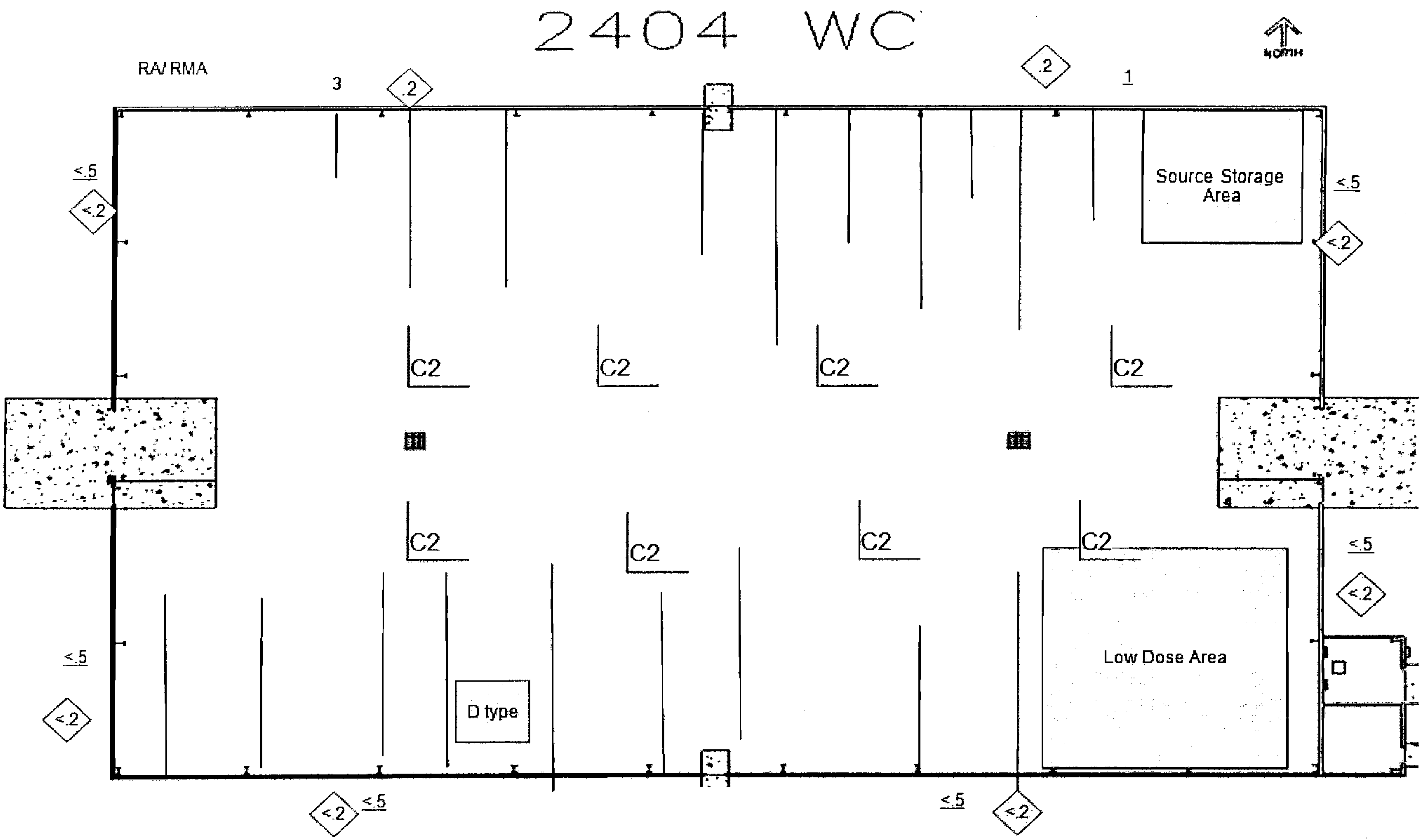
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101327		

Map/Sketch



Map Name: 4 WC	Map Description: for W-035

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/11/2011 10:54:59 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ A-6004-663-SS (Rev. 0)

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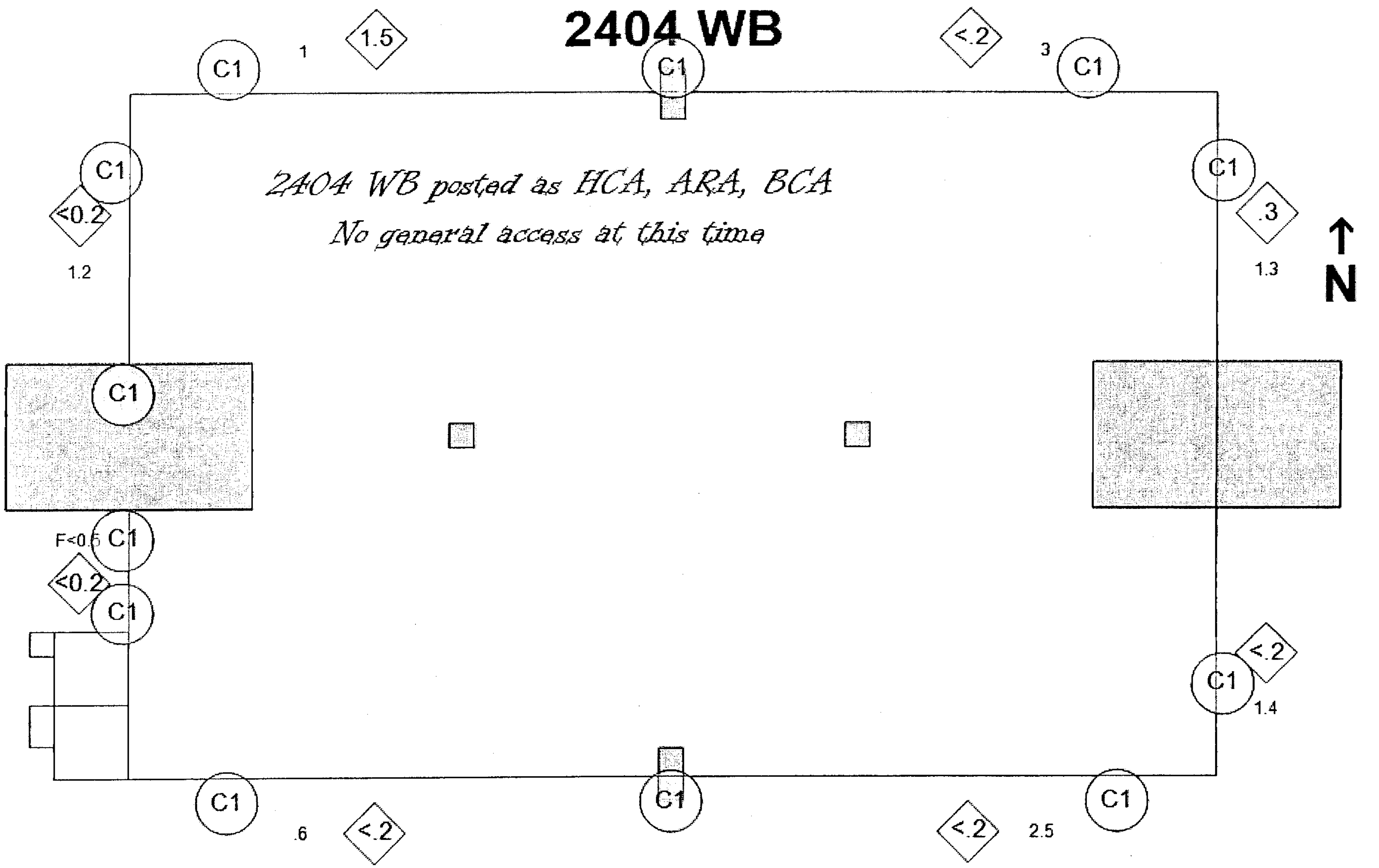
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101327	

Map/Sketch



Map Name: 2404WB	Map Description: WP-SH003

Legend	# Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/11/2011 10:54:59 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101328

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/11/2011	1530 / 1830	200 WEST / 2404 WB / 2404 WB / WRAP	WP-574 Rev 4

Purpose of Survey

- [x] Material Release
  - Number: PRC-PRO-RP-40026,RSP-WP-10-001 REV1,RSP-WP-10-002 REV2,RSP-WP-10-003 REV1
  - Released to: WRAP Operations, Radcon
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Surveys of Equipment, Portable Instruments,Lapels, Masks, Drums, Laundry bags from the 2404 WB exterior CA. RBA and CA survey of the exterior WB posted areas post job.

Comments: TECH. SMEARS WERE COUNTED IAW WRP1-OP-1230. LAWS PERFORMED IAW WMP-350 SECTION 6.2

Lapels surveyed:

9091, 4553, 2937, 4096, 4546, 4551, 4543, 1549, 4095

PAPR's surveyed:

718, 719, 707, 701, 716, 703, 715, 713, 720

Instruments surveyed:

PAM ACHN2-0411/DTHN3-0662
PAM ACHN2-0010/DTHN3-0737
PAM ACHN2-0372/DTHN3-0166
BB ICHN2-0003

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2 waste drums, 3 laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Lapels labeled as Rad Material (9)	150	0	150	0	<5000†	<500†	10	10	<1000†	<500†
C2	(3)Masks,(5)Pams,(2) 2360's, (1) Bumble Bee CP, (2) Radios, Wet Bulb 3300-1, Socket Wrench, (9) PAPR's	150	0	150	0	<5000	<100	10	10	<1000	<20
C3	Lapels labeled as Rad Material (9). 100%	150	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C4	(3)Masks,(5)Pams,(2) 2360's, (1) Bumble Bee CP, (2) Radios, Wet Bulb 3300-1, Socket Wrench, (9) PAPR's, 100%	150	0	N/A	N/A	N/A	N/A	10	10	<D/LAW	<D/LAW
C5	(3) laundry bags, (2) waste drums, 60%	150	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C6	(3) laundry bags, (2) waste drums	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C7	Smears, directs of the RBA and CA exterior WB post job (15 smears each area, directs taken at each smear location)	150	0	N/A	0	N/A†	<500†	10	10	<1000†	<20†
C8	LAWS of the RBA and CA exterior WB post job (75%)	150	0	N/A	0	N/A†	<500†	10	10	<D/LAW†	<D/LAW†

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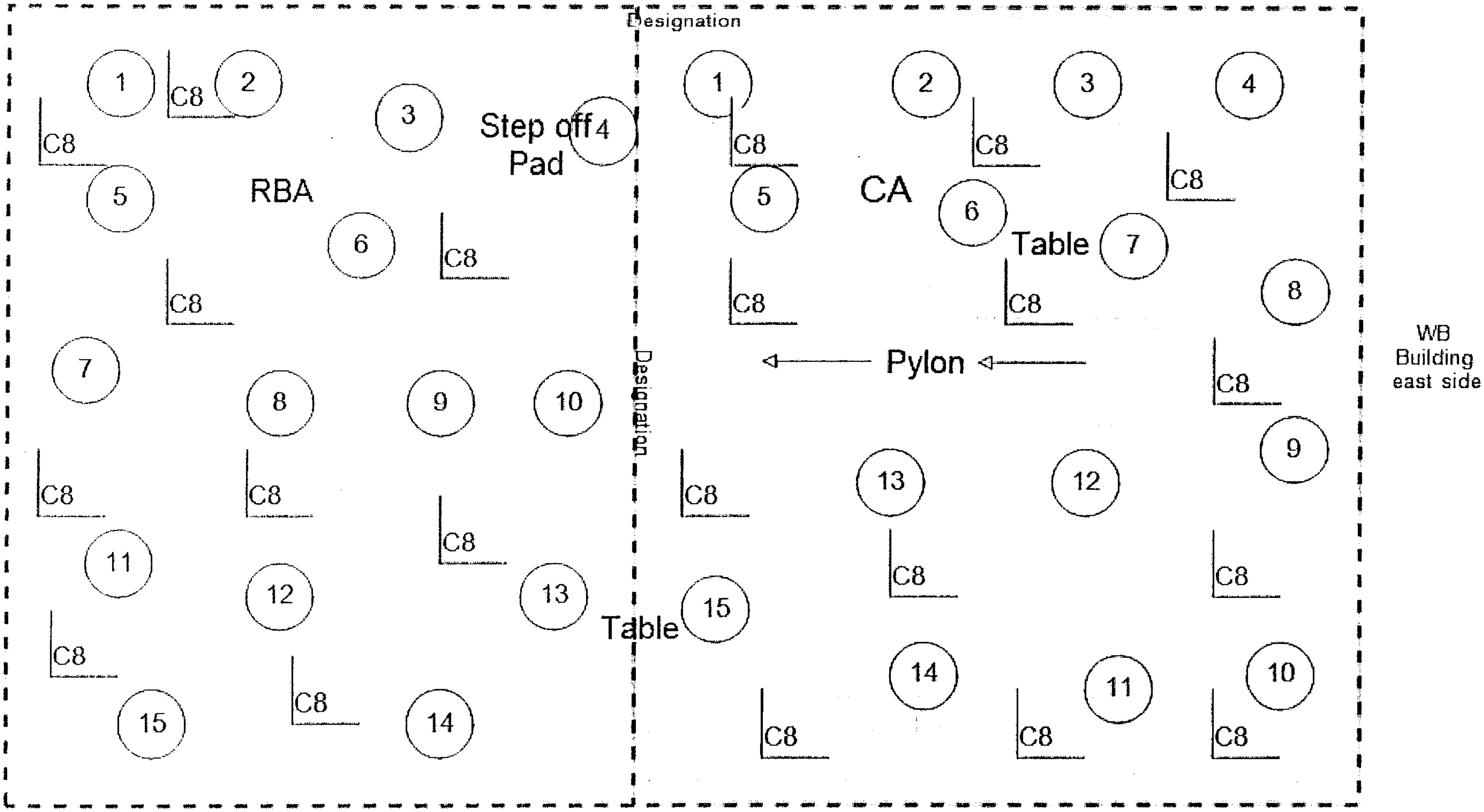
Map/Sketch



Map Name: 2404 WB Exterior CA/RBA | Map Description: Surveys of WB Exterior CA/RBA

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101328

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0414	N/A	N/A
Ludlum 2360	SCLL8-0465	DTLLP-0572	0.10
Ludlum 2360	SCLL8-0463	DTLLP-0570	0.10
GM	CMEB3-0033	DTHNC-0328	0.10
Ludlum 2929	SCLL4-0056	DTLLC-0069	β0.39 α0.37
Ludlum 2929	SCLL4-0058	DTLLC-0071	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Park, Nancy	h7274392	5-11-11	
Stancil, Barbara	h5717168	5-11-11	B. Stancil
MASSIE, JARED	h0527264	5·11·11	Jared R. Massie

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 12 2011	

History

2011-05-11 10:15:05 - Submitted
2011-05-12 06:09:49 - UnSubmitted Additional information
2011-05-12 06:31:12 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101334

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	0910 / 1330	200 W / 2404 WB / N/A / N/A	WP-574 / Rev 4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-W037
- ☑ Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

Survey to include investigative around tarped areas and to remove brown tarp in front of spill area. Decon performed with wet wipes. Dose rates in area to complete the weekly task.

Comments: LAW'S PERFORMED IN ACCORDANCE WITH WMP.350 SECTION 6.2. Air Sample Taken At Approx. 4' Elevation. All direct readings of contaminated areas, excluding C10 and C 12 on East end of white tarp and atop brown tarp, were approximately 50cm2 size (1 probe area). Brown tarp was removed and placed into bag and then put into 55 gallon drum. Batch numers listed in air sample log for Lapels.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Work Area	F	1	1	3	1	N/A	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs bare floor areas pre/post	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<D/LAW†
C2	Direct/Smear of floor around tarp area. (North Edge)	N/A	0	N/A	800	N/A†	4800†	N/A	6	N/A†	300†
C3	Direct/Smear of floor around tarp area. (West Edge)	N/A	0	N/A	2000	N/A†	12000†	N/A	6	N/A†	1200†
C4	Direct/Smear of floor around tarp area. (East Edge)	N/A	0	N/A	400	NA†	2400†	N/A	6	N/A†	<100†
C5	Direct/Smear of floor around tarp area.(North Edge) Post Decon	N/A	0	N/A	1000	N/A†	6000†	N/A	6	N/A†	<100†
C6	Direct/Smear of floor around tarp area. (West Edge) Post Decon	N/A	0	N/A	500	N/A†	3000†	N/A	6	N/A†	<100†
C7	Direct/Smear of floor around tarp area. (East Edge) Post Decon	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	<100†
C8	Direct/Smear of floor directly under tarp area.	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	<100†
C9	LAWs of rolled up tarp	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A†	<D/LAW†

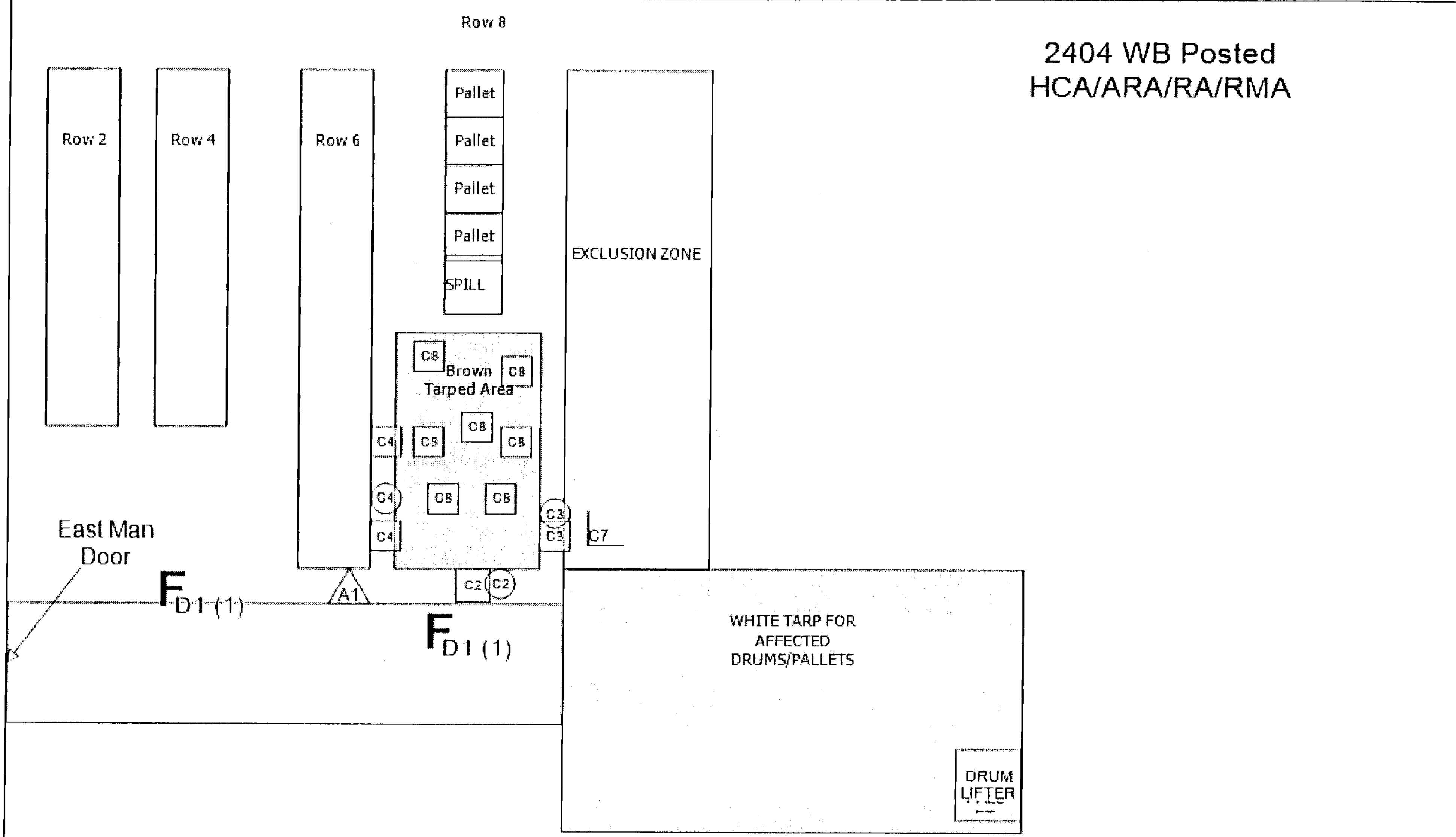
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C10	Direct/SmearTape on East edge of white tarp	N/A	0	N/A	1000	N/A†	12000†	N/A	6	N/A†	1200†
C11	Direct after tape applied over East Edge of White Tarp	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C12	Direct/smear ofTop of brown tarp generally contaminated with levels indicated	N/A	0	N/A	400	N/A†	4800†	N/A	6	N/A†	300†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101334	Page 3 of 4

Map/Sketch



Map Name: 2404 WB	Map Description: WB RECOVERY

Legend									
	# Direct Measurement	# Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101334	

Air Sample Measurements

A1	GWP-WP1101334	A2	Batch 23767,23768,23782,23783

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0010	DTHN3-0737	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
CP	ICEB3=0295	N/A	N/A
Tennelec	S5-XLB 75063	1430	β.39α0.25

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hendricks, Gordon	h0070265	5/18/11	[signature]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 19 2011	[signature]

History

2011-05-16 09:49:21 - Submitted
2011-05-18 06:43:36 - UnSubmitted Additional Info
2011-05-18 06:51:28 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101335

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	0800 / 1500	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 AND WP-SH004
- ☑ Job Coverage: MOVEMENTS
- ☐ Other: N/A

Description of Work/Comments:
WP-SH003 AND WP-SH004
Surveyed 28 drums from 2404WC to 2336W.
Surveyed 15 drums from 2404wc to 2336W.

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	2	1	3.0	4.2	4.2
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.4	1.4	2	1	<0.2	1.4	1.4
D3	MAX. DOSE ON 28 DRUM MOVEMENT	F	6	6	2	1	<0.2	6	6
D4	MAX. DOSE ON 15 DRUM MOVEMENT	F	15	15	2	1	<0.2	15	15

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF DOORS AND VENTS OF 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS 2 T/S TAKEN ON EACH VENT AND DOOR ACCESIBLE 24 T/S TOTAL	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW 60% OF EACH DRUM	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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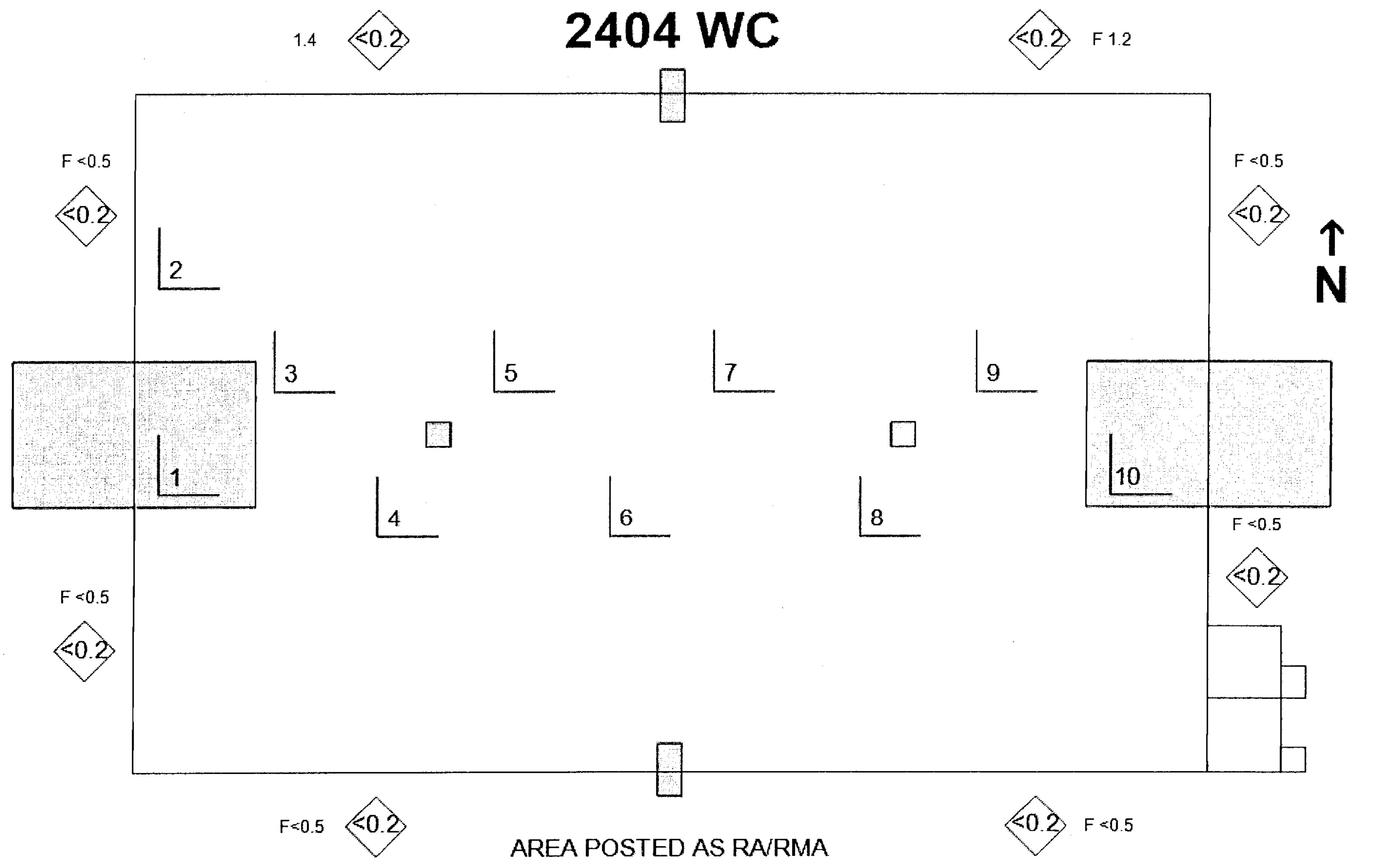
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101335

Map/Sketch

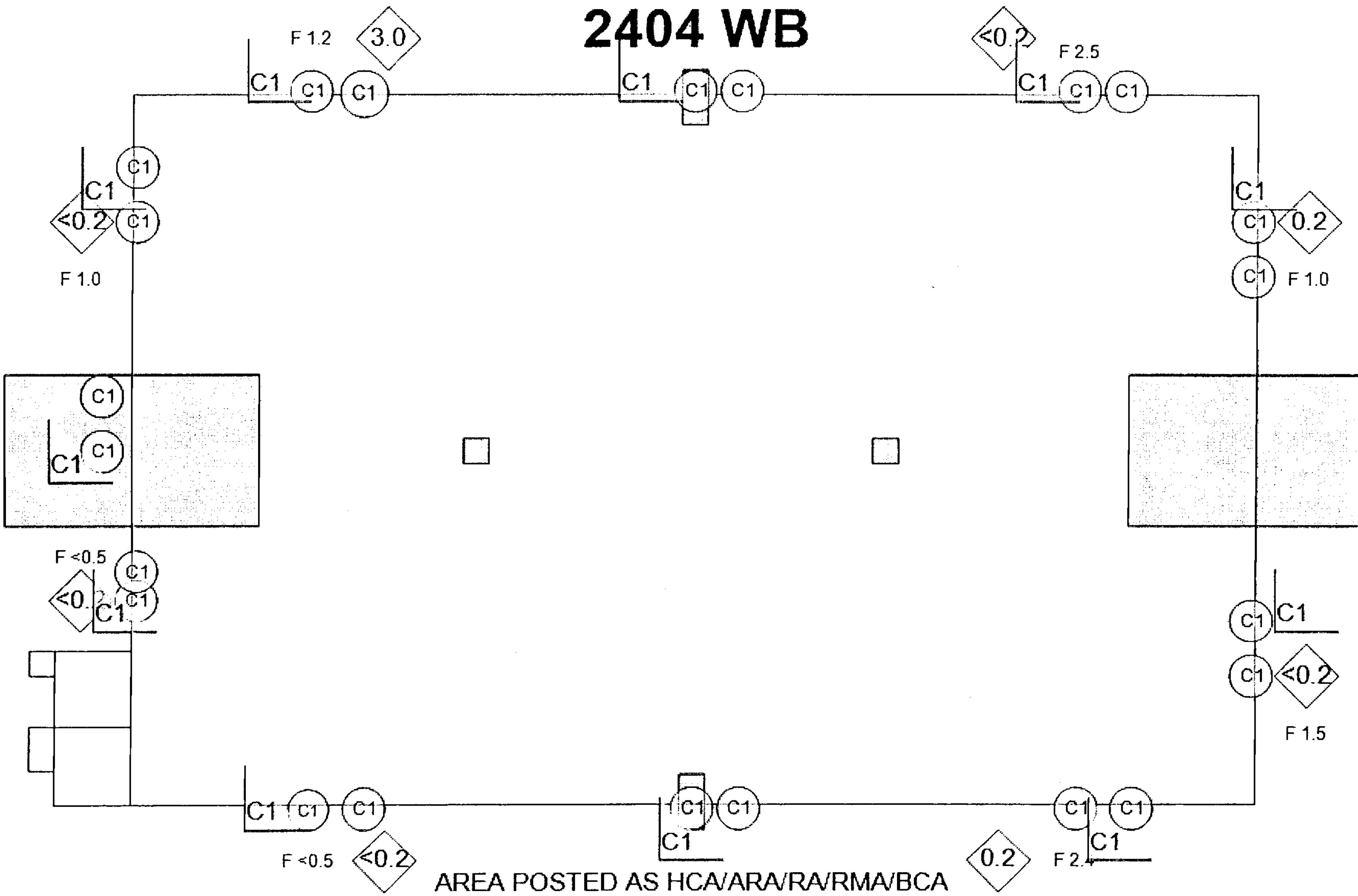


Map Name: 2404 WC | Map Description: WP-SH004

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003							
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101335	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0468	DTHN3-0525	0.16
GM	CMEB3-0039	DTEB9-0458	0.10
RO-20	ICEB4-1556	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Berg, Lindsey	H3344063	5/12/11	Lindsey Berg

Reviewers

Name	HID	Date	Signature
C Wielang	6192614	MAY 15 2011	C Wielang

History

2011-05-12 02:03:38 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101341

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1600 / 2300	200 WEST / 2404 WB / na / outside	WP-574/Rev 4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Release of respirators, lapels, and instruments from CA in front of 2404WB.

Comments: Used survey plans RSP-WP-10-002, Rev 2; RSP-WP-06-008, Rev 5; RSP-WP-10-001, Rev 1.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS.
DUE TO HIGH BACKROUND BETA/GAMMA DIRECTS ON FLOOR WERE NOT TAKEN.
TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	dose rate of 4 laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct on picnic table bench and door way	N/A	0	N/A	N/A	N/A†	<500†	N/A	N/A	N/A†	N/A†
C2	Tech smears of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Directs of released material	N/A	0	100	0	<5000†	<100†	10	10	N/A†	N/A†
C4	LAW's of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101341

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1600 / 2300	200 WEST / 2404 WB / na / outside	WP-574/Rev 4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Release of respirators, lapels, and instruments from CA in front of 2404WB.

Comments: Used survey plans RSP-WP-10-002, Rev 2; RSP-WP-06-008, Rev 5; RSP-WP-10-001, Rev 1.
EQUIPMENT WAS MOVED TO A LOW BACKGROUND AREA TO PERFORM BETA-GAMMA DIRECTS.
DUE TO HIGH BACKROUND BETA/GAMMA DIRECTS ON FLOOR WERE NOT TAKEN.
TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	dose rate of 4 laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct on picnic table bench and door way	N/A	0	N/A	N/A	N/A†	<500†	N/A	N/A	N/A†	N/A†
C2	Tech smears of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Directs of released material	N/A	0	100	0	<5000†	<100†	10	10	N/A†	N/A†
C4	LAW's of released material	N/A	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

COPY

Map/Sketch

Pam's:
ACHN2-0615
DTHN3-0658

ACHN2-0031
DTHN3-0379

ACHN2-0411
DTHN3-0862

ACHN2-0372
DTHN3-0166

ACHN2-0010
DTHN3-0737

BBCP
ICHN2-0001

CP
ICEB3-0295

Lapels:
4552
4554
4092
4548
2122
1549
2694
2937
4547

PAPR's:
719
711
716
720
709
717
701
715
703

Masks:
983
925
915

COPY

Map Name: WB entry

Map Description: Instruments, respirators released

Legend [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101341

Air Sample Measurements

A1	GWP1101308

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0465	DTLLP-0572	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10
Bumble Bee CP	ICHN2-0003	N/A	N/A
Goose neck	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	5-17-11	JConley

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 19 2011	CZW

History

2011-05-17 02:42:39 - Submitted
2011-05-17 02:44:11 - UnSubmitted NEEDS FIXED

2011-05-17 02:44:29 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101342

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1630 / 2330	200 W / 2404 WB / N/A / N/A	WP-574 / Rev 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB INSIDE COVERAGE

Comments: ALL LAWs PERFORMED IAW WMP-350 SECTION 6.2. TECH SMEARS COUNTED AS PER WRP1-OP-1230. BETA GAMMA SURVEYS NOT PERFORMED DUE TO BACKGROUND TOO HIGH.

UPON ENTRY INTO 2404WB THE AIR SAMPLE WAS STARTED. RCTs SURVEYED AND DECONNED FLOOR. AREAS DECONNED WERE CLEANED TO <100dpm/100cm2 ALPHA. THE CLEAN AREAs WERE COVERED WITH PAPER. AIR SAMPLE WAS SHUT OFF AND COLLECTED. NCOs & RCTs EXITED THE BUILDING.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

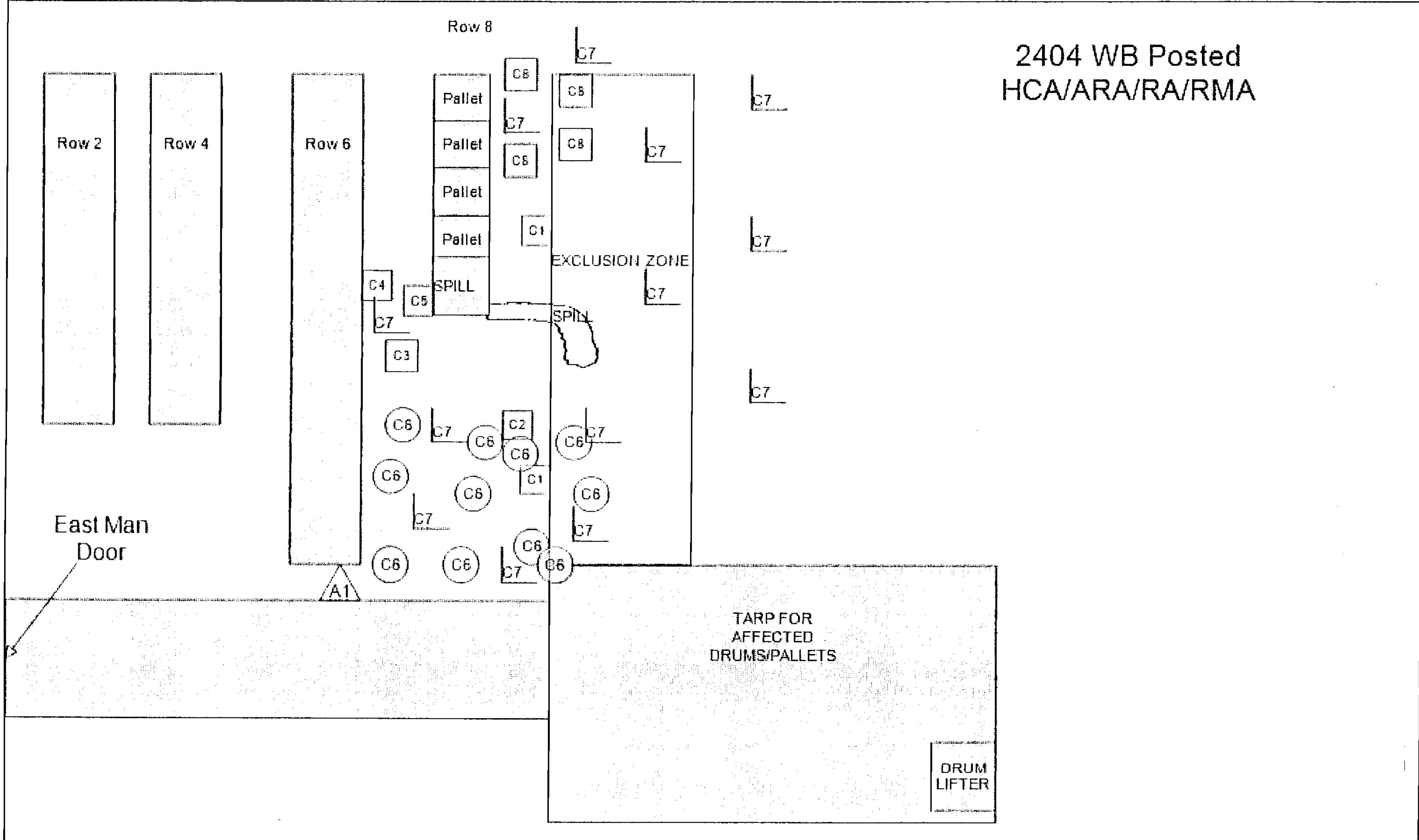
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	DIRECTS OF FLOOR - PRE DECON	N/A	0	N/A	100	N/A	600	N/A	6	N/A	N/A
C2	DIRECTS OF FLOOR - PRE DECON	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C3	DIRECTS OF FLOOR - PRE DECON	N/A	0	N/A	400	N/A	2400	N/A	6	N/A	N/A
C4	DIRECTS OF FLOOR - PRE DECON	N/A	0	N/A	1000	N/A	6000	N/A	6	N/A	N/A
C5	DIRECTS OF FLOOR AREA NEAR SPILL - NOT DECONNED	N/A	0	N/A	4000	N/A	24000	N/A	6	N/A	N/A
C6	T/S & DIRECTS OF FLOOR - POST DECON	N/A	0	N/A	0	N/A†	<100†	N/A	6	<1000†	<20†
C7	LAWs OF FLOOR ~ 30%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C8	DIRECTS OF FLOOR - PRE DECON	N/A	0	N/A	40	N/A	240	N/A	6	N/A	N/A

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101342

Map/Sketch



Map Name: 2404 WB			Map Description: WB RECOVERY					
Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101342	

Air Sample Measurements

A1	GWP-1101342	A2	WP-23769

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0615	DTHN3-0658	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
RADECO	ASSA1-664	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
TeNNELEC	0403421	1924	β0.42 α0.27

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-18-11	

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-20-11	T. Terry

History

2011-05-13 02:46:38 - Submitted
2011-05-18 09:42:41 - UnSubmitted Corrections
2011-05-18 09:45:01 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101343

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1600 / 2100	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 AND WP-SH004
- [x] Job Coverage: MOVEMENTS
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 AND WP-SH004
Surveyed 28 drums from 2404WC to 2336W.

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.1	1.1	2	1	2	3.1	3.1
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1	1	2	1	<0.2	1	1
D3	MAX. DOSE ON 28 DRUM MOVEMENT	F	6	6	2	1	<0.2	6	6

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS 1 T/S TAKEN ON EACH VENT AND DOOR ACCESIBLE 12 T/S TOTAL	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW 60% OF EACH DRUM	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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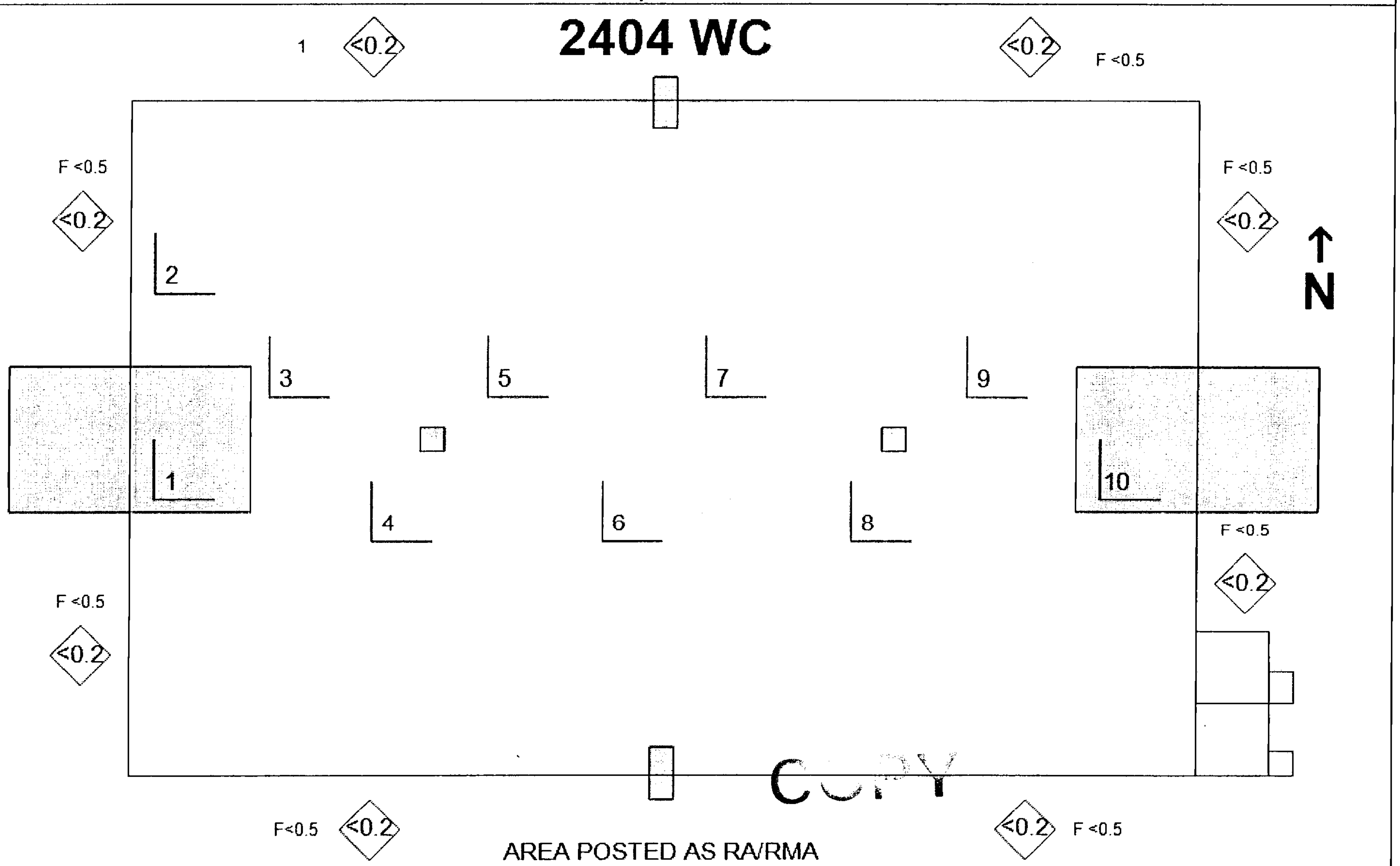
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101343	. age 2 of 4

Map/Sketch

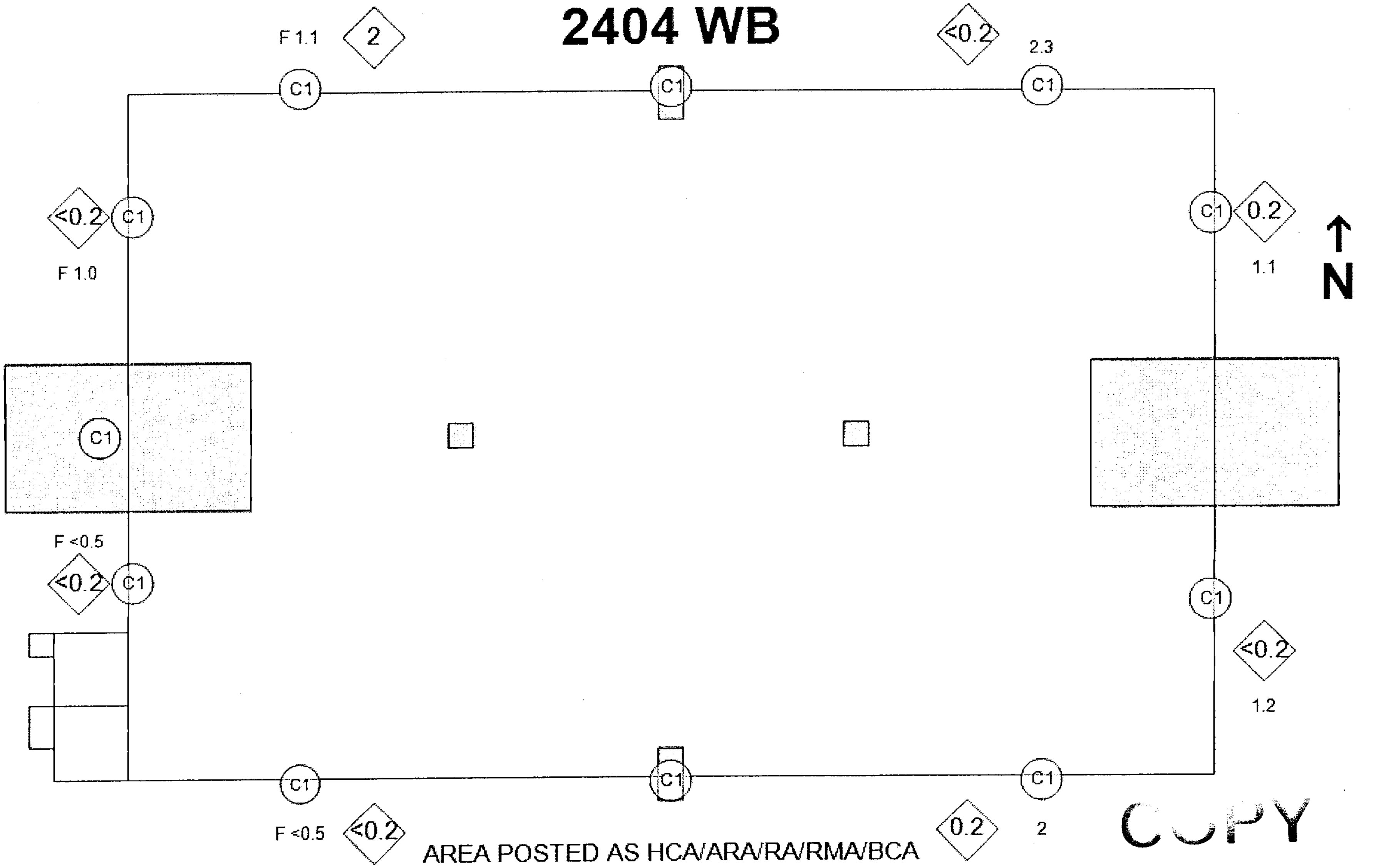


Map Name: 2404 WC	Map Description: WP-SH004

Legend								
# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101343	

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/12/2011 08:46:13

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A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101343

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0468	DTHN3-0525	0.16
GM	CMEB3-0039	DTEB9-0458	0.10
RO-20	ICEB4-1556	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	**h0527264**	5·12·11	Jared R. Massie
Stancil, Barbara	h5717168	5-12-11	B. Stancil
Park, Nancy	h7274392	5-12-11	N Park

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 15 2011	C Rew

History

2011-05-12 08:46:13 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101345

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1300 / 2200	200 WEST / 2336 W / 2404 WB / Southern Exclusion Zone	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

2404 WB Recovery - 2nd and 3rd entries on 5/12/11. The 2nd entry involved survey of West side of exclusion zone (between Exclusion Zone and Row 10) and between rows 10 and 12. The 3rd entry involved survey and movement of pallets of drums in the Exclusion Zone to Row 10.

Comments: Air sampler was placed in the location shown on map since most work on this recovery plan encompassed the entire area indicated on the survey map. In addition, all workers in the HCA/ARA/RA in 2040 WB wore lapel air samplers on their exterior PPE and were counted separately (see RSR # 1101334 & WP1101342)
Two attempts at decontamination of the metal pallet from the Exclusion Zone nearest the flow of the spill failed - no removable containation. 80 cpm found with a direct survey, therfore covered area with duct tape and labled with"80 cpm).
***LAW of floor area next to "clean" forklift was not marked due to time and work scope limitations during the 3rd entry on 5/12/11.
Direct surveys during entry did NOT include Beta/Gamma due to high background Beta/Gamma readings.
LAWS performed in accordance with WMP-350 SECTION 6.2.
Tech smears counted per WRP1-OP-1230. Tech Smears not counted for Beta/Gamma prior to counting on scaler due to high Beta/Gamma background.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Area Dose Rate	F	2.0	2.0	3	1	N/A	2	2

Contamination Measurements

† Manually Calculated by RCT

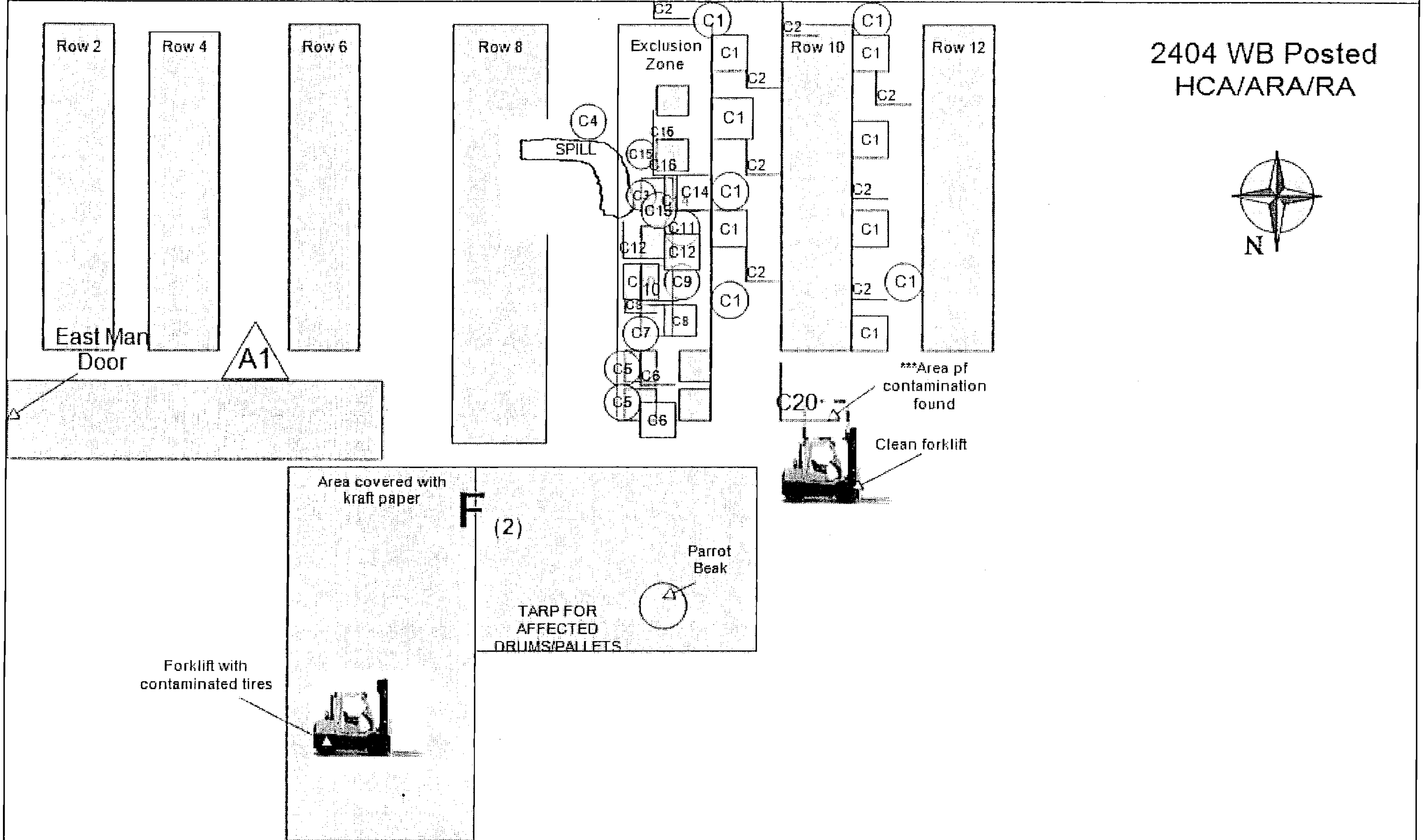
No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Tech Smears on floor between Exclusion Zone and Rows 10 & 12 (5 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	Direct surveys and LAWS (~90%) of floor between Exclusion Zone and Row 10 and Rows 10 and 12.	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C3	Tech smear of 4th pallet nearest to flow of spill in Exclusion Zone (1 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	28†

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C4	Tech smears of area in Exclusion Zone above flow of spill (1 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	N/A†	14†
C5	Tech smears of bottom of 2 spill pallets in Exclusion Zone nearest to Row 8 (2 TS each)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	Directs and LAWs (~90%) of bottomand sides of 4 spill pallets in Exclusion Zone nearest Row 8	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C7	Tech smears on bottom of 1st pallet with drums on north end of the Exclusion Zone nearest to Row 8 (2 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C8	Directs and LAWs (~90%) on bottom of 1st pallet with drums on north end of Exclusion Zone nearest to Row 8	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C9	Tech smears on bottom of 2nd pallet with drums in Exclusion Zone nearest to Row 8 (2 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C10	Directs and LAWs (~90%) on bottom of 2nd pallet with drums in Exclusion Zone nearest to Row 8	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C11	Tech smears on bottom of 3rd pallet with drums in Exclusion Zone nearest to Row 8 (2 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C12	Directs and LAWs (~90%) on bottom of 3rd pallet with drums in Exclusion Zone nearest to Row 8	N/A	0	N/A	0	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C13	Tech smears on bottom of 4th pallet with drums in Exclusion Zone to (nearest the spill flow) in Row 8 (2 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C14	Directs and LAWs (~90%) on bottom of 4th pallet flow with drums in Exclusion Zone (nearest the spill flow) in Row 8	N/A	0	N/A	80	N/A†	480†	N/A	6	N/A/LAW †	240/LAW †

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C15	Tech smears on bottom of 5th pallet with drums in Exclusion Zone nearest to Row 8 (2 TS)	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C16	Directs and LAWs (~90%) on bottom of 5th pallet with drums in Exclusion Zone nearest to Row 8	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C17	Directs and LAWs (~20%) on top of 5th pallet (on corner closest to spill flow) with drums in Exclusion Zone nearest to Row 8 pre-decon	N/A	0	N/A	50	N/A†	300†	N/A	6	N/A/LAW †	120/LAW †
C18	Directs and LAWs (~20%) on top of 5th pallet (on corner closest to spill flow) with drums in Exclusion Zone nearest to Row 8 post-decon	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A/LAW †	1800/LAW†
C19	Area of contamination on floor found with LAW in an area thought to be clean (see *** on map)	N/A	0	N/A	300	N/A†	1800†	N/A	6	N/A†	N/A†
C20	LAWs (~50%) of floor area over which the contaminated forklift drove during movement of pallets in Exclusion Zone to Row 10	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	1800/LAW†

† Manually Calculated by RCT

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Recovery - 2nd & 3rd entries on 5/12/77

Legend

[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101345	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0615	DTHN3-0658	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
PAM	ACHN3-0010	DTHN3-0737	0.16
Bumble Bee CP	ICEB3-0295	N/A	N/A
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/15/11	M. McKenna

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 16 2011	[illegible]

History

2011-05-15 10:48:22 - Submitted
2011-05-15 10:51:45 - UnSubmitted Correction
2011-05-15 10:57:14 - Submitted
2011-05-15 11:30:05 - UnSubmitted Correction
2011-05-15 11:40:49 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101346

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/13/2011	0800 / 0930	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 AND WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 AND WP-SH004

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.2	1.2	3	1	3.0	4.2	4.2
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	2	2	3	1	<0.2	2	2

Contamination Measurements

† Manually Calculated by RCT

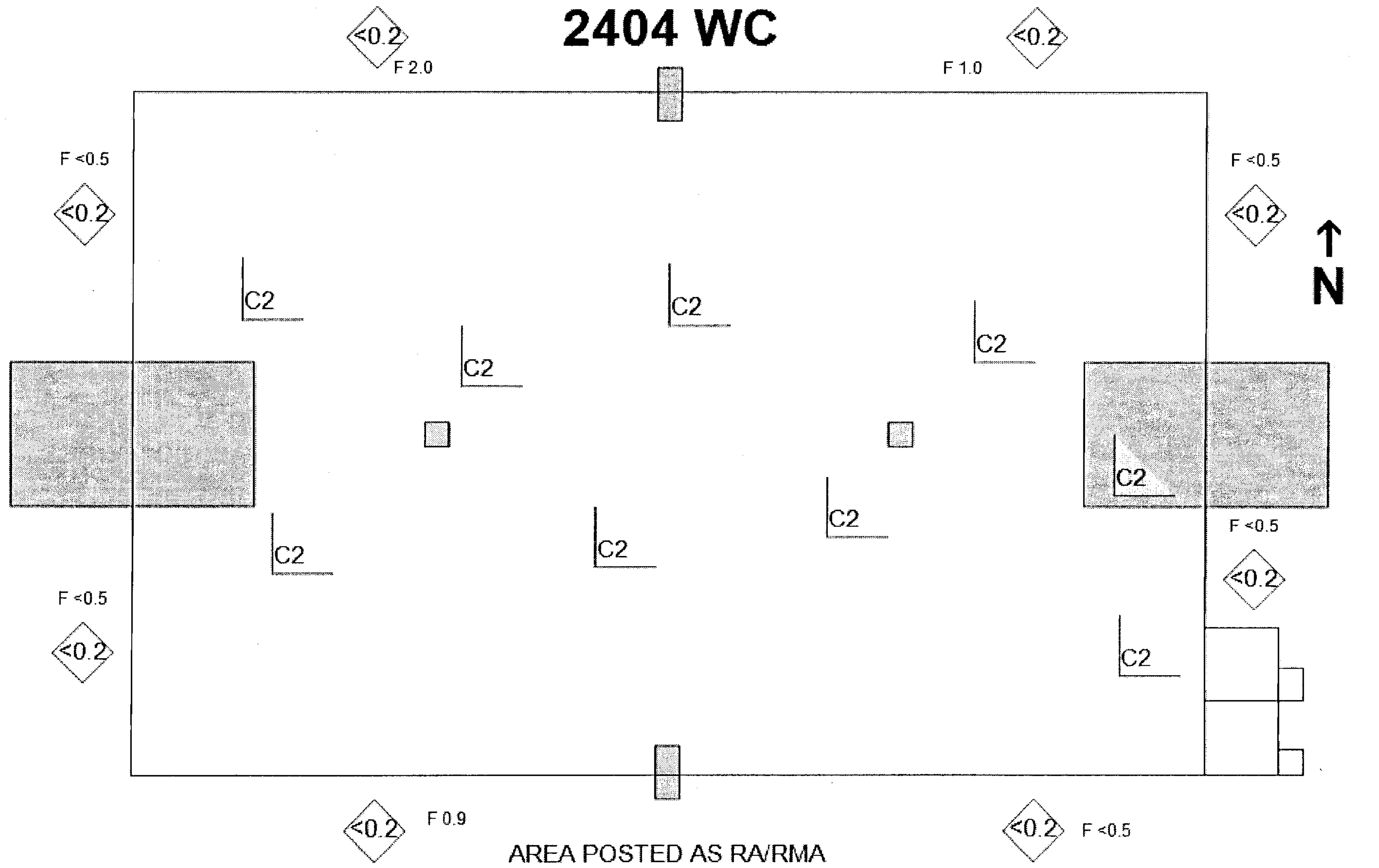
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF DOORS AND VENTS OF 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (20%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	TECH SMEARS OF 2404 WB VENTS AND DOORS 2 T/S TAKEN ON EACH VENT AND DOOR.	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

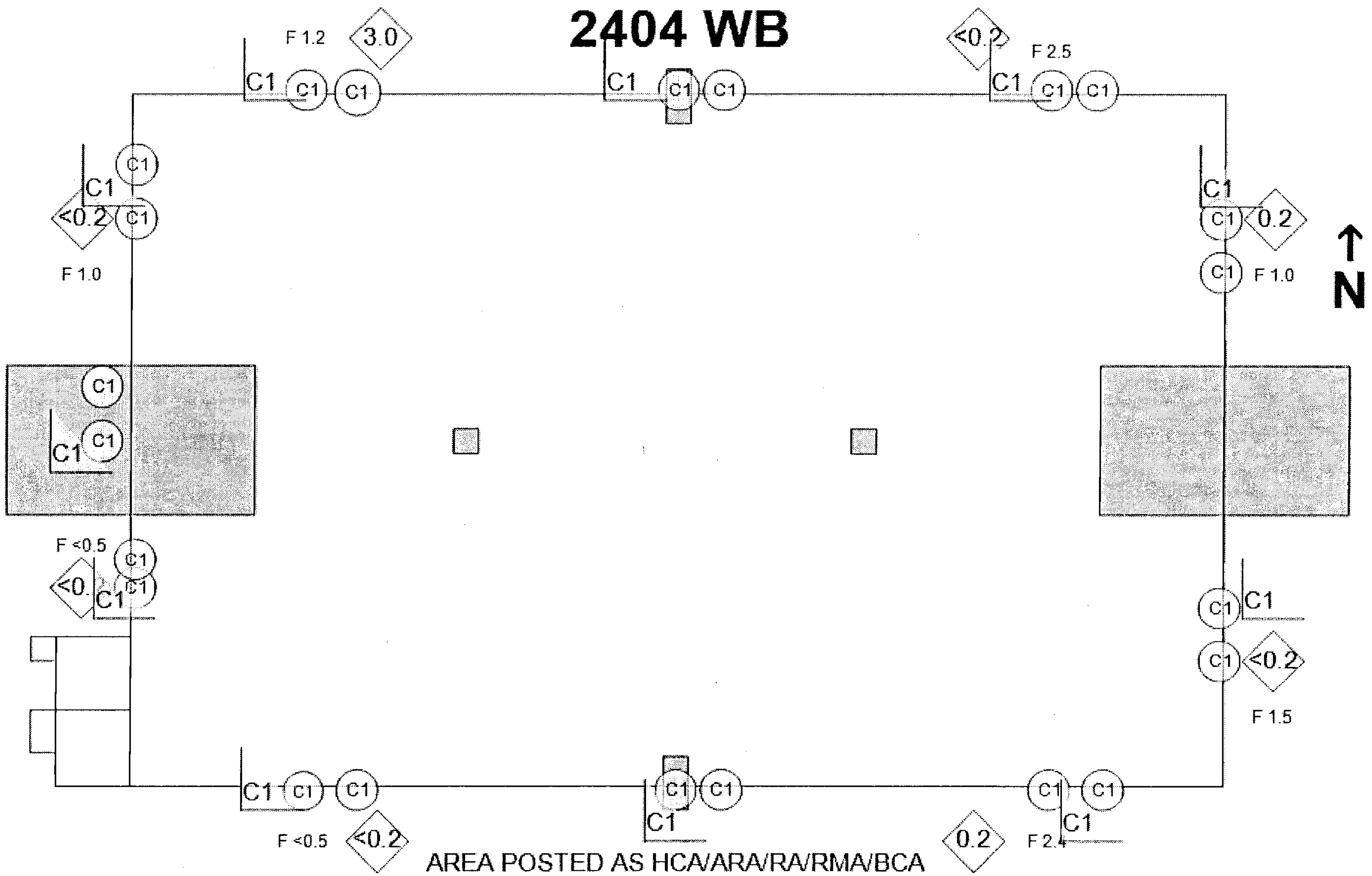
RSR No. WP-1101346

Map/Sketch



Map Name: 2404 WC			Map Description: WP-SH004						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ----------			Radiological Area Boundary			Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003

Legend: # Direct Measurement | Air Sample | # Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101346	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0010	DTHN3-0737	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
CP	ICEB3-0414	N/A	N/A
Ludlum 2929	SCLL0067	DTLLC-0077	β0.38α0.357

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Orth, Darrell	h8362903	5/13/11	[illegible]

Reviewers

Name	HID	Date	Signature
CWielAng	6197614	MAY 15 2011	[illegible]

History

2011-05-13 09:45:31 - Submitted
2011-05-13 11:15:46 - UnSubmitted A/I
2011-05-13 11:17:02 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101356

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/12/2011	1300 / 1630	200 W / 2404 WB / N/A / N/A	WP-574 / Rev 4

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP -RP-11-03
- [ ] Verification survey α = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Verification survey βγ = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Other:

N/A

Description of Work / Comments:

WB INSIDE COVERAGE: MOVING DRUM MOVER TO NW CORNER OF WHITE TARP

Comments: ALL LAWs PERFORMED IAW WMP-350 SECTION 6.2. TECH SMEARS COUNTED PER WRP1-OP-1230. BETA GAMMA DIRECT SURVEYS NOT PERFORMED DUE TO BACKGROUND TOO HIGH.

LAYED DOWN CLEAN PAPER BEHIND DRUM MOVER TO THE NW CORNER OF WHITE TARP. MOVED DRUM MOVER ONTO PAPER AND WRAPPED PAPER UP AND TAPED TO SIDES OF DRUM MOVER. SURVEYED AND DECONNED WHITE TARP UNDER ORIGINAL LOCATION AND ALONG PATH TO FINAL LOCATION. AREAS DECONNED WERE CLEANED TO <500dpm/100cm2 ALPHA. NCO & RCT EXITED THE BUILDING.

SEE RSR No. WP1101334 FOR AIR SAMPLE DATA

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	DIRECTS OF TARP - PRE DECON	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A	N/A	N/A	N/A
C2	DIRECTS OF TARP - PRE DECON	N/A	0	N/A	100	N/A	600	N/A	6	N/A	N/A	N/A	N/A	N/A
C3	DIRECTS OF TARP - POST DECON	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A	N/A	N/A	N/A	N/A
C4	DIRECTS OF TARP - POST DECON	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A	N/A	N/A	N/A	N/A

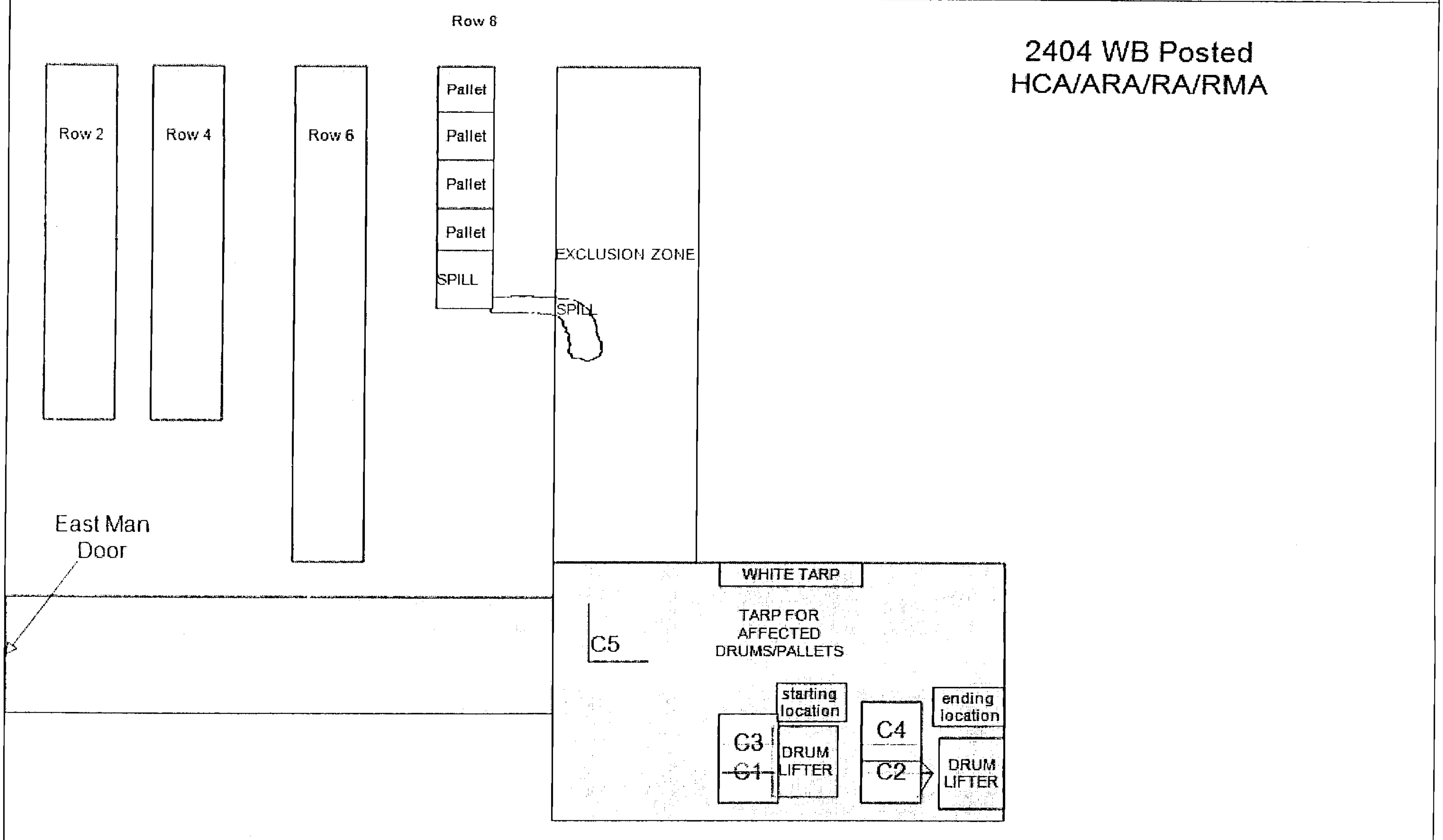
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C5	LAW OF WHITE TARP @ 20%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	LAW	N/A	0	N/A	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101356	Page 3 of 4

Map/Sketch



Map Name: 2404 WB	Map Description: WB RECOVERY

Legend										
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.			

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101356	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	7-8-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	7-8-11	[illegible]

History

2011-07-08 09:58:59 - Submitted

Date Submitted: 07/08/2011 09:58:59

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101361

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/16/2011	0800 / 1530	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004 & WP-W044
- [x] Job Coverage: Drum Movements
- [ ] Other: N/A

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.
Completed Weekly in HERTR. WB doors and vents were surveyed due to restricted access and HCA/ARA posting.
Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown.

4 SWBs moved from WC to HERTR
Received 95 drums from CWC to WC.

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Smears counted per WRP1-OP-1230

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

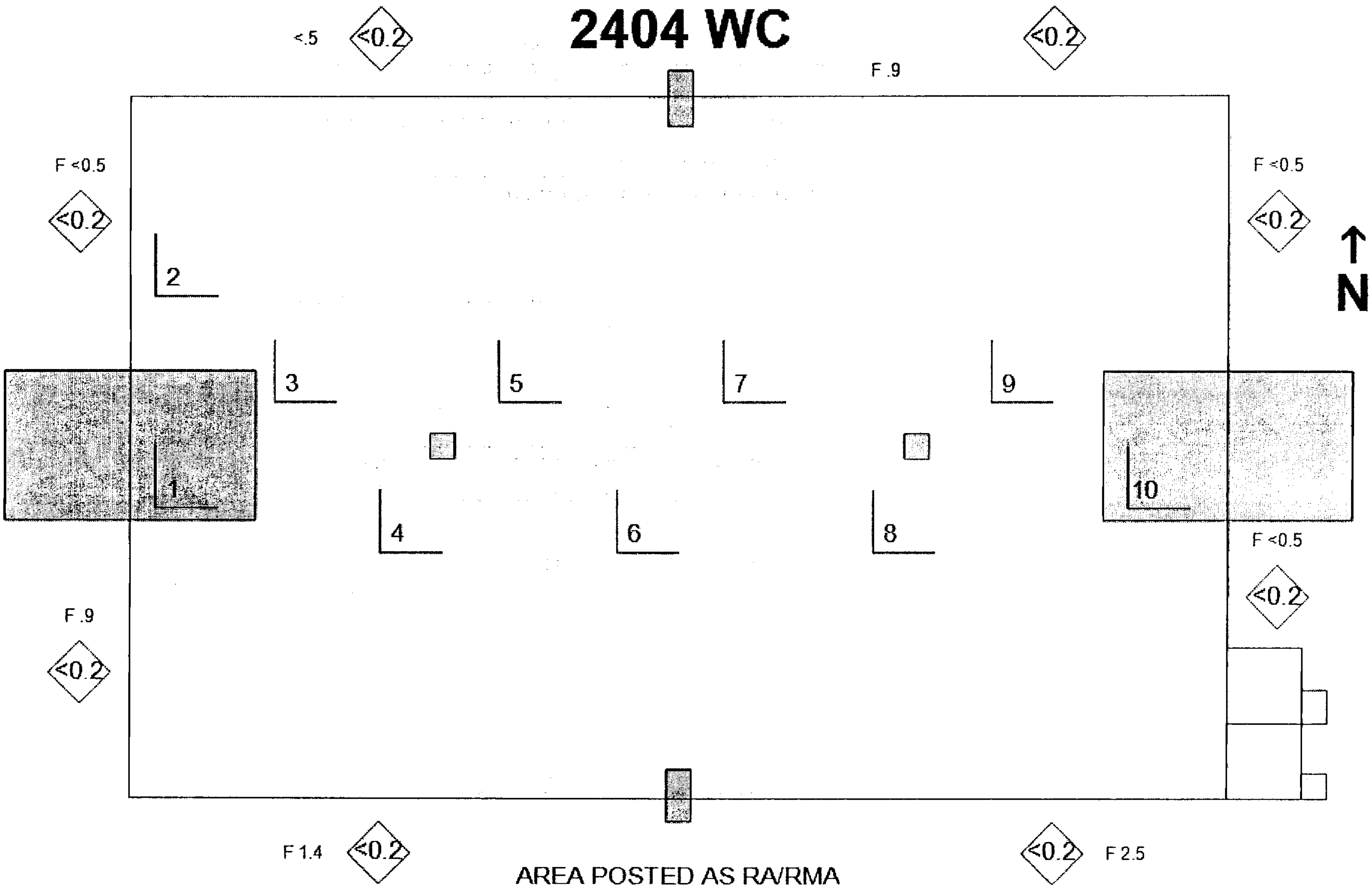
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.3	1.3	3	1	2	3.3	3.3
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	2.5	2.5	3	1	<0.2	2.5	2.5
D3	MAX. DOSE ON 95 DRUM MOVEMENT	F	10	10	3	1	<0.2	10	10
D4	Dose Rate in HETRT	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	10	<D/LAW	<D/LAW
C2	Tech Smears on WB Vents (2 smear per vent)	50	0	N/A	N/A	N/A	N/A	10	10	<1000	<20
C3	LAW's @ 30% on WB Doors	50	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C4	LAWs @ 20% on each Drum & SWB moved	50	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C5	LAW's @ 20% in HERTR	50	0	N/A	N/A	N/A	N/A	10	10	<D/LAW	<D/LAW

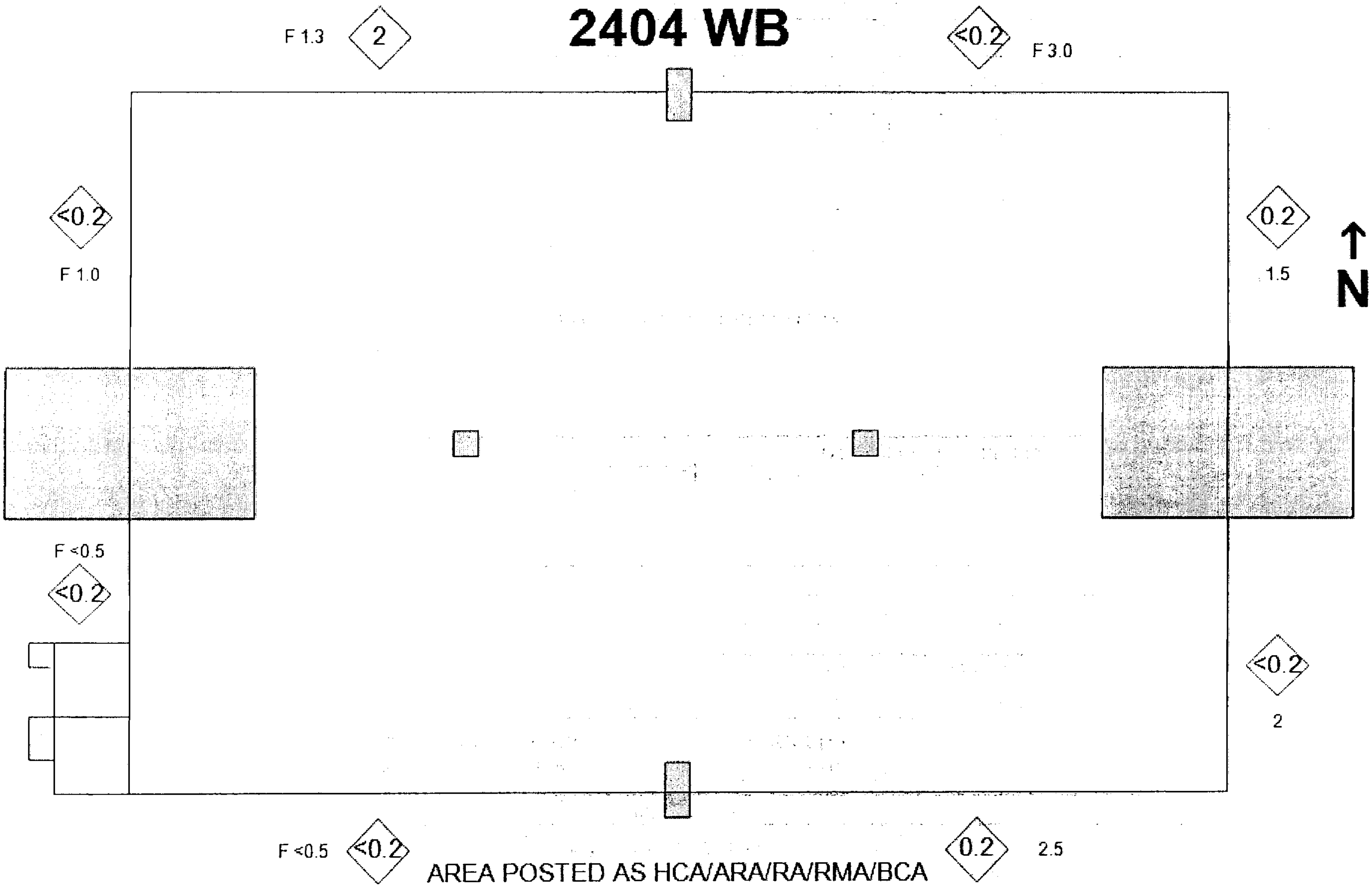
Map/Sketch



Map Name: 2404 WC		Map Description: WP-SH004							
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101361	

Map/Sketch



Map Name: 2404 WB	Map Description: WP-SH003

Legend: # Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101361

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
GM	CMEB3-0292	DTHNC-0890	0.10
CP	ICEB3-0414	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
Ludlum 2360	SCLL8-0269	DTLLP-0375	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	5-16-11	Rami Atallah

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 16 2011	C Wielang

History

2011-05-16 03:42:05 - Submitted
2011-05-16 03:57:49 - UnSubmitted
2011-05-16 04:06:11 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101364

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/16/2011	0800 / 1400	2336 W / 2404 WB / N/A / CA/RBA on East end of 2404WB	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: RadCon & Operations
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 & WRAP-RSP-002/5
- [ ] Other: N/A

Description of Work/Comments:

Survey of miscellaneous supplies, tables, laundry bag racks, etc. and down post the CA & RBA outside the East end of 2404 WB.

Comments: *NOTE: Bag of miscellaneous CA supplies included gloves, masslin, knee pads, boxes of beryllium wipes, etc. that would be used during future entries on this recovery plan. The items were placed in a yellow Rad Material bag, Rad surveyed, tagged as Rad Material and placed in supply trailer on site.
**NOTE: Two PAMs surveyed out of CA after use in down posting CA ID #ACHN2-0411/DTHN3-0862 & ACHN2-0372/DTHN3-0166.
Followed Release Survey Plans: RSP-WP-10-001-01 & WRAP-RSP-002/5.
Beta/Gamma surveys for tech smears and LAWs not counted in the CA/RBA due to high Beta/Gamma background. LAWs of CA floor not counted for Beta/Gamma when tech smears counted to <1000 dpm/100 cm2. Number of tech smears shown on map are not indicative of the actual number of tech smears taken (due to size of map). The actual number of smears taken for each item is indicated on the specified line in the contamination section.
All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in CA & RBA during survey	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate of bag of miscellaneous CA supplies* (SEE NOTES)	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D3	Dose rate of bag of miscellaneous CA supplies* (SEE NOTES)	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D4	Dose rate of 1 laundry bag surveyed out of CA	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D5	Dose rate of 1 laundry bag surveyed out of CA	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D6	Dose rate of drums (#0082627 & 0082630)	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D7	Dose rate of drums (#0082627 & 0082630)	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101364	Page 2 of 6

No.	Description	Contamination Measurements † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW (~70%) and Direct surveys of 7 concrete blocks along RBA boundary	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C2	LAW (~20%) and Direct survey on end of metal pallet on RBA boundary	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C3	LAW (~95%) and Direct surveys of 2 boxes of nitrile glove & 1 pkg. latex gloves in RBA	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C4	LAW (~60%) and Direct survey of supply table in RBA	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C5	LAWs (~80%) and Direct surveys of 4 drum lids in RBA	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C6	LAWs (~95%) and Direct surveys of drum closing tools in RBA	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C7	Tech Smears of CA/RBA Instrument table (5 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C8	LAWs (~75%) and Direct surveys of CA/RBA instrument table	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C9	Tech Smears of CA Instrument table (4 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C10	LAWs (~75%) and Direct surveys of CA Instrument Table (4 TS)	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C11	Tech Smears of picnic table in CA (12 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C12	LAWs (~50%) and Direct surveys of picnic table in CA	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C13	Tech smears on 2 laundry bag stands in CA (2 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C14	LAWs (~75%) and Direct survey of 2 laundry bag stands in CA	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C15	Tech smears of 1 laundry bag in CA (2 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C16	LAW (~50%) of 1 laundry bag in CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	N/A/LAW †	<D/LAW†

Contamination Measurements (Continued)

† Manually Calculated by RCT

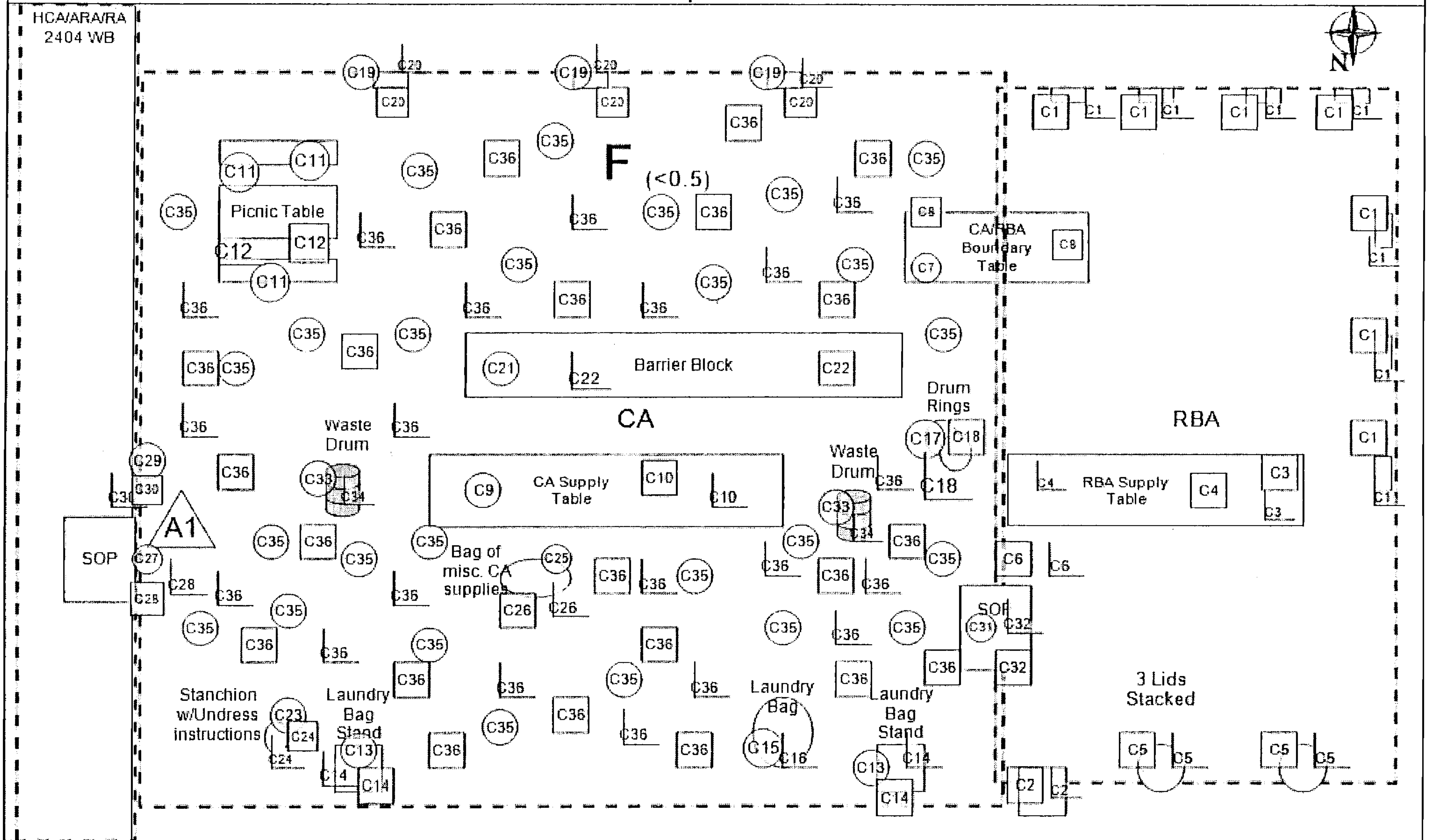
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C17	Tech Smears of 2 drum rings in CA (1 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C18	LAWs (~90%) and dirct surveys of 2 drum rings in CA	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C19	Tech Smears on 3 concrete blocks in CA (! TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C20	LAWs (~70 %) and Direct surveys of 3 concrete blocks in CA	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C21	Tech Smears on barrier block in CA (7 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C22	LAWs (~50%) and Direct surveys of barrier block in CA	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C23	Tech Smears on stanchion with undress directions in CA (2 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C24	LAWs (~75%) and Direct surveys on statchion with undress directions in CA	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C25	Tech smears of bag of miscellaneous CA supplies* (SEE NOTES)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C26	LAW (~75%) of bag of miscellaneous CA supplies* (SEE NOTES)	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†
C27	Tech Smear of East man-door to 2404 WB (1 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C28	LAW (~50%) and Direct surveys of East man-door to 2404 WB	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C29	Tech Smear of telephone box next to East man-door to 2404 WB (1 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C30	LAW (~50%) and Direct survey of telephone box next to East man-door to 2404 WB	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C31	Tech Smear on SOP between CA and RBA (1 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C32	LAWs (~95%) and Direct survey of SOP	N/A	0	N/A	0	N/A†	<100†	N/A	10	N/A/LAW †	<D/LAW†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C33	Tech Smears on waste drums (#0082627 & 0082630) (2 TS each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C34	LAWs (~75%) of waste drums (#0082627 & 0082630)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	10	N/A/LAW †	<D/LAW†
C35	Tech Smears on CA floor (25 TS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C36	LAWs (~75%) and Direct surveys on CA floors	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A/LAW †	<D/LAW†
C37	Tech Smears on 2 PAMs used in downposting CA (2 TS each)** (SEE NOTE)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C38	LAWs (~90%) and Direct surveys on 2 PAMs used in downposting CA** (SEE NOTE)	100	0	100	0	<5000†	<100†	10	10	N/A/LAW †	<D/LAW†

Map/Sketch



Map Name: East End of 2404 WB

Map Description: East End of 2404 WB Including Exit, CA and RBA

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101364

Air Sample Measurements

A1	GWP-1101364

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB5-0013	DTEB9-0344	0.1
2360	SCLL8-0463	DTLLP-0570	0.1
2360	SCLL8-0482	DTLLP-0589	0.1
Bumble Bee CP	ICHN2-0003	N/A	N/A
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
AN/PDR-70 Snoopy	NMNR1-0045	N/A	N/A
Gooseneck Air Sample	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/17/11	M. McKenna

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 17 2011	[illegible]

History

2011-05-17 11:10:16 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101365

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/16/2011	1400 / 1530	200 WEST / 2404 WB / N/A / N/A	WP-574/4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: See Description
- ☑ Other: Survey Plan WRAP-RSP-014 REV.00

Description of Work/Comments:

Perform surveys to allow Industrial Hygenists to take beryllium samples at specified locations. Beryllium boundary set up at Row 18. DIRECT SURVEY AND TECHNICAL SMEAR OF AREA TAKEN AS REPRESENTATIVE DATA FOR BERYLLIUM TECHNICAL SMEARS.

Comments: Sample Locations as follows: Survey Point (SP)... SP183 @ ROW34, SP159 @ ROW28, DRUM 0062288 @ ROW24, DRUM 0061308 @ ROW24, SP123 @ ROW18, PALLETS @ ROW29, SP274 @ ROW23, DRUM 0067469 @ ROW27, DRUM 0069944 @ ROW31, SP329 @ ROW39. Tech Smears counted per WRP1-OP-1230. CHAIN OF CUSTODY #11-23249

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate along sample route (MAX)	F	4	4	3	1	N/A	4	4
D2	Various at sample locations (see map)	F	N/A	N/A	3	1	N/A	N/A	N/A

Contamination Measurements

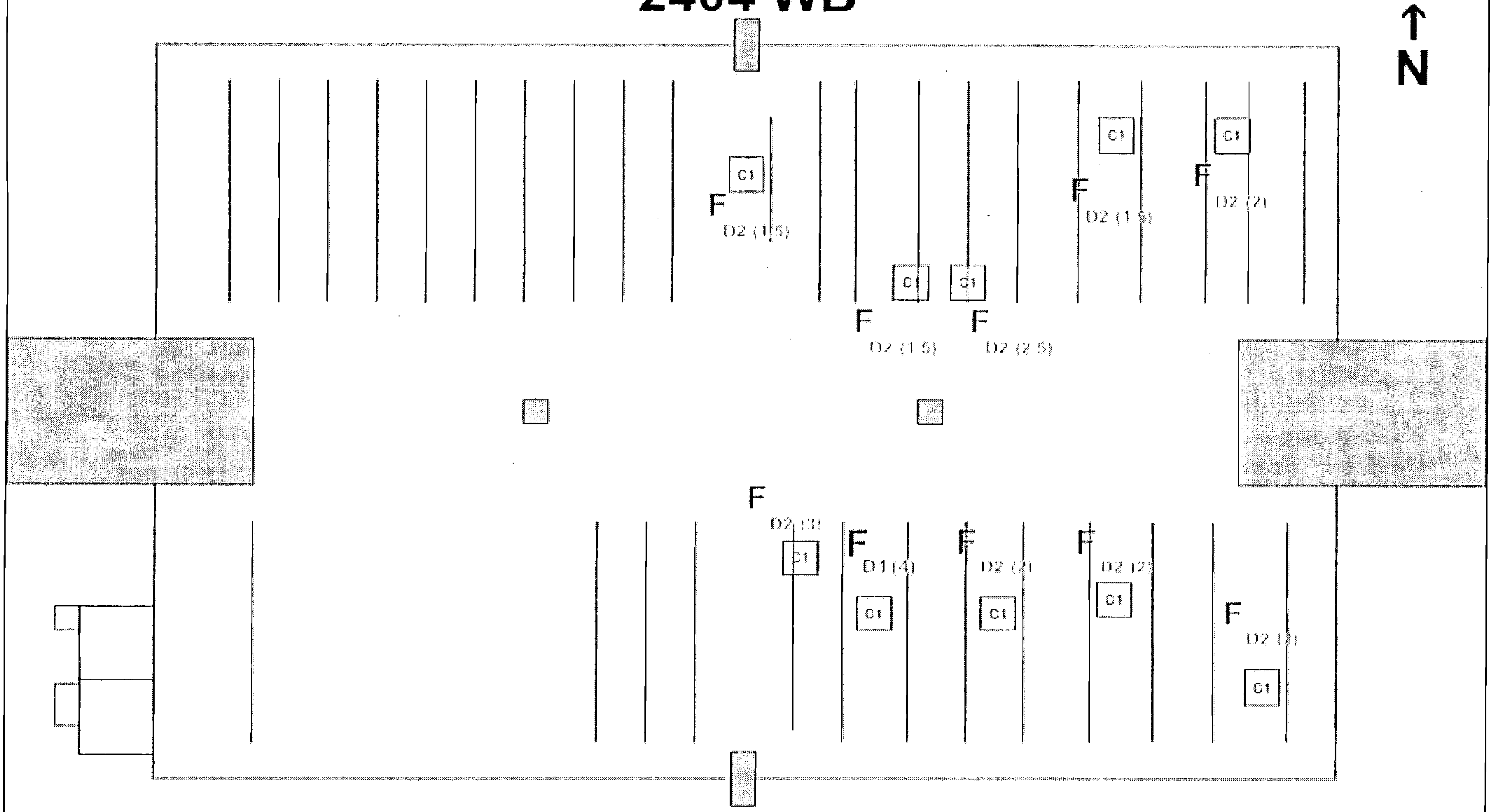
† Manually Calculated by RCT

		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct at locations specified (1-10)	N/A	0	N/A	0	N/A†	<500†	N/A	6	NA†	NA†
C2	Tech Smears adjacent to sample locations	N/A	N/A	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†

COPY

Map/Sketch

2404 WB



AREA POSTED AS RA/HCA/ARA

Map Name: 2404 WB

Map Description: 2404 WB - Sampling Locations

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101365	

Air Sample Measurements

A1	GWP-WP1101365	A2	Lapel Batch 23796

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Bumble Bee CP	ICHN2-0003	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.383α0.357
Tennelec	S5-XLB 0403421	1924	β.42α0.27

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hendricks, Gordon	h0070265	5/23/11	[signature]

Reviewers

Name	HID	Date	Signature
ClWielang	6197614	MAY 24 2011	[signature]

History

2011-05-17 07:22:43 - Submitted
2011-05-17 07:24:03 - UnSubmitted CORRECTION
2011-05-17 07:28:04 - Submitted
2011-05-17 07:32:33 - UnSubmitted CORRECTION
2011-05-17 07:41:25 - Submitted
2011-05-18 06:52:44 - UnSubmitted Add Lapel
2011-05-18 06:55:53 - Submitted
2011-05-23 07:55:24 - UnSubmitted Spelling
2011-05-23 07:56:01 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101366

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/16/2011	1300 / 1800	200 WEST / 2404 WB / 2404 WB / Outside East door of 2404WB	WP-574/~~3~~ 4 Cew 5-24-11

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-06-008;RSP-WP10-001;RSP-WP-10-002
  - Released to: RADCON & OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [x] Other: Down Post Survey

Description of Work/Comments:

Release of various instrumentation, respiratory equipment including PAPRs, and lapel pumps. Down post survey of CA per WRAP-RSP-002 Rev 5. outside of the east door to 2404WB. Items released listed in the map section. Survey of 1 drum and 1 laundry bag exiting the CA. All surveys performed in support of recovery plan WRAP-RP-11-03.

Comments: All equipment was moved to a low background area to complete beta-gamma directs. Beta/ Gamma Direct surveys were not completed during the down post surveys due to high background on the GM.
Tech smears counted per WRP1-OP-1230. LAWs performed IAW WMP-350 sec. 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate of laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate of drum	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of laundry bags(~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C2	Tech Smears of laundry bag (2 smears each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C3	Laws of all equipment released from CA (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C4	Tech smears of all equipment released from CA (2 per lapel pump/instrument/4 per PAPR)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	LAWs of drum (~40%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<D/LAW†	<D/LAW†
C6	Tech smears of drum (4 smears)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C7	Directs of all equipment released from CA (100% of all accessable areas.)	150	0	150	0	<5000†	<100†	10	6	N/A†	N/A†
C8	LAWs @ 80% of CA/RBA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	Smears/Directs of downpost in CA (10 Smears & Directs at 85%)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†
C10	Directs/Smears of RBA (5 smears)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101366	

Map/Sketch

PAPR PUMPS RELEASED

701
703
720
717
719

PAPR BATTERIES RELEASED

800
812
819
801
809

INSTRUMENTS RELEASED

ICHN1-0003
ACHN2-0209/DTHN3-1011
ACHN2-0372/DTHN3-0166
SCLL8-0482/DTLLP-0589
SCLL8-0463/DTLLP-0570

LAPELS RELEASED

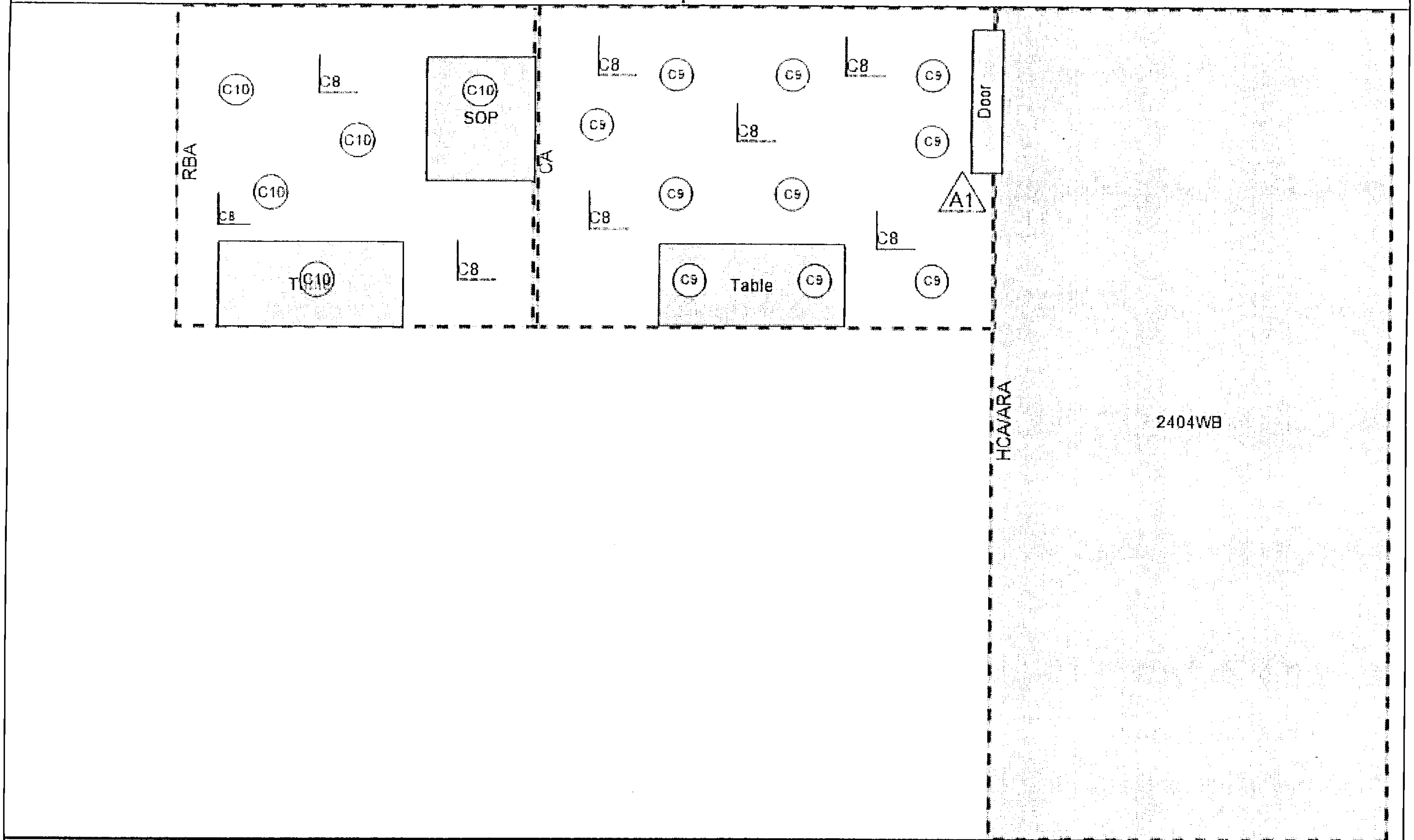
4553
4549
4095
4552
4547

Map Name: N/A	Map Description: List of instruments and equipment released from the CA

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	#̲ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

Map/Sketch



Map Name: 2404WB East Entry		Map Description: LAWs for downpost of CA/RBA						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements

A1	GWP1101366

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0463	DTTLP-0570	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
Bumble Bee CP	ICHN2-0003	N/A	N/A
GM	CMEBB-0027	DTEB5-0177	0.10
GooseNeck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	5-24-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature

History

2011-05-24 11:19:41 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101368

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/16/2011	1500 / 2200	200 W / 2404 WC / N/A / N/A	WP-001/6

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH004
- [x] Job Coverage: DRUM MOVEMENT
- [ ] Other: N/A

Description of Work/Comments:

*WP-SH004
* WB doors and vents were surveyed due to restricted access and HCA/ARA posting.
*57 DRUM TRANSFER FROM 2404 WC TO 2336W

Comments: *Smears counted per WRP1-OP-1230
*LAWs performed per WMP 350 sec. 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose outside WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	Highest dose outside Wb	F	5	5	2	1	<0.2	5	5
D3	57 DRUM TRANSFER FROM 2404 WC TO 2336W	F	10	10	2	1	<0.2	10	10

Contamination Measurements

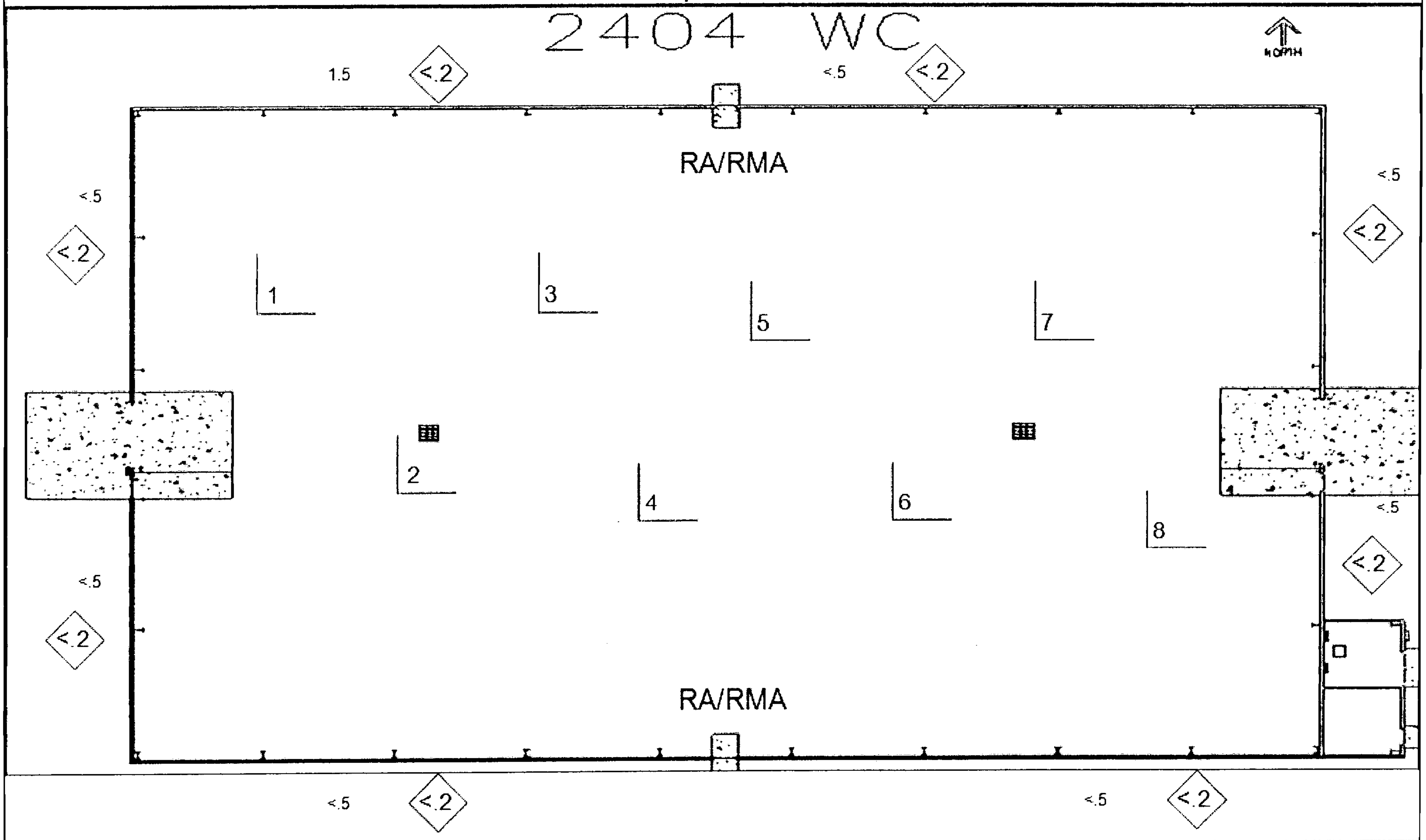
† Manually Calculated by RCT

		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of WC floor #1-#8	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	TECH SMEARS AROUND 2404WB (14 T.S.)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C3	57 DRUM TRANSFER FROM 2404 WC TO 2336W (LAW ~45%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101368

Map/Sketch



Map Name: Shiftly 2404WC	Map Description: Map of Shiftly 004

Legend: # Direct Measurement; Air Sample; (#) Smear; L# LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 05/16/2011 10:54:32

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A-6004-663-SS (Rev. 0)

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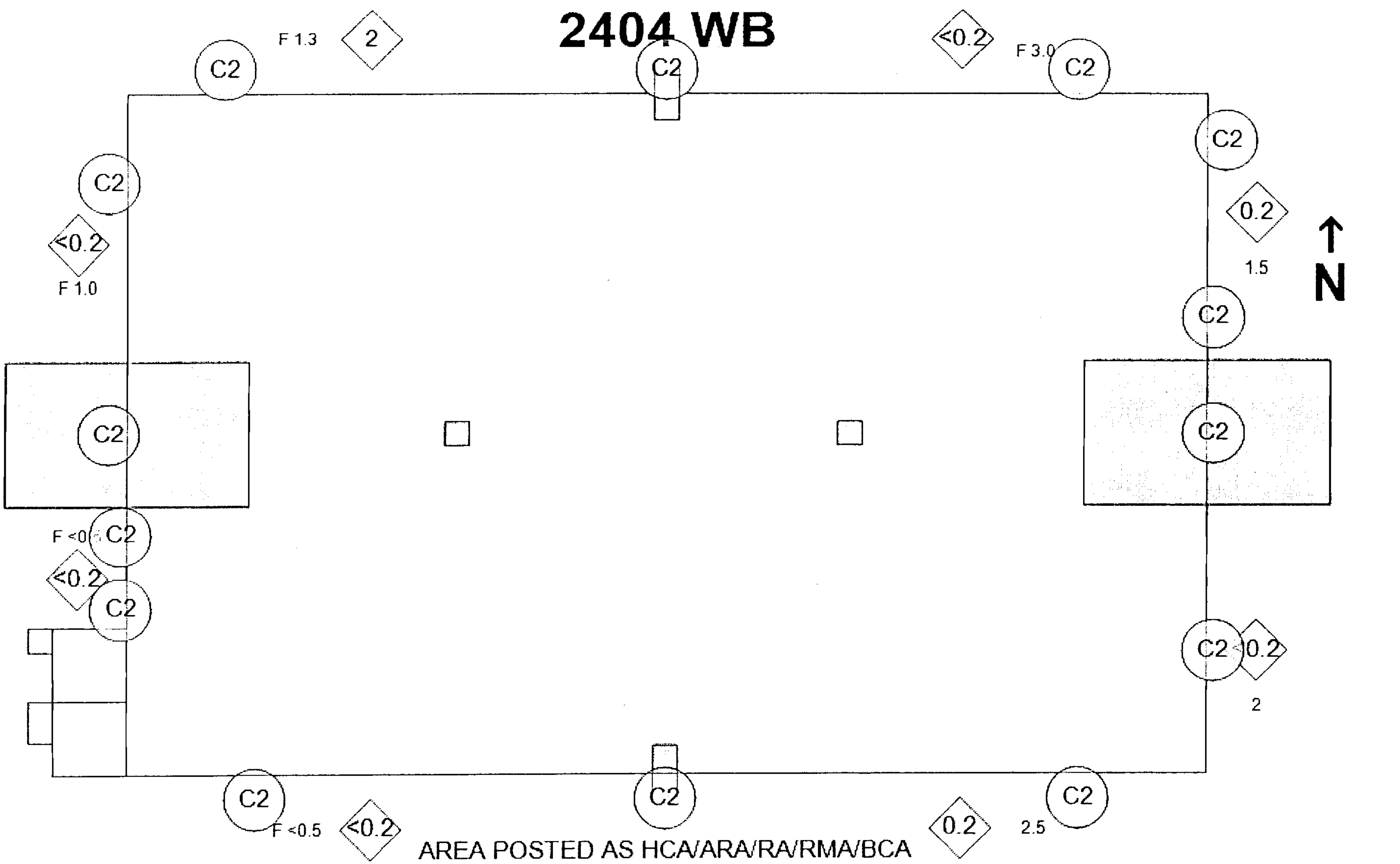
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101368

Map/Sketch



Map Name: 2404 WB			Map Description: WP-SH003					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary					Note: Dose Rates in mrem/hr unless otherwise noted.			

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101368	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
2360	SCLL8-0269	DTLLP-0375	0.10
GM	CMEB3-0068	DTHNC-0670	0.10
RO-20	ICEB4-1556	N/A	N/A
Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	h0527264	5.16.11	Jared R. Massie
Park, Nancy	h7274392	5/16/11	NP

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 16 2011	CW

History

2011-05-16 10:54:32 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101370	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	0900 / 1600	200 WEST / 2404 WB / 2404 WB / Outside East door of 2404WB	WP-574/4

Purpose of Survey	Description of Work/Comments:
☑ Material Release Number: RSP-WP-10-002-02 & RSP-WP-06-008 Released to: RADCON & OPS ☐ Ram Shipment: N/A ☐ Required Task: N/A ☐ Job Coverage: N/A ☐ Other: N/A	Release of PAPRs, and lapel pumps.Items released listed in the map section. All surveys performed in support of recovery plan WRAP-RP-11-03. Comments: All equipment was moved to a low background area to complete beta-gamma directs. Tech smears counteD per WRP1-OP-1230. LAWs performed in accordance with WMP-350 sec. 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs OF ALL EQUIPMENT RELEASED FROM CA (~80%)	300	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	Tech smears of all equipment released from CA (1 per lapel pump/lapel head/4 per PAPR including battery)	300	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Directs of all equipment released from CA (100% of all accessable areas.)	300	0	300	0	<5000†	<100†	10	10	NA†	NA†

COPY

Map/Sketch

PAPR PUMPS RELEASED

701
703
709
711
715
716
717
719
720

PAPR BATTERIES RELEASED

801
805
806
807
809
812
817
818
819

LAPELS SURVEYED

4091
4543
2937
2694
1549
4544
4551
4090
4545

Map Name: N/A

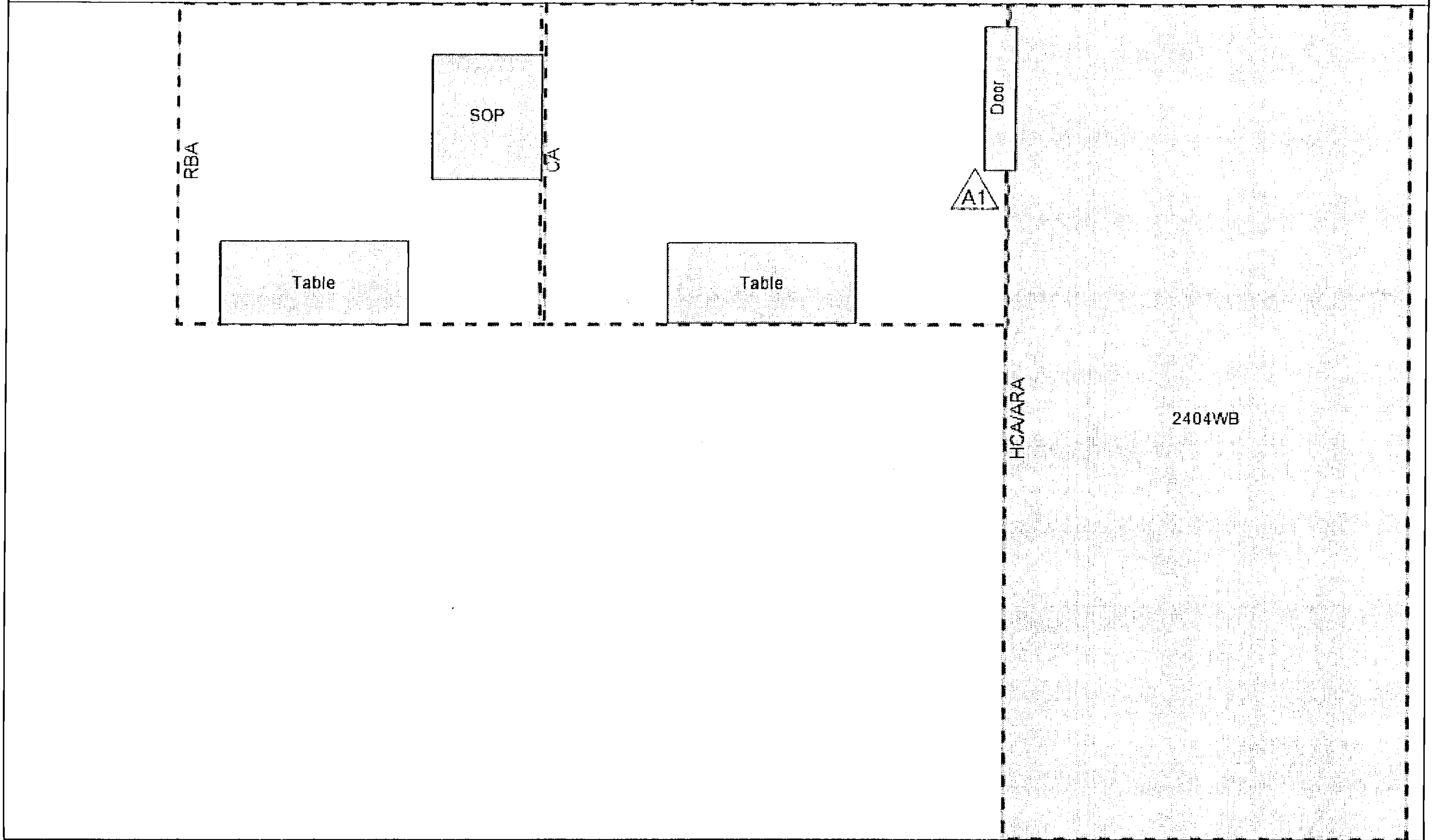
Map Description: List of instruments and equipment released from the CA

Legend	# Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - -				Radiological Area Boundary		Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101370

Map/Sketch



Map Name: 2404WB East Entry	Map Description: LAWs for downpost of CA/RBA

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101370	

Air Sample Measurements

A1	GWP1101366

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0465	DTTLP-0572	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
GooseNeck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Berg, Lindsey	H3344063	5/25/2011	Lindsey Berg

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 26 2011	CWi

History

2011-05-19 10:45:45 - Submitted
2011-05-19 10:46:07 - UnSubmitted correction
2011-05-19 10:46:29 - Submitted
2011-05-24 10:37:31 - UnSubmitted correction
2011-05-25 08:55:47 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101372

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1300 / 1630	200 W / 2404 WB / N/A / N/A	WP-574 / Rev 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB INSIDE COVERAGE:

Comments: ALL LAWs PERFORMED IAW WMP-350 SECTION 6.2. BETA GAMMA SURVEYS NOT PERFORMED DUE TO BACKGROUND TOO HIGH.

SURVEY AND DECON OF FLOOR AROUND SPILL AREA AND GENERAL FLOOR AREA SURVEY.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	DIRECTS OF FLOOR TO WEST OF SUSPECT PALLET - PRE DECON	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A
C2	DIRECTS OF FLOOR NEXT TO WEST SIDE OF SPILL IN ROW 8	N/A	0	N/A	3000	N/A	18000	N/A	6	N/A	N/A
C3	DIRECTS OF FLOOR IN ROW 2 & 4	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	NA†
C4	LAW'S OF FLOOR IN ROW2 & 4	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C5	LAW's OF LAYED DOWN PAPER NORTH OF SPILL AREA @ 70%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C6	LAW's OF FORK LIFT SEAT, CONTOLS AND CHASSIS	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C7	DIRECTS OF FLOOR TO WEST OF SUSPECT PALLET - POST DECON	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	NA†
C8	LAW's OF FLOOR BETWEEN FORKLIFT AND SPILL AREA @ 70%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C9	LAW's OF FLOOR SOUTH OF ROWS 2 TO 8 @ 70%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW

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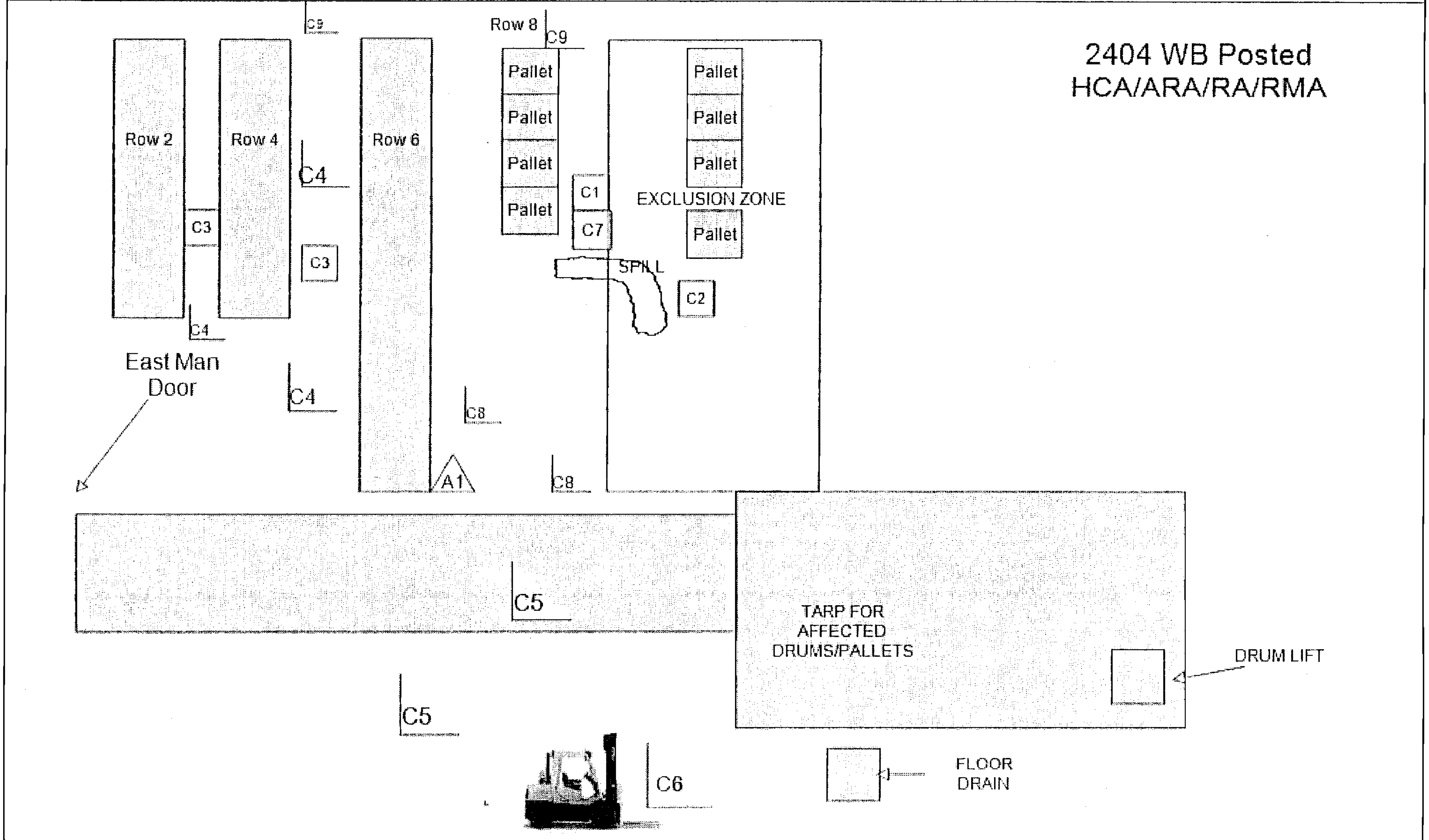
Map/Sketch



Map Name: 2404 WB RECOVERY	Map Description: 2404 WB RECOVERY

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101372	

Air Sample Measurements

A1	GWP-1101384	A2	23806

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0031	DTHN3-0166	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	5-25-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C Wielang	619761Y	MAY 26 2011	C W

History

2011-05-25 07:28:24 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101373

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	0800 / 1530	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004 & WP-W035, WP-W040, WP-W041
- [x] Job Coverage: Drum Movements
- [ ] Other: N/A

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.
WB doors and vents were surveyed due to restricted access and HCA/ARA posting.
Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown.
WP-W035, WP-W040, WP-W041 WERE COMPLETED PER THEIR TASK.
10 SWBs moved from WC to HERTR
Received 40 drums from CWC to WC.
8 drums from WC to 2336.

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Smears counted per WRP1-OP-1230

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.6	1.6	2	1	3	4.6	4.6
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	2.5	2.5	2	1	<0.2	2.5	2.5
D3	MAX. DOSE ON 40 DRUM MOVEMENT	F	18	18	2	1	<0.2	18	18
D4	Dose Rate in HETRT	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D5	GENERAL AREA DOSE RATE OF TRAILORS	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D6	GENERAL ARE DOSE RATE OF SUPERHENC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D7	MAX DOSE RATE OF INSIDE DOSE RATE FOR WP-W035	F	50	50	2	1	0.7	50.7	50.7
D8	MAX DOSE RATE OF SWB MOVES	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW'S on WB Vents (30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW's @ 30% on WB Doors	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	LAWs @ 20% on each Drum & SWB moved	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	LAW's @ 20% in HERTR	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	LAW'S @ 20% IN SUPERHENC	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

		Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C7	LAW'S @ 20% IN TRAILORS	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C8	10 SMEARS IN SUPERHENC	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C9	20 SMEARS IN WC	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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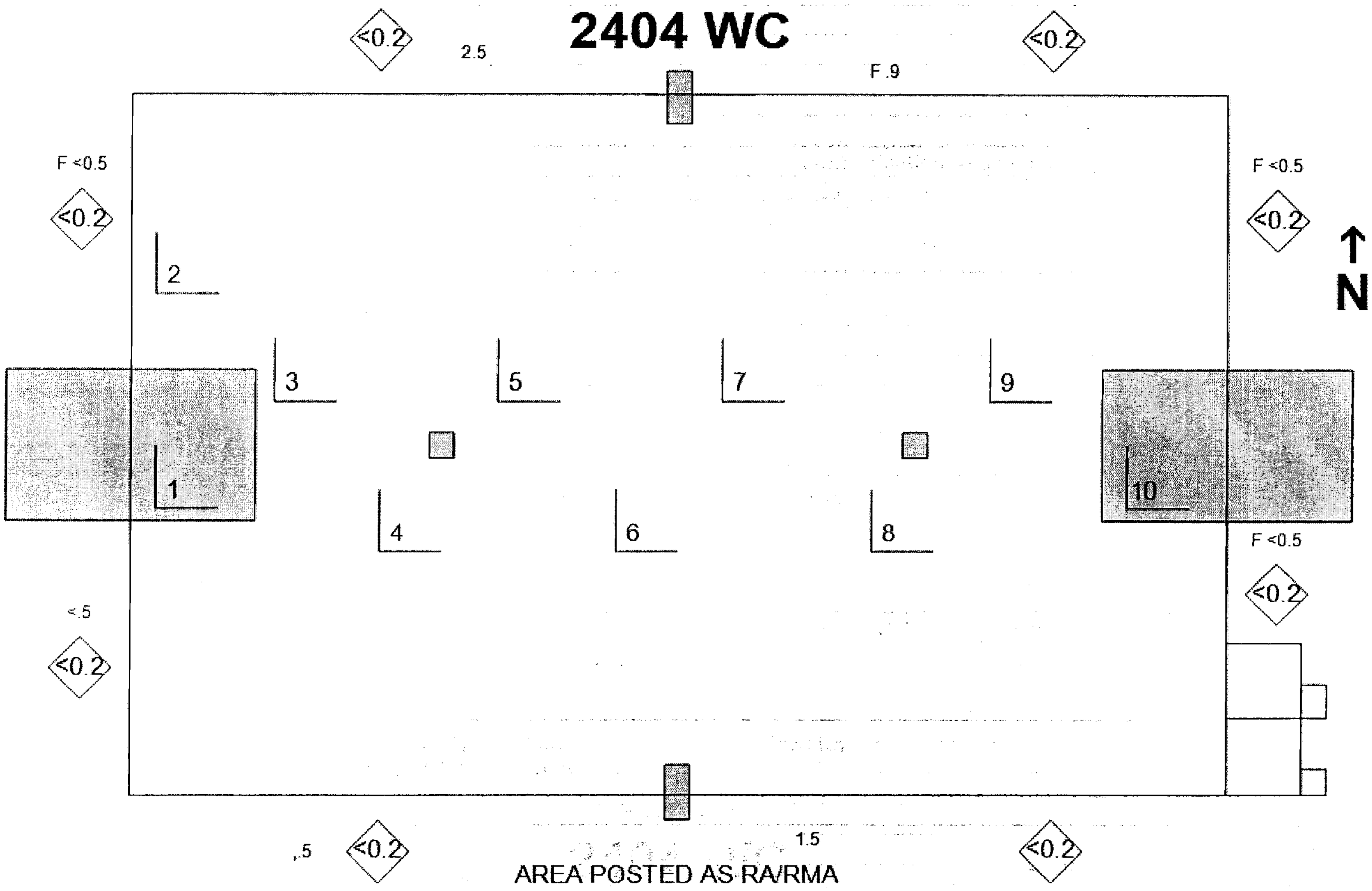
CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101373

Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 05/25/2011 10:00:38

~~OFFICIAL USE ONLY - EXEMPTION 6~~

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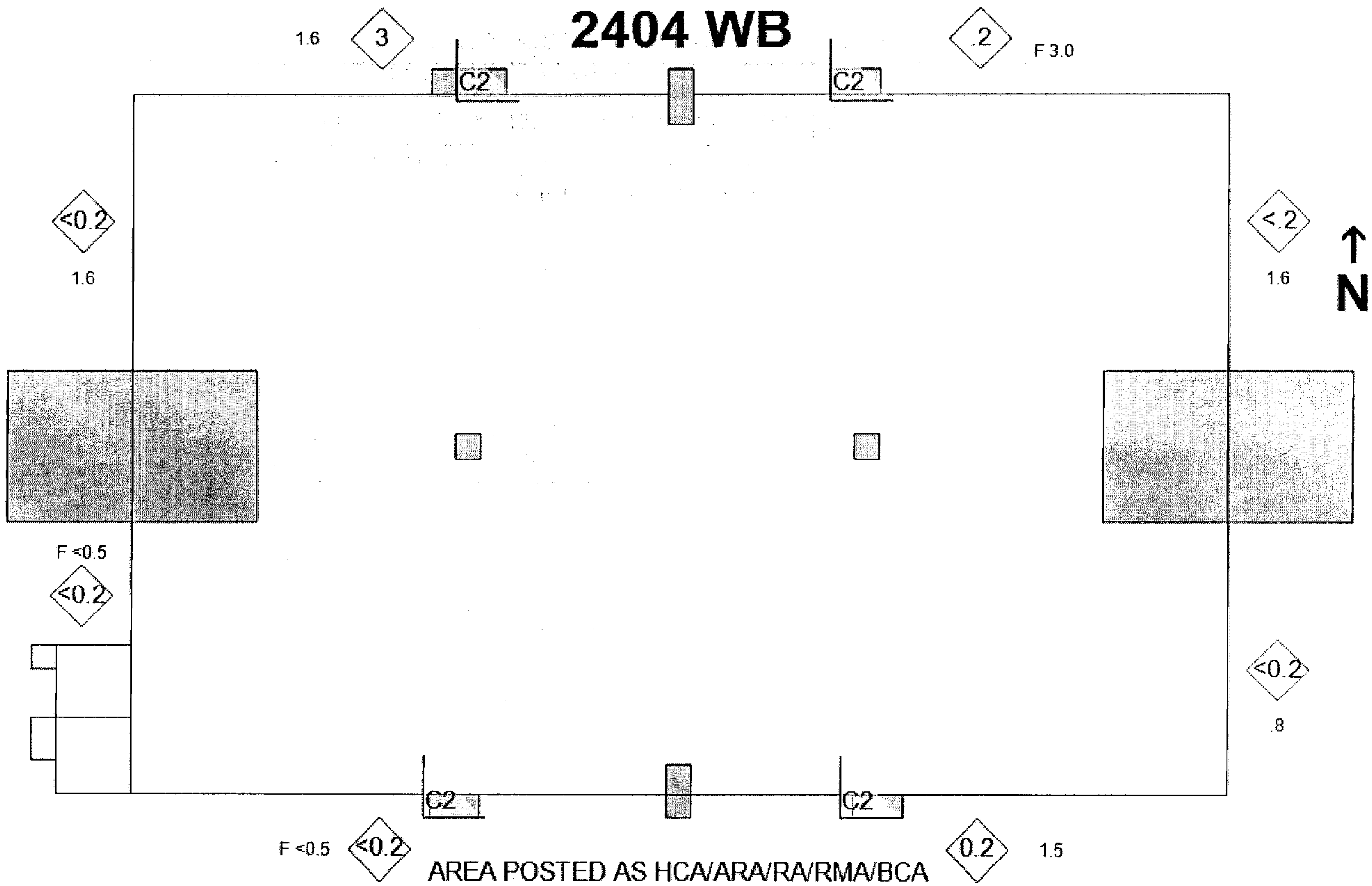
Map/Sketch



Map Name: 2404 WB				Map Description: WP-SH003					
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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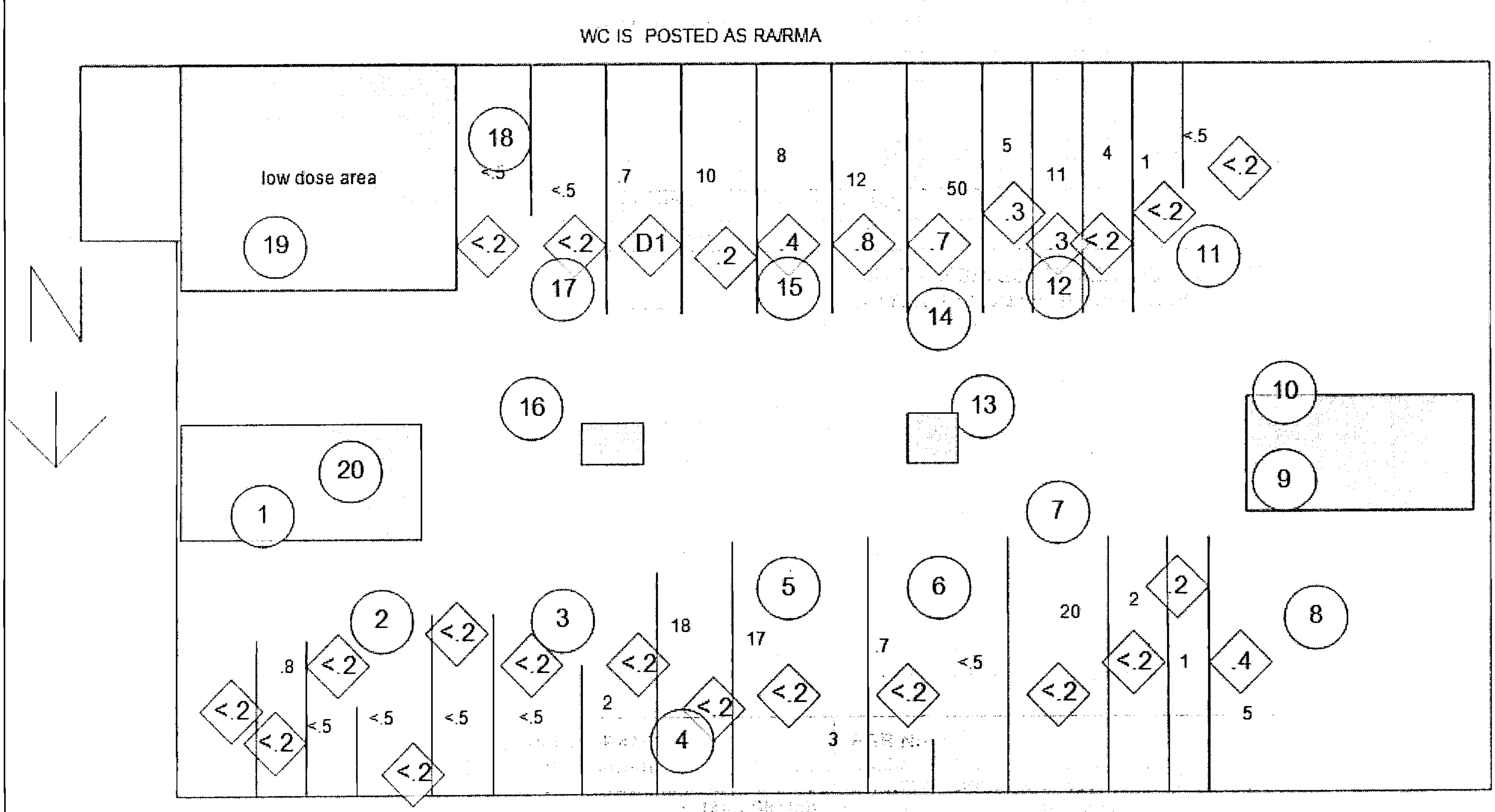
CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101373

Map/Sketch

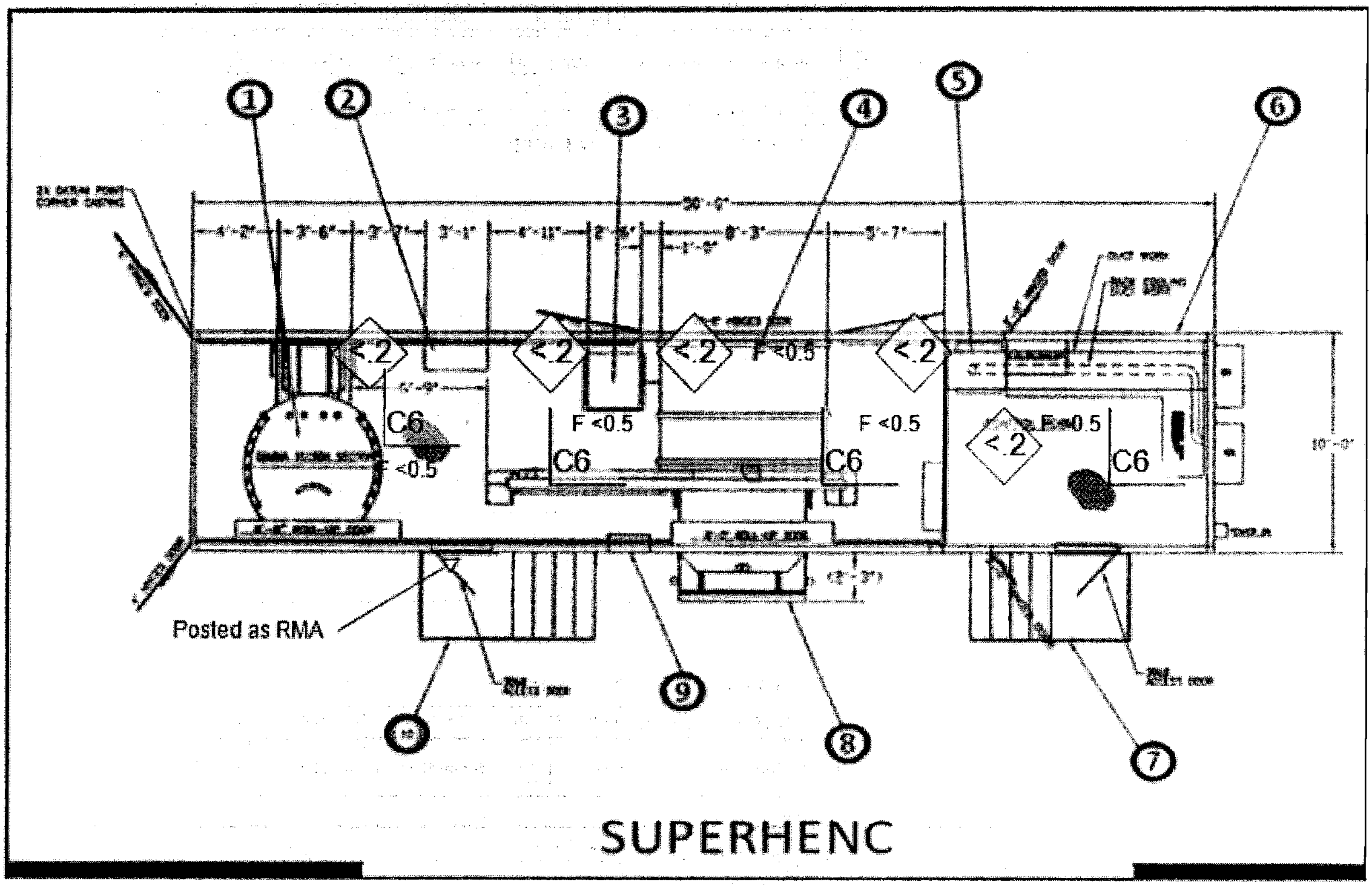
WC IS POSTED AS RA/RMA



Map Name: wc	Map Description: WP-W035

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

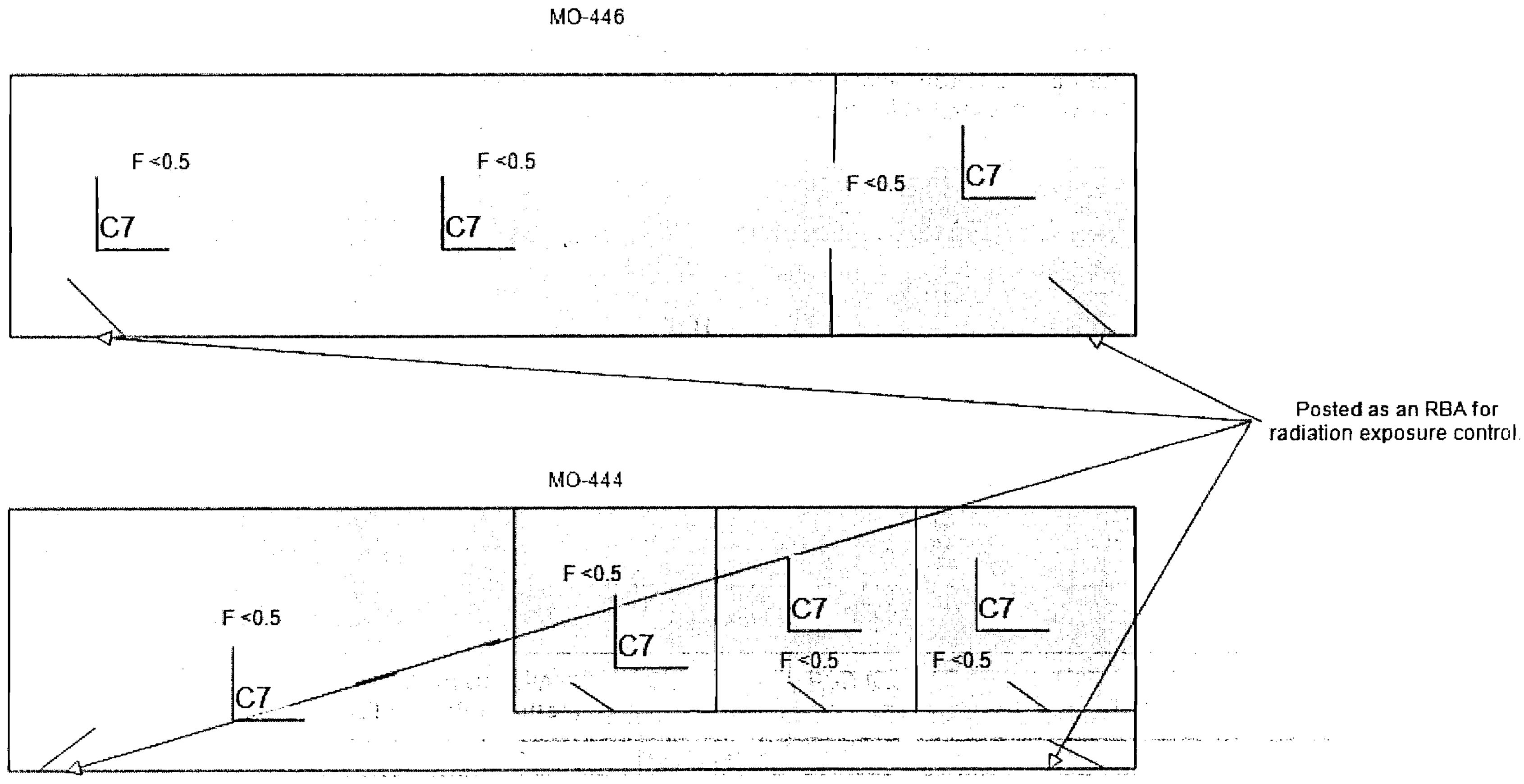
Map/Sketch



Map Name: WP-W041	Map Description: SUPERHENC

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: WP-W040	Map Description: 2404 TRAILORS: MO446; MO444

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
GM	CMEB5-0013	DTEB9-0344	0.10
RO-20	ICEB4-1447	N/A	N/A
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
PAM	ACHN2-0615	DTHNC-0658	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	5-25-11	

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 27 2011	

History

2011-05-17 02:30:21 - Submitted
2011-05-17 10:24:49 - UnSubmitted needs fixed

2011-05-17 10:27:02 - Submitted
2011-05-25 09:59:12 - UnSubmitted NEEDS CHANGES
2011-05-25 10:00:38 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101378	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1130 / 1700	200 WEST / 2404 / WB /	RWP-574/ REV.4

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☐ Other: N/A

Description of Work/Comments:

WB RECOVERY 2ND ENTRY DAYS

Comments: RECOVERY TEAM ENTERED 2404 WB TO COVER SPILL AREA WITH A TARP. AFTER TARP WAS ROLLED OUT OVER SPILL AND TAPED DOWN, WE THEN PROCEEDED TO REMOVE THE 2ND AND 3RD TIER PALLETS. PALLETS WERE PLACED ON WHITE TARP.
NO BETA/GAMMA SURVEYS PERFORMED DUE TO HIGH BACKGROUND.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	GENERAL WORKING AREA	F	2	2	3	1	N/A	2	2

Contamination Measurements

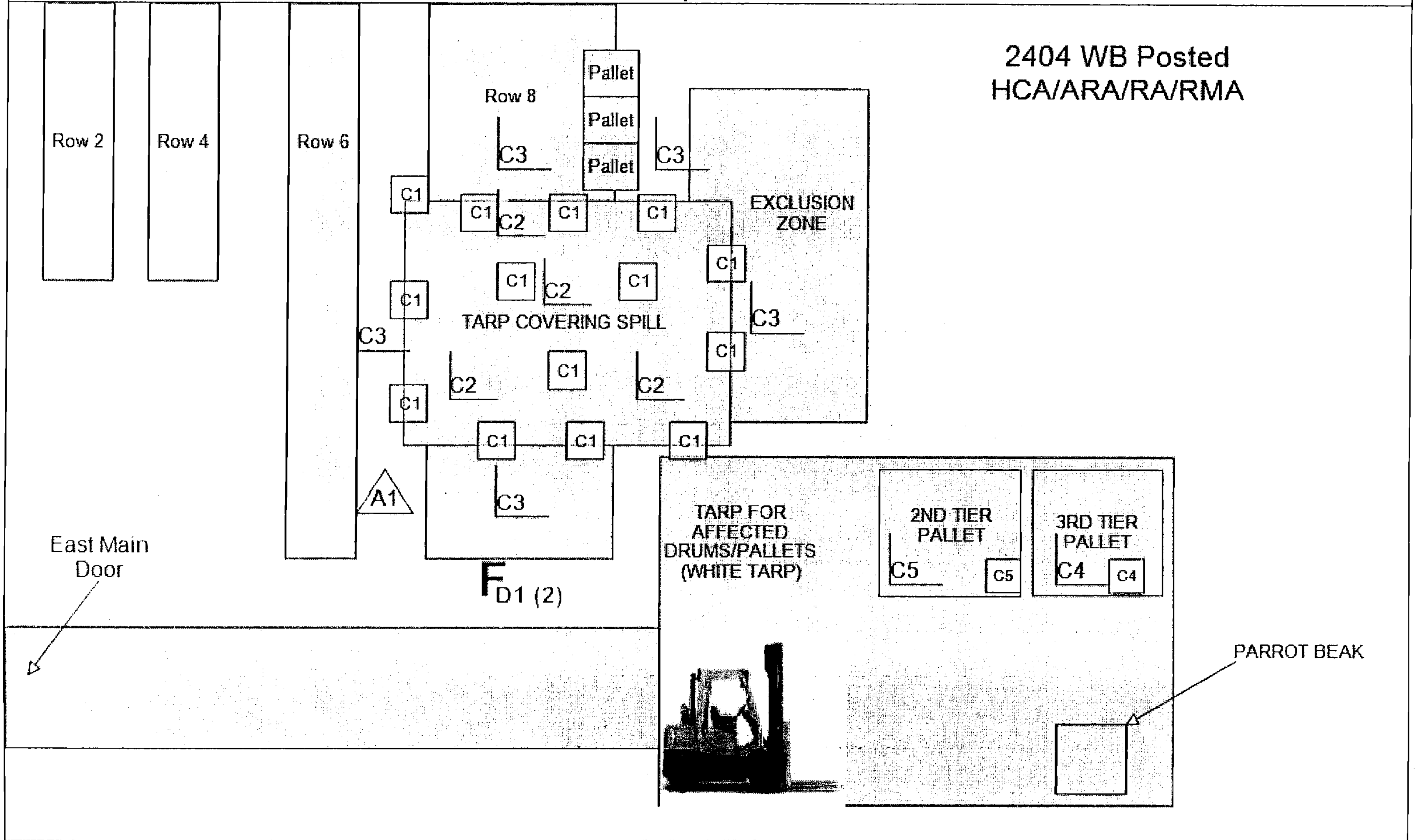
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	DIRECTS ON AND AROUND NEW TARP COVERING SPILL	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C2	LAWS OF NEW TARP COVERING SPILL	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C3	LAWS OF FLOOR SURROUNDING NEW TARP COVERING SPILL	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C4	LAWS AND DIRECTS OF 3RD TIER PALLET AND DRUMS	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C5	LAWS AND DIRECTS OF 2ND TIER PALLET AND DRUMS	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101378	Page 2 of 3

Map/Sketch



Map Name: WB RECOVERY ENTRY	Map Description: WB RECOVERY ENTRY

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101378	

Air Sample Measurements

A1	GWP-1101378	A2	WP-23,807

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
TeNNELEC	S5-XLB 0403421	1924	β0.42 α0.27
RADECO	H-ASSA1-664	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Bumble Bee CP	ICHN2-0003	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	5-18-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-24-11	T. Terry

History

2011-05-18 08:51:25 - Submitted
2011-05-18 09:32:31 - UnSubmitted make correction
2011-05-18 09:33:02 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101379

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1700 / 2130	200 WEST / 2404 WB / 2404 WB / Outside East door of 2404WB	WP-574 Rev4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-06-008;RSP-WP10-001;RSP-WP-10-002
  - Released to: RADCON & OPS
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-W042
- [ ] Job Coverage: N/A
- [x] Other: Down Post Survey

Description of Work/Comments:

Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Down post survey of CA per WRAP-RSP-002 Rev 5. outside of the east door to 2404WB. Items released listed in the map section. Survey of 3 drums and 6 laundry bags exiting the CA. All surveys performed in support of recovery plan WRAP-RP-11-03.

Comments: All equipment was moved to a low background area to complete beta-gamma directs. Beta/ Gamma Direct surveys were not completed during the down post surveys due to high background on the GM.
Tech smears counter per WRAP1-OP-1230. LAWs performed per WMP-350 sec. 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate of laundry bags	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	Dose rate of drum	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs of laundry bags(~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C2	Tech Smears of laundry bags (2 smears each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C3	Laws of all equipment released from CA (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C4	Tech smears of all equipment released from CA (2 per lapel pump/instrument/SCBA bottle, 2 smear per mask)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	LAWs of drum (~40%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<D/LAW†	<D/LAW†
C6	Tech smears of drum (4 smears)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C7	Directs of all equipment released from CA (100% of all accessable areas.)	150	0	150	0	<5000†	<100†	10	6	N/A†	N/A†
C8	LAWs @ 80% of CA/RBA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	Smears/Directs for downpost on CA Floors (50 Smears & Directs at 85%)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†
C10	Directs/Smears of RBA (10 smears)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†
C11	Smears/ Directs for Down Post on CA Tables (10 Smears)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†

Map/Sketch

SCBA Bottles Released	MASKS RELEASED	SCBA BACKPACKS RELEASED	LAPELS RELEASE
2131	17 PFP MASKS	A2223	4547
2116		A8322	2694
2088		A2213	4093
2004		A2269	4092
2119		A2147	4554
2085		A2188	2129
2017		A2232	4095
2183		A1065	4548
2064		A1022	4549
2164		A1148	4543
2136		A2122	2122
2046		A1055	4552
2219		A1120	4541
2014		A1187	2655
2034		A2128	4094
2000		A1168	4542
		E2011	4553

INSTRUMENTS RELEASED

ICHN1-0001
ACHN2-0031/DTHN3-0379
ACHN2-0372/DTHN3-0166
ACHN2-0411/DTHN3-0862
ACHN2-0209/DTHN3-1011
SCLL8-0465/DTLLP-0572

Map Name: N/A

Map Description: List of instruments and equipment released from the CA

Legend [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

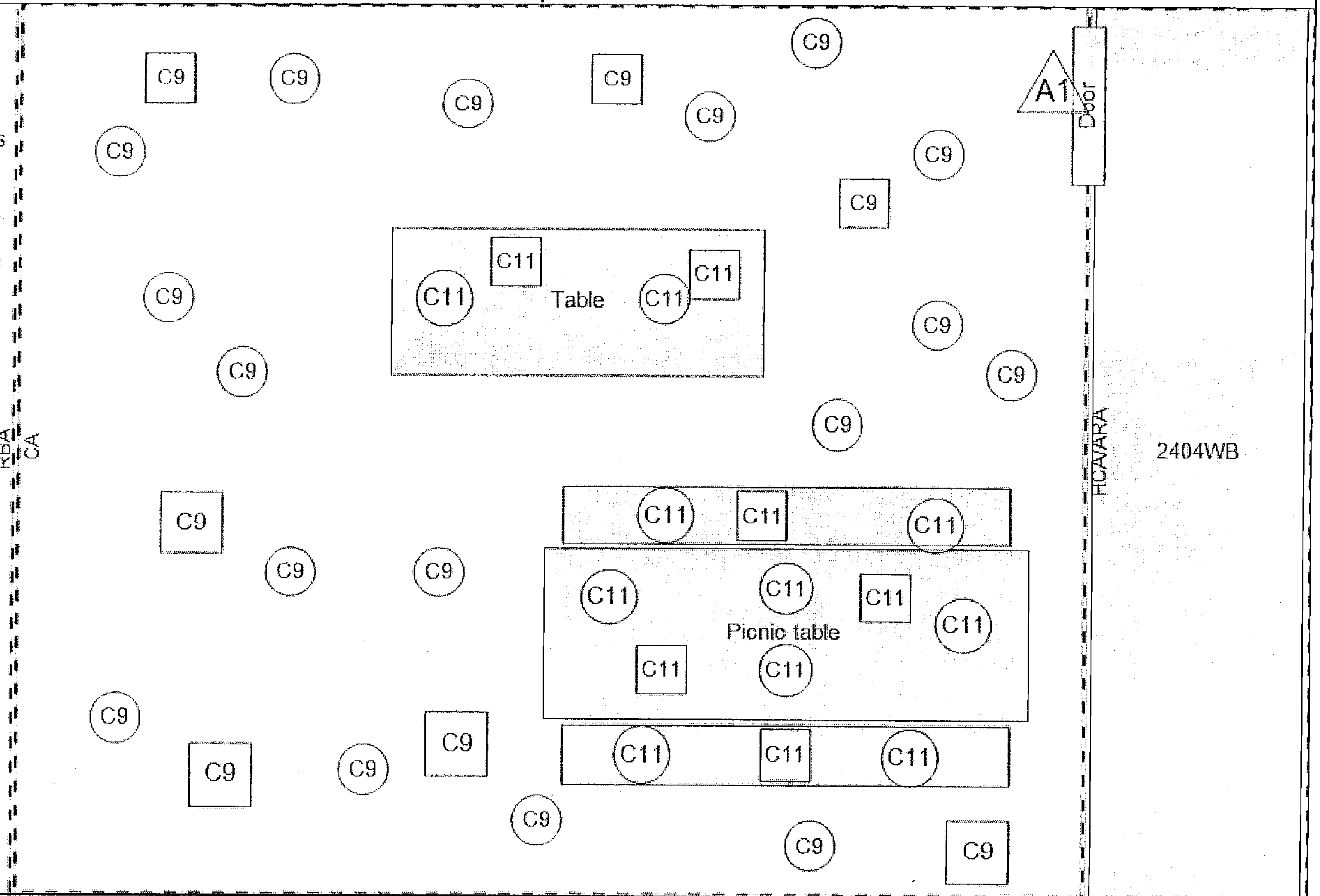
Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101379

Map/Sketch

Smears & Directs not fully represented on Map of CA Floors. 50 Smears were taken on floors in the CA.



Map Name: East entry to 2404WB

Map Description: Downpost survey

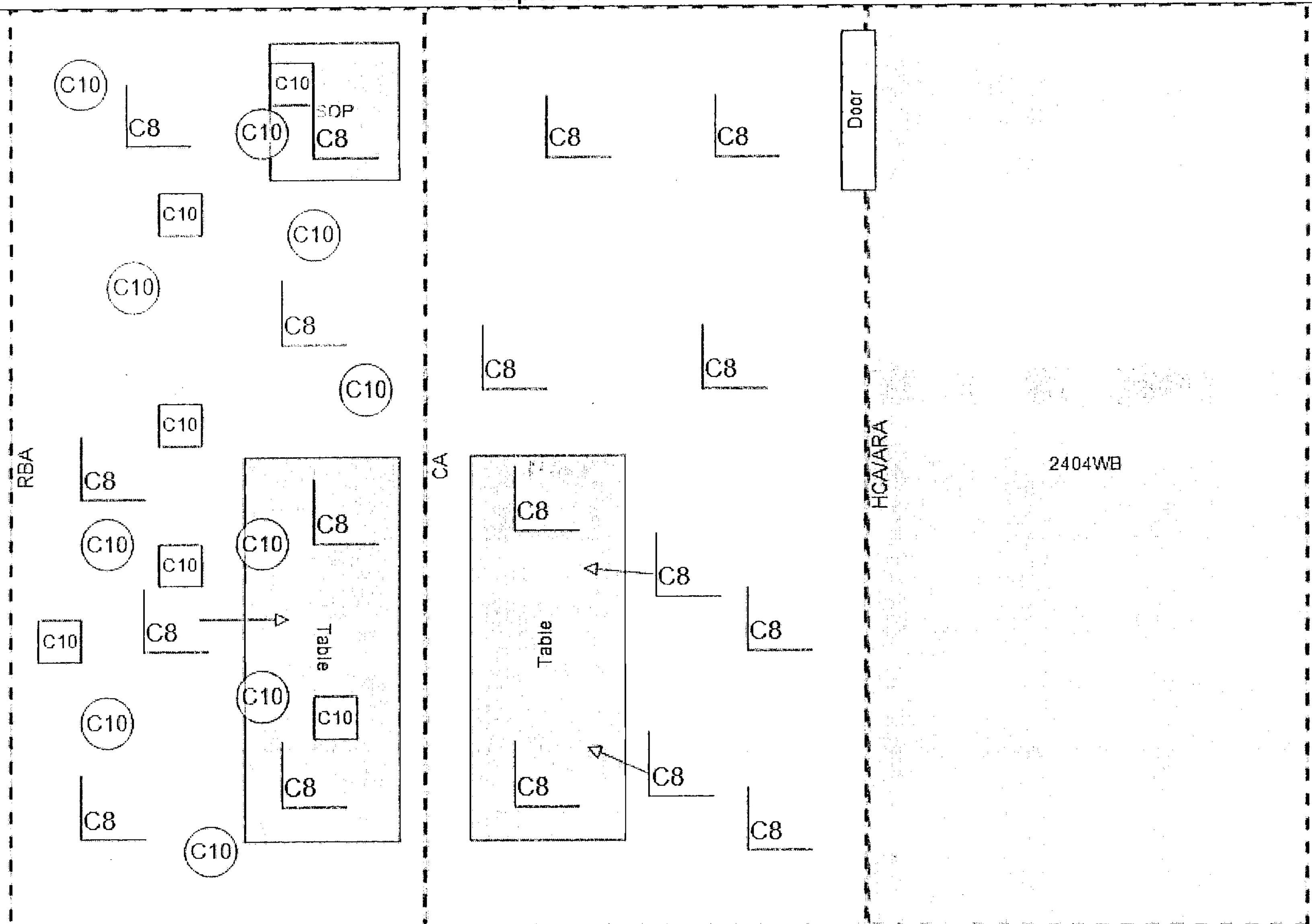
Legend								
# Direct Measurement	# Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch

All arrows point to locations under the tables.



Map Name: 2404WB East Entry

Map Description: LAWs for downpost of CA/RBA

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101379	Page 6 of 6

Air Sample Measurements

A1	GWP1101379

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0465	DTTLP-0572	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
Bumble Bee CP	ICHN2-0003	N/A	N/A
GM	CMEBB-0027	DTEB5-0177	0.10
GooseNeck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	5-23-11	[signature]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 24 2011	[signature]

History

2011-05-17 10:49:35 - Submitted
2011-05-19 07:22:17 - UnSubmitted
2011-05-19 07:24:42 - Submitted
2011-05-23 09:53:27 - UnSubmitted
2011-05-23 10:13:49 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101380	Page 1 of 5

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1816 / 2000	200 WEST / 2404 / WB / INSIDE	WP-574/4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

First entry into 2404 WB on swing shift. Two parts to the entry.

Comments: WB recovery 1st entry for swing shift, 3rd entry of the day total, was made with SCBA's.

First part of entry performed survey of second contaminated pallet in row 8 near spill area inside WB. With radcon support operations placed tape press to the contaminated pallet prior to moving over to the tarp to unload all four drums and wrapping.

Second part of entry was to place tarp on area that the second pallet was located to cover remainder of the spill and completed unloading of the four drums and wrapping of the second contaminated pallet. This task was completed.

No tech smears taken on this entry per management direction due to time restraints (SCBA), physical hazards and priority to containing the spill by wrapping the contaminated second pallet and placing tarp on remainder of spill area in row 8.

Performed large area wipes (LAW's) in areas shown on maps, counted for alpha only. Unable to perform beta gamma due to high background inside WB.

*Direct reading using BWCP 2.5 rad/hr=2 Million dpm/ probe area * 2.25 (CF to 100cm2)= 4.5 million dpm/100cm2

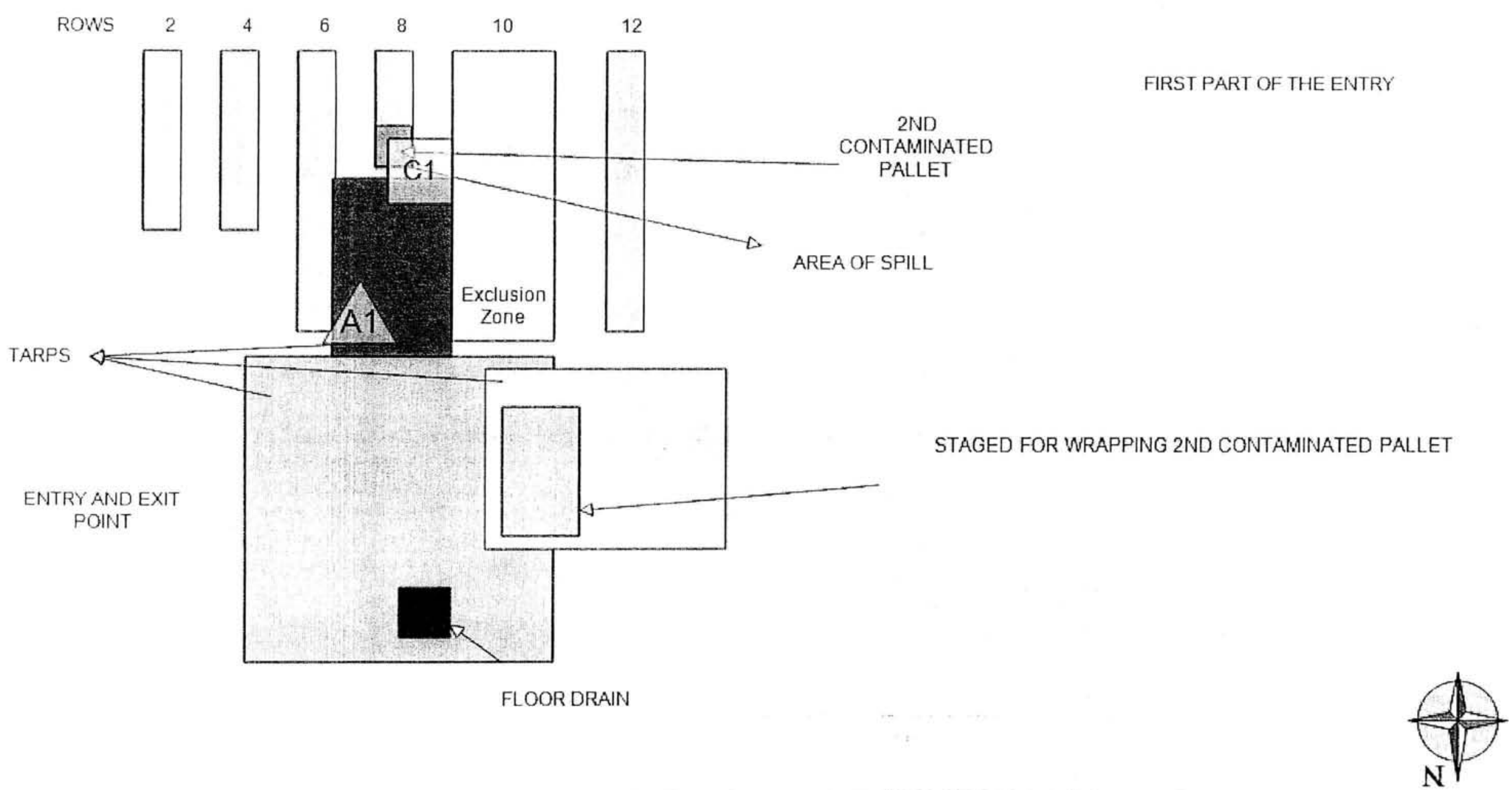
		Dose Rate Measurements							
		Note¹: F = Field (≥30cm) C = Contact(≤1 cm)							
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101380	Page 2 of 5

No.	Description	Contamination Measurements † Manually Calculated by RCT Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed direct frisk on the bottom of second contaminated pallet in row 8 of WB with a BWCP(RAD/hr) see comment section for more information.	N/A	0	N/A	N/A	N/A†	4.5M†	N/A	N/A	N/A†	N/A†
C2	Performed laws (~60%) and directs on the floor near spill and the travel path of the forklift	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C3	Performed laws (~80%) and directs on the wrapped forklift tines after second contaminated pallet was moved	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C4	Performed laws (~60%) and directs on the area that tarp was placed where the second pallet was located	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C5	Performed LAWs (~80%) of the four drums located on the second contaminated pallet.	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A/LAW †	<D/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101380	

Map/Sketch



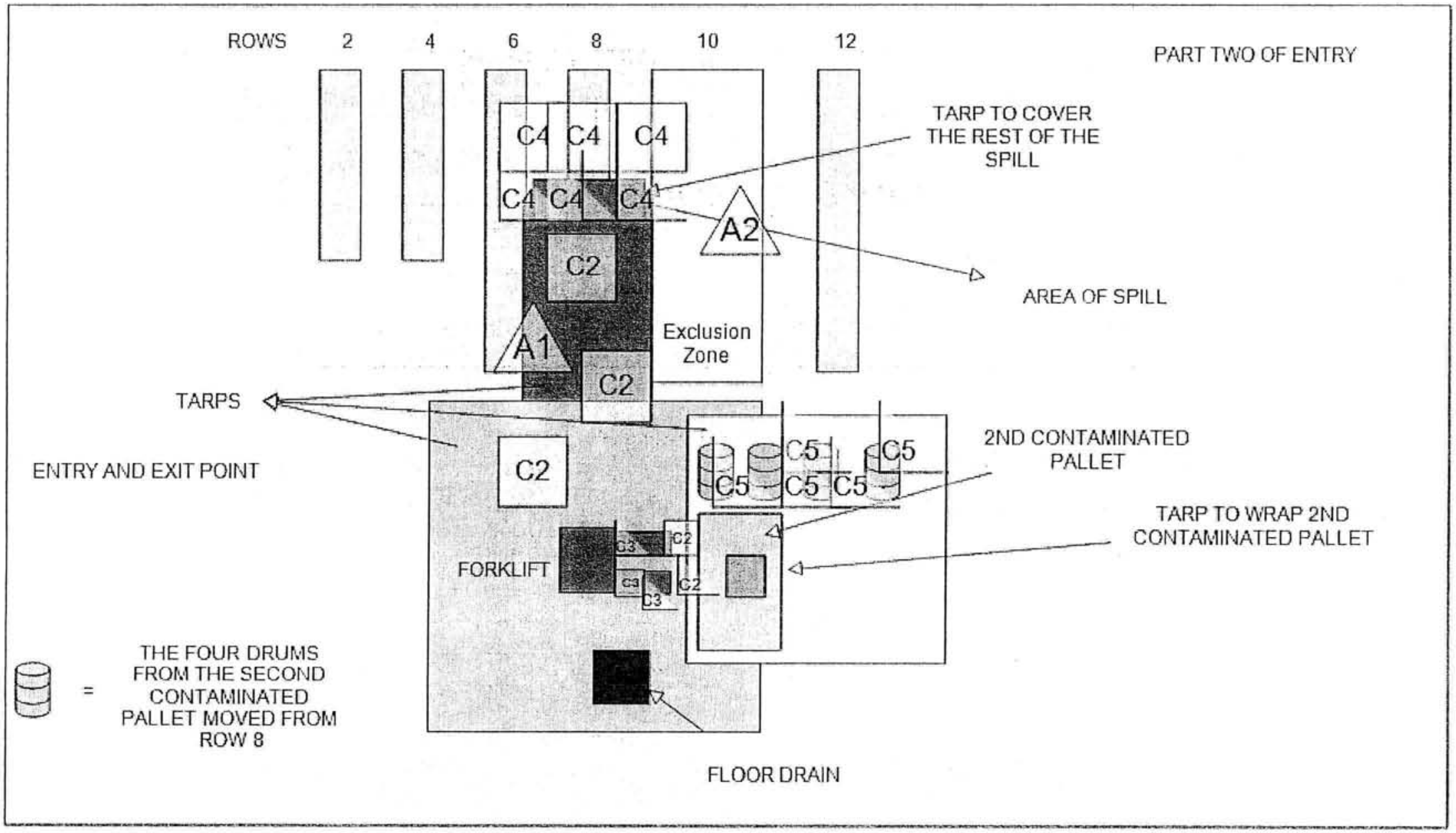
2404WB

Building is posted HCA / ARA / RA / RMA

Map Name: 2404 WB	Map Description: FIRST PART OF THE THRIRD ENTRY

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



2404 WB posted as HCA/ARA/RA/RMA

Map Name: 2404 WB	Map Description: PART TWO OF THE THIRD ENTRY

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101380	

Air Sample Measurements

A1	GWP1101380 page 1	A2	GWP1101380 page 2	A3	WP-23808

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Staplex	20830N	N/A	N/A
RADECO	H-ASRD7-3344	N/A	N/A
PAM	ACHN2-0411	DTLLP-0862	0.16
Black Widow CP	ICHN1-0001	N/A	N/A
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	6-8-11	Judith Ho

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-9-11	T. Terry

History

2011-05-23 03:11:38 - Submitted
2011-05-24 08:46:52 - UnSubmitted corrections made
2011-06-07 08:34:47 - Submitted
2011-06-08 11:14:40 - UnSubmitted corrections made
2011-06-09 08:40:45 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101383

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1600 / 2300	200W / 2404 Complex / 2404 WB/WC /	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: Drum movements, WB door/vent surveys
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Surveyed drums intended for movement (1) from WC to 2336 and SWBs (2) for movement from WC to SUPERHENC.
Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB. Performed a verification survey of the exterior RBA of WB.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. SMEARS WERE COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate on the outside of 2404 WB	F	2.1	2.1	2	1	0.2	2.3	2.3
D2	Highest dose rate on the outside of 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	Highest 30 cm dose rate on Drum and SWB movements from WC to 2336 and WC to SUPERHENC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D4	Highest GA dose rate in 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

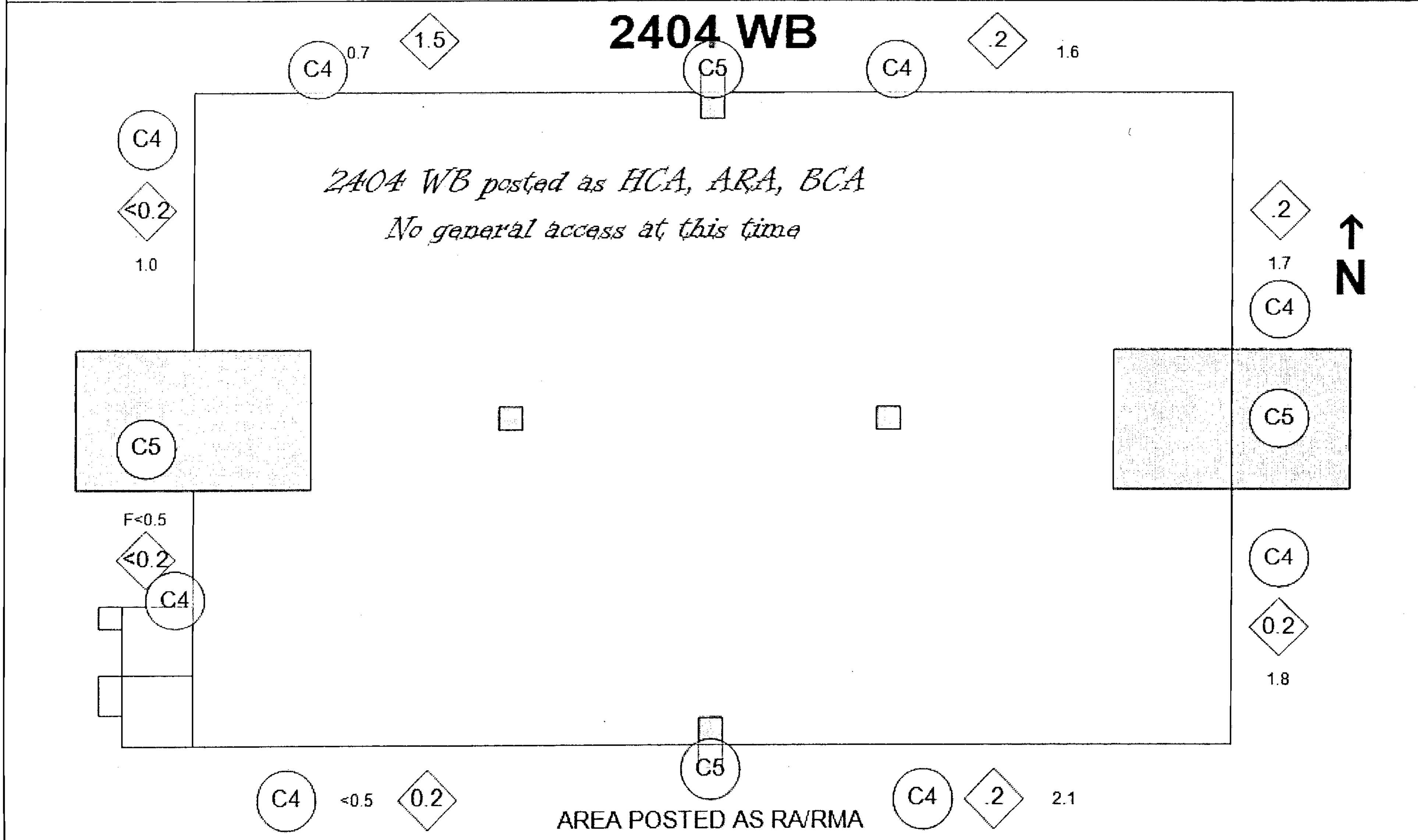
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed large area wipe on the floor in 2404 WC (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	All law's on drum and SWB movements (~30%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	Smears of all exhaust vents of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	Smears of all exterior doors of 2404 WB	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101383	

Map/Sketch



Map Name: 2404WB			Map Description: WP-SH003						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/17/2011 10:42:23

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A-6004-663-SS (Rev. 0)

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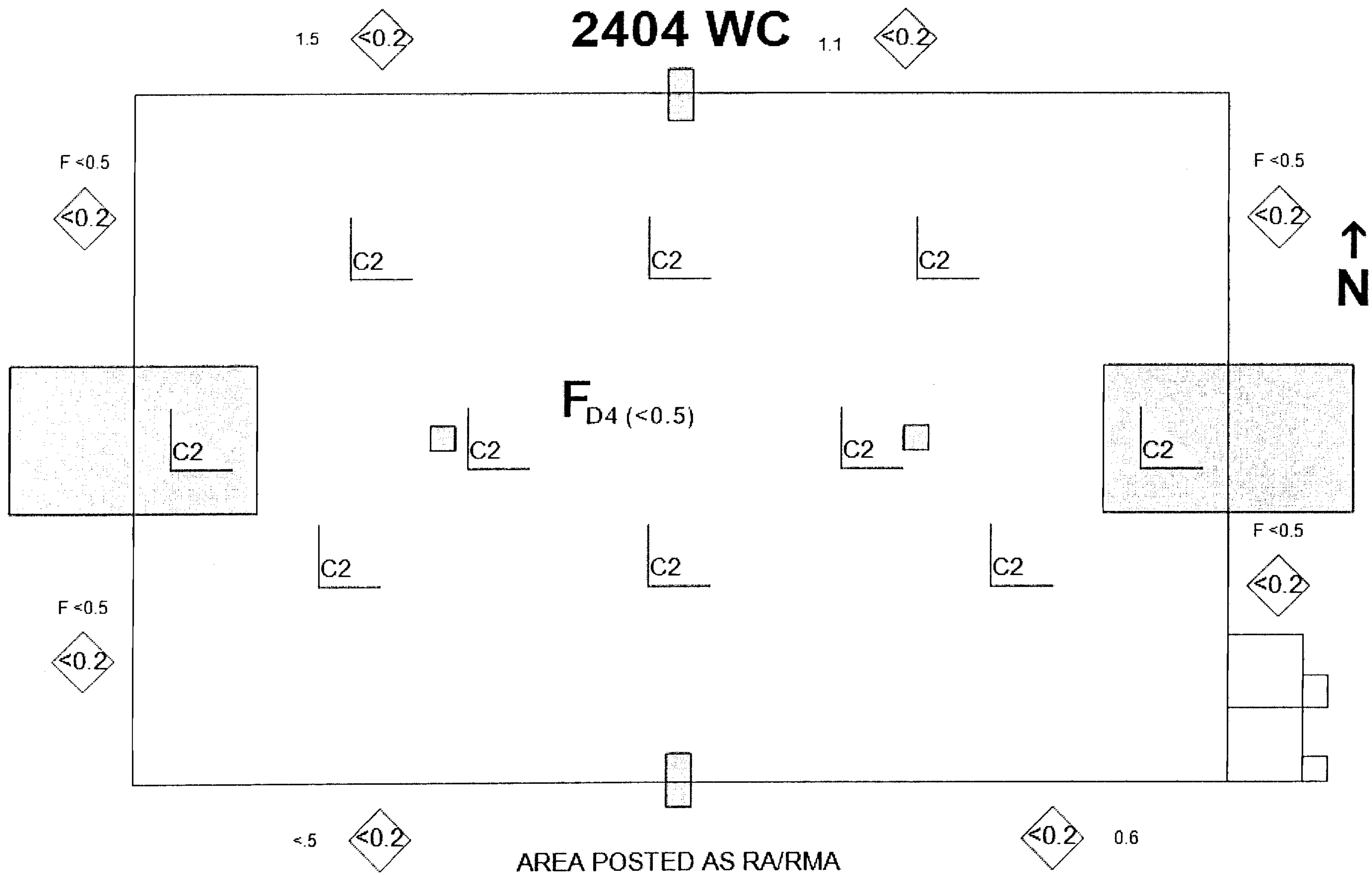
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101383		

Map/Sketch

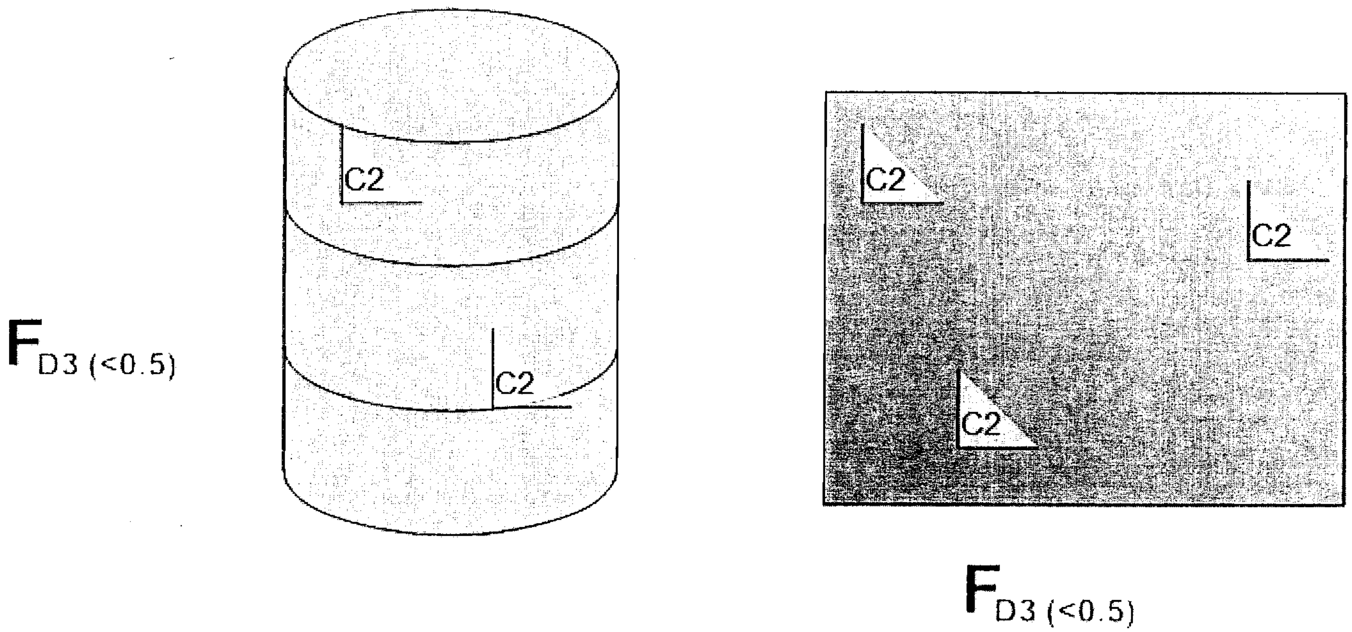


Map Name: 2404 WC			Map Description: WP-SH004						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/17/2011 10:42:23 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101383	. age 4 of 5

Map/Sketch



Map Name: Drums and SWBs surveyed	Map Description: Drums and SWBs surveyed for movement

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/17/2011 10:42:23 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0615	DTHN3-0658	0.16
GM	CMEB5-0013	DTEB9-0344	0.10
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Park, Nancy	**h7274392**	5-17-11	
Stancil, Barbara	h5717168	5-17-11	B. Stan

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 19 2011	CAW

History

2011-05-17 10:42:23 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101384

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/17/2011	1630 / 2030	200 W / 2404 WB / N/A / N/A	WP-574 Rev 4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: RECOVERY PLAN # WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

SURVEY OF AREAS FOR IH Be SMEARS. Be AIR SAMPLES

Comments: T/S COUNTED IAW WRP1-OP-1230.

SURVEY PLAN WRAP-RSP-014 Rev 00 WAS USED FOR PERFORMING Be SAMPLING WITH IH. DIRECT SURVEYS WERE PERFORMED PRIOR TO THE IH Be SMEARS. T/S WERE PERFORMED IMEDIATELY ADJACENT TO Be SMEAR AREA. ALL DIRECT AND SMEARs WERE <D.
DIRECT SURVEY AND TECHNICAL SMEAR OF AREA TAKEN AS REPRESENTATIVE DATA FOR BERYLLIUM TECHNICAL SMEARS.
LAPEL AIR SAMPLER FILTER SURVEYED AS REPRESENTATIVE DATA FOR BERYLLIUM LAPEL AIR SAMPLERS.
1 PERSONNEL Be LAPEL SAMPLE AND 2 GENERAL AREA Be ROOM AIR SAMPLES TAKEN

Be CHAIN OF CUSTODY # 11-23277 & 11-~~32271~~ 23271 5-18-11

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

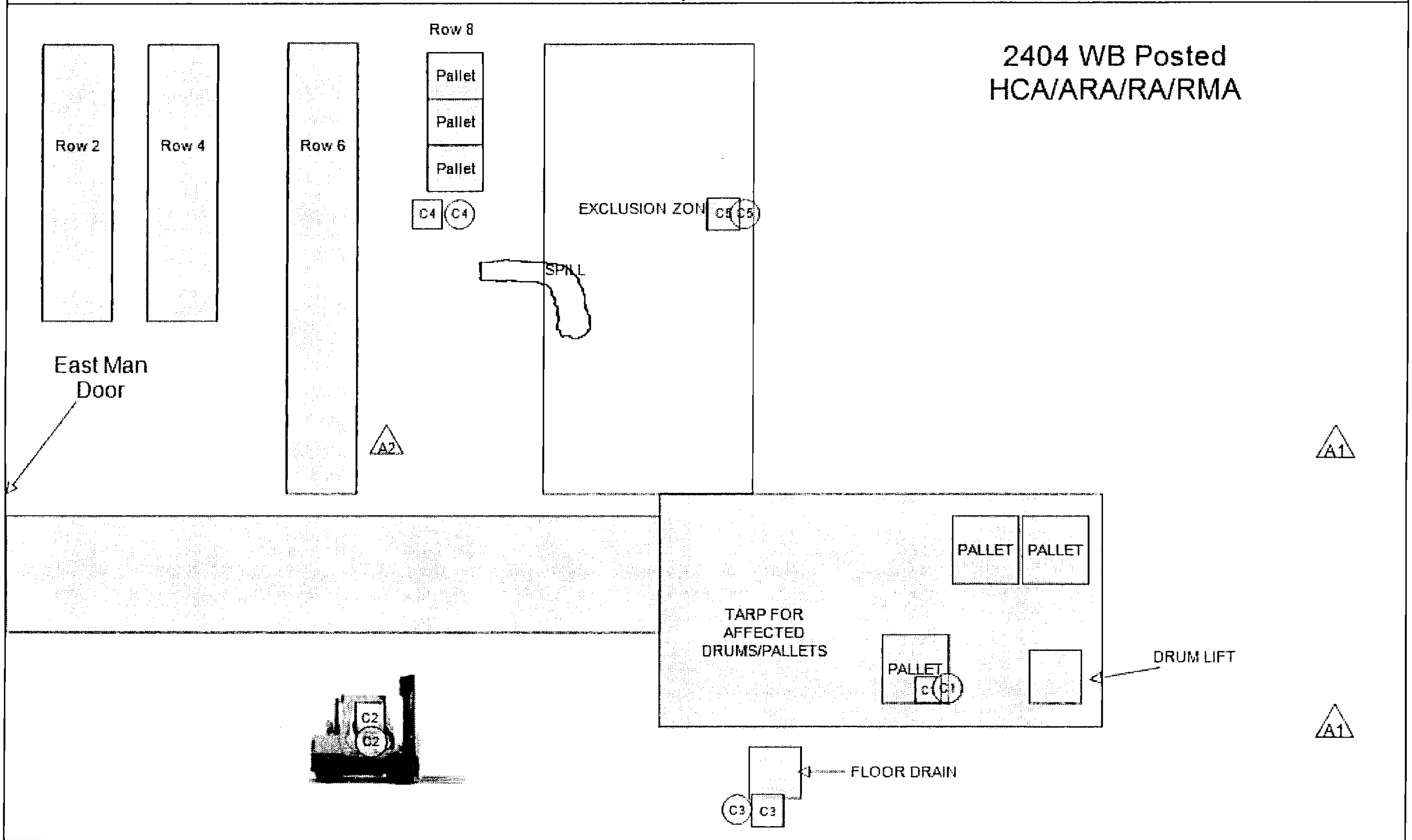
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	DIRECT SURVEY & T/S - TOP OF DRUM # 0061231	100	0	N/A	0	N/A†	<500†	N/A	6	<1000†	<20†
C2	DIRECT SUREVY & T/S OF FORK LIFT # HO-75-04878 IN FRONT OF SEAT	100	0	N/A	0	N/A†	<500†	N/A	6	<1000†	<20†
C3	DIRECT SURVEY & T/S OF FLOOR @ N.E CORNER OF FLOOR DRAIN	100	0	N/A	0	N/A†	<500†	N/A	6	<1000†	<20†
C4	DIRECT SURVEY & T/S OF FLOOR UNDER PALLET	100	0	N/A	0	N/A†	<500†	N/A	6	<1000†	<20†
C5	DIRECT SURVEY & T/S OF FLOOR IN EXCLUSINON ZONE	100	0	N/A	0	N/A†	<500†	N/A	6	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101384

Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY			Map Description: WB RECOVERY 2ND ENTRY					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101384	

Air Sample Measurements

A1	GWP1101372	A2	WP-23277

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0209	DTHN3-1011	0.16
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
GM	CMEBB-0136	DTHNC-0343	0.10
TeNNELEC S5-XLB	0403421	1924	β0.42 α0.27

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-18-11	

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-18-11	T. Terry

History

2011-05-18 07:37:18 - Submitted
2011-05-18 07:52:51 - UnSubmitted corrections
2011-05-18 07:53:56 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101386

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/18/2011	0800 / 1530	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.
WB doors and vents were surveyed due to restricted access and HCA/ARA posting.

2 SWBs moved from WC to HERTR

Comments: LAWs performed in accordance with WMP-350 Section 6.2

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.3	1.3	3	1	2	3.3	3.3
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	2.5	2.5	3	1	<0.2	2.5	2.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	10	<D/LAW	<D/LAW
C3	LAW's @ 30% on WB Doors and vents	50	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C4	LAWs @ 20% on SWB moved	50	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

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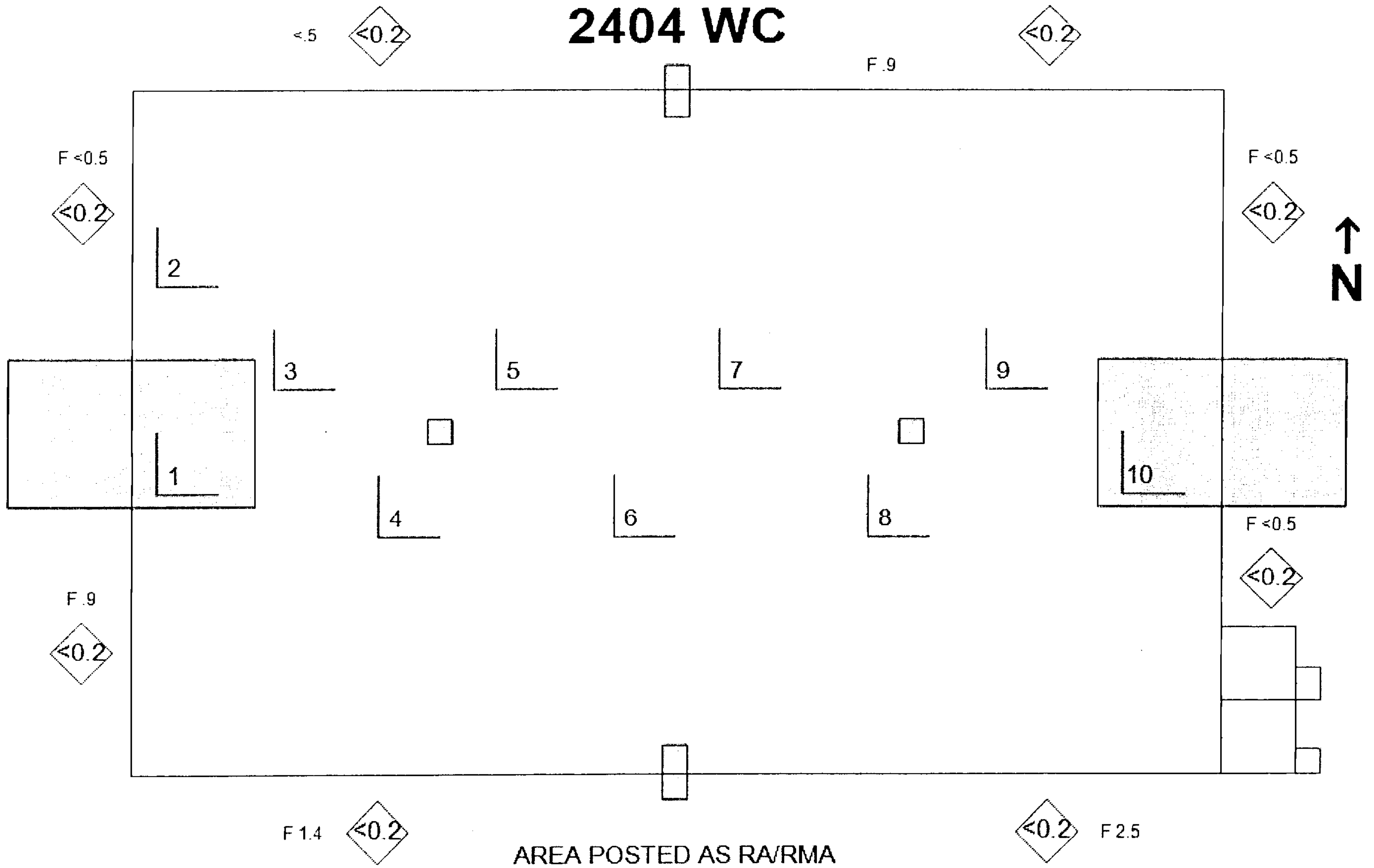
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101386	

Map/Sketch

2404 WC



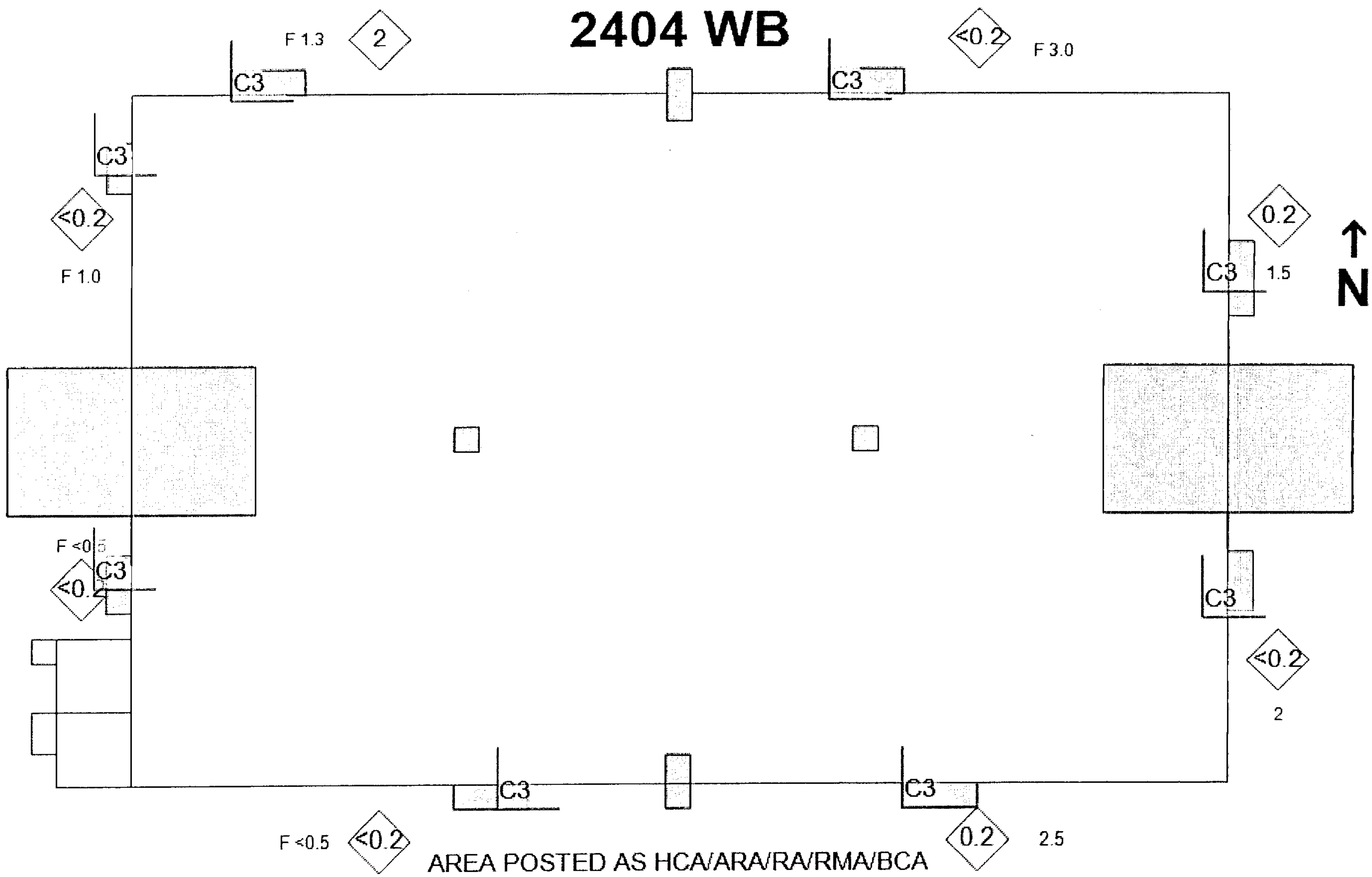
AREA POSTED AS RA/RMA

Map Name: 2404 WC	Map Description: WP-SH004

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101386	

Map/Sketch



Map Name: 2404 WB			Map Description: WP-SH003						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/18/2011 09:45:28

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101386

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
CP	ICEB3-0414	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	5/18/11	[signature]

Reviewers

Name	HID	Date	Signature
C. Wieland	6197614	MAY 23 2011	[signature]

History

2011-05-18 09:45:28 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101394

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/18/2011	2030 / 2300	200W / 2336 W / 2404 WB/WC / Warehouses	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004 Shiftly tasks in 2404 WB & WC.

Comments: Tech smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350 Sec 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	WB OUTSIDE DOSE RATE	F	3	3	3	1	1	4	4
D2	WC OUTSIDE DOSE RATE	F	1	1	3	1	<0.2	1	1
D3	WC INSIDE GENERAL AREA	F	1	1	3	1	<0.2	1	1

Contamination Measurements

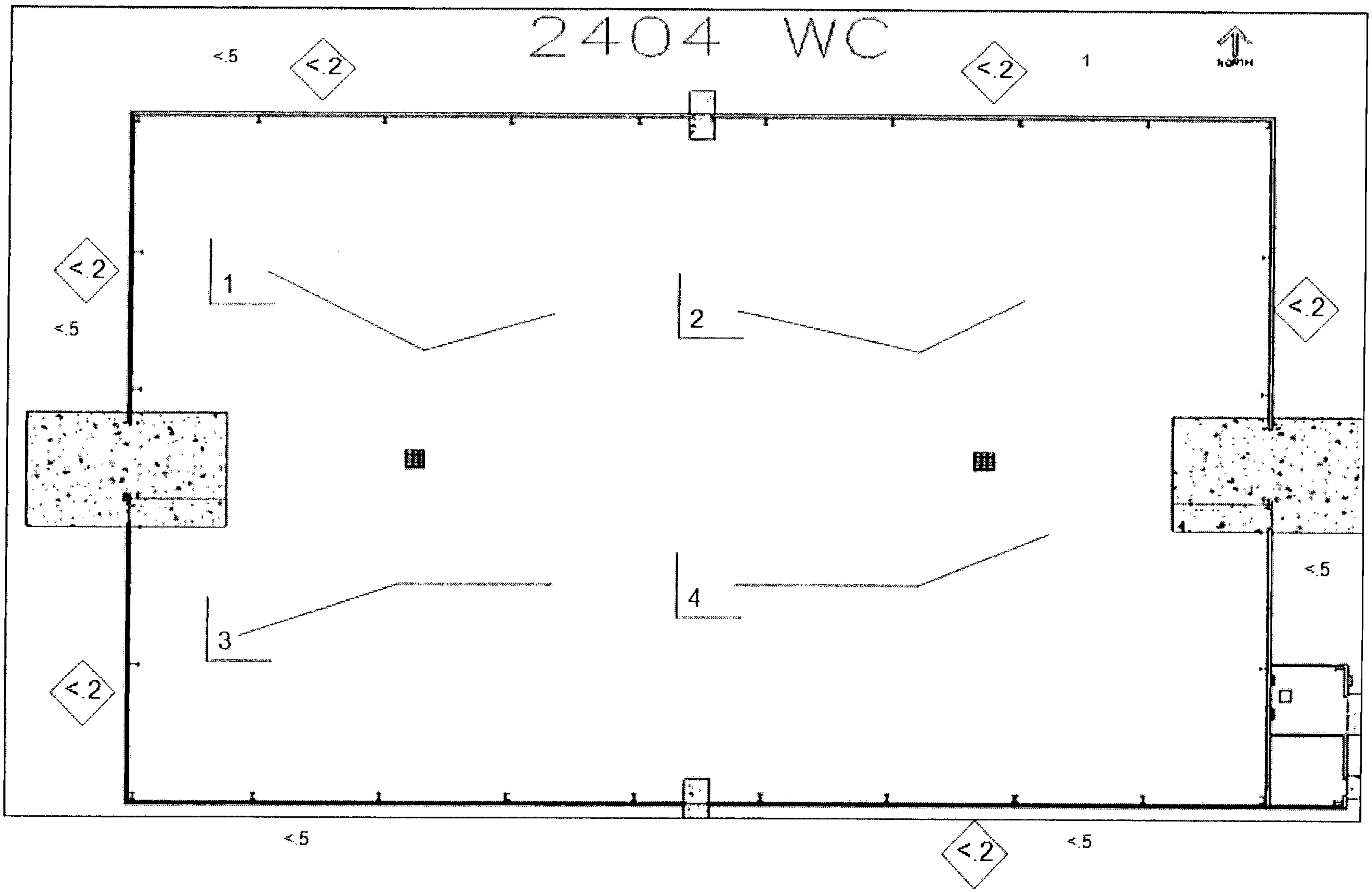
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW WC FLOORS (~30%)	250	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101394

Map/Sketch

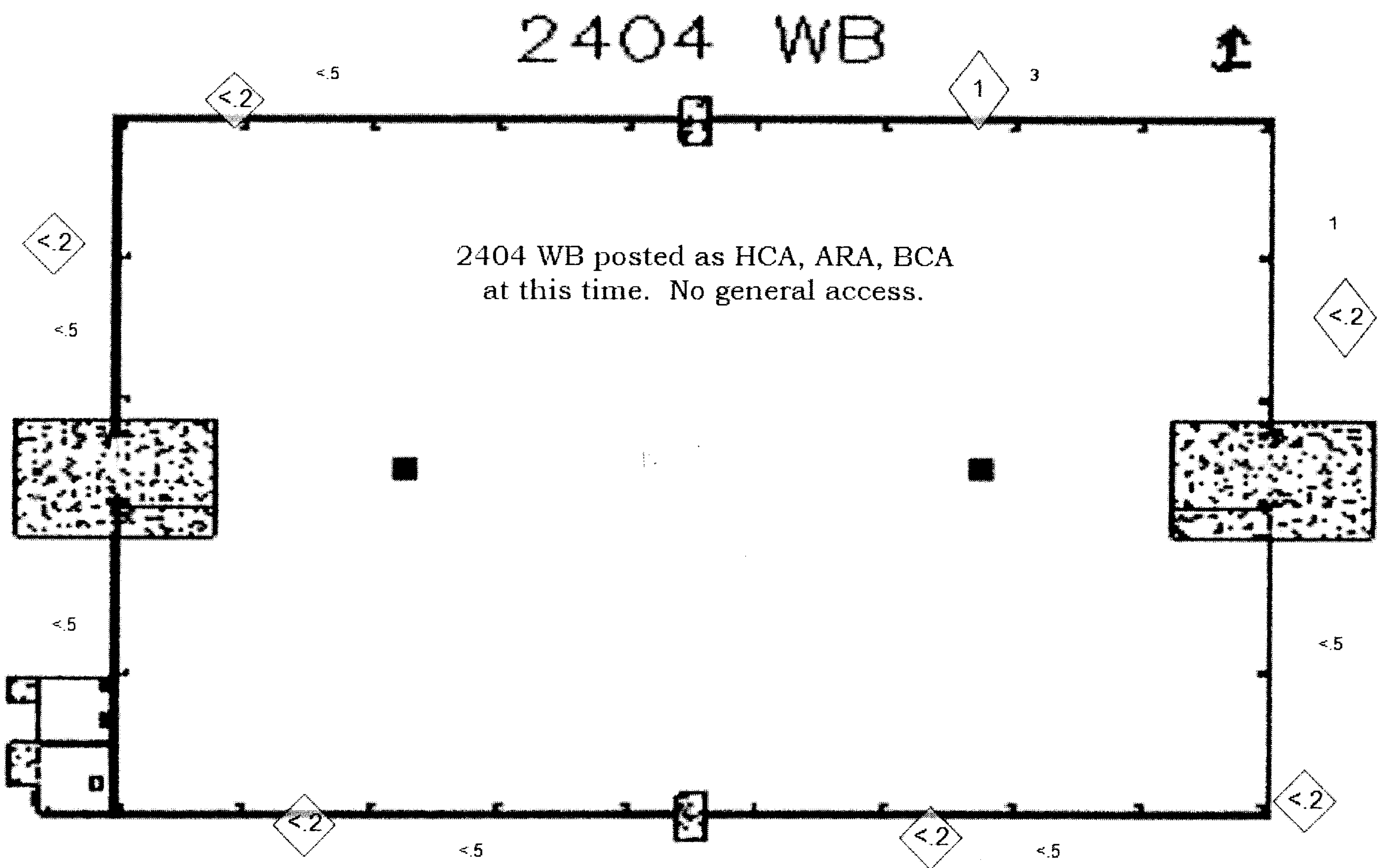


Map Name: WC	Map Description: Shiftly of WC

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101394

Map/Sketch



Map Name: WB	Map Description: Shiftly of WB

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101394

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
CP	ICEB3-0414	N/A	N/A
Ludlum 2360	SCLL8-0482	DTLLP-0589	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	5-18-11	B. Stan
Park, Nancy	h7274392	5-18-11	[illegible]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 23 2011	[illegible]

History

2011-05-18 11:28:24 - Submitted
2011-05-18 11:31:29 - UnSubmitted Additional information
2011-05-18 11:34:11 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101397

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/19/2011	0900 / 1145	200 WEST / 2404 / WB /	RWP-574/ REV.4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

WB RECOVERY ENTRY TO DOWNPOST THE AREA.

Comments: RECOVERY TEAM ENTERED 2404 WB TO DOWNPOST THE ARA/HCA/RA TO A CA/RA.
NO BETA/GAMMA SURVEYS PERFORMED DUE TO HIGH BACKGROUND.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
SMEARS COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	HIGHEST GENERAL WORKING AREA	F	4	4	3	1	N/A	4	4

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	SMEARS OF EAST SIDE WB~200 SMEARS	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C2	DIRECTS OF UNCOVERED FLOOR ON EAST SIDE OF WB~ 75%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	NA†
C3	DIRECT OF NON-SKID STRIP ON YELLOW RAMP EAST SIDE OF WB	N/A	0	N/A	400	N/A	2400	N/A	6	N/A	N/A
C4	DIRECT OF NON-SKID STRIP ON YELLOW RAMP AFTER COVERING WITH TAPE	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C5	DIRECT BEHIND ROW 6 EAST SIDE WB	N/A	0	N/A	100	N/A	600	N/A	6	N/A	N/A
C6	DIRECT BEHIND ROW 6 EAST SIDE WB POST DECON	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C7	DIRECTS OF COVERED FLOOR ON EAST SIDE WB~ 50%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C8	LAWS OF UNCOVERED FLOOR EAST SIDE WB~ 80%	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C9	LAWS OF COVERED FLOOR EAST SIDE WB~90%	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†

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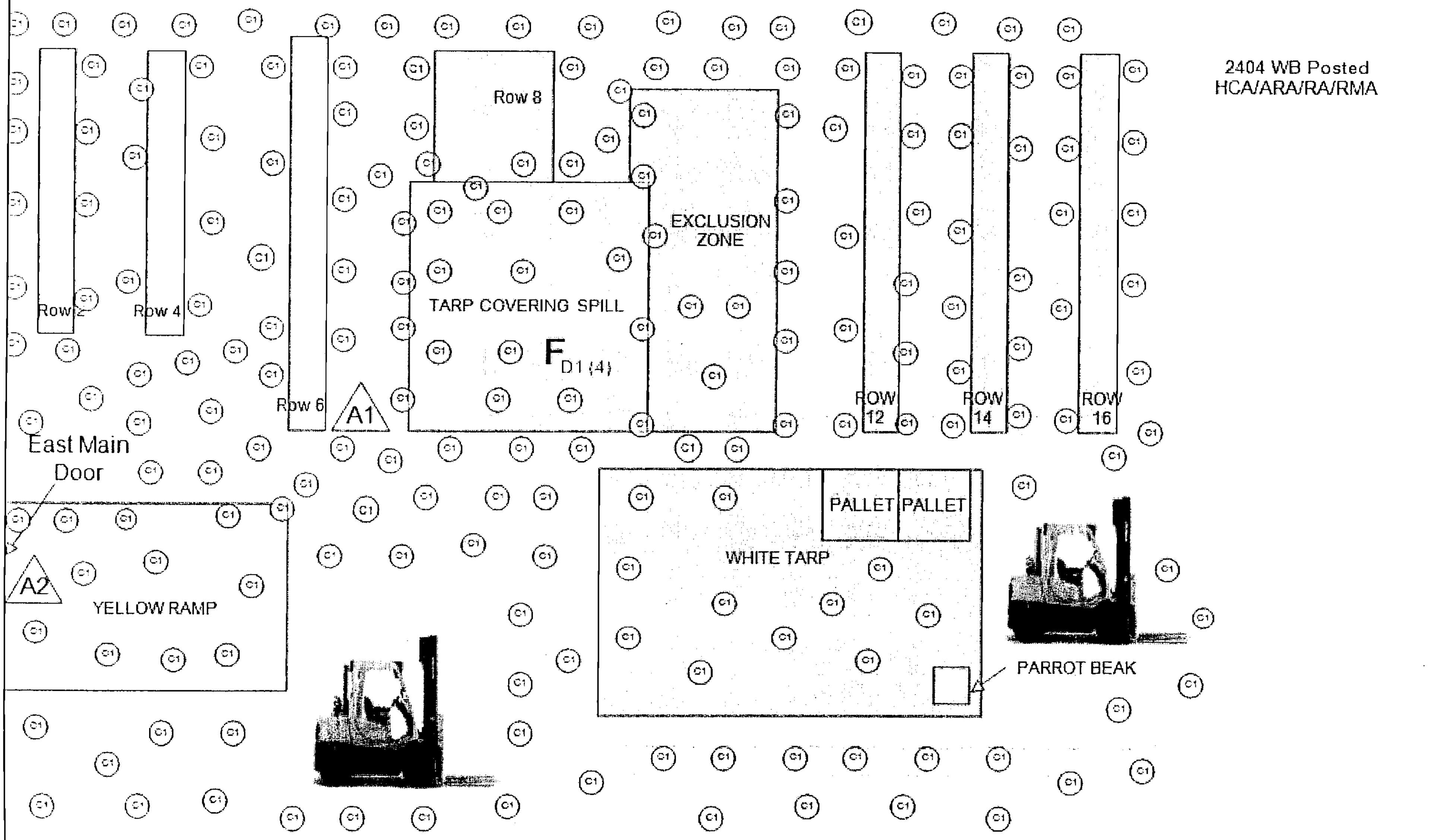
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101397	

Map/Sketch



Map Name: 2404 WB RECOVERY

Map Description: WB RECOVERY~ SMEAR LOCATIONS

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

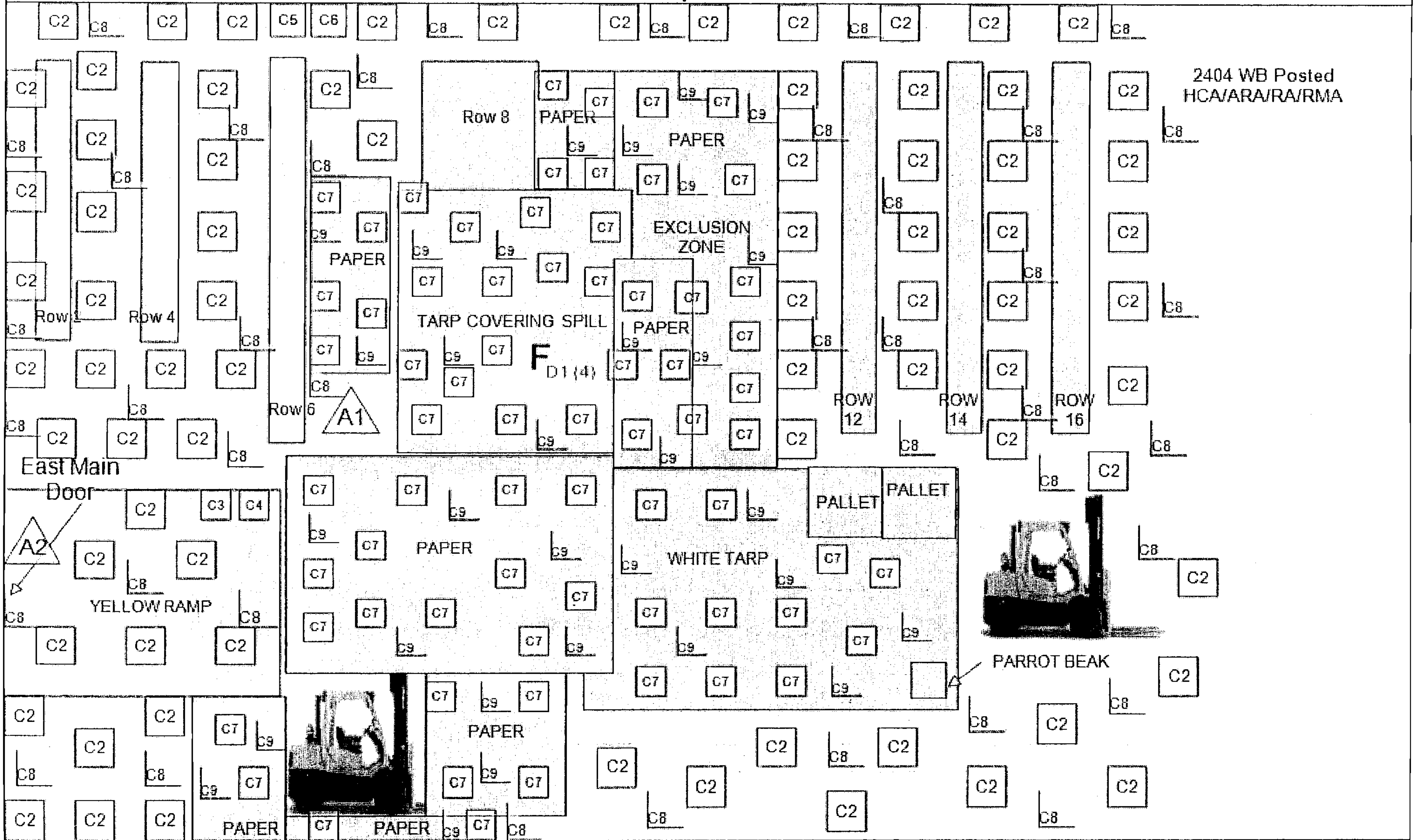
Note: Dose Rates in mrem/hr unless otherwise noted.

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101397

Map/Sketch



Map Name: 2404 WB RECOVERY

Map Description: WB RECOVERY~ LAW AND DIRECT LOCATIONS

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101397

Air Sample Measurements

A1	GWP-1101397	A2	WP-23,817	A3	WP-23,818

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
TeNNELEC	S5-XLB 0403421	1924	β0.42 α0.27
RADECO	H-ASSA1-664	N/A	N/A
2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Bumble Bee CP	ICHN2-0003	N/A	N/A
TeNNELEC	S5-XLB 75063	1430	β0.39 α0.25
Staplex	21901P	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	5-23-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-23-11	T. Terry

History

2011-05-20 02:51:14 - Submitted
2011-05-23 07:21:22 - UnSubmitted make correction
2011-05-23 03:35:35 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101403

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/19/2011	0730 / 1600	200 WEST/WRAP / 2404 Complex / N/A / VARIOUS	WP-001/ REV. 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [x] Other: WASTE CONTAINER MOVEMENTS

Description of Work/Comments:

WP-SH003 & WP-SH004.

Surveyed 11 SWB to be moved from 2404-WC to MO-610 & 2406W then returned to 2404WC.

42 drums transfered from CWC to 2404WC

14 drum transfered from 2404WC to 2336W

Comments: LAWs performed in accordance with WMP-350 section 6.2.

CA and RBA exit is set up on the east side of 2404 WB.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

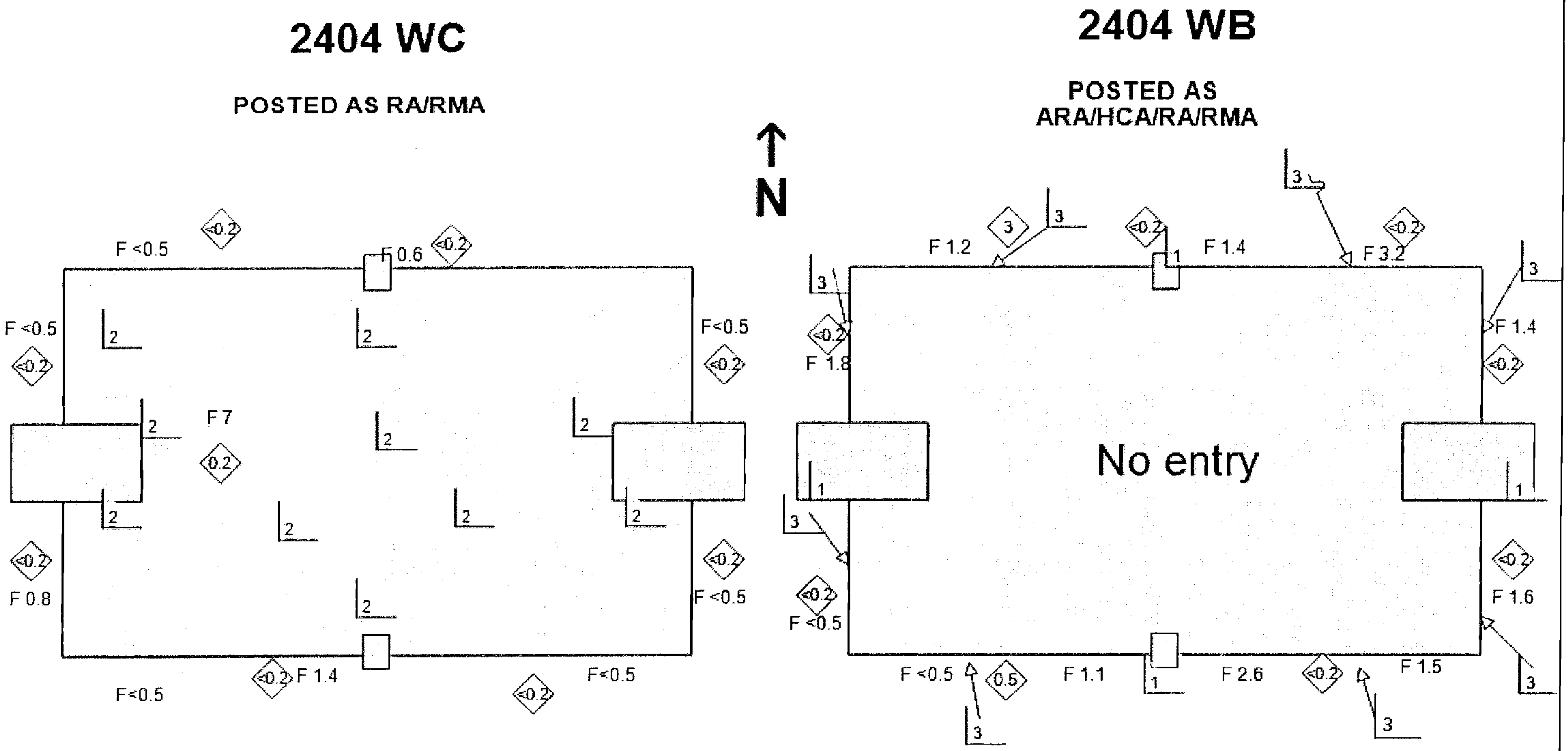
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Max. dose rate outside 2404 WB	F	1.2	1.2	2	1	3	4.2	4.2
D2	General working area 2404 WC	F	7	7	2	1	0.2	7.2	7.2
D3	Max.dose rate outside 2404 WC	F	1.4	1.4	2	1	<0.2	1.4	1.4
D4	11 SWB's	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	Max dose rate on 14 drums transfered from 2404WC to 2336W	F	7	7	2	1	0.2	7.2	7.2
D6	Max dose rate on 42 drums transfered from CWC to 2404WC	F	1	1	2	1	<0.2	1	1

Contamination Measurements

† Manually Calculated by RCT

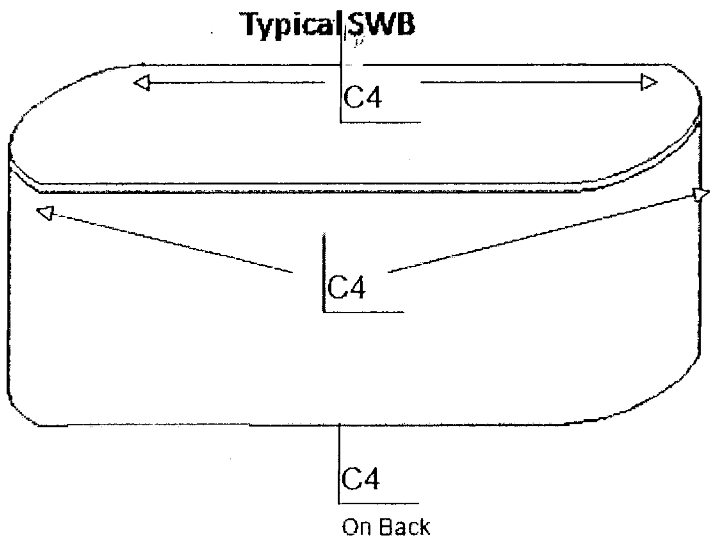
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's at doorways of 2404 WB (10%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW's on floor in 2404 WC (40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	2404 WB 8 exterior louvers	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	11 SWB's (LAW @ 80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	14 drums transfered from 2404WC to 2336W	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	42 drums transfered from CWC to 2424WC	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

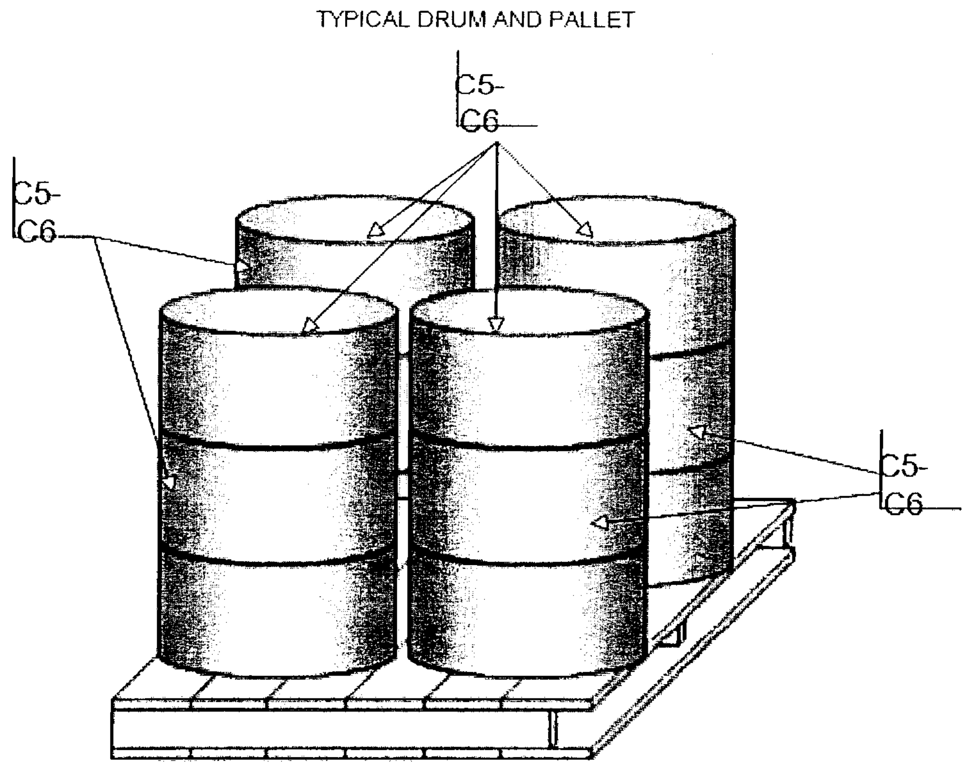
Map/Sketch



Map Name: 404 WB & 2404 WC			Map Description: WP-SH003 & WP-SH004						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch





Map Name: C4Waste Container	Map Description: Waste Container

Legend: [#] Direct Measurement | Air Sample | (#) Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101403

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEBB-0136	DTHNC-0343	0.1
Ludlum 2360	SCLL8-0379	DTLLP-0483	β0.1 α0.1
RO-20	ICEB4-1556	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	5-19-2011	Harry L North

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 23 2011	C Wielang

History

2011-05-19 02:34:37 - Submitted
2011-05-19 03:19:11 - UnSubmitted   Added additional information.
2011-05-19 03:19:58 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101406

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/19/2011	0900 / 1600	200 WEST / 2404 WB / WB outside ca / East entryway	WP-574/4

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001;RSP-WP-10-002;RSP-WP-06-008
  - Released to: RADCON, IH, OPS
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Release of Various items from CA outside the 2404 WB east entryway. Identification numbers of all equipment listed in the maps/sketch area. released 2 drums and 2 laundry bags.

Comments: Tech smears counted per WRP1-OP-1230.
LAWs performed in accordance with WMP-350 sec 6.2.
All items were moved to a low background location to be directed with a GM.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Smears and directs of PAPR units (4 smears each)	300	1	N/A	N/A	<5000†	<100†	10	10	<1000†	<20†
C2	LAW of PAPR units (100%)	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C3	Smear and directs of Lapel pumps (4 smears each)	300	1	N/A	N/A	<5000†	<100†	10	10	<1000†	<20†
C4	LAW of lapels (100%)	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW
C5	Smears and directs of instruments (2 smears each)	300	1	N/A	N/A	<5000†	<100†	10	10	<1000†	<20†
C6	LAW of instruments	N/A	1	N/A	N/A	N/A	N/A	N/A	10	N/A/LAW	<D/LAW

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Map/Sketch

INSTRUMENTS	PAPR Unit	Lapel Pumps
PAM's	703	2655
	317	4542
ACHN2-0031	711	4094
DTHN3-0379	715	4552
ACHN2-0209	717	4553
DTHN3-1011	716	4091
	701	4541

Map Name: List of items released from CA

Map Description: List of items released from CA outside 2404WB.

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101406	

Air Sample Measurements

A1	GWP-1101406

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0465	DTLLP-0572	0.10
Ludlum 2360	SCLL8-0487	DTLLP-0594	0.10
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36
2929	SCLL4-0058	DTLLC-0071	β0.42 α0.36
Goose neck	RE-12-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	5/25/11	Noe Curiel

Reviewers

Name	HID	Date	Signature
CWieland	6197614	MAY 26 2011	[illegible]

History

2011-05-25 07:39:11 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101410

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/19/2011	1630 / 2330	200W / 2336 W / 2404 WB/WC / Warehouses	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☑ Job Coverage: Drum Transfer
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004 Shiftly tasks in 2404 WB & WC.

LAWs and dose rates taken of 12 drum transfer from 2404 WC to 2336 W.

Comments: Tech smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Sec 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	WB outside dose rate	F	3	3	2	1	1	4	4
D2	WC outside dose rate	F	1	1	2	1	<0.2	1	1
D3	Max dose rate of 12 drum transfer	F	10	10	2	1	<0.2	10	10

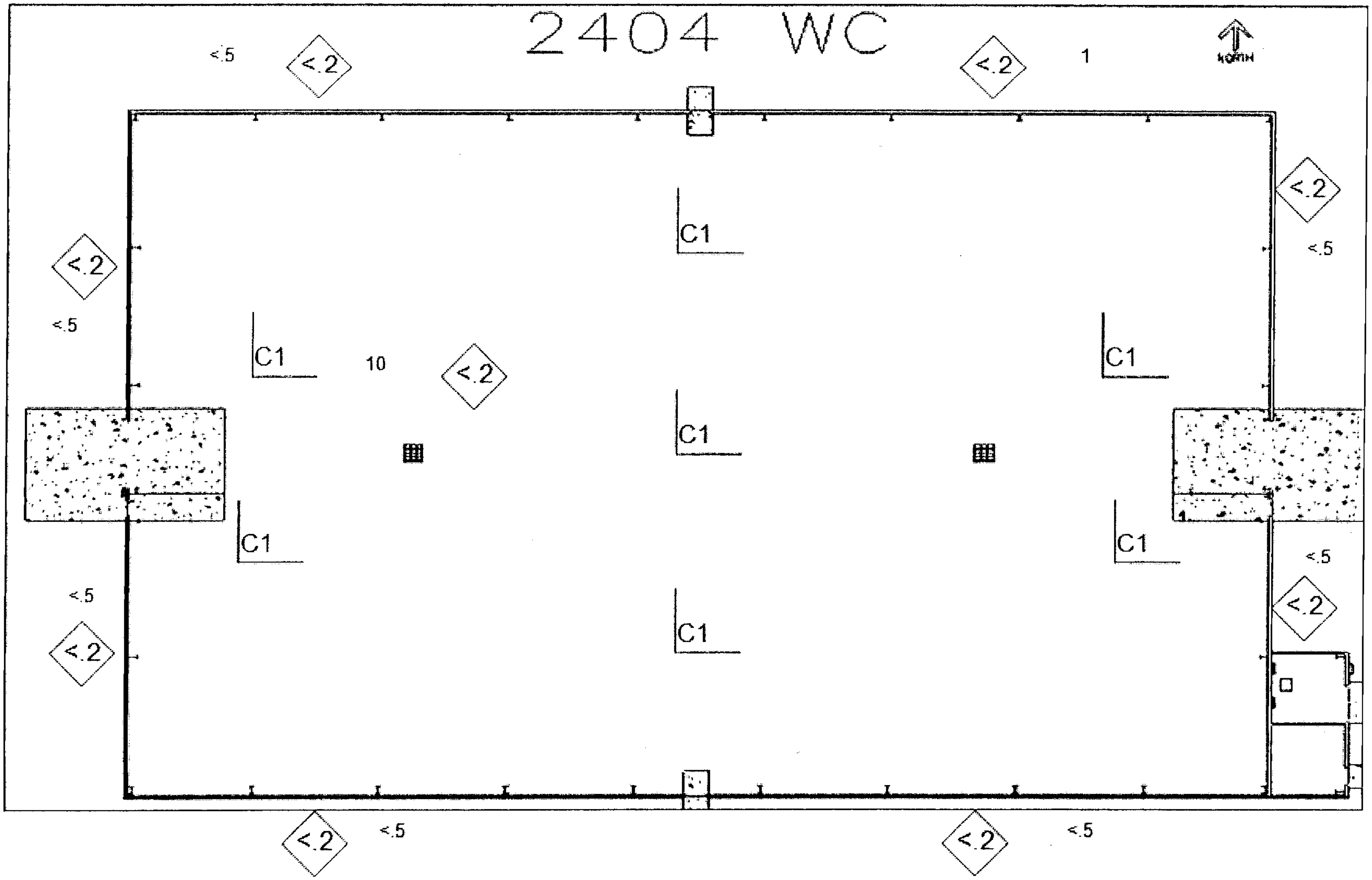
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW WC floors (~30%)	250	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	LAW 12 drums (~35%)	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	D/LAW†
C3	12 tech smears 2404 WB (outside vents & doors)	100	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†

COPY

Map/Sketch



Map Name: WC

Map Description: Shiftly of WC

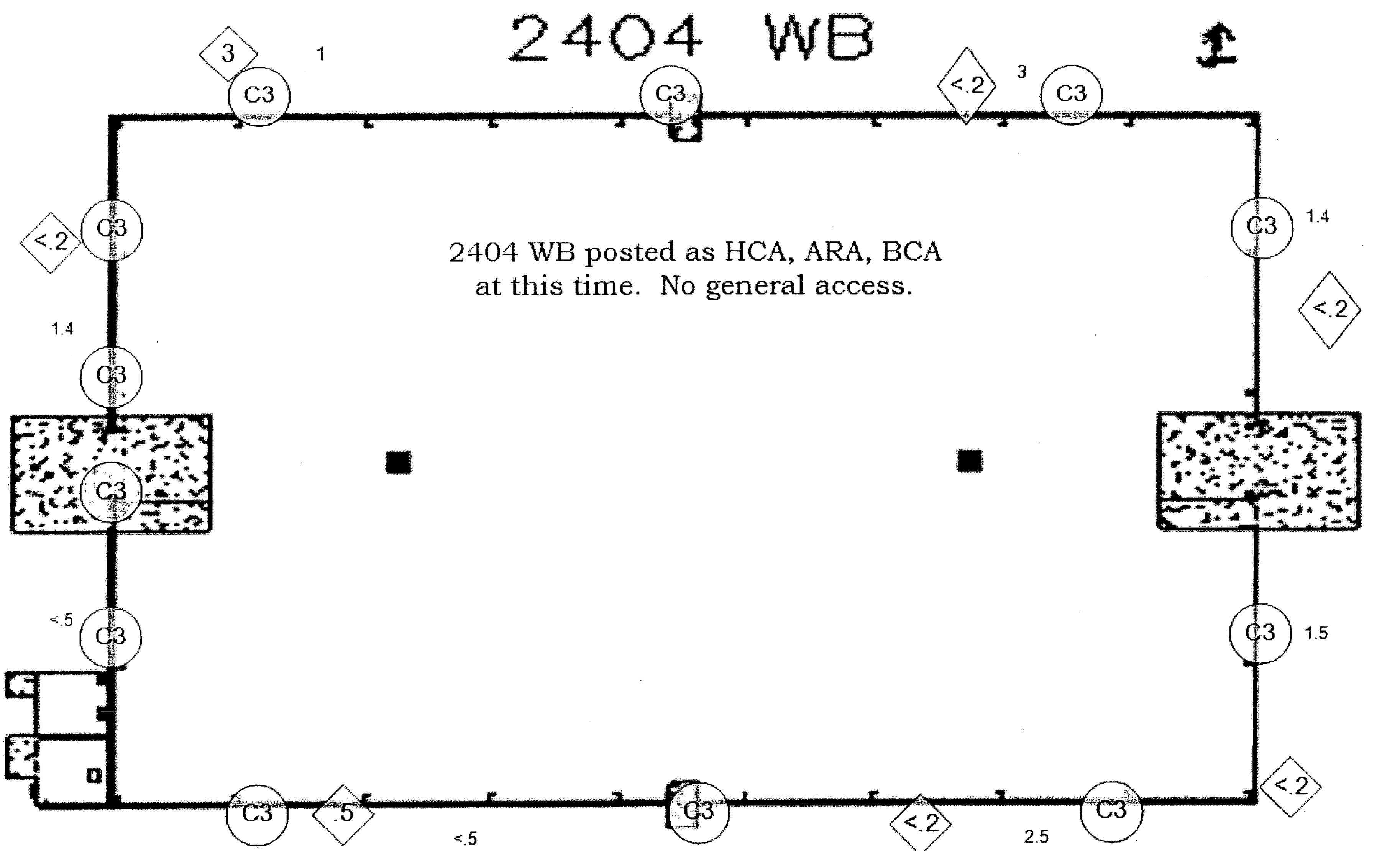
Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: WB | Map Description: Shiftly of WB

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101410

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
Ludlum 2360	SCLL8-0379	DTLLP-0483	0.10
GM	CMEBB-0136	DTHNC-0343	0.10
Ludlum 2929	SCLL4-0065	DTLLC-0075	β0.41α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	**h5717168**	5-25-11	B. Stan
Park, Nancy	h7274392	5-25-11	[illegible]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 26 2011	[illegible]

History

2011-05-19 11:14:23 - Submitted
2011-05-25 03:29:09 - UnSubmitted Additional information
2011-05-25 03:29:57 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101411

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/19/2011	1800 / 2300	200 W / 2404 / WB / WEST END	WP-611/3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-W037
- [x] Job Coverage: WRAP-RSP-015/0
- [x] Other: Down post survey per WRAP-RSP-015/0

Description of Work/Comments:

Performed survey inside 2404 WB west end only for down post to a radiological buffer area (RBA) for contamination control from a contamination area (CA) up to the beryllium boundry.

Comments: Perfomed beta gamma (only)dose rate survey interior of 2404 WB, no neutron survey was performed at this time. Only alpha directs performed due to high background for beta gamma directs. See RSR WP-1101403 for the exterior dose rates to satisfy the weekly task WP-W037.

These maps represent the west end of 2404 WB up to rows 18 & 19 and the last map row 21 & 20. Row 18 & 19 where not down posted on this entry due to a wrapped pallet in row 19. Survey on the east end was not performed on this entry due to the beryllium control area.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Obtained highest dose rate inside 2404 WB for general work area. Neutron not performed	F	30	30	3	1	N/A	30	30

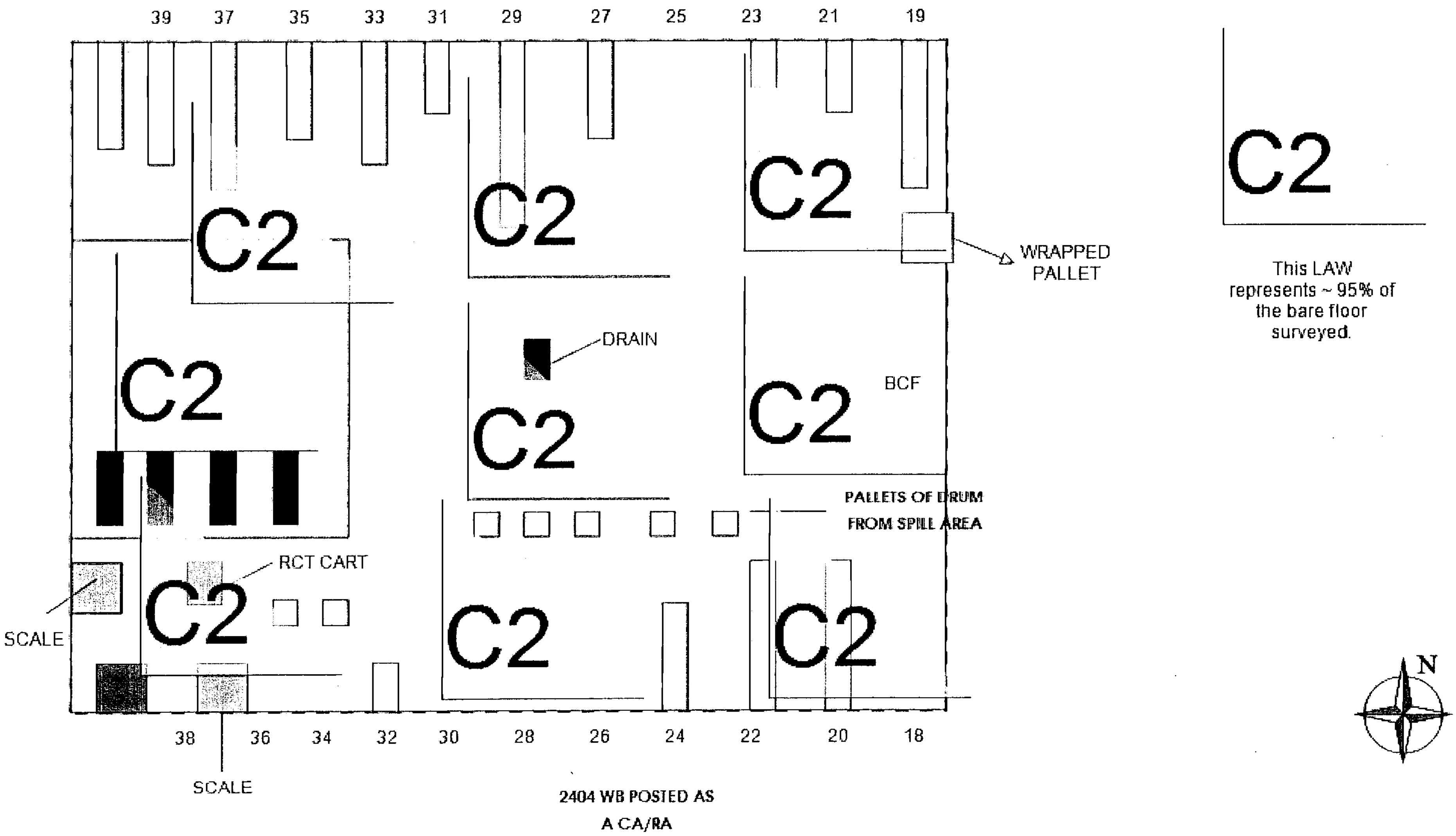
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Performed ~550 tech smears inside 2404 WB for down post from CA to RBA	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	Performed large area wipe(95%) on the bare floor and horizontal surfaces on west end inside 2404 WB for down post from CA to RBA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C3	Performed direct frisk on the bare floor and horizontal surfaces(~60%) on west end inside 2404 WB for down post from CA to RBA. No direct beta survey performed due too high background.	N/A	0	N/A	N/A	NA†	<500†	N/A	6	N/A†	N/A†
C4	Performed tech smears (4) per drum and pallet.	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

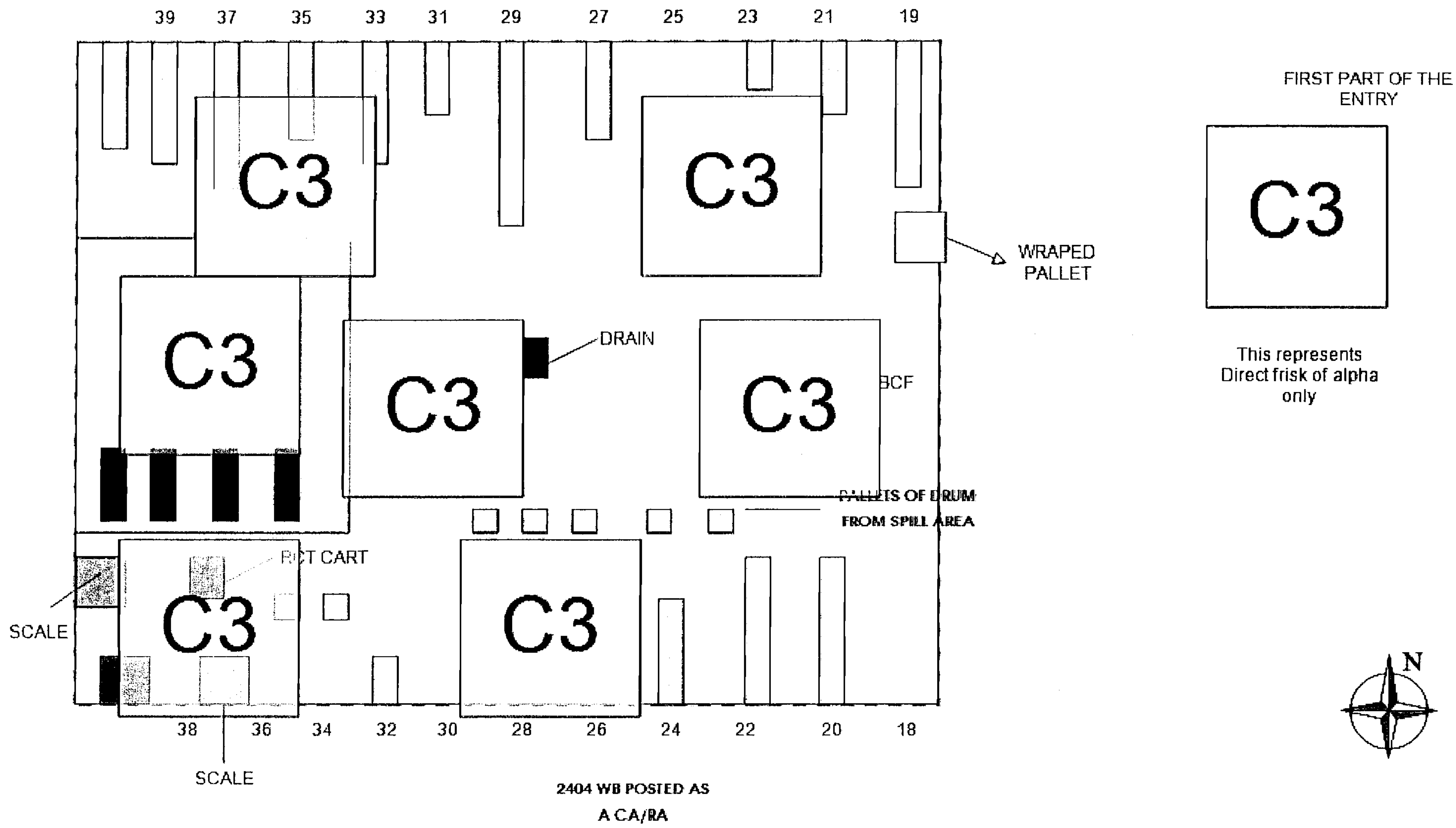
No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	Performed large area wipes (~70%) on the pallets and the drums	100	0	N/A	N/A	N/A†	N/A†	10	6	NA/LAW†	<D/LAW†

Map/Sketch



Map Name: 2404 Down Post of 2404 WB				Map Description: Large area wipe survey					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 Down Post of 2404 WB	Map Description: Direct survey

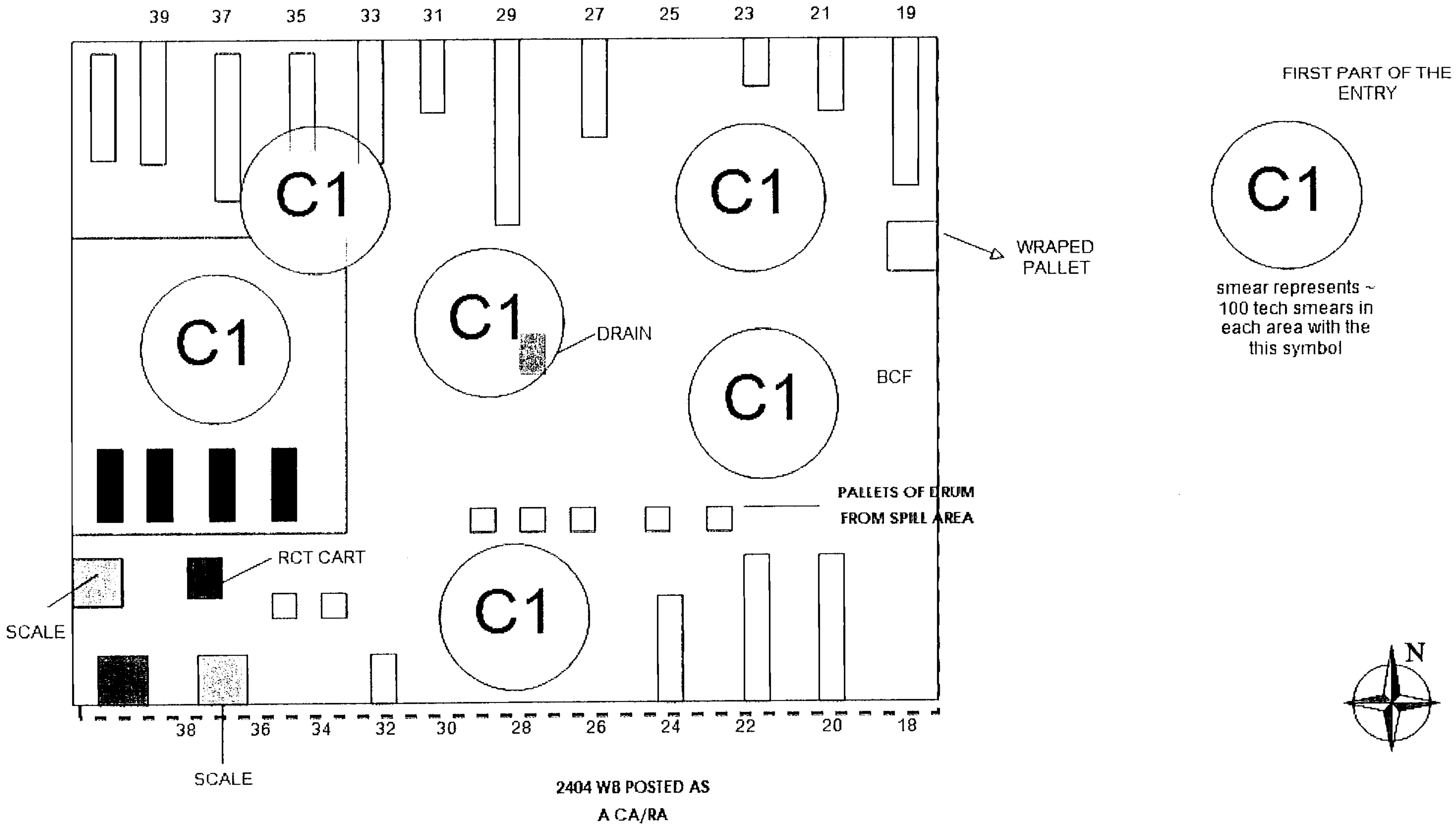
Legend: # Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101411	

Map/Sketch



Map Name: 2404 Down Post of 2404 WB			Map Description: Tech smear survey						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 06/15/2011 07:43:10

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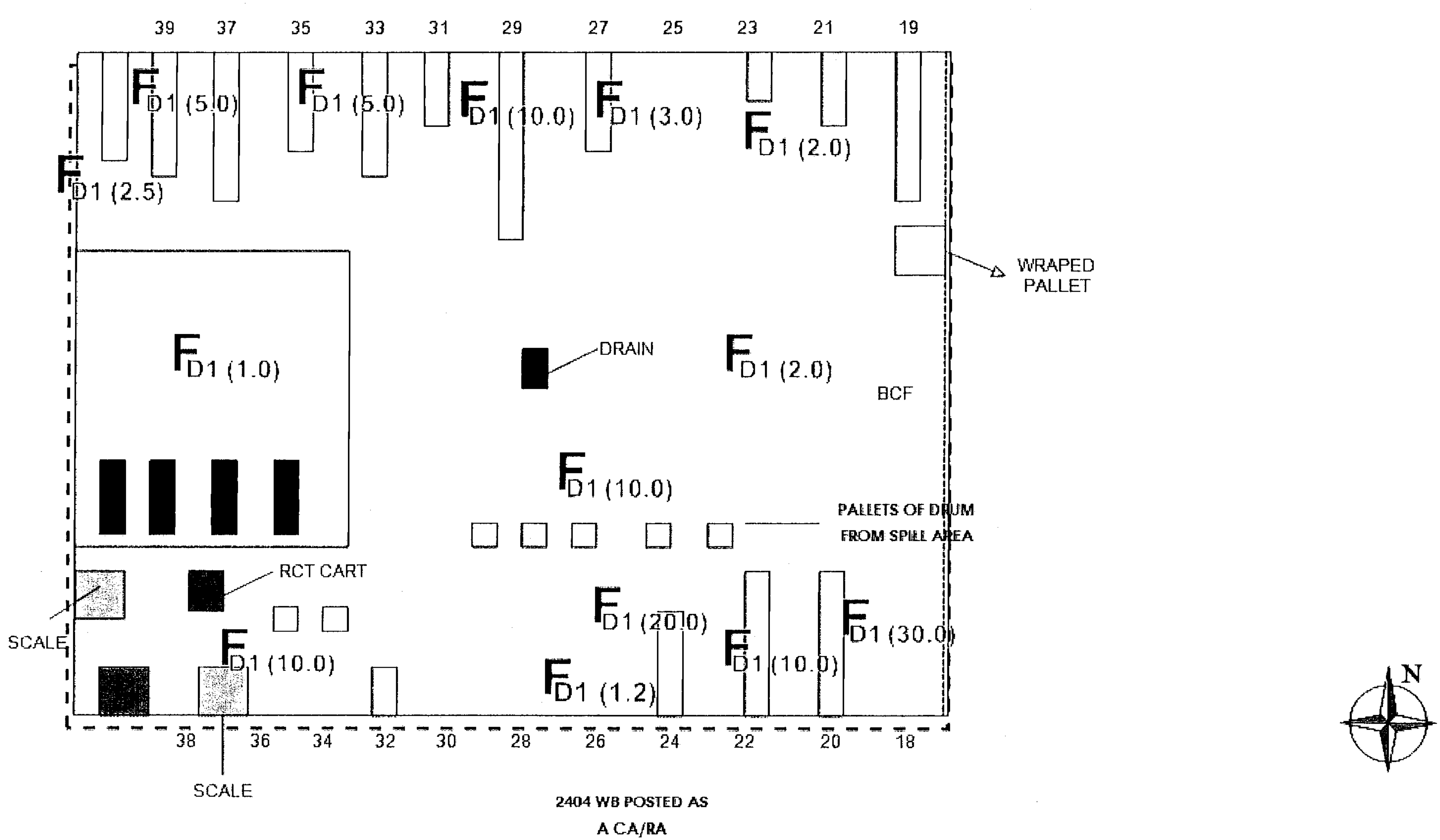
A-6004-663-SS (Rev. 0)

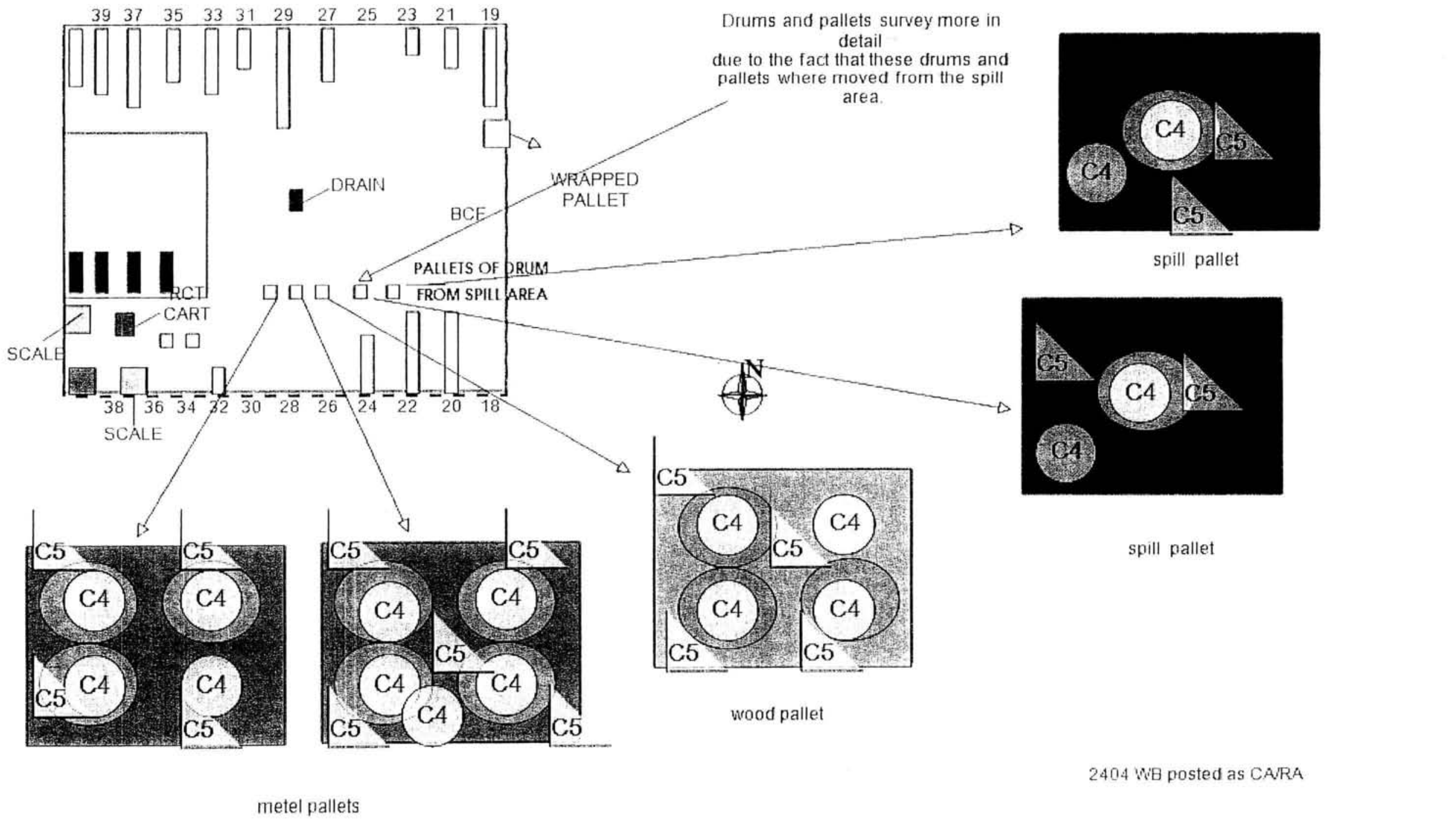
Map/Sketch



Map Name: 2404 Down Post of 2404 WB	Map Description: Dose rate survey

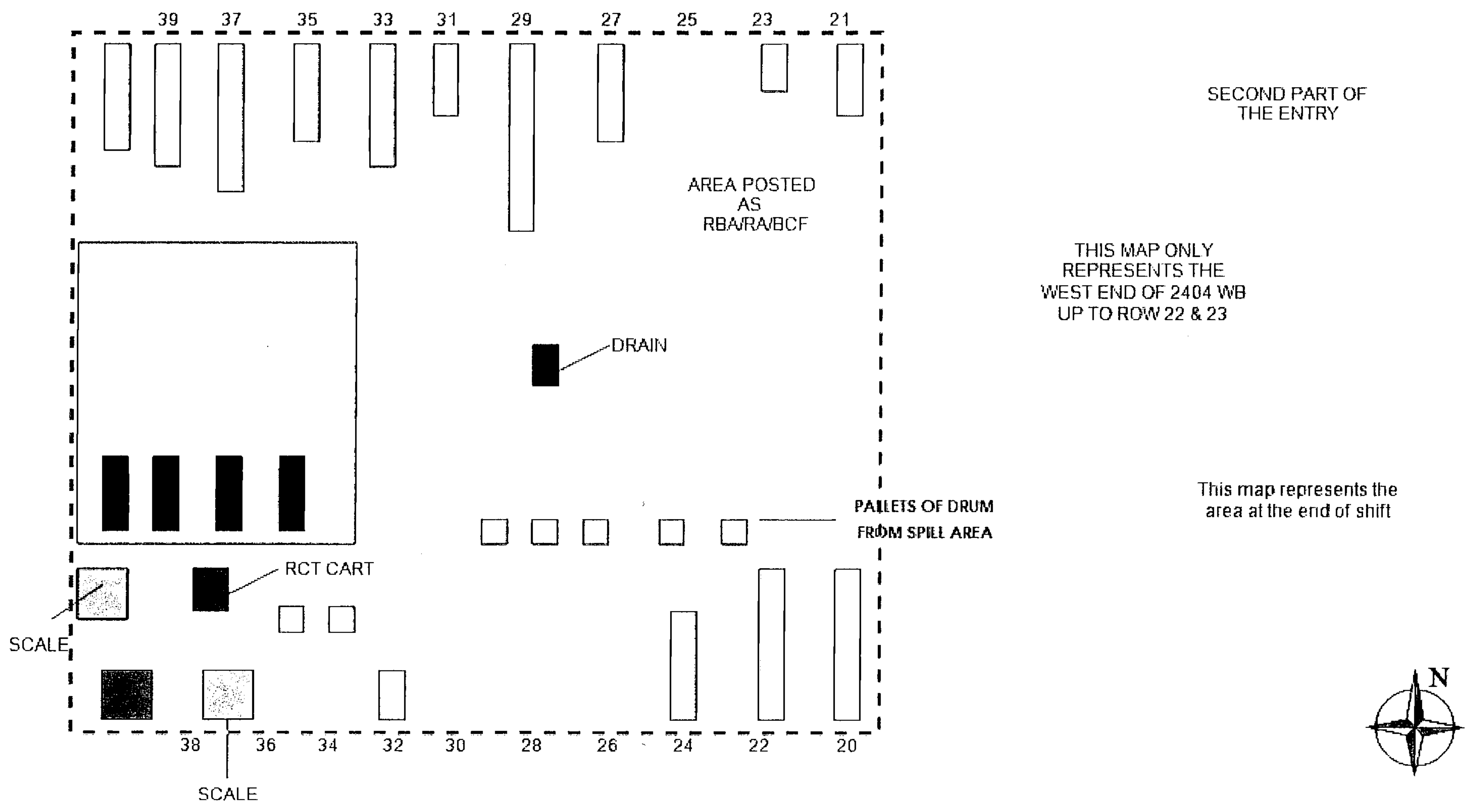
Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB			Map Description: Drums moved from spill area						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 Down Post of 2404 WB	Map Description: 2404 WB down post from CA to RBA

Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101411

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0372	DTHN3-0166	0.16
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
Bumble Bee CP	ICHN2-0003	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38α0.35
Tennelec	S5-XLB 75063	1430	β0.39α0.25

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	6-15-2011	Judith Hosier

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 15 2011	C2W

History

2011-06-07 01:29:10 - Submitted
2011-06-08 09:02:51 - UnSubmitted corrections made

2011-06-15 07:43:10 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101412

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/20/2011	0800 / 1530	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:
Completion of 2404 WB/WC Shiftly Tasks.
No LAWs were completed in WB due to restricted access.

Comments: LAWs performed in accordance with WMP-350 Section 6.2

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.3	1.3	2	1	3	4.3	4.3
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.4	1.4	2	1	<0.2	1.4	1.4

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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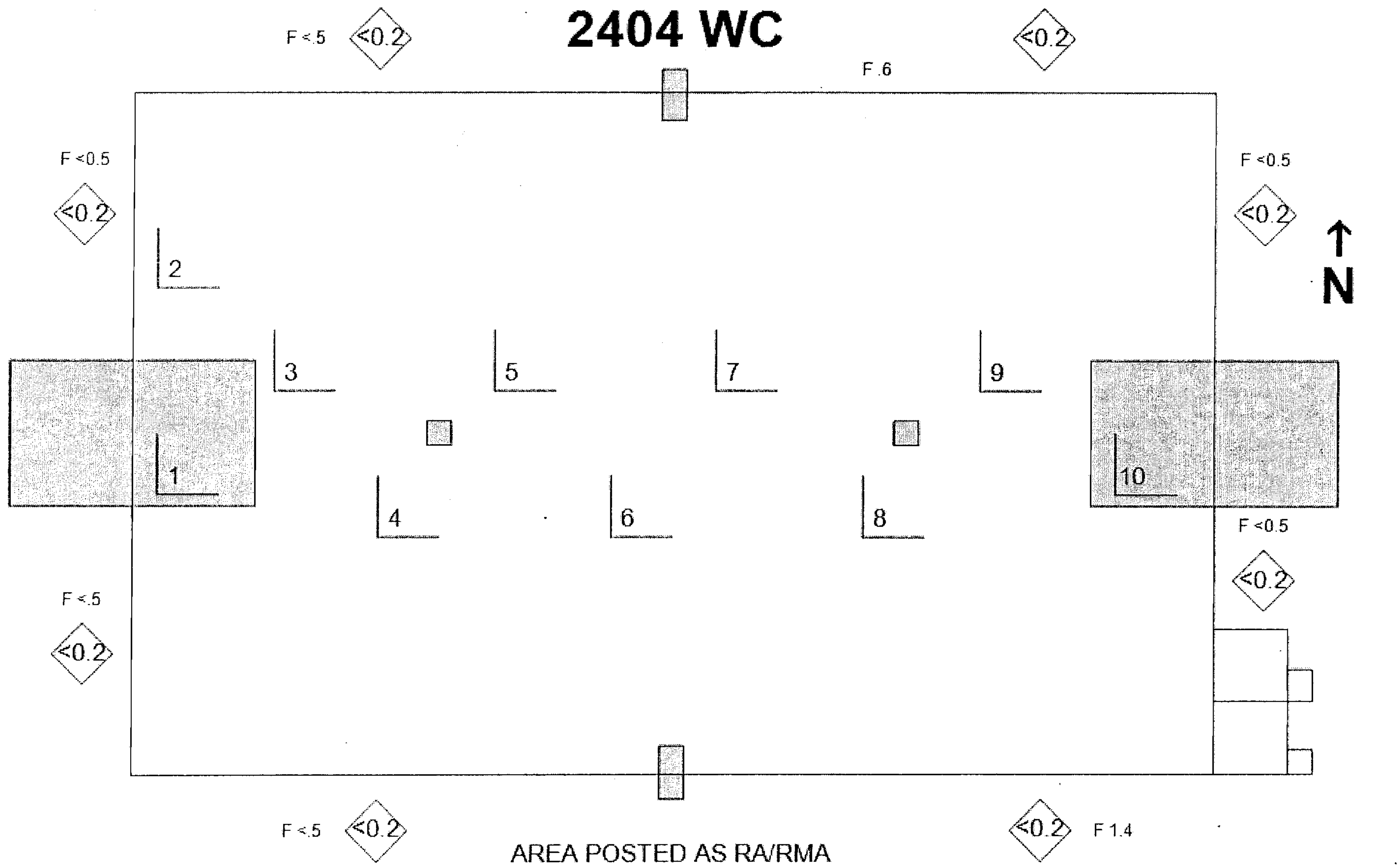
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	**RSR No.** WP-1101412	Page 2 of 4

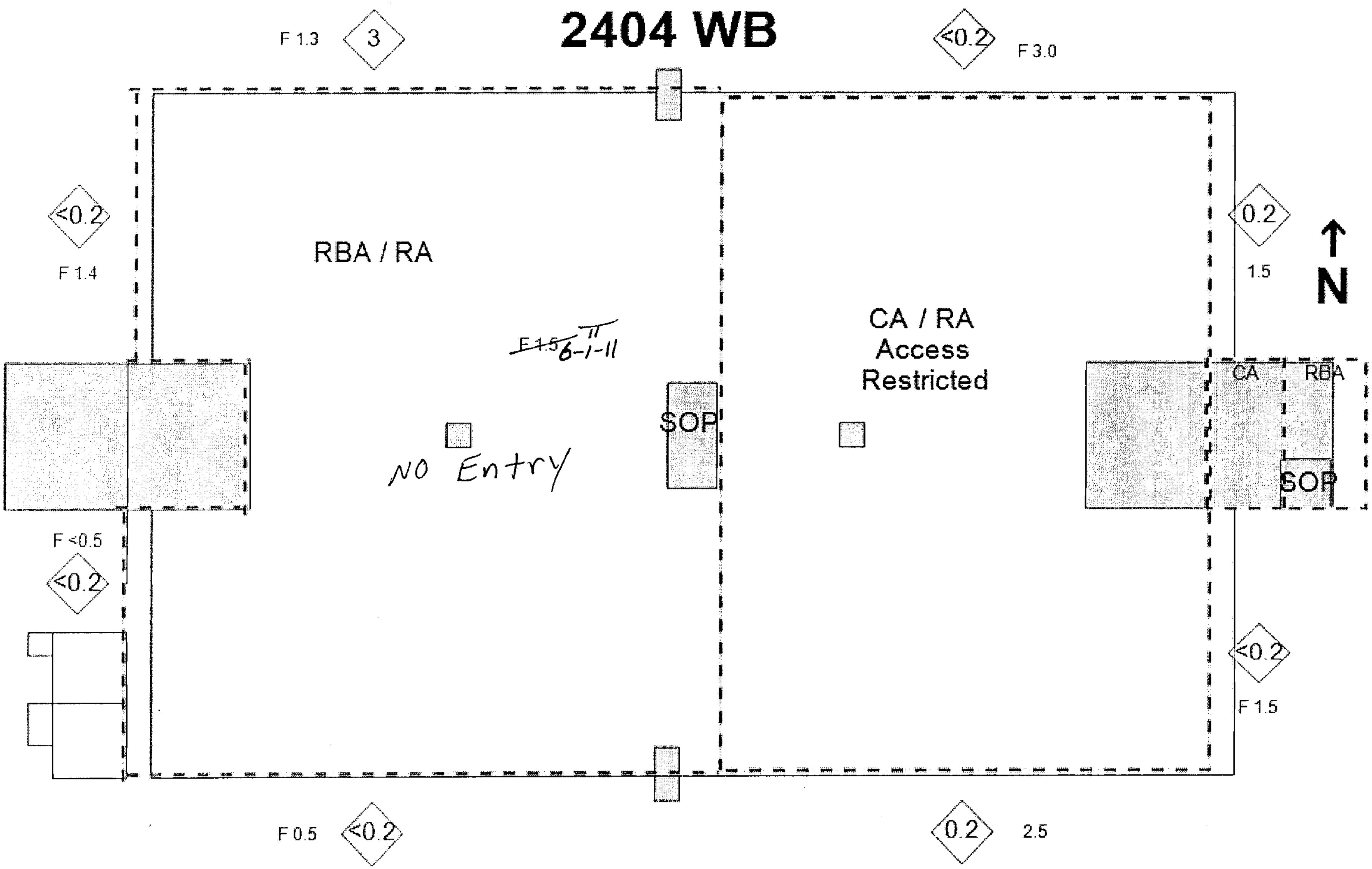
Map/Sketch



Map Name: 2404 WC			Map Description: WP-SH004					
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101412	

Map/Sketch



Map Name: Status Map	Map Description: WP-SH003							
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101412	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
GM	CMEB3-0292	DTHNC-0890	0.10
RO-20	ICEB4-1556	N/A	N/A
PAM	ACHN2-0031	DTHN3-0379	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	6-1-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-1-11	T. Terry

History

2011-05-20 07:40:18 - Submitted
2011-05-20 07:48:46 - UnSubmitted
2011-05-20 07:51:58 - Submitted
2011-05-20 01:21:27 - UnSubmitted
2011-05-20 01:29:12 - Submitted
2011-05-20 02:02:12 - UnSubmitted Changed Efficiency
2011-05-20 02:02:42 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101422	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/22/2011	0800 / 1530	200 WEST / 2404 WB / N/A / West End of Building	WP-611/3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: Drum Movement and Equipment Survey
- [ ] Other: N/A

Description of Work/Comments:

Surveys of drums, associated pallets, forklift and parrot beak drum mover during movement of TRUPACT drums between 2404 WB and 2336 W & 2404 WB and 2404 WC.

Comments: Survey conducted according to WRAP-RSP-016 Rev. 0. At the time of the surveys the west side of 2404 WB was posted RA/RBA. Each payload consists of 14 drums on pallets of up to 4 drums each. Individual drum and pallet surveys included tech smears and LAWS of both drums and pallets. Following confirmation of contamination levals lower than <1000 dpm/100 cm2 Beta/Gamma and <20 dpm/100 cm2 Alpha the forklift inside 2404 WB (RBA) would transfer (without exiting the RBA) the pallet to the unposted exterior of the building where a separate forklift picked up and transported the pallets to either 2336 W or 2404 WC.

Drums that would make up payloads transported to 2336 W included: #DMO516, DMO517, DMO518, DMO519 & DMO520. Drums that would make up payloads transported to 2404 WC included: #DMO524, DMO525, DMO526 & DMO527. A list of individual drums surveyed is included on the last page of this report.

Note: Due to high background - unable to take direct Beta/Gamma surveys on the forklift and parrot beak when surveying them to return to 2404 WC.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements (Continued)

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in 2404 WB during surveys	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D2	General area dose rate of drums in payload #DMO516 (highest)	F	<0.5	<0.5	3	1	0.2	0.2	0.2
D3	General area dose rate of drums in payload #DMO517 (highest)	F	10.0	10.0	3	1	<0.2	10	10
D4	General area dose rate of drums in payload #DMO518 (highest)	F	2.0	2.0	3	1	<0.2	2	2
D5	General area dose rate of drums in payload #DMO519 (highest)	F	2.0	2.0	3	1	<0.2	2	2
D6	General area dose rate of drums in payload #DMO520 (highest)	F	1.5	1.5	3	1	0.3	1.8	1.8

Dose Rate Measurements (Continued)

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D7	General area dose rate of drums in payload #DMO524 (highest)	F	5.0	5.0	3	1	0.2	5.2	5.2
D8	General area dose rate of drums in payload #DMO525 (highest)	F	7.0	7.0	3	1	0.2	7.2	7.2
D9	General area dose rate of drums in payload #DMO526 (highest)	F	5.0	5.0	3	1	0.2	5.2	5.2
D10	General area dose rate of drums in payload #DMO527 (highest)	F	3.0	3.0	3	1	<0.2	3	3

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech smears of 70 drums moved from 2404 WB to 2336 W (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	Tech smears of pallets associated with drums moved from 2404 WB to 2336 W (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	LAWs (~66% each) of 70 drums moved from 2404 WB to 2336 W	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	Tech smears of 56 drums moved from 2404 WB to 2404 WC (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C5	Tech smears of pallets associated with drums moved from 2404 WB to 2404 WC (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	LAWs (~66% each) of 56 drums moved from 2404 WB to 2404 WC	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C7	LAWs (~40%) of accessable areas of pallets associated with all 126 drums moved from 2404 WB to 2336 W and 2404 WC	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C8	LAW (~60%) of 2404 WB west forklift ramp	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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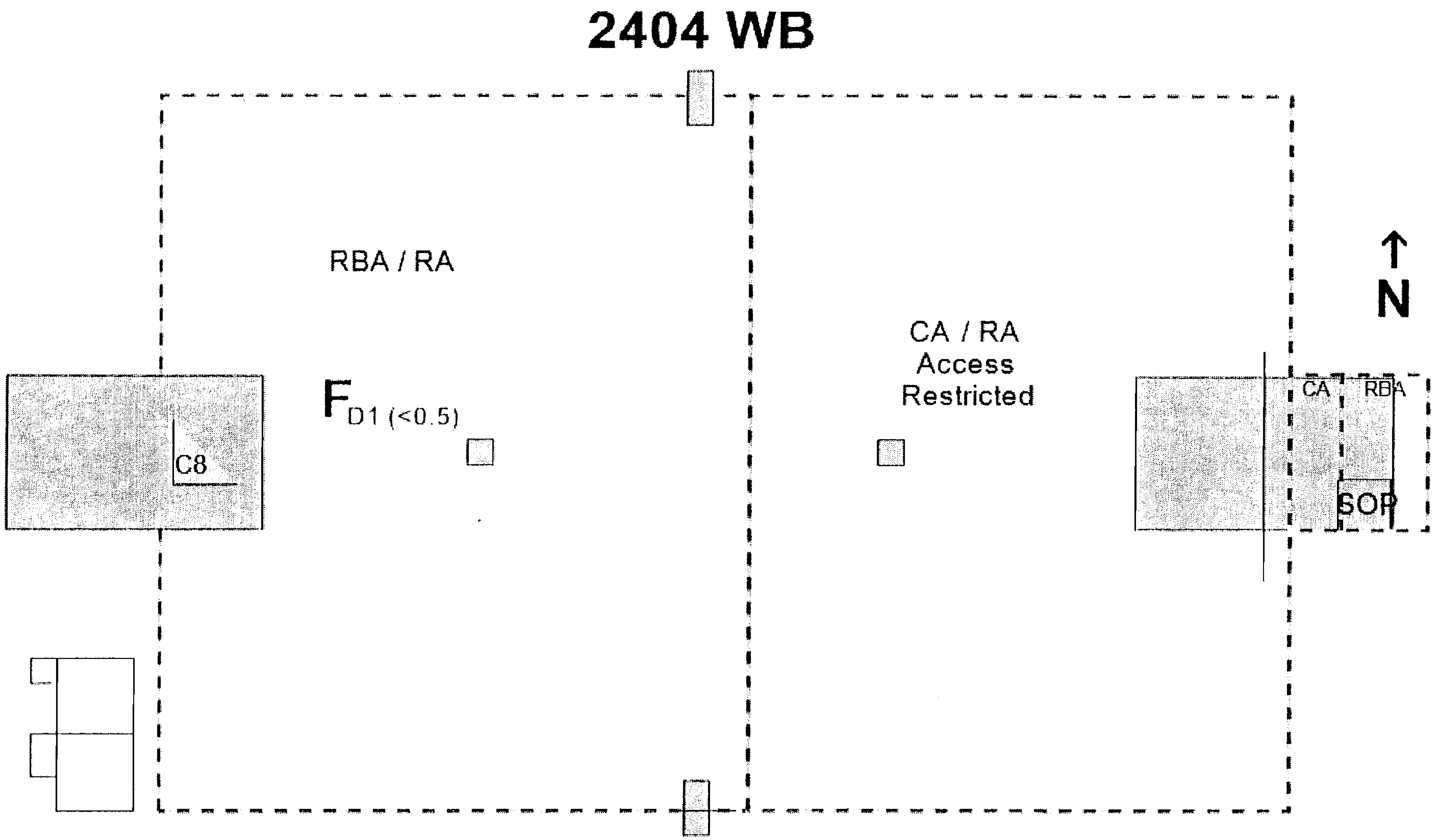
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101422	

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	Tech smears of tires of forklift #HO-75-4879 prior to release from RBA (4 TS-1 per wheel)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C10	LAWs (10%) and direct surveys of tires, forks and foot controls of forklift #Ho-75-4879 prior to release from RBA	100	0	N/A	0	N/A†	<500†	10	6	<D/LAW†	<D/LAW†
C11	Tech smears of wheels of parrot beak drum hauler #75-04885 (4 TS-o1 per wheel	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C12	LAWs (~20%) and direct surveys of parrot beak drum hauler#75-04885	100	0	N/A	0	N/A†	<500†	10	6	<D/LAW†	<D/LAW†
C13	LAWs (~10%) of wheels and handrail on cart used to transport instruments	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB TRUPACT Drum surveys for Movement to 2336 W & 2404 WB

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

COPY

Air Sample Measurements (Continued)

Smear Sample Measurements (Continued)

Instruments (Continued)

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0072	DTHNC-0958	0.10
PAM	ACHN2-0031	DTHN3-0379	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0615	DTHN3-0658	0.16
CP	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	**h9032270**	5-22-11	M McKenna
colling, mark	h0062446	5-22-11	MS Colling
Chadderdon, Melissa	H4837929	5-22-11	Melissa Chadderdon
spaite, steven	h1667034	5-22-11	[illegible]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-24-11	T. Terry

History

2011-05-22 04:11:14 - Submitted

COPY Page 6 of 6

PIN	PIN	PIN	PIN	PIN
0058377	0065338	0067515	0070011	0071605
0058383	0065357	0067523	0070036	0071707
0058556	0065365	0067577	0070059	0071807
0058566	0065375	0069043	0070062	0071905
0061200	0065379	0069055	0070063	0071955
0061299	0065427	0069057	0070078	0071977
0061318	0065469	0069066	0070135	0072392
0061321	0065509	0069074	0070213	0072395
0061327	0065512	0069105	0070233	0072525
0061369	0065549	0069107	0070435	0072534
0061380	0066993	0069115	0070466	0072538
0062217	0067009	0069145	0070500	0072623
0062222	0067034	0069146	0070575	0072630
0062226	0067042	0069159	0070578	0072631
0062228	0067043	0069166	0070601	0072736
0062263	0067044	0069167	0070606	0072855
0062305	0067055	0069196	0071007	0073387
0062959	0067061	0069209	0071020	0073389
0062979	0067086	0069222	0071029	0073429
0062986	0067116	0069229	0071030	0074533
0063046	0067140	0069231	0071072	0074718
0063062	0067168	0069878	0071147	0074798
0063064	0067169	0069879	0071161	
0063081	0067220	0069896	0071163	
0063560	0067510	0069897	0071491	
0063638	0067514	0069952	0071493	

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101423

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/22/2011	0800 / 1130	200W / 2404 WB/WC / 2404 WB/WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.
No LAWs were completed in WB East end due to restricted access.

Comments: LAWs performed in accordance with WMP-350 Section 6.2

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.0	1.0	2	1	3	4	4
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.3	1.3	2	1	<0.2	1.3	1.3

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWs of West end of WB in RBA @ 40%	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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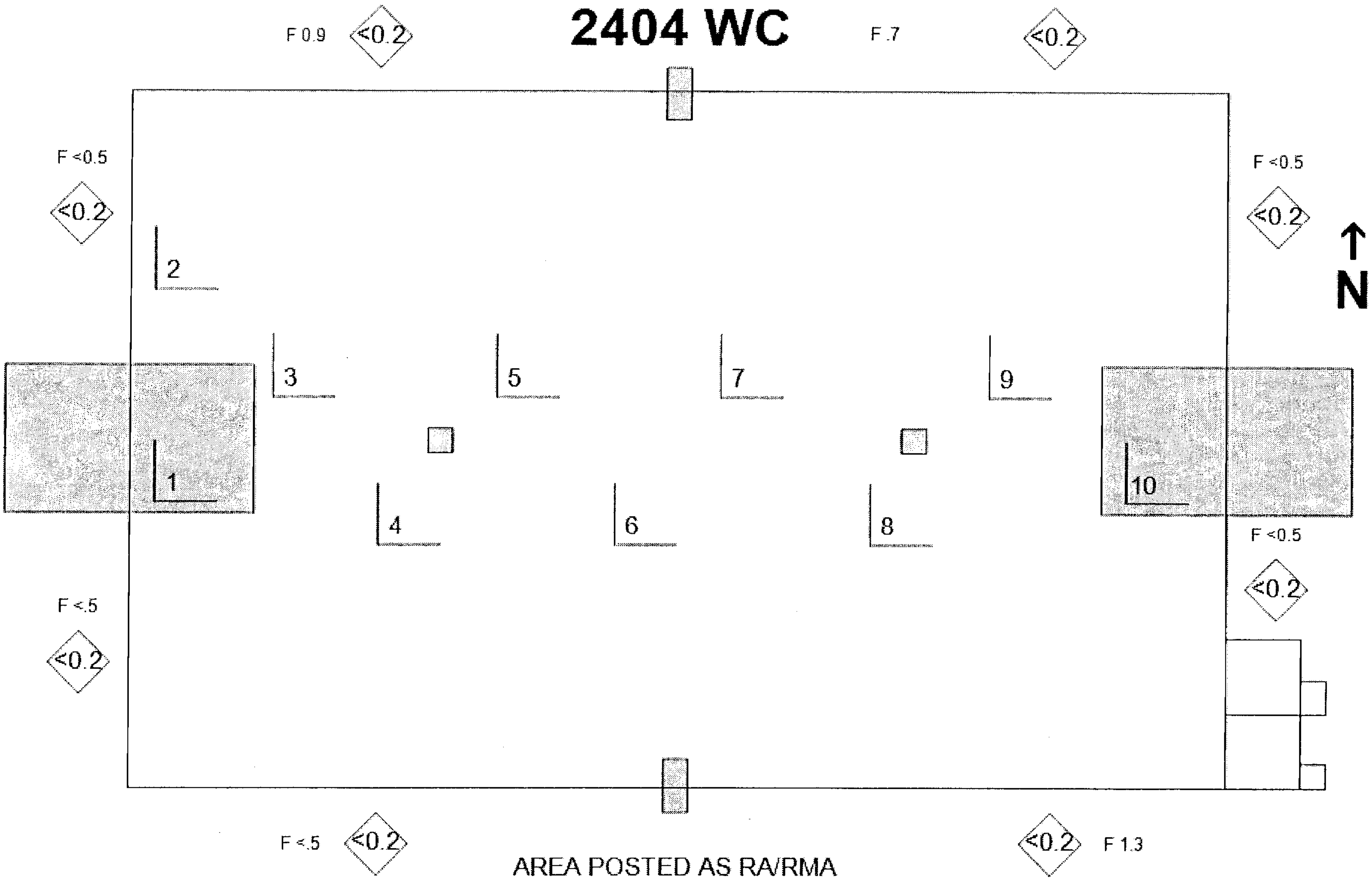
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101423	

Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004

Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ----------		Radiological Area Boundary				Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Subm : 05/22/2011 03:23:25

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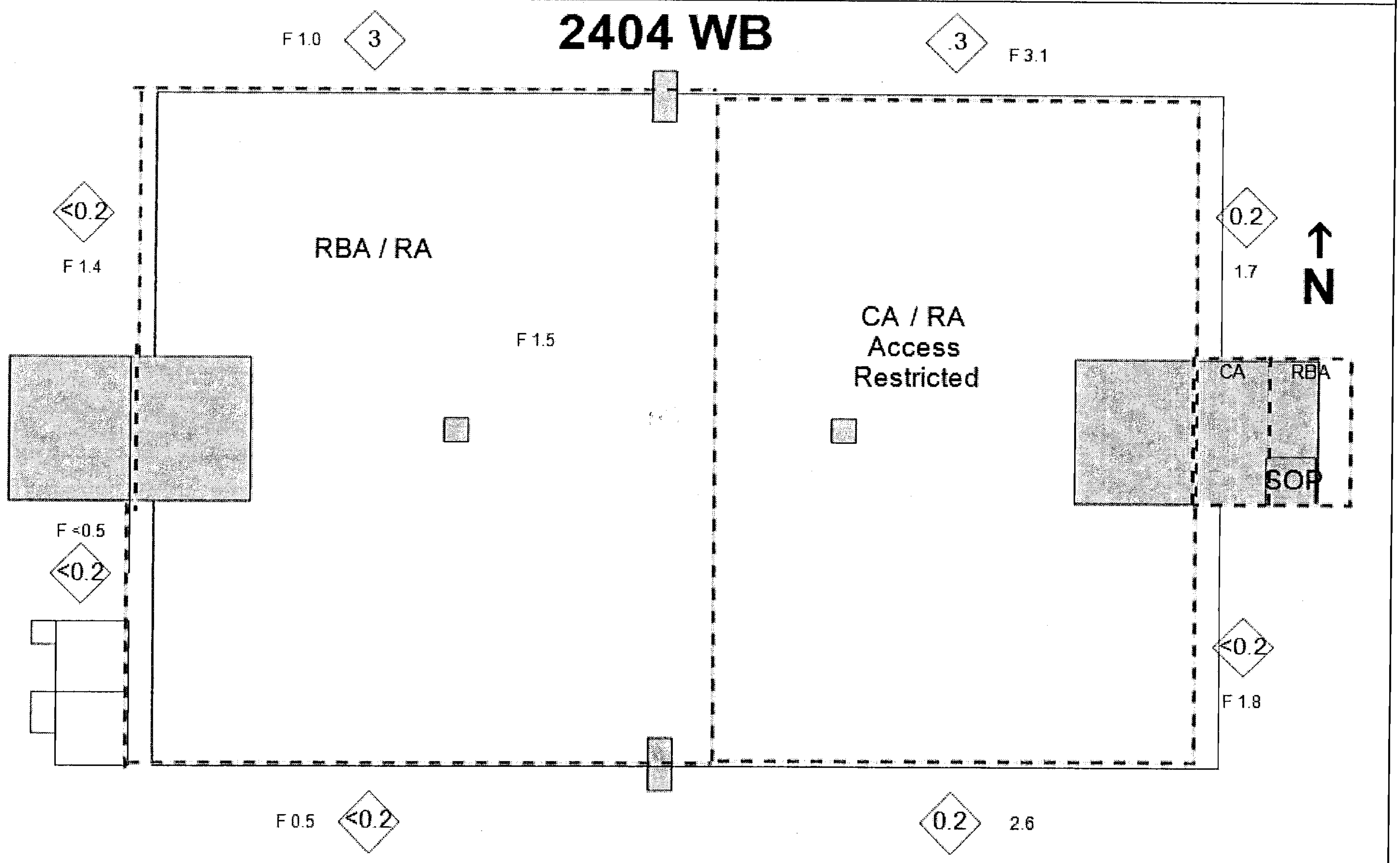
A-6004 SS (Rev. 0)

Map/Sketch



Map Name: Status Map	Map Description: WP-SH003

Legend

[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101423

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
GM	CMEB3-0305	DTHNC-0384	0.10
CP	ICEB3-0456	N/A	N/A
PAM	ACHN2-0372	DTHN3-0166	0.10
CP	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	5-22-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
CWielang	619761Y	MAY 24 2011	CW

History

2011-05-22 03:23:25 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101425

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/23/2011	0745 / 1130	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH004 & WP-W035,WP-W044
- ☑ Job Coverage: Drum Movements
- ☐ Other: N/A

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.
Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown.
WP-W035 AND WP-WO44 WERE COMPLETED PER TASK.
3 SWBs moved from WC to HERTR and back to 2404 WC.
NOTE ONLY OUTSIDE DOSE RATES AND POSTINGS ON 2404WB

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Smears counted per WRP1-OP-1230

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX. DOSE RATE OUTSIDE 2404 WB	F	1.6	1.6	2	1	2	3.6	3.6
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	2.5	2.5	2	1	<0.2	2.5	2.5
D4	Dose Rate in HERTR	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D7	MAX DOSE RATE OF INSIDE DOSE RATE FOR WP-W035	F	14	14	2	1	<0.2	14	14
D8	MAX DOSE RATE OF SWB MOVES	F	30	30	2	1	<0.2	30	30

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs @ 20% of WC Floors	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	LAWs @ 20% on SWB moved	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	LAW's @ 20% in HERTR	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C9	20 SMEARS IN WC	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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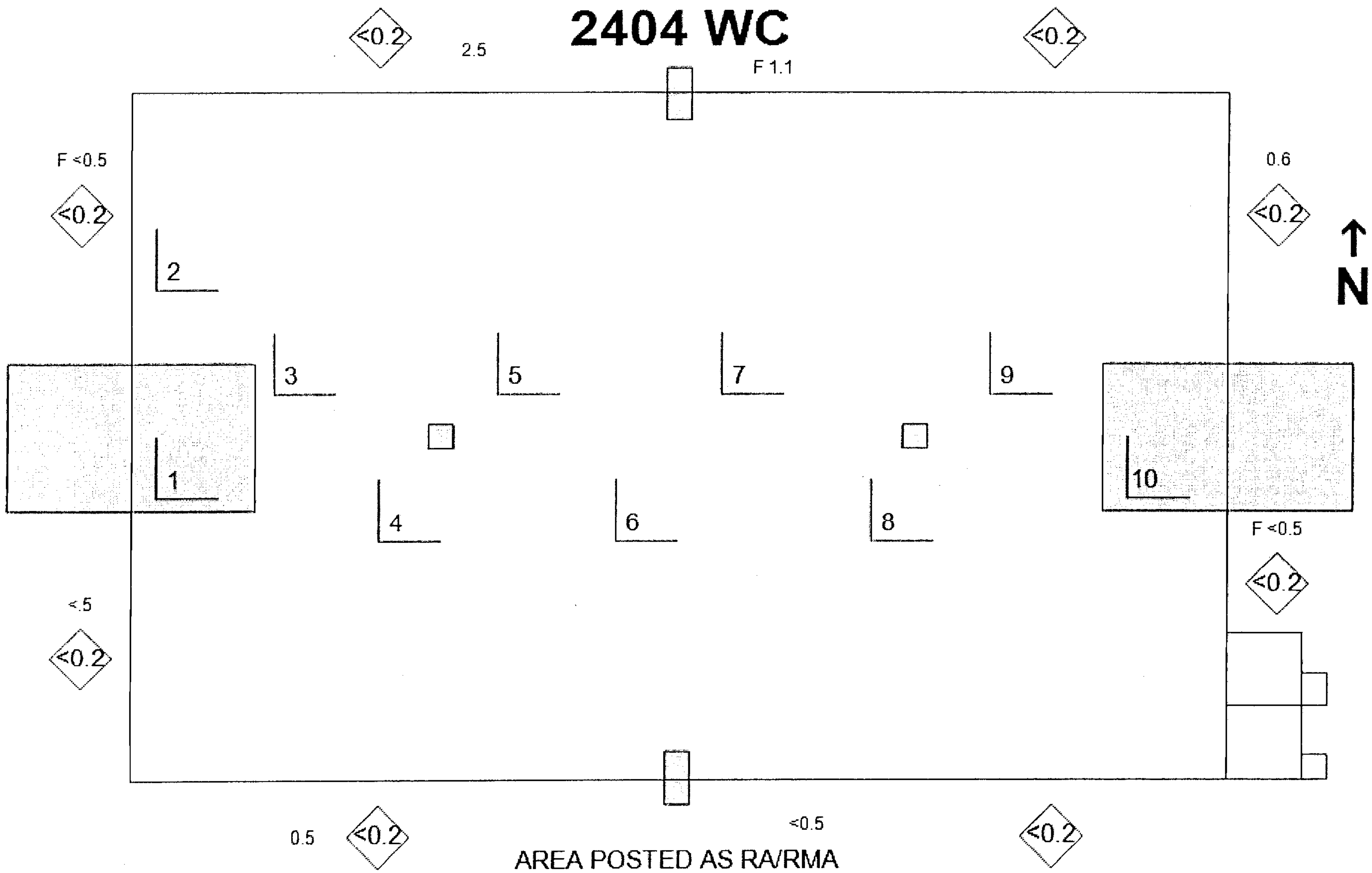
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101425	

Map/Sketch



Map Name: 2404 WC				Map Description: WP-SH004					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 06/01/2011 11:53:08 ~~OFFICIAL USE ONLY EXEMPTION 6~~ A-6004-663-SS (Rev. 0)

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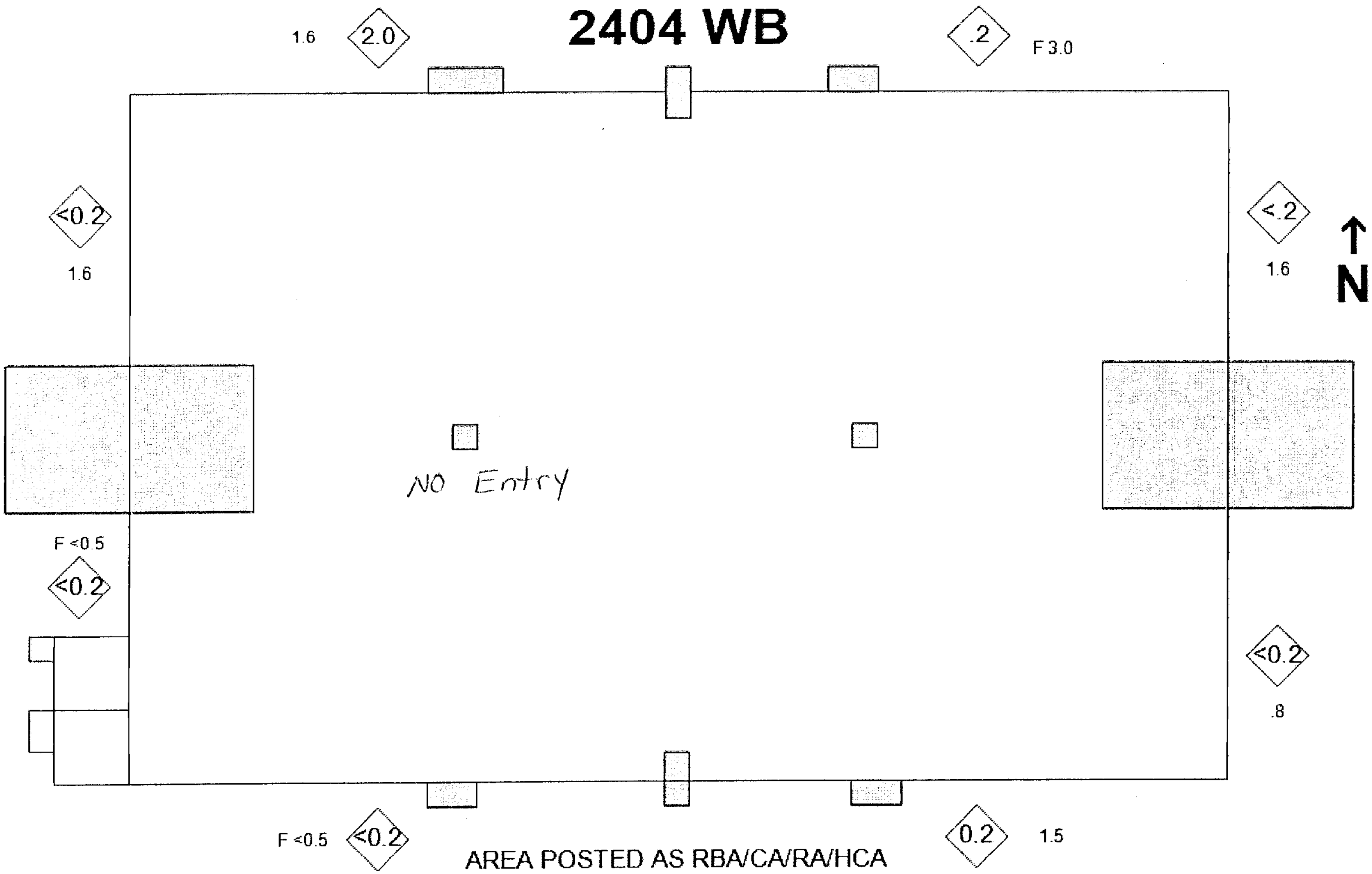
Map/Sketch



Map Name: 2404 WB

Map Description: WP-SH003- OUTSIDE DOSE RATES AND POSTING ONLY

Legend [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/01/2011 11:53:08

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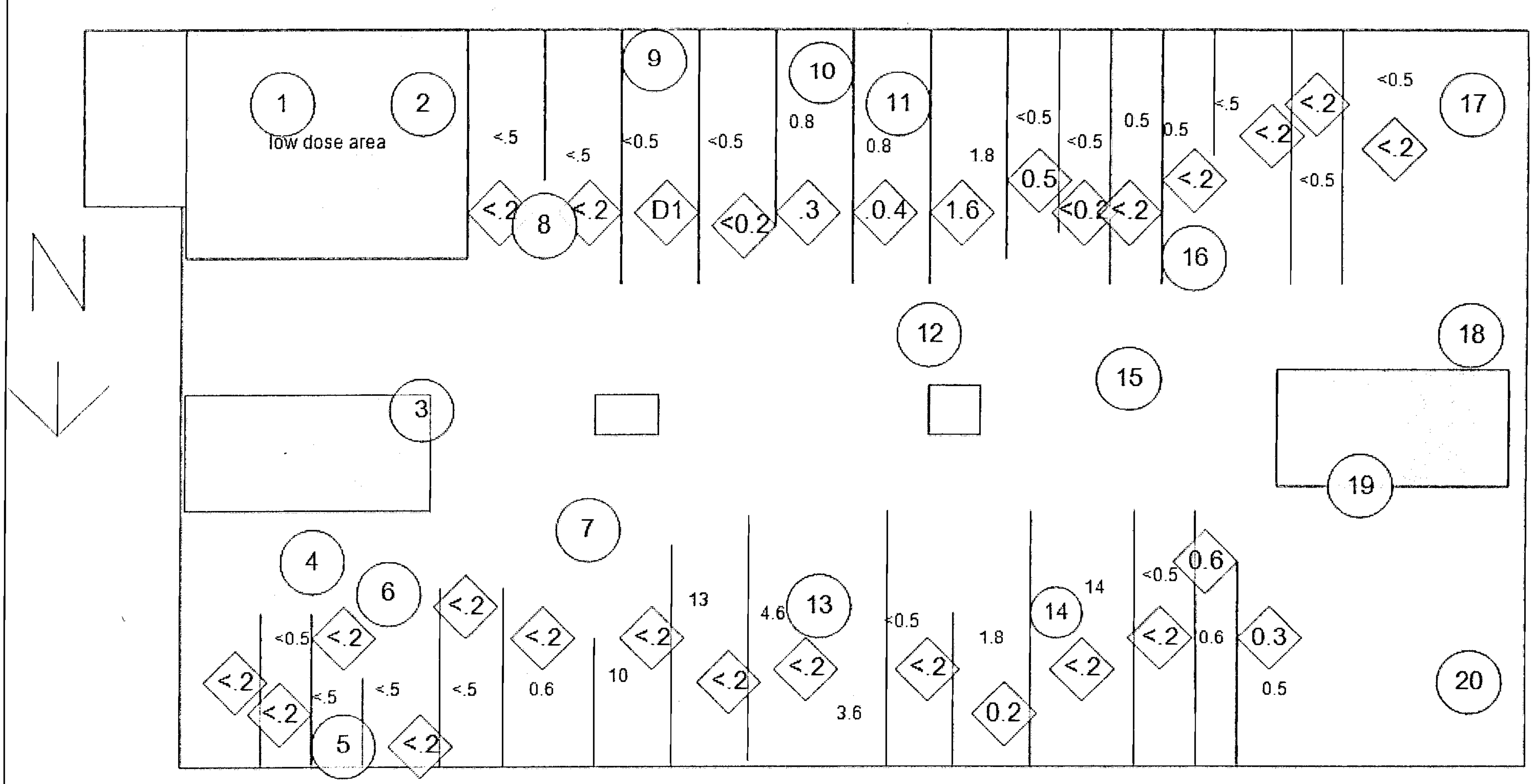
COPY

Map/Sketch

2404 WB POSTED AS RA/RMA



Map Name: wc			Map Description: WP-W035 LAWS AND OUTSIDE DOSE RATES PER SHIFTLY MAP					
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary					Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 06/01/2011 11:53:08

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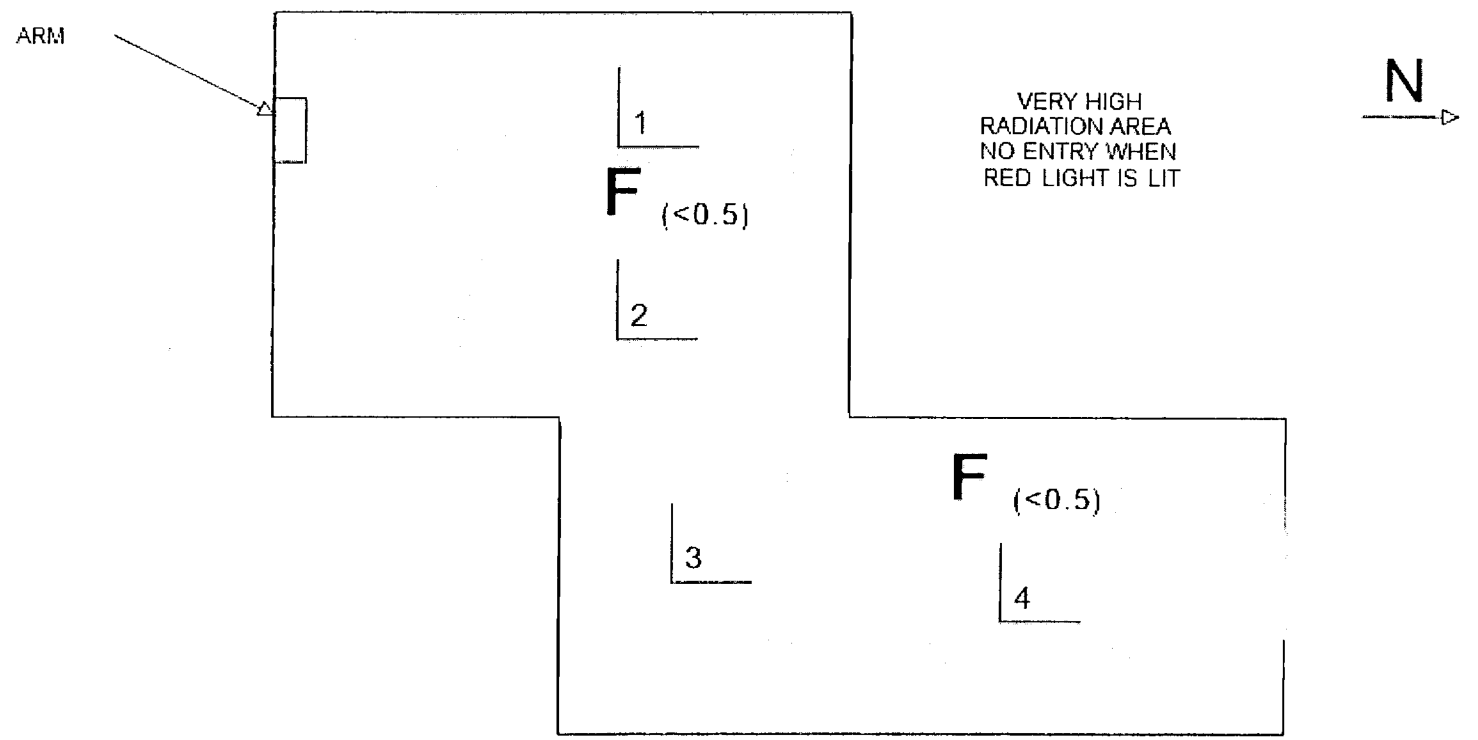
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101425	

Map/Sketch



Map Name: WP-W044			Map Description: MAP HERTR						
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
GM	CMEB3-0068	DTHNC-0670	0.10
RO-20	ICEB4-1446	N/A	N/A
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
PAM	ACHN2-0209	DTHN3-1011	0.16

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Michelle	h3963478	5-23-11	Michelle North

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	6·2·11	[illegible]

History

2011-05-25 08:48:19 - Submitted	
2011-05-31 01:45:08 - UnSubmitted	UPDATE POSTING OF MAP ON 2404WB
2011-05-31 01:46:04 - Submitted	
2011-06-01 10:58:51 - UnSubmitted	Corrections on WB posting
2011-06-01 11:53:08 - Submitted	

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101427

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/23/2011	0900 / 1130	200 WEST / 2404 WB / N/A / West End	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: N/A
- ☑ Job Coverage: Drum Movement & Forklift Survey
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 - Shiftly LAWs of floor and outside wall dose rate verification on 2404 WB.

Note: LAWs were only taken on the west half of 2404 WB floors due to CA/RA posting on East half.

Movement of 2 drums within 2404 WB from regular pallets to spill pallets.

Survey forklift from 2404 WB prior to leaving RBA/RA/RMA on west end of 2404 WB.

Comments: *Note: Tech smears on drums and forklift surveyed out of RBA/RA/RMA in 2404 WB were counted for Alpha contamination on Ludlum 2360's using scaler function for 1 minute. Beta/Gamma contamination survey performed using a GM in a shielded cave. Tech smears on forklift were taken as follows: 1 on each tire and one on each fork. LAWs and direct surveys taken on 4 tires, foot controls, steering wheel & hand controls.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate inside 2404 WB	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D2	Exterior wall dose rate verification on 2404 WB (highest)	F	3.0	3.0	3	1	0.3	3.3	3.3

Contamination Measurements

† Manually Calculated by RCT

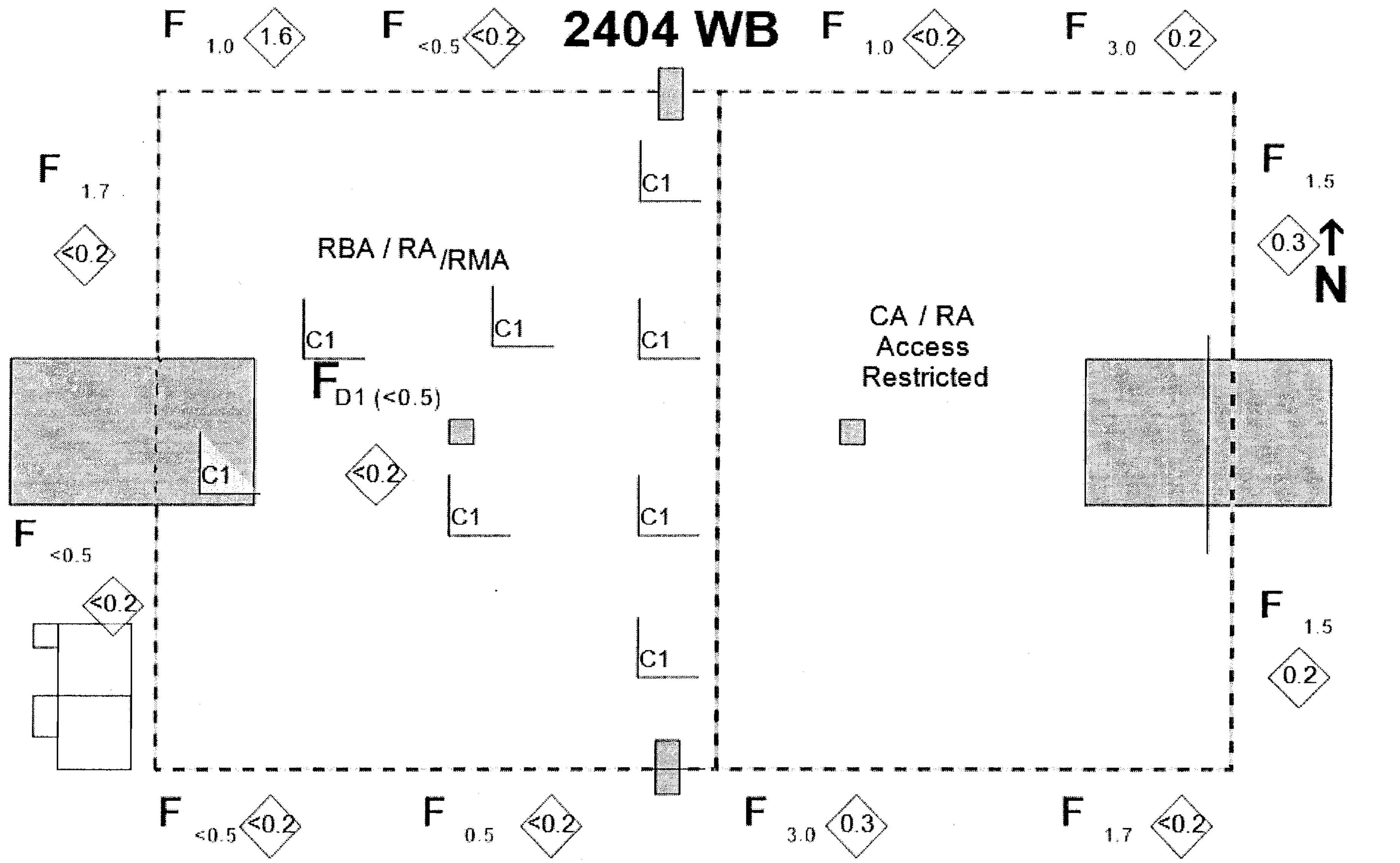
No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs (~10%) of floors in 2404 WB (concentrating on CA/RMA boundary and middle isle)	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	Tech smears on drums #0081216 & 0062289 moved within 2404 WB from regular pallets to spill pallets (4 TS/drum) *(SEE NOTE)	100	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C3	LAWs (~90%) of drums #0081216 & 0062289 moved within 2404 WB from regular pallets to spill pallets	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C4	LAWs (~50% each) of drums on the same pallet as drums #0081216 & 0062289 moved within 2404 WB from regular pallets to spill pallets	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C5	Tech smears on forklift used in 2404 WB (RBA/RA/RMA)) prior to returning to 2404 WC (RA/RMA) (6 TS) *(SEE NOTE)	100	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C6	LAWs (~10%) and direct surveys on forklift used in 2404 WB (RBA/RA/RMA)) prior to returning to 2404 WC (RA/RMA)	100	0	N/A	0	N/A†	<500†	10	10	<D/LAW†	<D/LAW†

Map/Sketch



Map Name: 2404 WB			Map Description: 2404 WB Shiftly Survey Locations					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101427	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0072	DTHNC-0958	0.10
2360	SCLL8-0463	DTLLP-0570	0.10
2360	SCLL8-0482	DTLLP-0589	0.10
CP	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/23/11	M. McKenna
Hendricks, Gordon	h0070265	5/23/11	Hendricks

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	MAY 23 2011	[illegible]

History

2011-05-23 01:28:26 - Submitted
2011-05-23 03:18:02 - UnSubmitted Update Map
2011-05-23 03:18:36 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101428	

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/23/2011	0930 / 1130	200 WEST / 2404WB / / East entryway	WP-611/~~2~~ 3 JJ 5-23-11

Purpose of Survey	Description of Work/Comments:
☑ Material Release Number: RSP-WP-10-001-01 Released to: Radcon ☐ Ram Shipment: N/A ☑ Required Task: WP-W042 ☐ Job Coverage: N/A ☑ Other: WRAP-RSP-002	Downpost survey of the CA/RBA area outside the 2404WB east entryway. Release of portable instruments from CA, survey of two 55 gallon drums (0082614, 0082494), and one laundry bag. This survey also meets the requirements for weekly task WP-W042 Comments: Beta-gamma surveys were not performed in the CA/RBA due to high background on a GM. All smears/LAWs/objects released were moved to a low background area to be directed for beta-gamma surveys. Direct surveys were performed at all smear locations. LAWs performed in accordance with WMP-350 section 6.2. Tech Smears performed per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose Rate of Laundry bags and drums	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

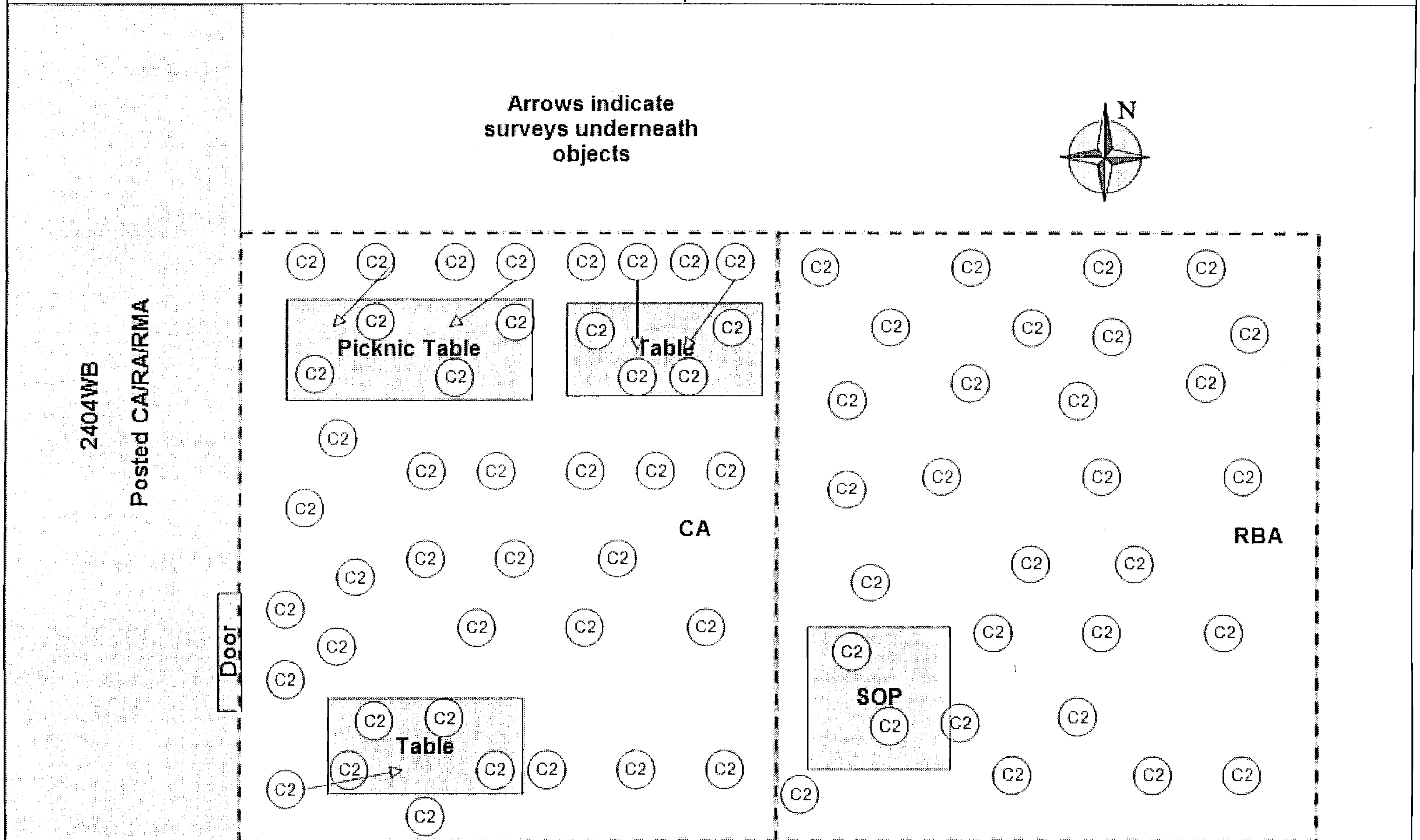
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs of all areas accessable (~60% of all walkways, sitting areas, and work areas)	150	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	Tech smears of all objects (4 per table in CA, 30 per floor/walkways, 2 per instrument released, 2 per drum, and 2 per laundry bag)	150	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	Direct measurements of all objects (~ 50% of work areas/walkways, ~80% of instruments released)	150	0	N/A	0	N/A†	<100†	10	10	N/A†	N/A†

COPY

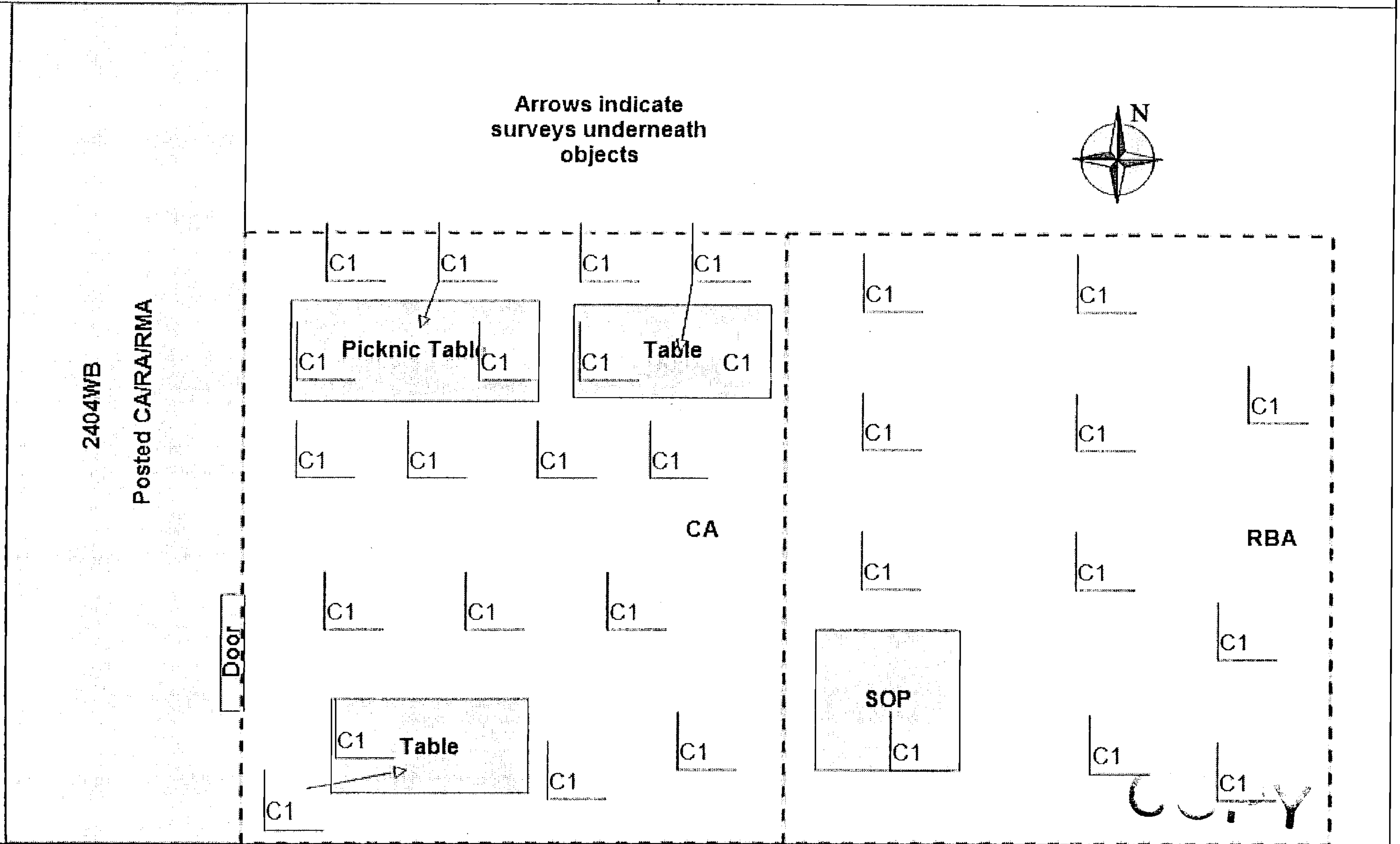
Map/Sketch



Map Name: 2404WB East Entry	Map Description: Downpost survey

Legend	# Direct Measurement	Air Sample	# Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 East Entry

Map Description: Downpost survey

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101428

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO-3B	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0045	N/A	N/A
Ludlum 2360	SCLL8-0486	DTLLP-0593	0.10
Ludlum 2360	SCLL8-0473	DTLLP-0580	0.10
Ludlum 2929	SCLL4-0067	DTLLC-0077	α0.36 β0.38
GM	CMEB3-0142	DTHNC-0243	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-23-11	[signature]

Reviewers

Name	HID	Date	Signature
C Wiclary	6197614	MAY 24 2011	[signature]

History

2011-05-23 02:57:19 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101435

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/23/2011	1700 / 2330	200 WEST / 2404 WB / WRAP / na	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-W037, WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

Performed weekly in 2404 WB and shiftly.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230. LAW'S PERFORMED IN ACCORDANCE WITH WMP.350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate in WB per the weekly.	C	40.0	40	3	1	80	120	120

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Performed LAW's on the floor ~35%	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	Performed tech smears on floor (1-30)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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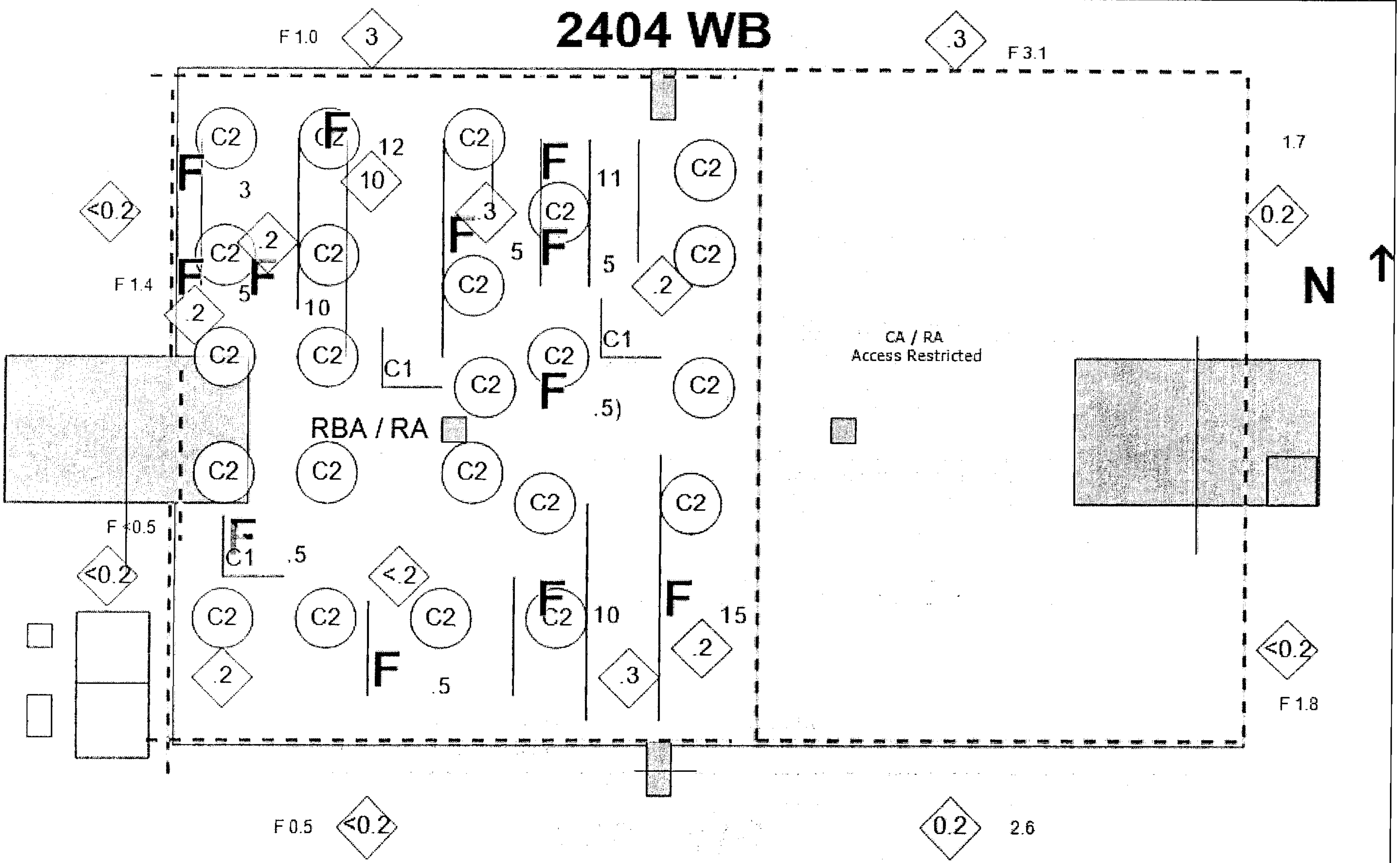
Map/Sketch



Map Name: Status Map				Map Description: WP-SH003 WEEKLY WP-W037				
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/24/2011 12:01:22 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101435	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0031	DTHN3-0379	0.16
GM	CMEB3-0120	DTHNC-0421	0.10
RO-3B	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
2929	SCLL4-0056	DTLLC-0069	β β0.39αα0.37

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
colling, mark	h0062446	5/23/11	M Colling

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 23 2011	[illegible]

History

2011-05-23 11:45:05 - Submitted
2011-05-24 12:00:38 - UnSubmitted fix
2011-05-24 12:01:22 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101443

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/24/2011	0900 / 1130	200 W / 2404 WB / /	RWP-611/ REV. 3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RSP-015 REV.1
- [ ] Other: N/A

Description of Work/Comments:

2404 WB RECOVERY ENTRY TO DOWNPOST AREA.

Comments: 2404 WB RECOVERY TEAM ENTERED TO DOWNPOST NORTH EAST SIDE OF BUILDING FROM A CA/RA TO A RA/RBA PER WRAP-RSP-015 REV.1.
NO BETA GAMMA SURVEYS PERFORMED DUE TO HIGH BACKGROUND IN BUILDING. THE CALDWELL WAS MOVED TO A LOW BACKGROUND AREA OUTSIDE OF THE BUILDING TO PERFORM A DIRECT BETA GAMMA SURVEY.
TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
39 DRUMS SURVEYED:
PIN #

0055134	0056722
0058250	0065372
0065491	0065494
0065496	0065540
0065688	0066996
0066997	0070217
0070463	0058337
0058363	0058364
0058365	0058366
0058396	0061341
0061342	0061368
0061384	0062206
0062220	0062269
0027036	0045498
0049762	0053212
0053676	0055052
0058247	0058317
0058381	0058535
0062343	0062388
0062389	

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	HIGHEST GENERAL WORKING AREA	F	3	3	3	1	N/A	3	3

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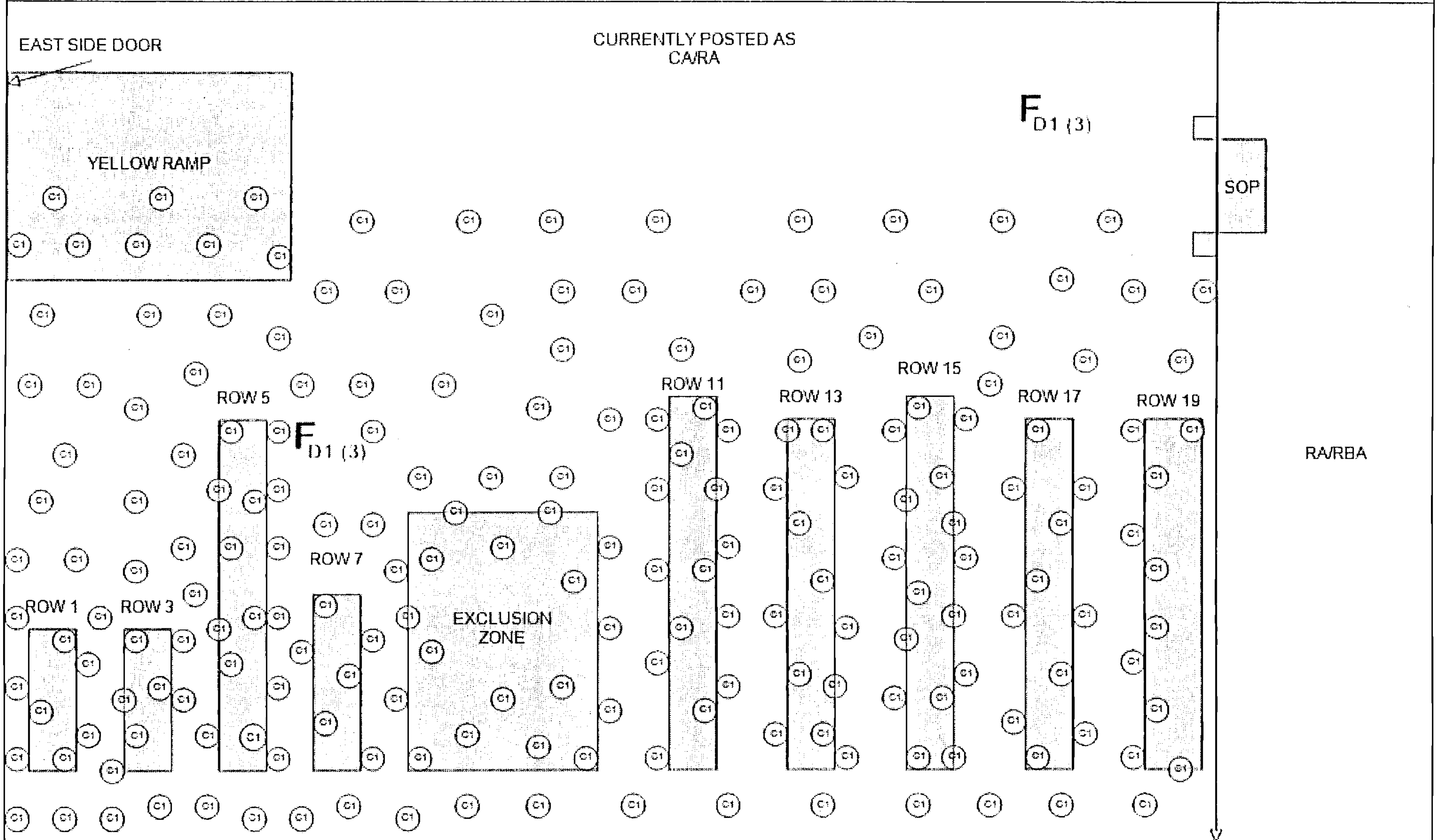
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	TECH SMEARS OF FLOOR AND HORIZONTAL SURFACES ON NORTH EAST SIDE OF 2404 WB(200 T/S)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C2	TECH SMEARS ON 39 DRUMS ON NORTH EAST SIDE OF 2404 WB (4 PER DRUM)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C3	TECH SMEARS OF 40 PALLETS ON NORTH EAST SIDE OF 2404 WB (4 PER PALLET ON ACCESSIBLE AREA)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C4	TECH SMEARS ON FORKLIFT#HO-75-04877 (11 T/S)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	TECH SMEARS OF CALDWELL 5 TON LIFT BEAM #10-5-24(5 T/S) 2 ON THE BODY, 1 ON THE CLAMP, 1 ON THE HOOK, AND 1 ON THE SAFETY CATCH	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C6	LAWS AND DIRECTS OF HORIZONTAL SURFACES ON NORTH EAST SIDE OF 2404 WB~ 20%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C7	LAWS AND DIRECTS OF FLOOR ON NORTH EAST SIDE OF 2404 WB~90%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C8	LAWS AND DIRECTS OF FORKLIFT#HO-75-04877~40%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C9	LAWS OF CALDWELL 5 TON LIFT BEAM #10-5-24~100%	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C10	LAWS OF 39 DRUMS AND 40 PALLETS ON NORTH EAST SIDE OF 2404 WB. ~40% OF ACCESSIBLE AREAS.	N/A	0	N/A	0	NA†	NA†	N/A	6	N/A/LAW †	<D/LAW†
C11	DIRECTS OF CALDWELL 5 TON LIFT BEAM #10-5-24~100%(MOVED OUTSIDE TO LOW BACKGROUND AREA TO PERFORM DIRECT BETA GAMMA SURVEY)	100	0	N/A	N/A	<5000†	<500†	10	6	N/A†	N/A†

† Manually Calculated by RCT

Map/Sketch



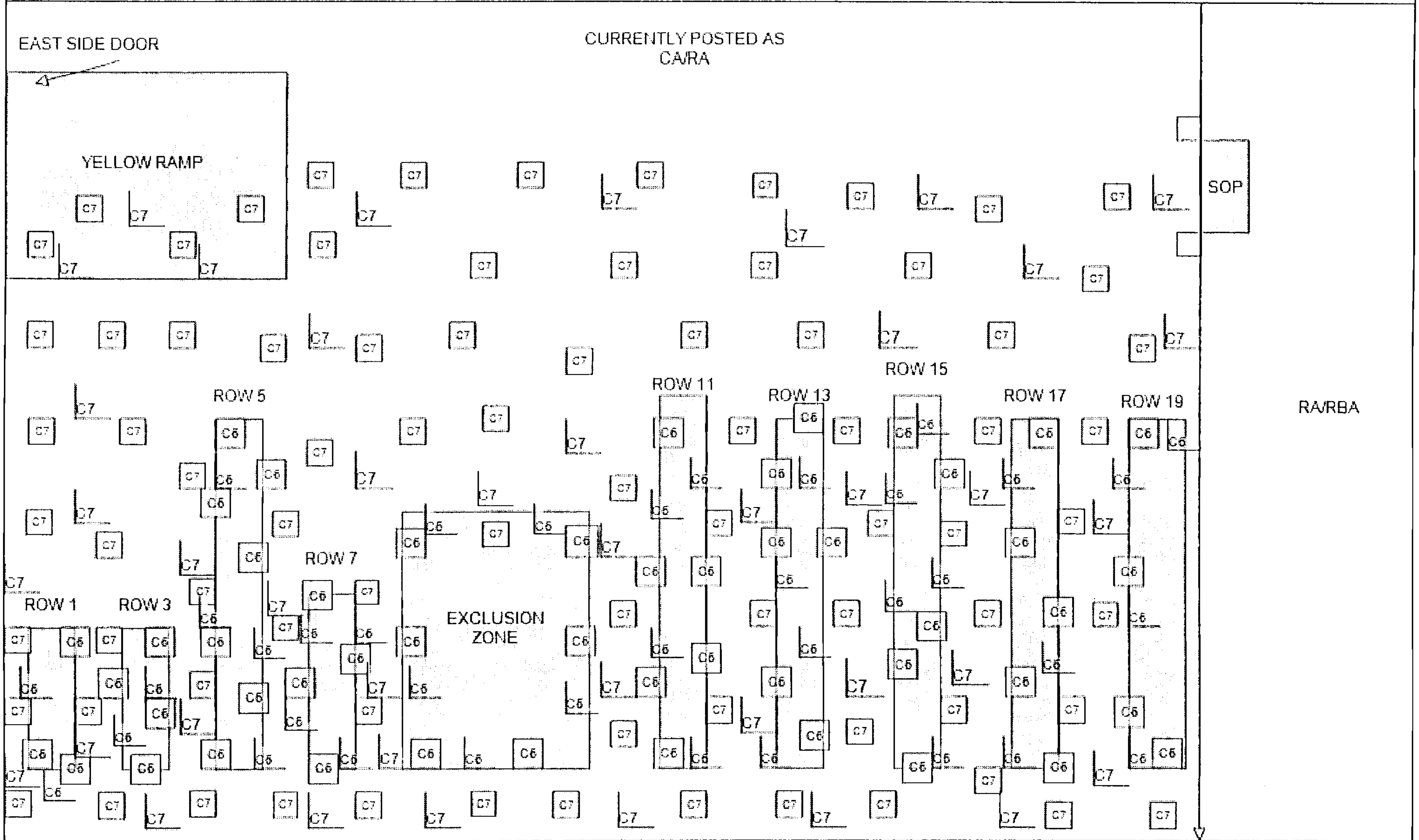
Map Name: 2404 WB	Map Description: 2404 WB NORTH EAST SIDE~TECH SMEARS OF FLOOR AND HORIZONTAL SURFACES

Legend — # Direct Measurement | Air Sample | # Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB

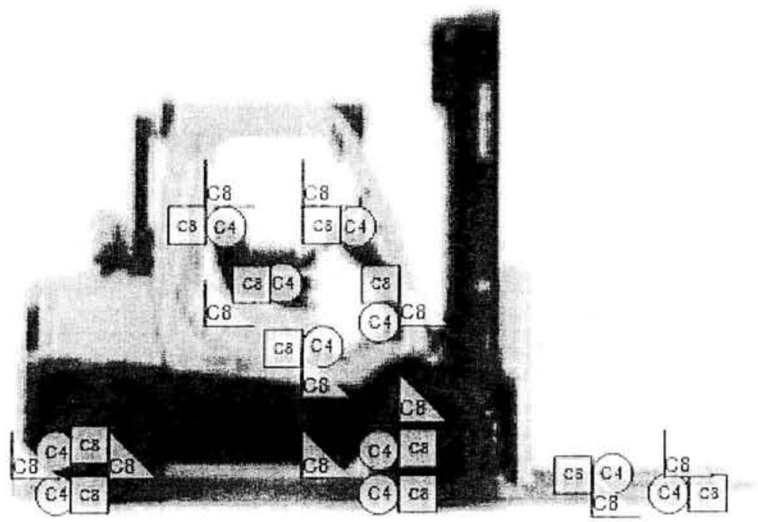
Map Description: 2404 WB NORTH EAST SIDE~DIRECTS AND LAWS OF FLOOR AND HORIZONTAL SURFACES

Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101443

Map/Sketch



Map Name: HYSTER FORKLIFT		Map Description: HYSTER FORKLIFT						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101443	

Air Sample Measurements

Smear Sample Measurements

S1	WP-23,844	S2	WP-23,845

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0290	DTHN3-1021	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
Bumble Bee CP	ICHN2-0009	N/A	N/A
GM	CMEBB-0195	DTEB5-0040	0.10
TeNNELEC "A"	S5-XLB 75063	1430	β0.39 α0.25
TeNNELEC "B"	S5-XLB 0403421	1924	β0.42 α0.27
2929	SCLL4-0058	DTLLC-0071	β0.39 α0.36
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	5-25-11	Rebecca A Dinger

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	MAY 26 2011	[illegible]

History

2011-05-25 12:36:42 - Submitted
2011-05-25 02:28:28 - UnSubmitted make correction

2011-05-25 02:30:51 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101445

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/24/2011	0800 / 1430	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☑ Job Coverage: Shiftly survey of SOP in 2404 WB
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB. (LAWs were only taken on the west half of 2404 WB floors due to CA/RA posting on East half.) Downposting of NE portion of 2404 WB from CA/RA to RBA/RA occured during this shift.

Shiftly survey of egress and SOP in 2404 WB between the CA/RA on the east end and RBA/RA on the west end.

Comments: Neutron dose rates on east end of 2404 WB not taken due to CA/RA status and lack of neutron instrument in that area. Dose rate was taken on the boundary between the CA/RA and RBA/RA.

Direct survey for Beta/Gamma on egress and SOP between the CA/RA and RBA/RA in 2404 WB not taken due to high background.

*Note: Air Sample started in HCA/RA on east end of 2404 for environmental sampling. Air filter will be changed and counted weekly, therefore an air sample log number is not yet available.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

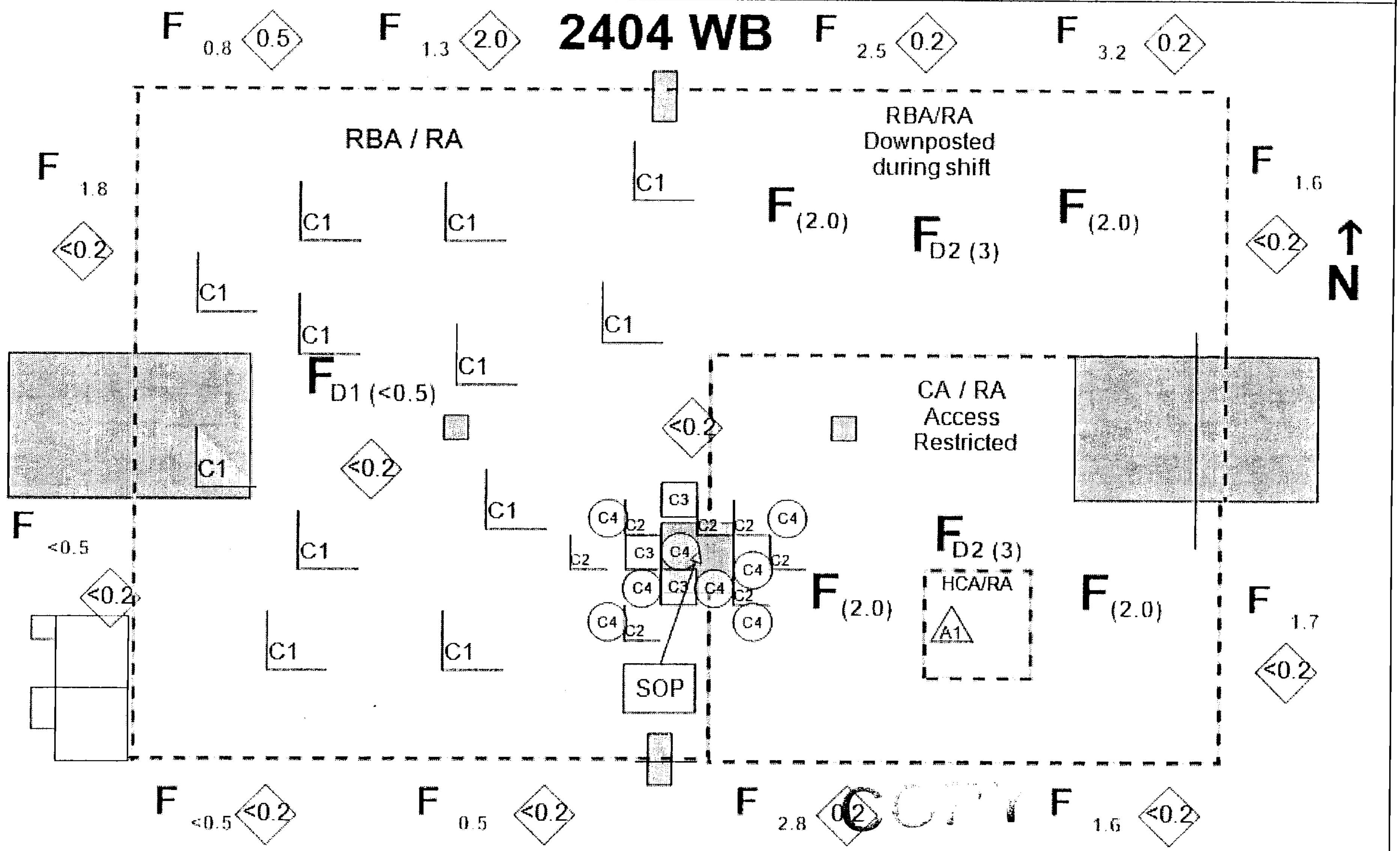
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area of west end of 2404 WB	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D2	General area dose rate in work areas of east end of 2404 WB (highest)	F	3.0	3.0	3	1	N/A	3	3
D3	Dose rate on exterior walls of 2404 WB (highest)	F	3.2	3.2	3	1	0.2	3.4	3.4
D4	Neutron dose rate at boundry between CA/RA and RBA/RA in 2404 WB	F	N/A	N/A	N/A	N/A	<0.2	<0.2	<0.2

COPY

No.	Description	Contamination Measurements † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs (~40%) of floors in West end of 2404 WB (up to, but not including Rows 18 $ 19)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	LAWs (~90%) of 2404 WB egress and SOP	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C3	Direct survey of 2404 WB egress and SOP	100	0	N/A	0	N/A†	<500†	N/A	10	N/A†	N/A†
C4	Tech smears of egress and SOP of 2404 WB egress and SOP (10 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101445	Page 3 of 4

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend: [#] Direct Measurement; Air Sample; (#) Smear; LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

A1	*See Note

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEBB-0136	DTHNC-0343	0.1
2360	SCLL8-0473	DTLLP-0580	0.1
PAM	ACHN2-0031	DTHN3-0379	0.16
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
CP	ICHN2-0009	N/A	N/A
2929	SCLL3-0058	DTLLC-0071	β0.42 α0.36
Gooseneck Air Sample	12-RE-13597	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	5/24/11	M McKenna

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 24 2011	CZWielang

History

2011-05-24 03:40:11 - Submitted
2011-05-24 03:44:21 - UnSubmitted Correction
2011-05-24 03:48:42 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101457

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/24/2011	1630 / 2330	200 W / 2404 WB / N/A / N/A	WP-611 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [x] Job Coverage: WRAP-RSP-015 Rev 1
- [ ] Other: N/A

Description of Work/Comments:

SHIFTLY SURVEY OF 2404WB. SURVEY OF DRUMS FROM 2404 WB. SURVEY OF ROOM WASTE DRUMS.

Comments: Dose rates in South East area of 2404 WB not taken due to CA status (no entry made into CA).

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

THE 10 PALLETS OF DRUMS (39 DRUMS) WERE SURVEYED DURING DAY SHIFT IAW WRAP-RSP-015 Rev 1. SEE SURVEY WP-110443.

7 ROOM WASTE DRUMS SURVEYED IAW WRAP-RSP-015 Rev 1.
DRUM #
0082542
0082535
0081258
0082478
0082573
0082598
0082572

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

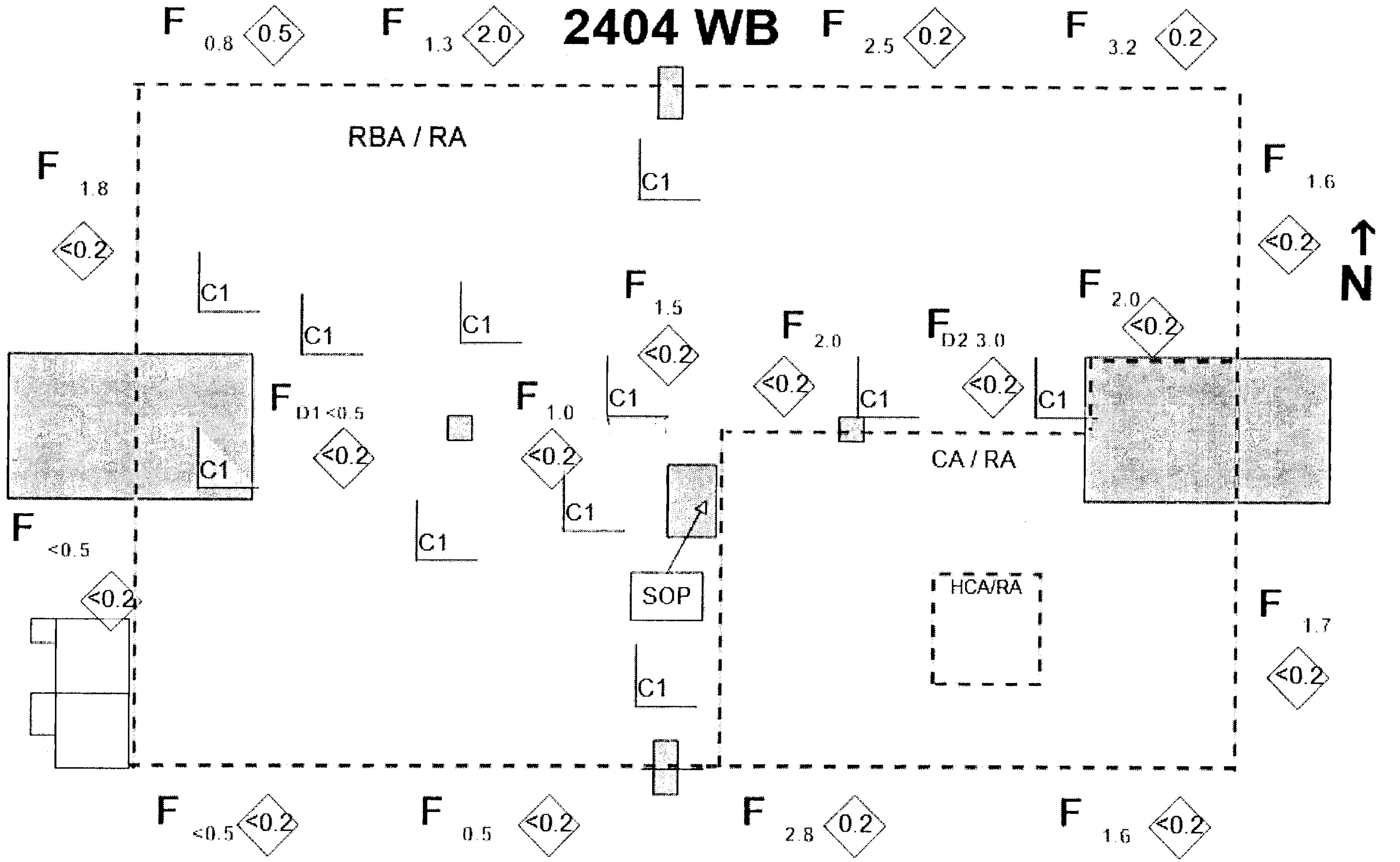
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area of west end of 2404 WB	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D2	General area dose rate in work areas of east end of 2404 WB (highest)	F	3.0	3.0	3	1	<0.2	3	3
D3	Dose rate on exterior walls of 2404 WB (highest)	F	3.2	3.2	3	1	0.2	3.4	3.4
D5	7 ROOM WASTE DRUMS	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D6	7 ROOM WASTE DRUMS	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D7	MOVEMENT OF 10 PALLETS OF DRUMS	F	8	8	3	1	<0.2	8	8

COPY

No.	Description	Contamination Measurements († Manually Calculated by RCT)									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs (~25%) of 2404WB RBA floors	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	LAWs of bottom of 10 pallets of drums (~75%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	T/S OF 7 ROOM WASTE DRUMS (4 T/S EACH)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	LAWs OF 7 ROOM WASTE DRUMS (~60%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend: [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101457	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0456	N/A	N/A
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEBB-0136	DTHNC-0343	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0058	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-24-11	

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 26 2011	

History

2011-05-24 10:56:15 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101472

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/25/2011	1630 / 2200	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB.

Comments: Drum movement of 38 drums to 2336W for payloads DM0528, DM0529 and DM0530. See WP-1101467 for drum survey information.

LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area of RBA/RA of 2404 WB	F	3.0	3.0	3	1	<0.2	3	3
D2	Dose rate on exterior walls of 2404 WB	F	3.2	3.2	3	1	0.2	3.4	3.4

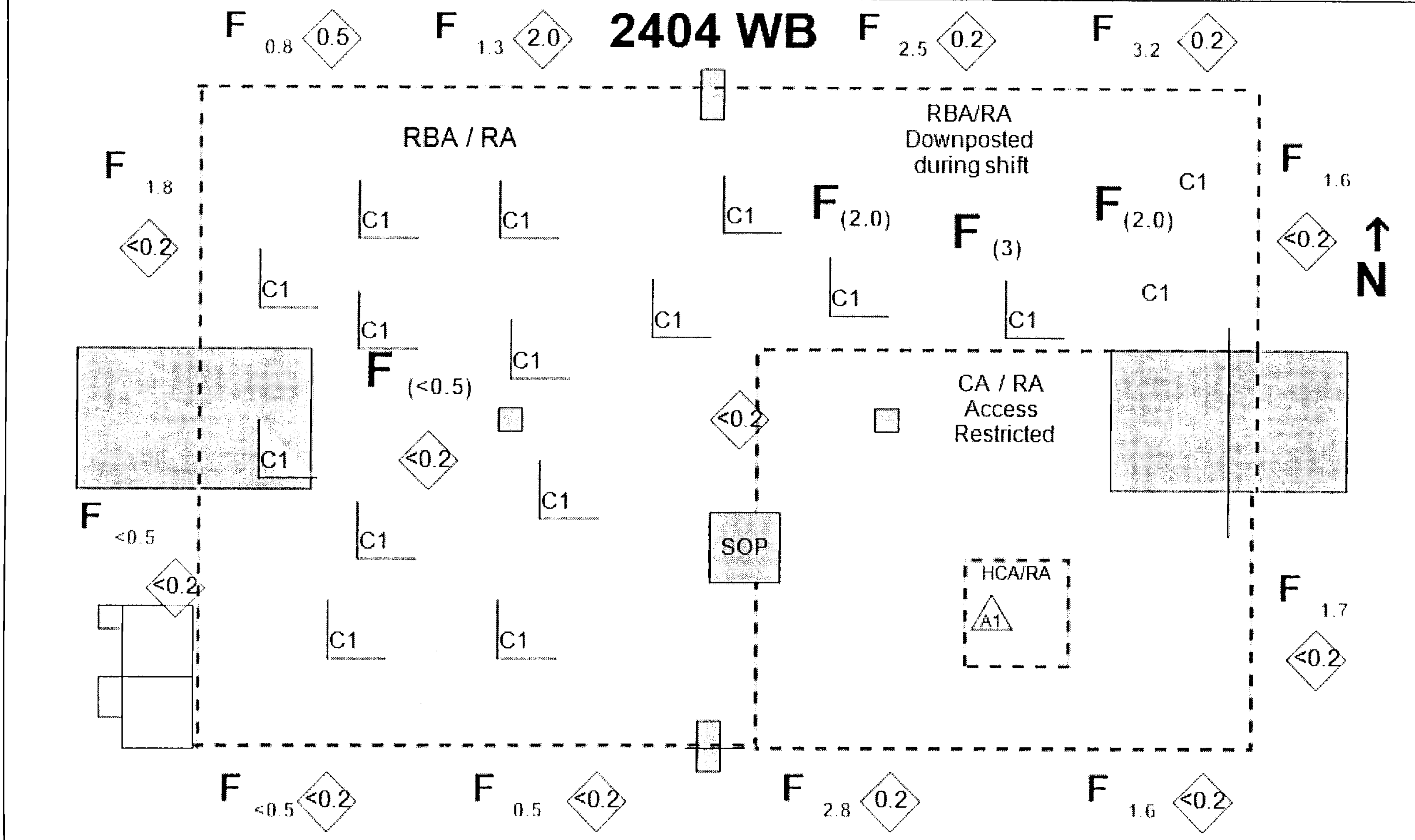
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs (~40%) of floors in North side of 2404 WB & South side from West end up to row 18 in the RBA/RA.	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - (designation inside) - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101472	

Air Sample Measurements

A1	~~*See Note~~ BJP 5-27-11

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0039	DTEB9-0458	0.1
PAM	ACHN2-0372	DTHN3-0166	0.16
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
CP	ICHN2-0003	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	5-27-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	5-31-11	C Wielang

History

2011-05-25 10:52:03 - Submitted
2011-05-27 12:45:36 - UnSubmitted correction
2011-05-27 12:49:23 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101473

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/25/2011	0830 / 0900	200 W / 2404 / WB / n/a	WP-611/ Rev 3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 in 2404WB.

Comments: LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose Rate from outside wall	F	1	1	3	1	2	3	3
D2	General Area	F	3	3	3	1	<0.2	3	3

Contamination Measurements

† Manually Calculated by RCT

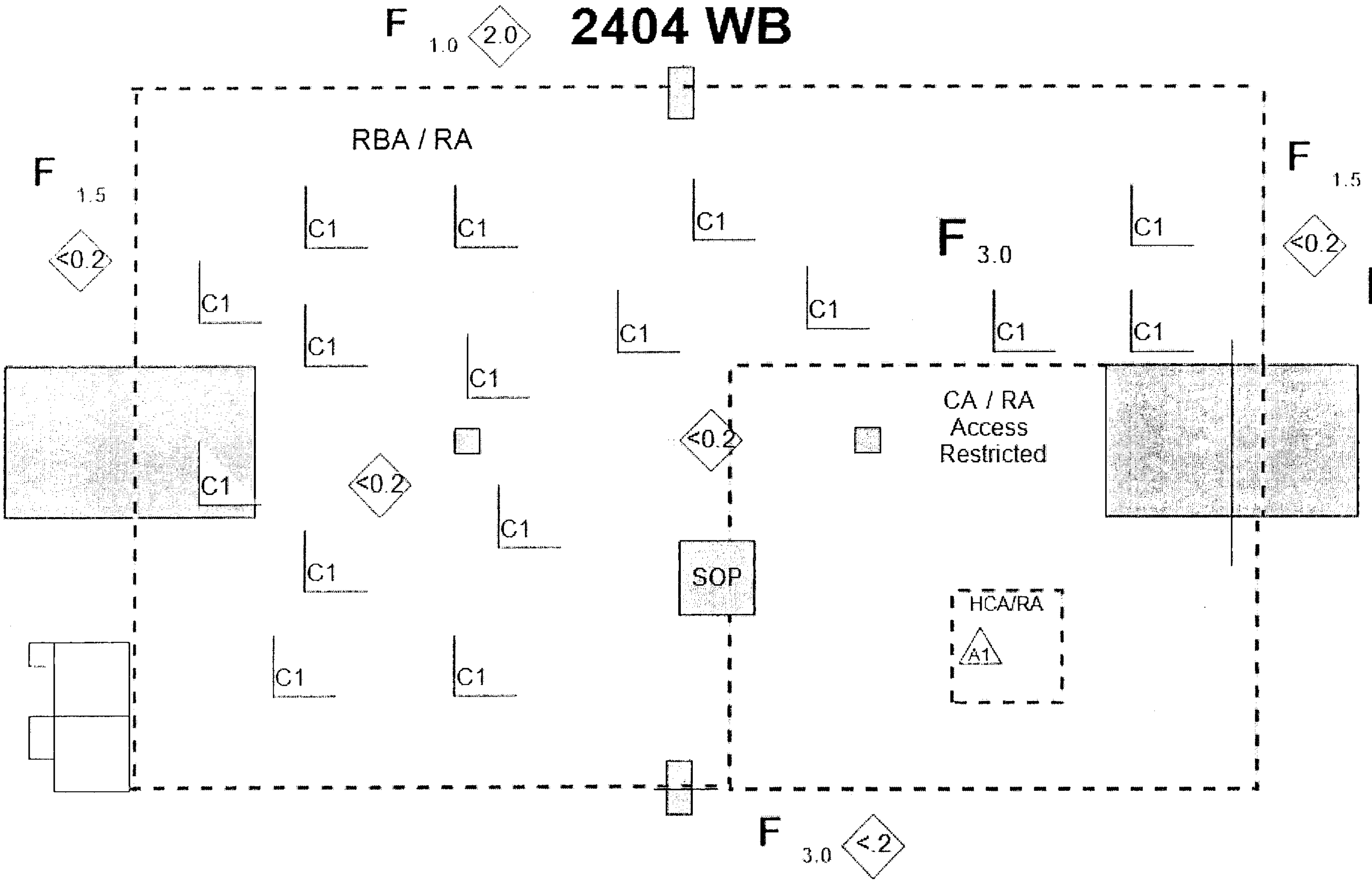
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of 90% of accessible floor in RBA	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101473

Map/Sketch



Map Name: 2404 WB			Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.	

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101473	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0372	DTHN3-0166	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
GM	CMEB3-0039	DTEB9-0458	0.10
CP	ICHN2-0003	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	5-26-11	Nadia Rhodes

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 26 2011	CWielang

History

2011-05-26 02:38:55 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101475

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/26/2011	0800 / 1430	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB.

Comments: A1 air sample running for weekly verification, results will not be associated with this survey.

LAWs performed in accordance with WMP-350, Section 6.2.

Survey of C/A is on WP-1101478.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area of RBA/RA of 2404 WB	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	Dose rate on exterior walls of 2404 WB	F	2.2	2.2	2	1	1.8	4	4

Contamination Measurements

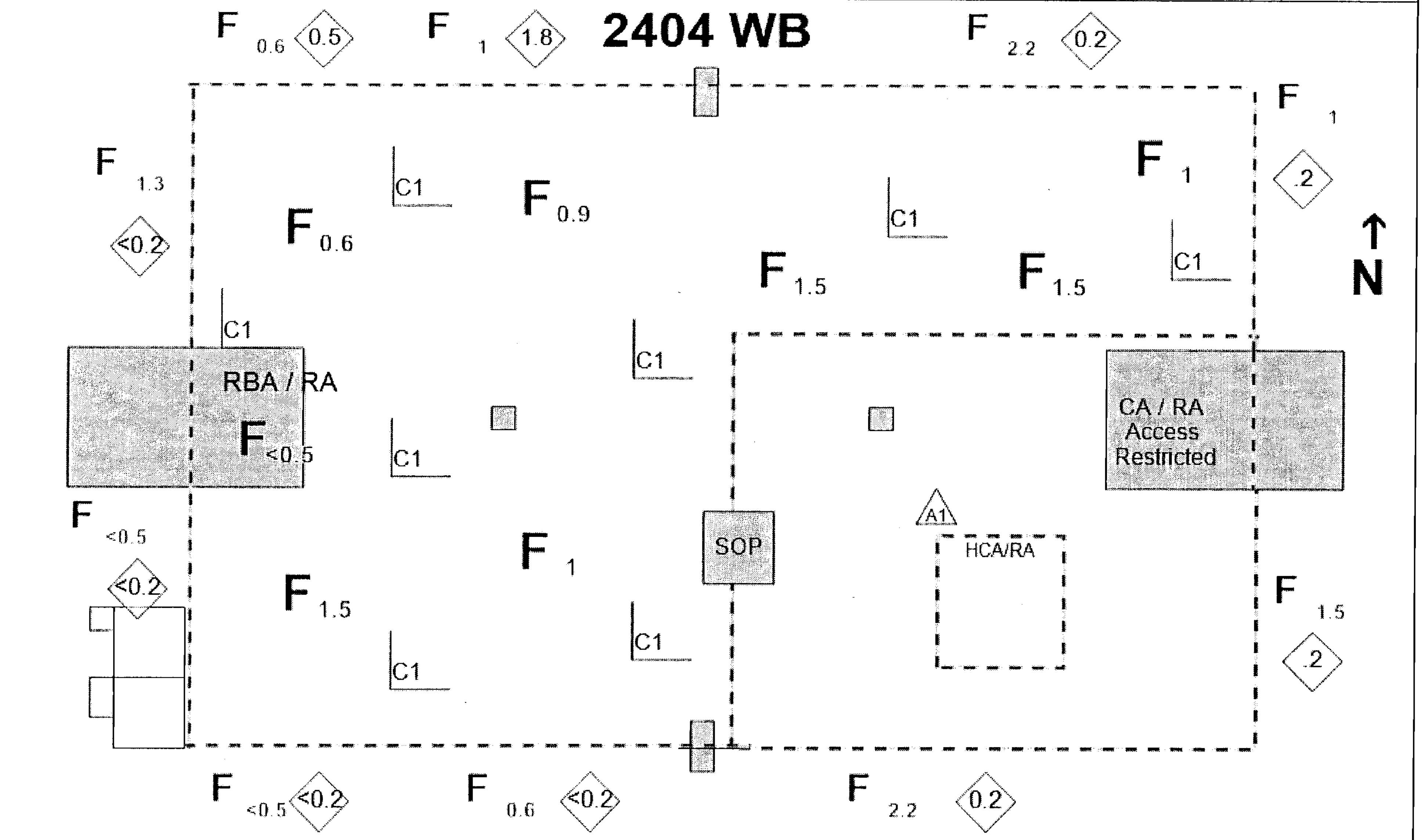
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs (~40%) of floors in West end and North side of 2404 WB in RBA/RA.	100	0	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101475

Map/Sketch



Map Name: .22404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101475

Air Sample Measurements

A1	*See Note

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0473	DTLLP-0580	0.1
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
RO-20	ICEB4-1446	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Orth, Darrell	h8362903	5/26/11	OO

Reviewers

Name	HID	Date	Signature
CWielang	6197614	MAY 26 2011	[signature]

History

2011-05-26 02:29:49 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101478

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/26/2011	0800 / 1000	200 WEST / 2404WB / / East side of 2404WB	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: RADCON
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Survey of job location in 2404WB, release of a drum sling from the ca (sling number 4883), and a release of a PAM from the CA.

Comments: Beta-gamma directs were not taken of items in the CA, they were moved to a low background area to complete release surveys.
LAWs perfromed in accordance with WMP-350 section 6.2.
Tech smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs of area	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C2	LAWs of PAM/Drum sling	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C3	Smears/directs of the pam/drum sling (10 smears on the sling, 3 smears on the PAM)	350	0	350	0	<5000†	<100†	10	6	<1000†	<20†

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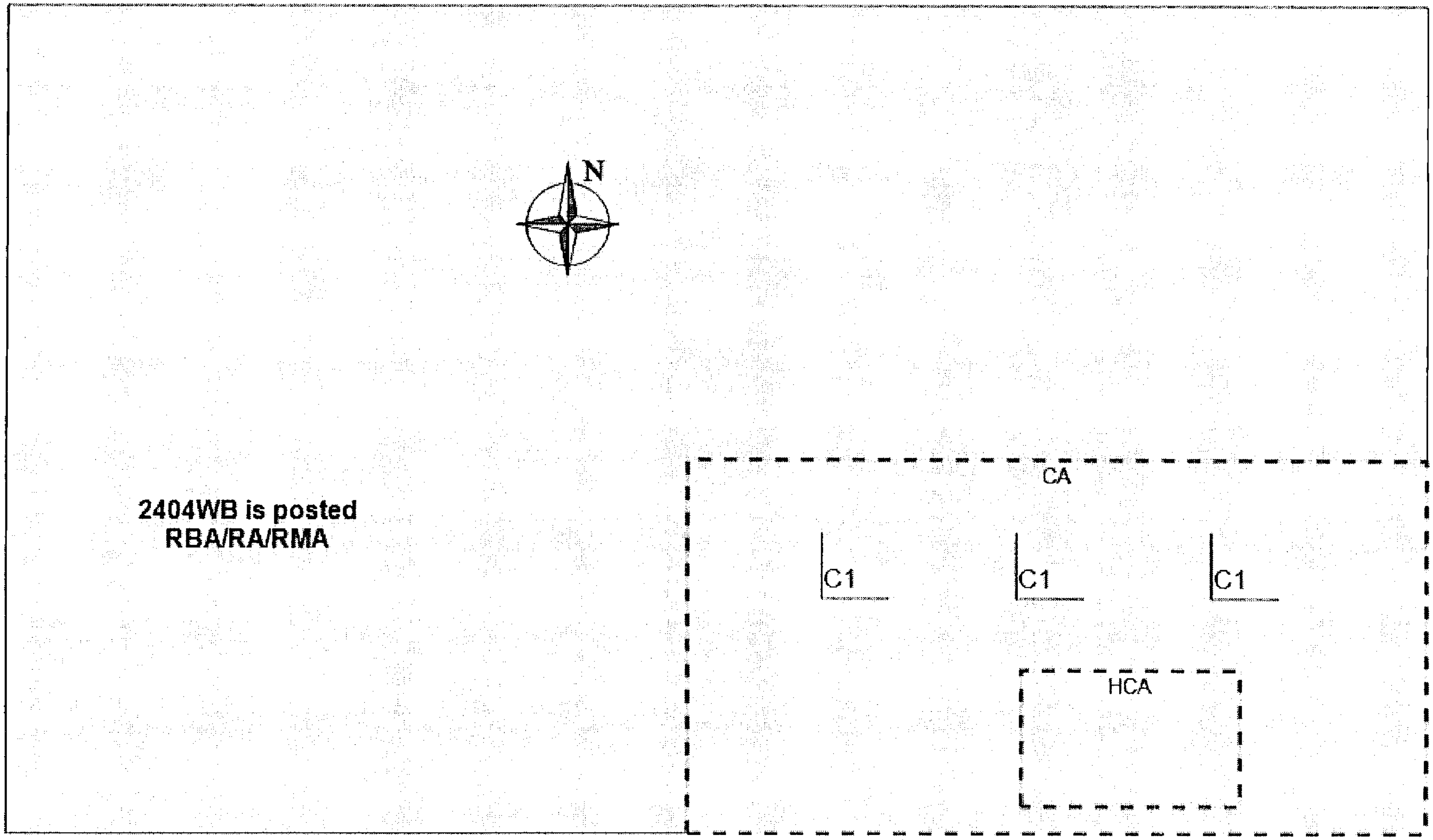
Map/Sketch



Map Name: 2404WB	Map Description: Survey of the working area in 2404WB.

Legend: [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101478	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
Ludlum 2360	SCLL8-0473	DTLLP-0580	0.10
Ludlum 2929	SCLL4-0066	DTLLC-0076	α0.36 β0.39

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	5-26-11	JW

Reviewers

Name	HID	Date	Signature
CWieland	619614	MAY 26 2011	CW

History

2011-05-26 10:26:51 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101480	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/1/2011	1300 / 1430	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey:

- [ ] Material Release
  Number: N/A
  Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [x] Job Coverage: WRAP-RSP-016/0
- [ ] Verification survey α = <D
  <D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Verification survey βγ = <D
  <D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Other:
  N/A

Description of Work / Comments:

WP-SH003 in 2404WB. Survey of 27 TRUPACT drums and associated pallets that were in 2404 WB. Drums located in RBA/RA. Survey based on WRAP-RSP-016/0.

Comments: Drums surveyed included those that would eventually make up TRUPACT 14 -Pack Payloads DMO531 & DMO532.

LAWs of the bottom of pallets associated with the listed drums and dose rates of payloads to be performed in the future when drums are staged for movement.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

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Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose (27 drums)	F	9	9	2	1	<0.2	9	9
D2	Highest Dose (WP-SH003)	F	3.2	3.2	2	1	0.3	3.5	3.5

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	Tech smears of 27 TRUPACT drums in various locations of 2404 WB (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	Smear	100	0	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C2	LAWs (~40%) of 27 TRUPACT drums in various locations of 2404 WB	100	0	N/A	N/A	N/A†	N/A†	10	6	LAW	100	0	<D/LAW †	<D/LAW †
C3	Tech smears of pallets associated with the above drums (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	Smear	100	0	<1000†	<20†
C4	LAWs (~10-50%) of accessable top and sides of pallets associated with the above drums	100	0	N/A	N/A	N/A†	N/A†	10	6	LAW	100	0	<D/LAW †	<D/LAW †
C5	WP-SH003 LAW's of 80% of RBA	100	0	N/A	N/A	N/A†	N/A†	10	6	LAW	100	0	<D/LAW †	<D/LAW †

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Map/Sketch

Drums surveyed:
0069058
0069144
0069191
0070091
0070468
0070496
0070506
0071053
0071404
0071421
0071524
0071913
0069944
0070630
0071043
0071983
0072627
0073350
0074548
0074559
0074572
0074626
0074659
MW10800080
Z72-8-54
0058617
0058232

Map Name: drums | Map Description: drums

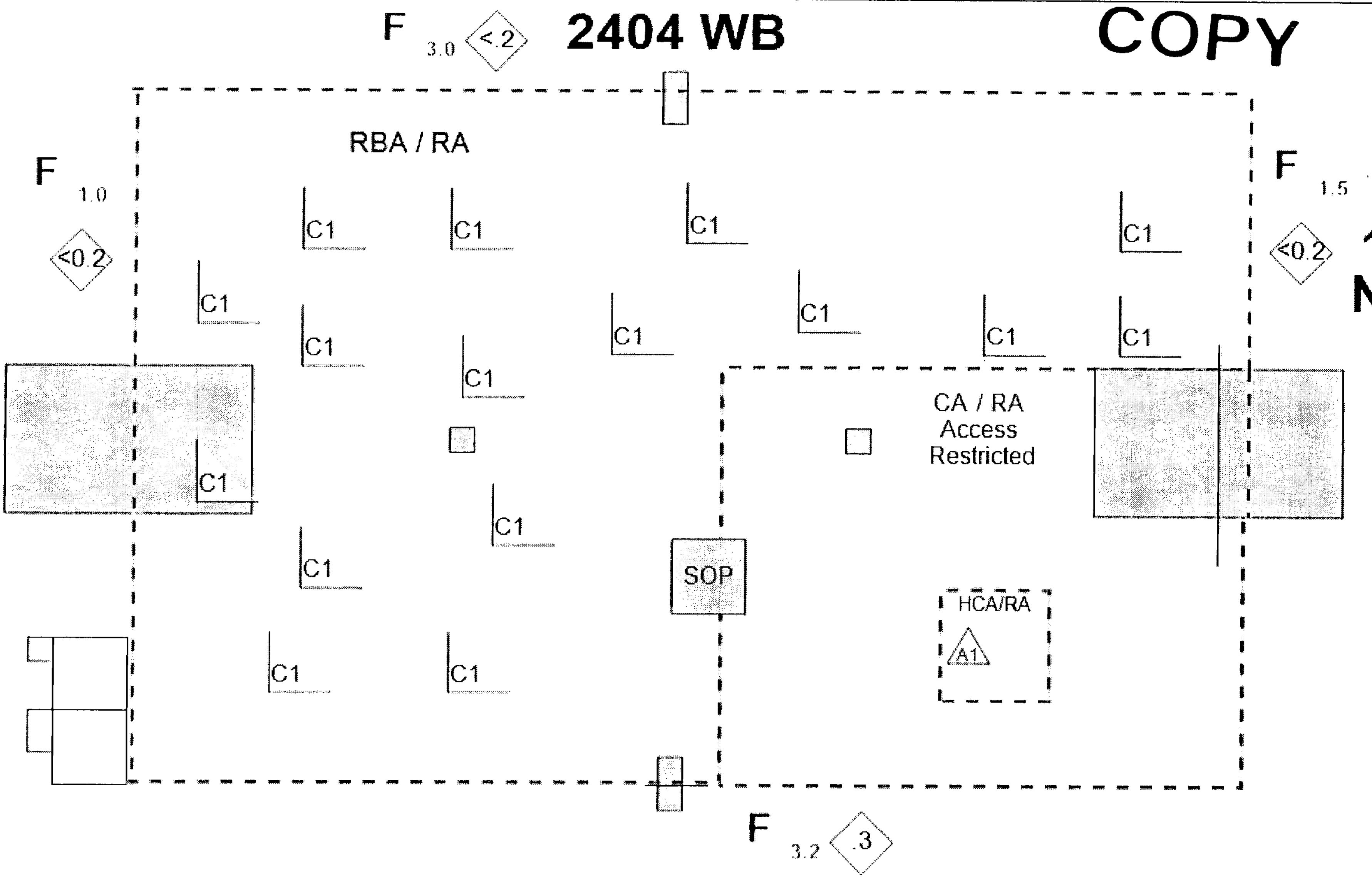
Legend [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance | O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101480

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	# Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101480	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
RO-20	ICEB4-1448	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0292	DTHNC-0890	0.10
2929	SCLL2-0064	DTLLC-0074	β0.38 α0.35
Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	7·11·11	Nadia Rhodes

Reviewers

Name	HID	Date	Signature
C Wieland	619761Y	JUL 11 2011	C Wi

History

2011-06-01 15:07:39 - Submitted
2011-06-02 15:01:16 - UnSubmitted Fix errors
2011-06-02 15:05:13 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101485

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/26/2011	1630 / 2330	200 W / 2404 WB / N/A / N/A	WP-611 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [x] Job Coverage: WRAP-RSP-016 Rev 0
- [ ] Other: N/A

Description of Work/Comments:

SHIFTLY SURVEY OF 2404WB. SURVEY OF DRUMS FROM 2404 WB FOR MOVEMENT TO 2336W.

Comments: Dose rates in South East area of 2404 WB not taken due to CA status (no entry made into CA).

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

39 DRUMS & 10 PALLETS SURVEYED IAW WRAP-RSP-016 Rev 0 & MOVED TO 2336W.
DRUM #
0078693, 0079425, 0069705, 0077656, 0078793, 0074538, 0078785, 0069777, 0081201,
0081219, 0077691, 0078843, 0069802, 0077677, 0081171, 0081015, 0077680, 0078736,
0076007, 0078740, 0077510, 0077512, 0078697, 0078730, 0077630, 0077422, 0077506,
0075944, 0077673, 0078695, 0062199, 0061236, 0077666, 0077570, 0078743, 0078755,
0077505, 0077423, 0077648.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area of west end of 2404 WB (highest)	F	3.5	3.5	3	1	<0.2	3.5	3.5
D2	General area dose rate in work areas of east end of 2404 WB (highest)	F	3.0	3.0	3	1	<0.2	3	3
D3	Dose rate on exterior walls of 2404 WB (highest)	F	3.2	3.2	3	1	0.2	3.4	3.4
D6	MOVEMENT OF 39 DRUMS	F	8	8	3	1	<0.2	8	8

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs (~35%) of 2404WB RBA floors	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	LAWs of bottom of 10 pallets of drums (~75%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	T/S OF 39 DRUMS (1 T/S EACH)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C4	LAWs OF 39 DRUMS (~60%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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		Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	T/S OF 10 PALLETS (1 T/S EACH)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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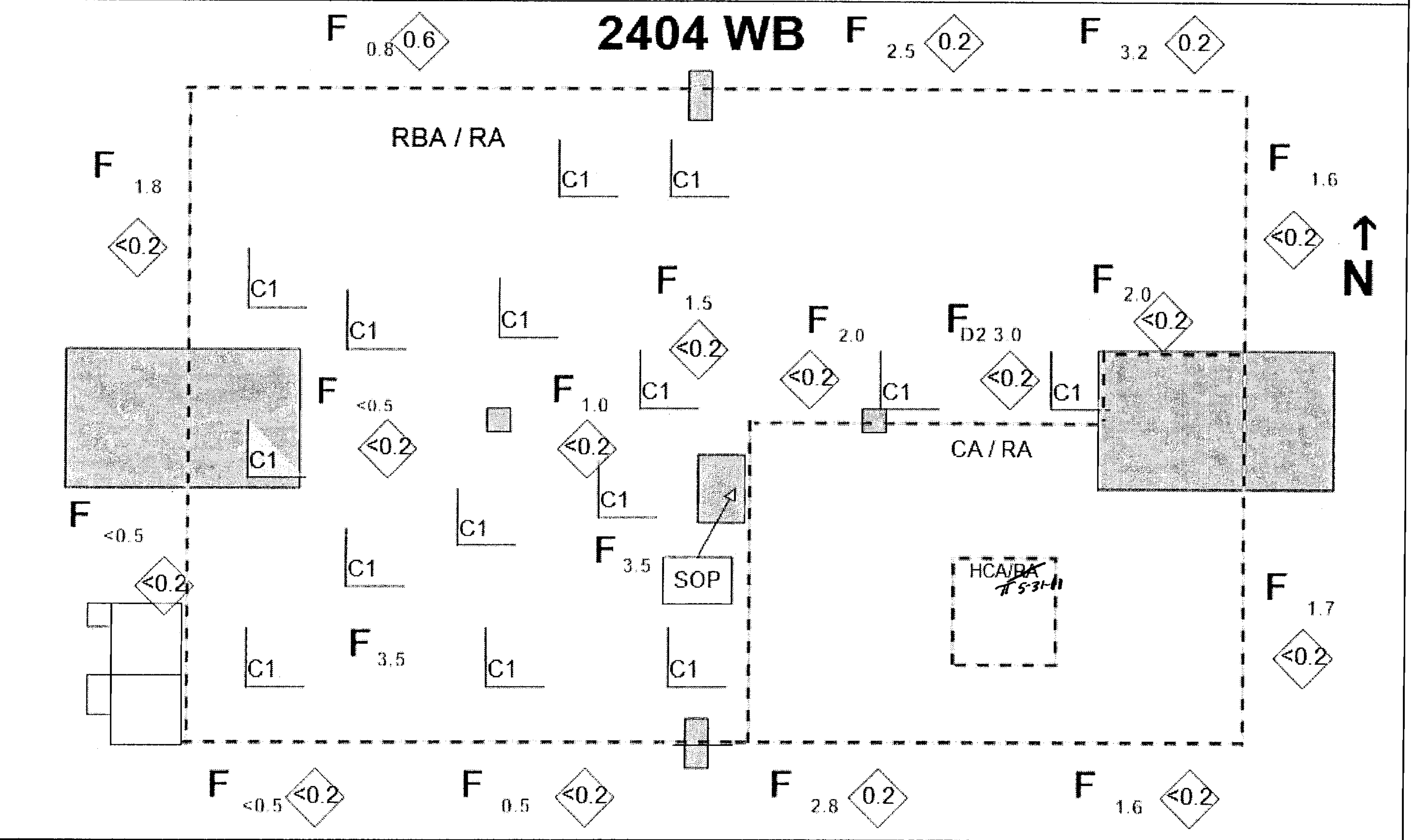
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101485

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend: [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 05/26/2011 11:14:33 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ COPY A-6004-663-SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101485

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0456	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0058	DTLLC-~~0077~~ 0071 TT 5-31-11	β0.39α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	5-26-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-31-11	T. Terry

History

2011-05-26 11:14:33 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101486

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/27/2011	0800 / 1500	200 West / WRAP / 2404 Complex / WC / WRAP	WP-001/8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH004, WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

Performed shiftly in 2404 WC/2404WB

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. ALL DOSE RATES ON MAPS ARE FIELD DOSE RATES UNLESS OTHER WISE NOTED.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	HIGHEST DOSE RAT E OUTSIDE WC	F	1.7	1.7	2	1	<0.2	1.7	1.7
D2	HIGHEST DOSE RATE OUTSIDE WB	F	1.2	1.2	2	1	3	4.2	4.2

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	SHIFTLY LAW OF FLOOR IN WC (~15%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	SHIFTLY LAW OF FLOOR IN WC (~15%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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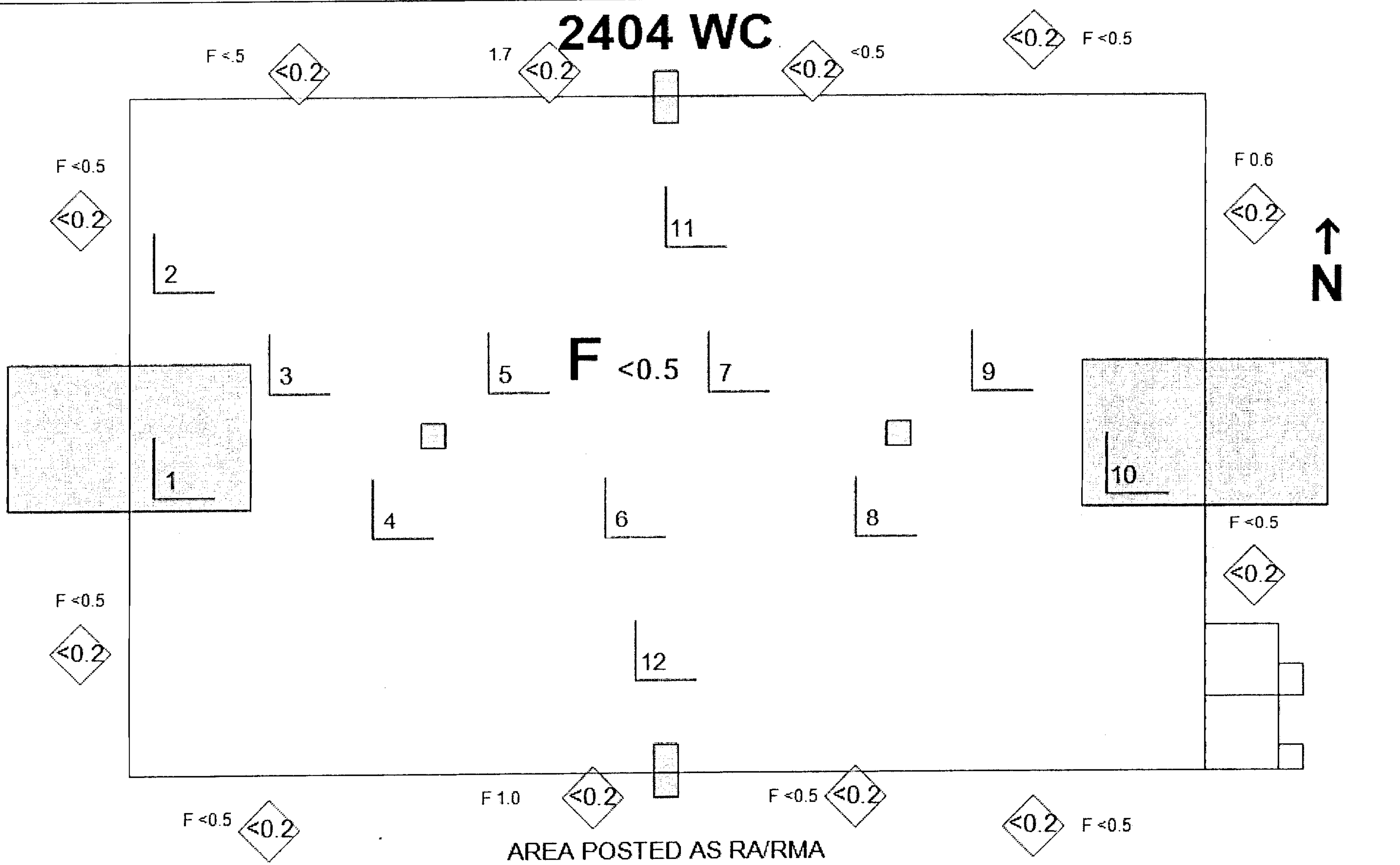
Map/Sketch



Map Name: 2404 WC			Map Description: WP-SH004						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 05/27/2011 01:46:10

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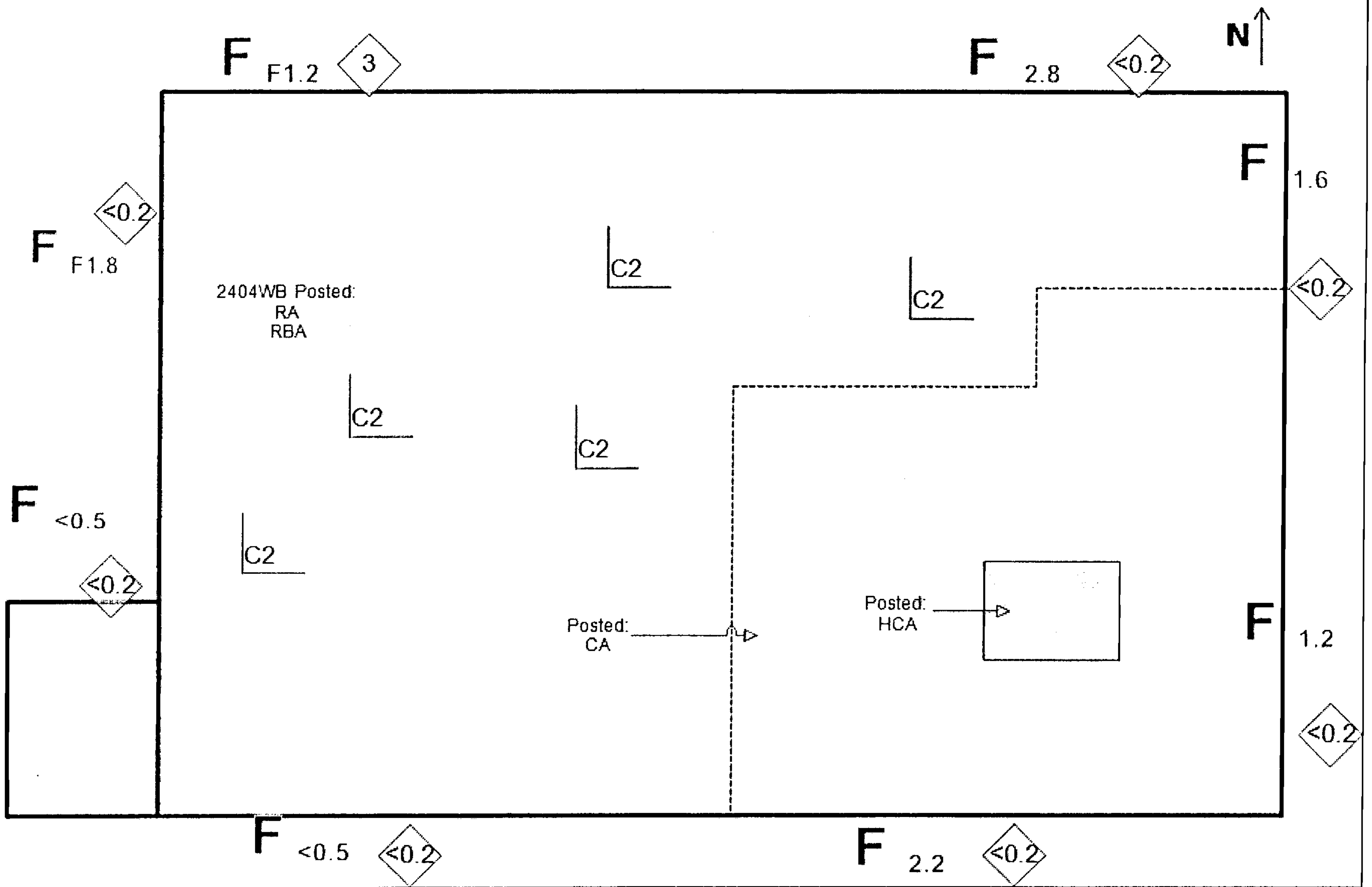
Map/Sketch



Map Name: 2404 WB	Map Description: 2404WB

Legend								
[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Michelle	h3963478	5-27-11	Michelle North

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-31-11	T. Terry

History

2011-05-27 01:46:10 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101487

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/27/2011	0900 / 1130	2336 W / 2404 WB / /	RWP-574/REV.4

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RSP-015 REV.1/ WRAP RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

2404 WB RECOVERY ENTRY TO DOWNPOST CA/RA TO RA/RBA IN ROWS 10-18.

Comments: 2404 WB RECOVERY TEAM ENTERED WB TO DOWNPOST CA/RA TO RA/RBA IN ROWS 10-18.
SURVEYED 11 DRUMS OFF OF WHITE TARP AND 8 PALLETS FROM THE AREA.
WHILE PERFORMING DIRECT SURVEYS, WE FOUND A SPOT AT THE NORTH SIDE OF ROW 12 & 14 BETWEEN THE AISLE WITH 3600DPM/100CM2 DIRECT ALPHA. THERE WAS ALSO A PIECE OF TAPE OVER ANOTHER SPOT NEARBY WITH 200CPM DIRECT UNDER THE TAPE FROM A PREVIOUS ENTRY.(DID NOT TAKE THE TAPE UP TO DO A DIRECT SURVEY.) WE PROCEEDED TO PUT TAPE OVER THE SPOT WITH 3600DPM/100CM2 DIRECT ALPHA AND BOTH SPOTS WERE POSTED AS CA.
TECH SMEARS WERE COUNTED PER WRP1-OP-1230.
LAWS WERE PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
UNABLE TO PERFORM BETA GAMMA SURVEYS DUE TO HIGH BACKGROUND IN BUILDING.
11 DRUMS SURVEYED:
PIN#
0075739
0061237
0061372
0017940
0065525
0069708
0069791
0053066
0070244
0069861
0062213
PAMS SURVEYED OUT OF CA/RA:(TAKEN TO A LOW BACKGROUND AREA FOR A DIRECT BETA GAMMA SURVEY)
ACHN2-0209/DTHN3-1011
ACHN2-0682/DTHN3-0948
ACHN2-0372/DTHN3-0166

SURVEYED 1 LAUNDRY BAG FROM CA/RA.
SURVEYED RADECO FROM CA/RA H-ASSA1-664.(TAKEN TO A LOW BACKGROUND AREA FOR A DIRECT BETA GAMMA SURVEY)

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

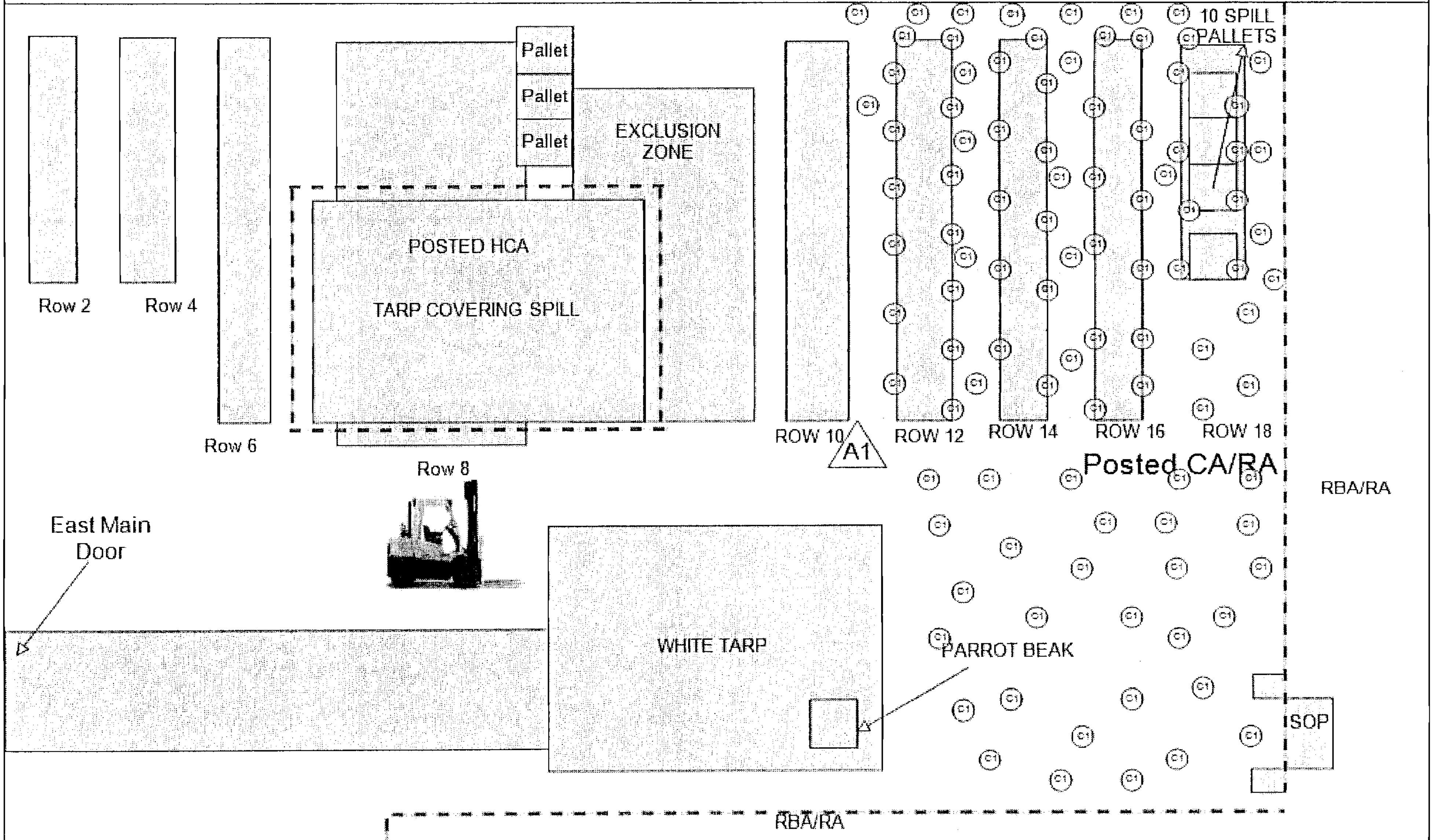
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	HIGHEST GENERAL WORKING AREA	F	28	28	2	1	<0.2	28	28
D2	LAUNDRY BAG (1)	C	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

No.	Description	Contamination Measurements † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	100 TECH SMEARS ON FLOOR AND HORIZONTAL SURFACES IN 2404 WB ROWS 10-18	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C2	LAWS ON FLOOR AND HORIZONTAL SURFACES IN 2404 WB ROWS 10-18 ~50%	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A/LAW †	<D/LAW†
C3	DIRECTS ON FLOOR IN 2404 WB ROWS 10-18 ~90%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C4	DIRECT ON FLOOR IN 2404 WB ON NORTH SIDE OF ROWS 12 & 14 IN AISLE WAY	N/A	0	N/A	600	N/A†	3600†	N/A	6	N/A†	N/A†
C5	DIRECTS ON HORIZONTAL SURFACES IN 2404 WB ROWS 10-18 ~20%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C6	TECH SMEARS ON AIR SAMPLER(4) H-ASSA1-664	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C7	LAWS AND DIRECTS OF AIR SAMPLER H-ASSA1-664~100%	100	0	100	0	<5000†	<500†	10	6	<D/LAW†	<D/LAW†
C8	TECH SMEARS ON 8 PALLETS(4 T/S EACH)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C9	DIRECTS AND LAWS OF 8 PALLETS~100%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C10	TECH SMEARS OF 11 DRUMS OFF OF WHITE TARP(4 T/S EACH)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C11	LAWS AND DIRECTS OF 11 DRUMS OFF OF WHITE TARP ~80%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C12	TECH SMEARS ON 3 PAMS(2 T/S ON EACH)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C13	LAWS AND DIRECTS OF 3 PAMS ~100%	100	0	100	0	<5000†	<500†	10	6	<D/LAW†	<D/LAW†
C14	TECH SMEAR ON LAUNDRY BAG(1)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C15	LAWS ON LAUNDRY BAG ~ 80%	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101487	

Map/Sketch



Map Name: WB RECOVERY DOWNPOST	Map Description: WB RECOVERY DOWNPOST~ TECH SMEARS OF FLOOR AND HORIZONTAL SURFACES

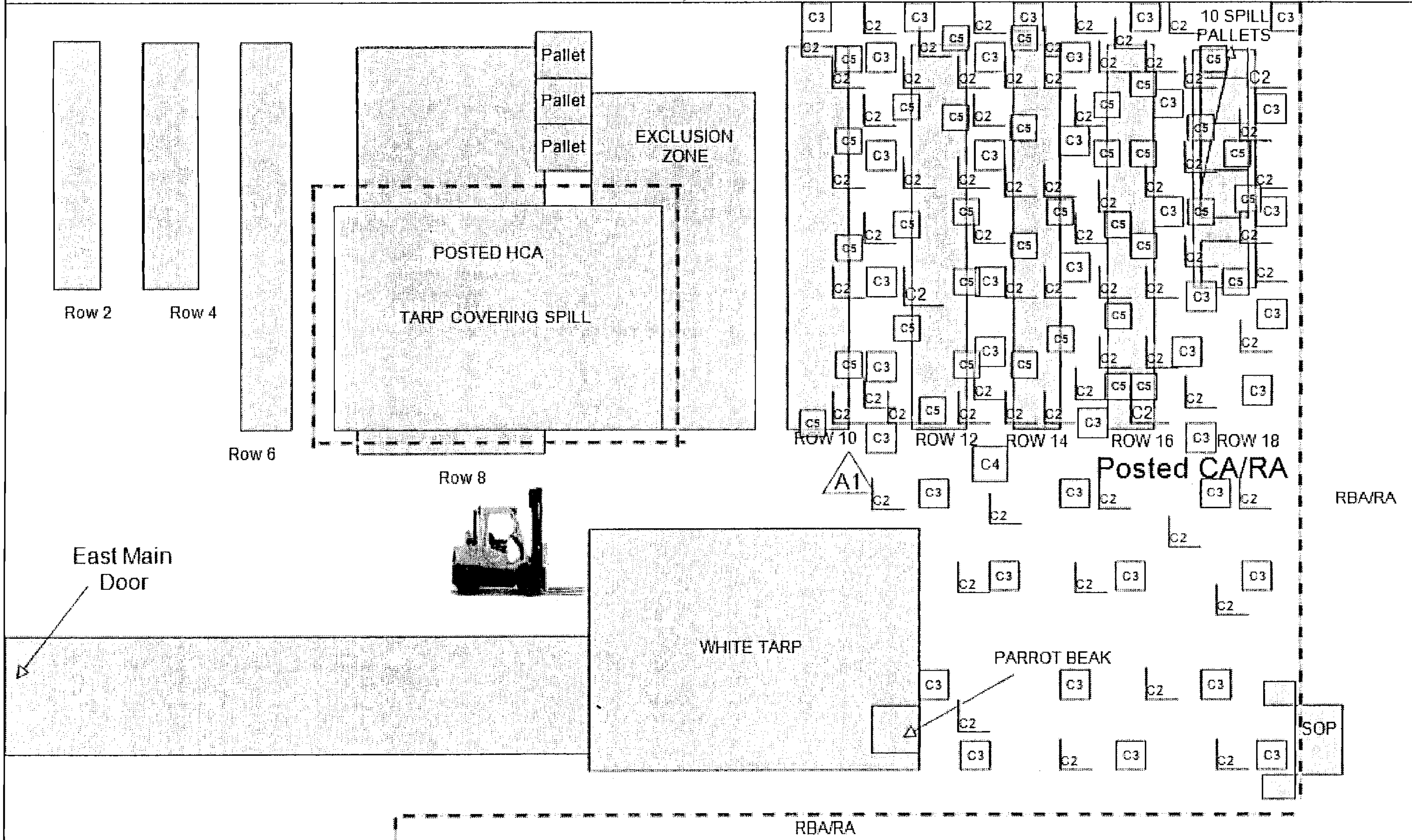
Legend: # Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/07/2011 04:00:16 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ A-6004-663-SS (Rev. 0)

Map/Sketch



Map Name: 2404 WB DOWNPOST

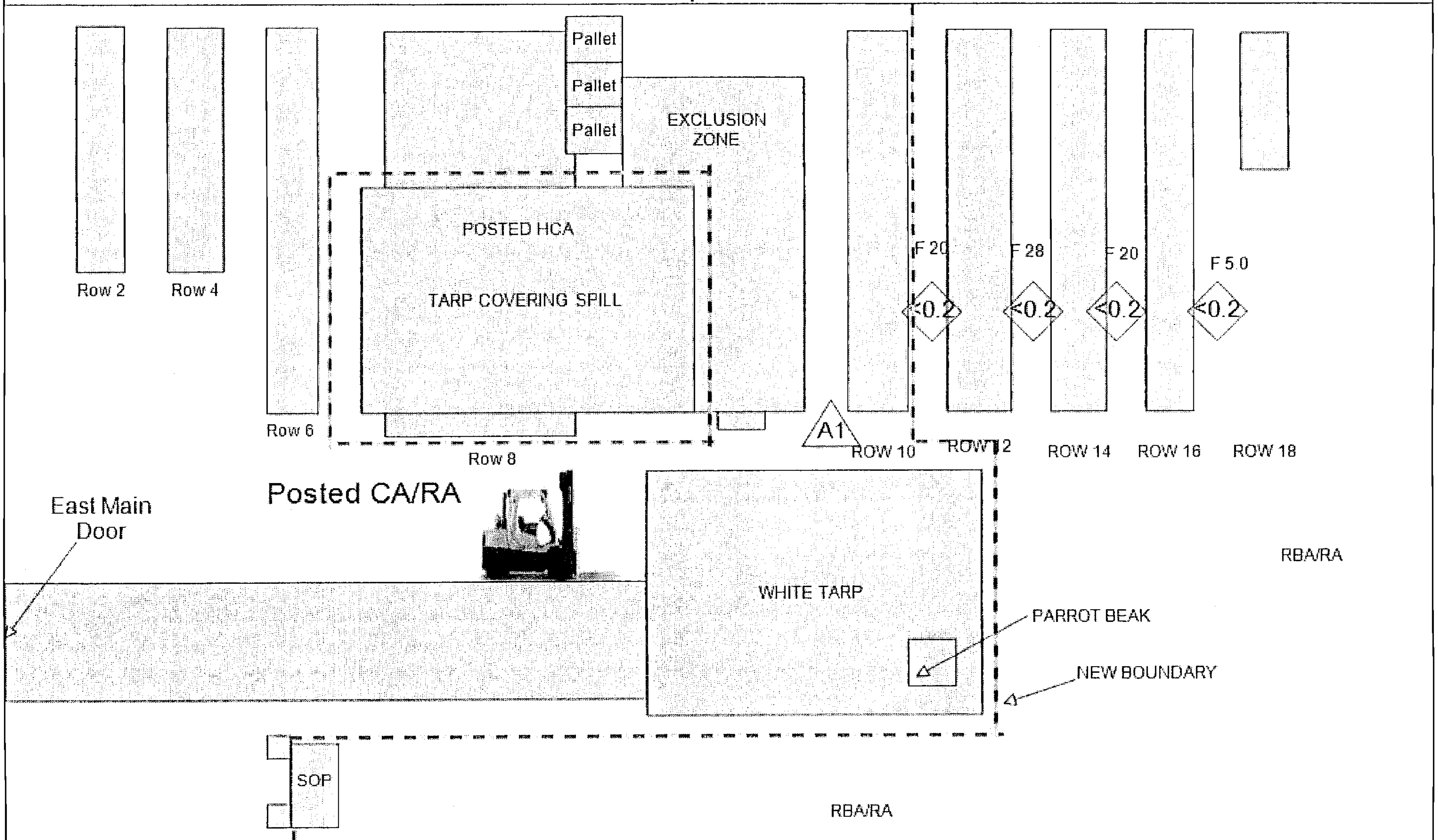
Map Description: 2404 WB DOWNPOST ~ DIRECTS AND LAWS ON FLOORS AND HORIZONTAL SURFACES

Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101487	

Map/Sketch



Map Name: 2404 WB AFTER DOWNPOST	Map Description: 2404 WB AFTER DOWNPOST

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - (designation inside) - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101487

Air Sample Measurements

A1	GWP-1101487

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEBB-0165	DTEB9-0048	0.10
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0372	DTHN3-0166	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
RO-20	ICEB4-1448	N/A	N/A
SNOOPY	NMNR1-0049	N/A	N/A
RADECO	H-ASSA1-664	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	6-7-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-7-11	T. Terry

History

2011-06-01 01:34:48 - Submitted
2011-06-01 01:44:22 - UnSubmitted MAKE CORRECTION
2011-06-01 01:47:18 - Submitted
2011-06-06 12:50:42 - UnSubmitted make correction
2011-06-06 01:34:19 - Submitted
2011-06-06 02:32:21 - UnSubmitted make correction
2011-06-06 02:39:20 - Submitted
2011-06-07 07:34:16 - UnSubmitted make correction

2011-06-07 04:00:16 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101494

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/31/2011	0830 / 0900	200 W / 2404 / WB / N/A	WP-611/ Rev 3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:
WP-SH003 in 2404WB.

Comments: LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose Rate from outside wall	F	3	3	3	1	0.2	3.2	3.2
D2	General Area	F	1	1	3	1	<0.2	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of 90% of accessible floor in RBA	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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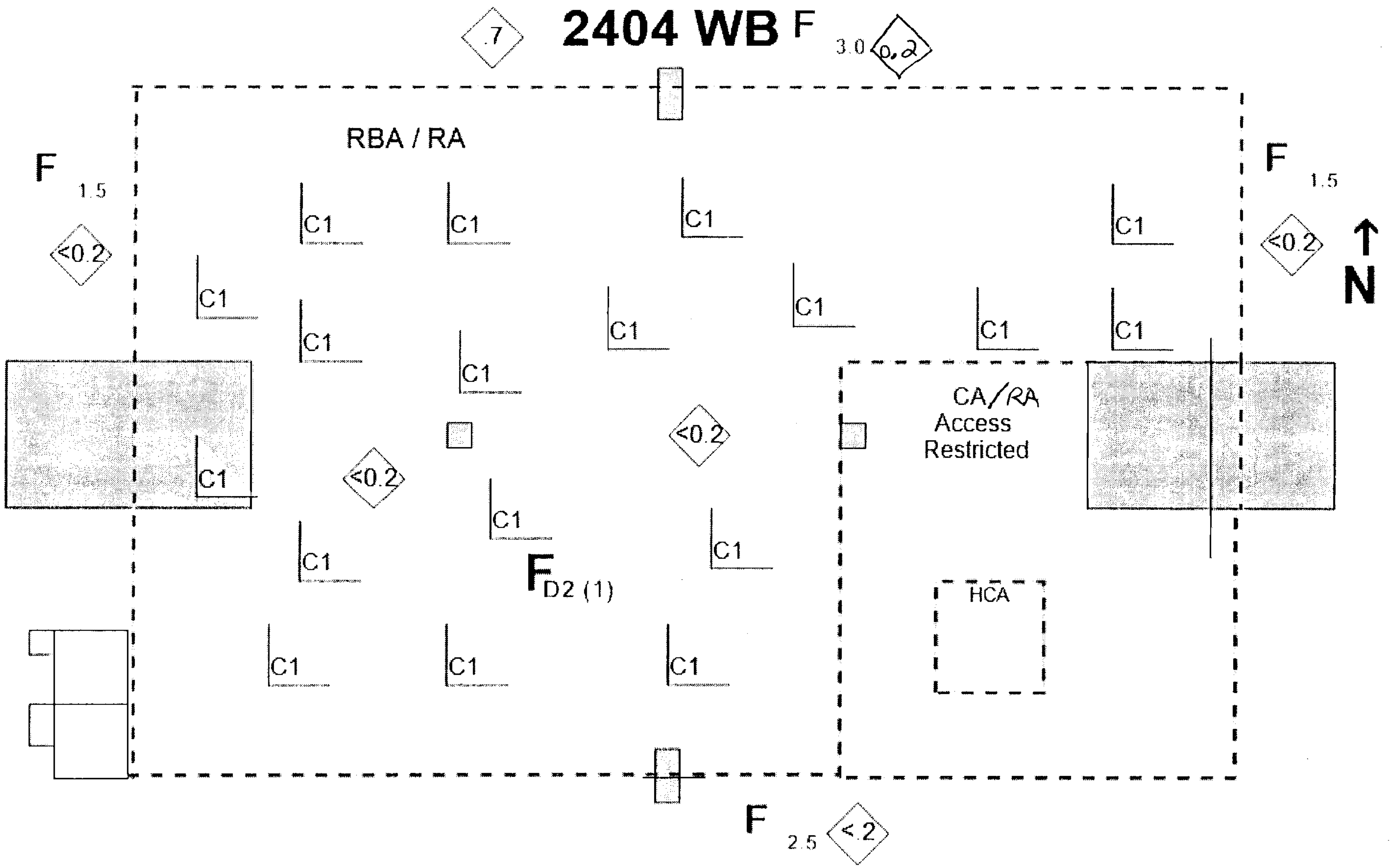
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101494	Page 2 of 3

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101494	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB5-0013	DTEB9-0344	0.1
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hendricks, Gordon	h0070265	5/31/11	Hendricks

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-31-11	T. Terry

History

2011-05-31 02:52:31 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101495

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/31/2011	0830 / 1500	200 WEST / 2404 WB / 2404 WB / N/A	WP-611/REV3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 REV4
- [ ] Other: N/A

Description of Work/Comments:

OVER PACK 6 DRUMS AS PART OF 2404WB RECOVERY

Comments: OVER PACKED SIX 55 GAL DRUMS IN TO 85 GAL DRUMS AS PART OF 2404WB RECOVERY
0061302 INTO 0061142
0007037 INTO 0061154
0061295 INTO 0061054
0061308 INTO 0061058
0062289 INTO 0061427
0081216 INTO 0059305

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	DRUM 0061054	C	6	6	3	1	0.3	6.3	6.3
D2	DRUM 0061054	F	2	2	3	1	<0.2	2	2
D3	DRUM 0061142	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D4	DRUM 0061142	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D5	DRUM 0061154	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D6	DRUM 0061154	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D7	DRUM 0061058	C	1	1	3	1	<0.2	1	1
D8	DRUM 0061058	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D9	DRUM 0061427	C	1.9	1.9	3	1	<0.2	1.9	1.9
D10	DRUM 0061427	F	0.7	0.7	3	1	<0.2	0.7	0.7
D11	DRUM 0059305	C	0.7	0.7	3	1	<0.2	0.7	0.7
D12	DRUM 0059305	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	TECH SMEARS PER DRUM (2 ON EA DRUM)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	TECH SMEAR ON PALLET (1 ON PALLET)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	LAW OF PALLET (@ 50%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

Map/Sketch

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101495

Map Name: | Map Description:

Legend [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
CP	ICEB3-0414	N/A	N/A
GM	CMEB5-0013	DTEB9-0344	0.10
AN/PDR-70 Snoopy	MNNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	5-31-11	Bryson Pomeroy
Wilhelm, Jeffrey	h0590882	5-31-11	[illegible]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-31-11	T. Terry

History

2011-05-31 03:48:54 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101501

Date	Start/Stop Time	Area/Location	RWP/Rev.
5/31/2011	1730 / 1900	200 W / 2404 / WB / N/A	WP-611/ Rev 3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 in 2404WB.

Comments: LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose Rate from outside wall	F	3	3	2	1	0.2	3.2	3.2
D2	General Area	F	1	1	2	1	<0.2	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of 75% of accessible floor in RBA	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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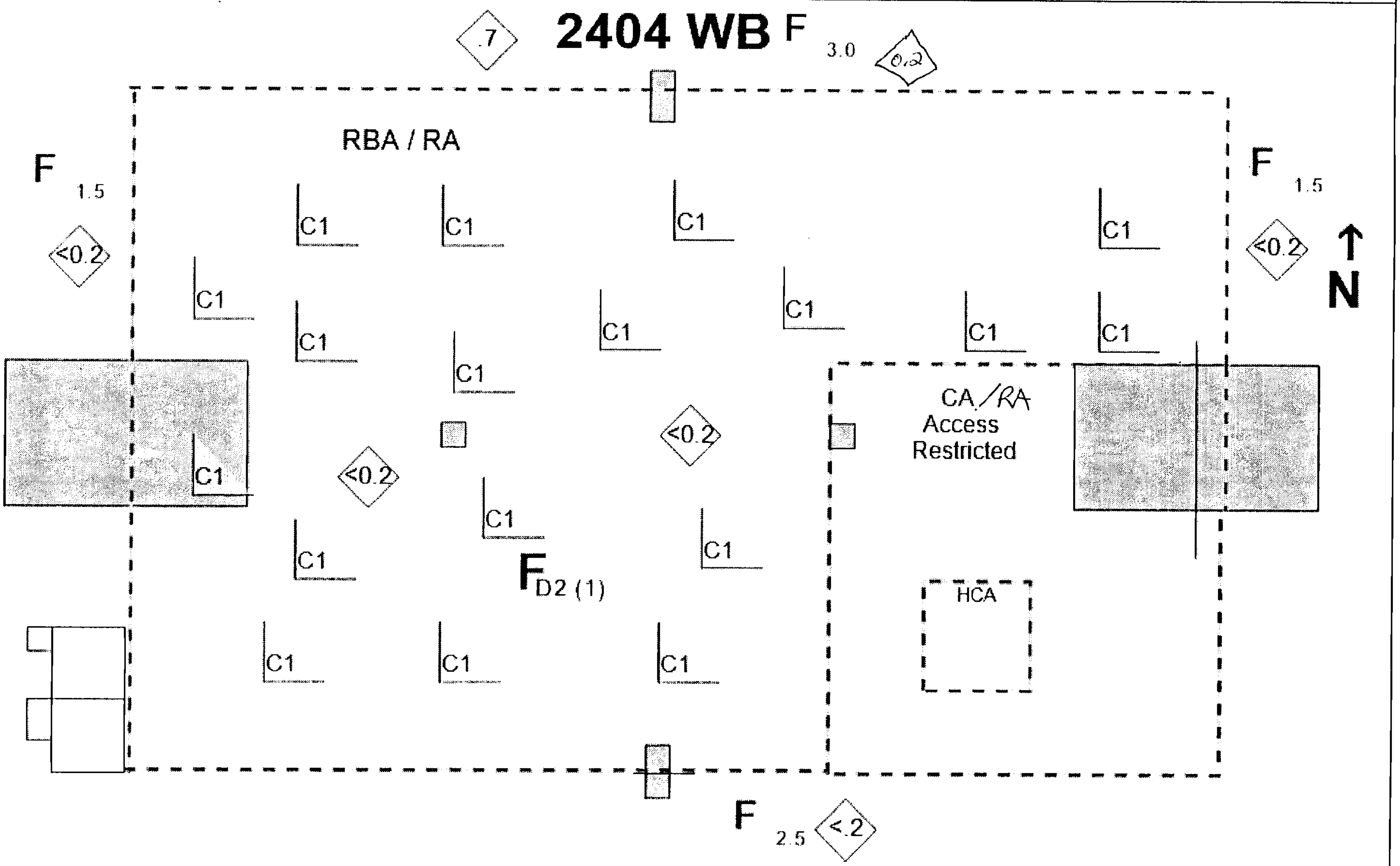
Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Subm: 05/31/2011 11:16:11 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ A-6004 -SS (Rev. 0)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101501

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB5-0013	DTEB9-0344	0.1
~~CP~~ TT 5-31-11 RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Schultz, Terry	h8881802	5-31-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	5-31-11	T. Terry

History

2011-05-31 11:15:03 - Submitted
2011-05-31 11:15:40 - UnSubmitted correction
2011-05-31 11:16:11 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101517

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/1/2011	1700 / 2200	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004
- [ ] Job Coverage: N/A
- [x] Other: Drum Movements

Description of Work/Comments:

Completion of 2404 WB/WC Shiftly Tasks.

Comments: LAWs performed in accordance with WMP-350 Section 6.2

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose on exterior of 2404 WB	F	2.6	2.6	2	1	0.2	2.8	2.8
D2	Highest dose on exterior of 2404 WC	F	2.7	2.7	2	1	<0.2	2.7	2.7
D3	General Area Dose 2404 WC	F	1.0	1.0	2	1	<0.2	1	1
D4	General Area Dose of 2404 WB	F	1.0	1.0	2	1	<0.2	1	1
D5	13 Drums transfered from WC to 2336W	F	1.5	1.5	2	1	<0.2	1.5	1.5

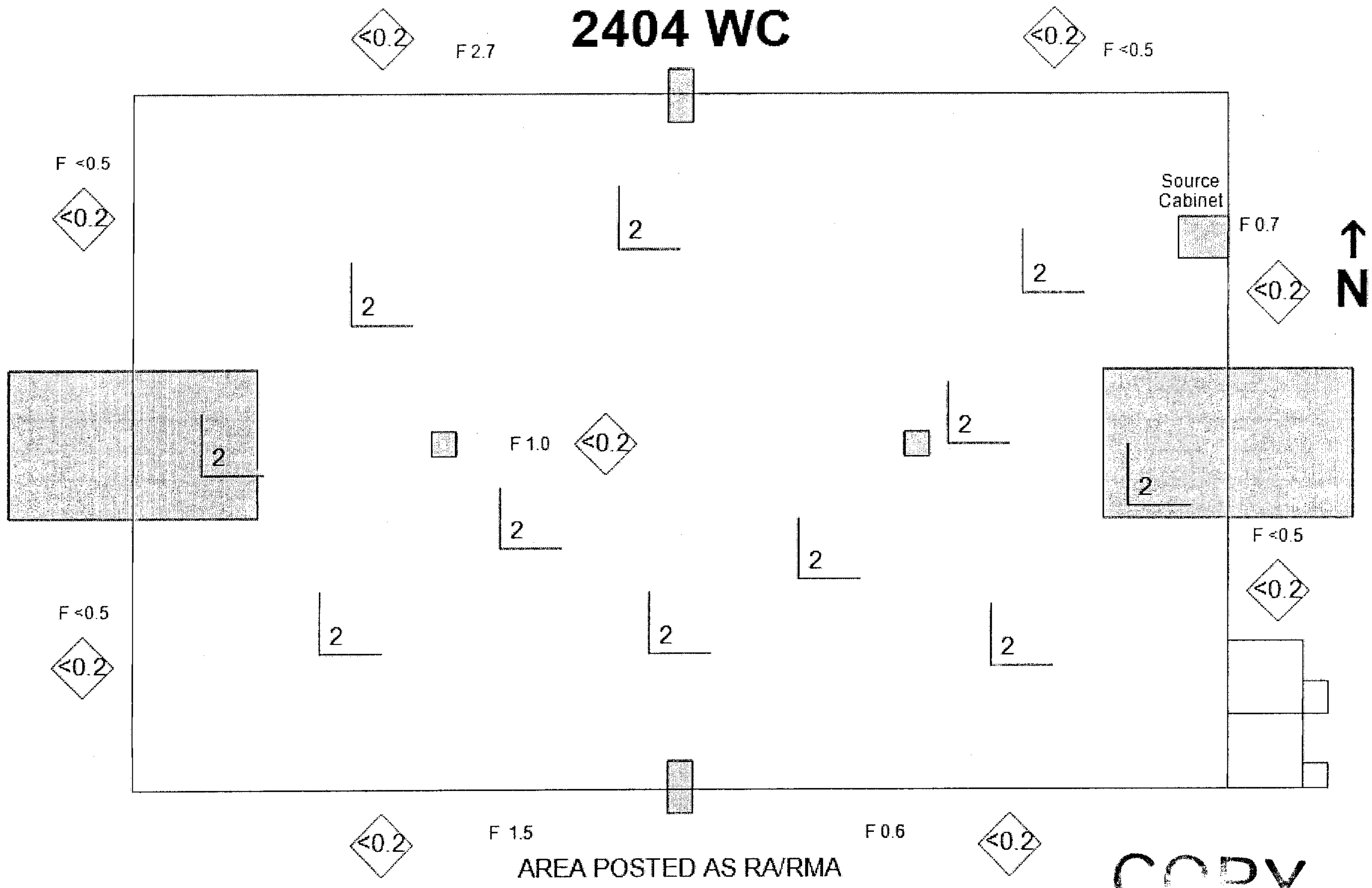
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs @ 20% on floors in 2404 WB	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWs @ 20% on floors in 2404 WC	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAWs @ 20% on each Drum moved	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 2404 WC			Map Description: WP-SH004						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101517	Page 3 of 4

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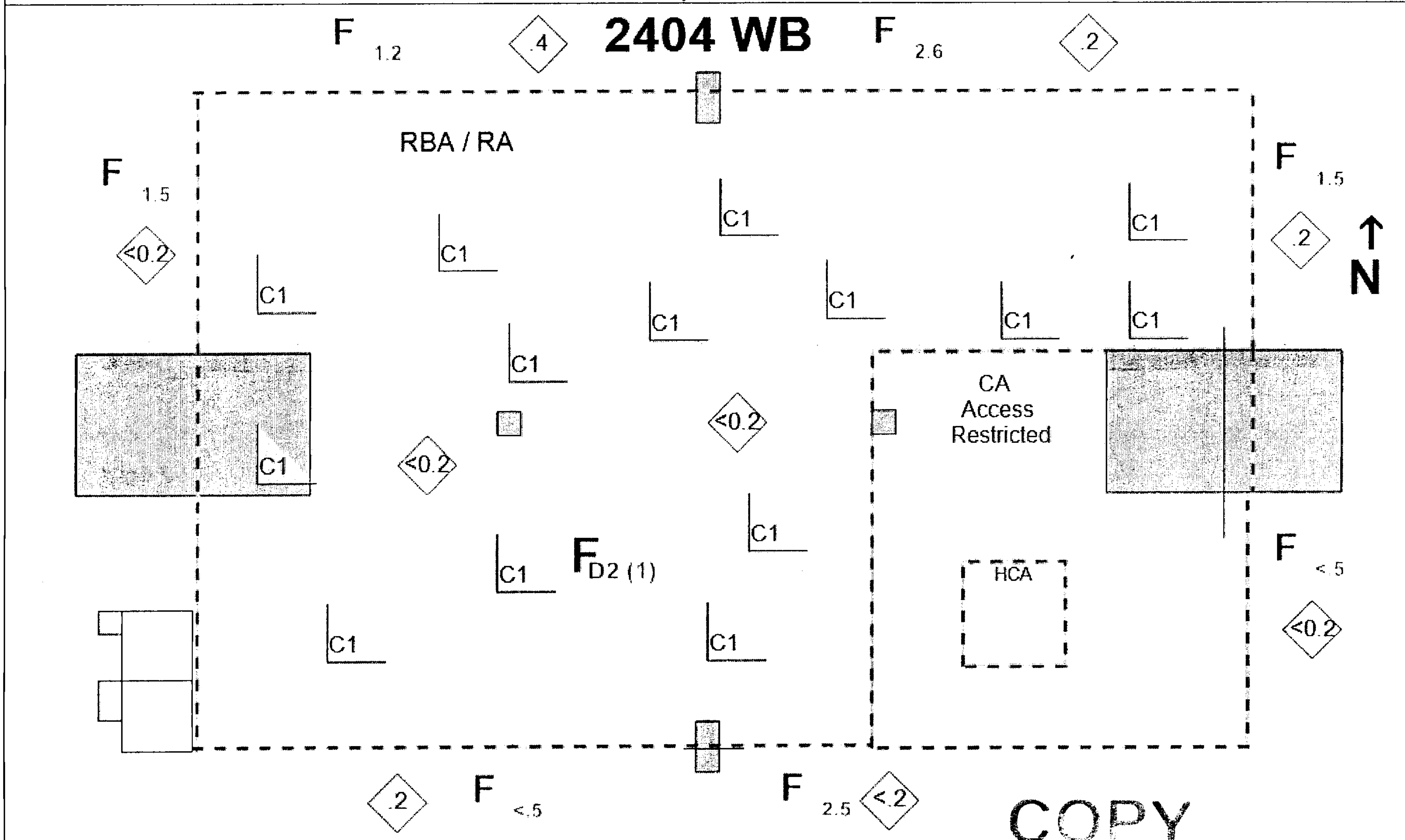
Map/Sketch



COPY

Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/03/2011 07:55:37

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A-6004-663-SS (Rev. 0)

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Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0166	DTHN3-0037	0.16
RO-20	ICEB4-1557	N/A	N/A
GM	CMEB3-0142	DTHNC-0243	0.10
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	6-3-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-6-11	T. Terry

History

2011-06-01 08:53:03 - Submitted
2011-06-03 07:55:02 - UnSubmitted
2011-06-03 07:55:37 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101518

COPY

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/1/2011	1630 / 2330	200 W / 2404 WB / N/A / N/A	WP-611 Rev 03

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RSP-016 Rev 0
- ☐ Other: N/A

Description of Work/Comments:

SURVEY OF DRUMS FROM 2404 WB.

Comments: DRUMS AND PALLETS SURVEYED IAW SURVEY PLAN WRAP-RSP-016 Rev 0. DRUMS TO BE TRANSFERED TO CWC ON 06-02-11.
SURVEYED THE UNDERSIDE OF 7, WHICH WERE MOVED FROM 2404 WB TO 2336W (SEE RSR WP-1101480 FOR SURVEY OF DRUMS AND PALLETS)
LAWs PERFORMED IAW WMP-350 SECTION 6.2.
TECH SMEARS (T/S) COUNTED IAW WRP1-OP-1230.

DRUMS SURVEYED:
0077287, 0079356, 0079351, 0079350, 0079349, 0079343, 0078864, 0078835, 0069749, 0069757, 0069778, 0069841, 0075895, 0076073, 0076077, 0077283, 0079404, 0077534, 0077556, 0078521, 0078689, 0078700, 0078735, 0078739, 0078833.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	25 DRUMS - GENERAL AREA	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	25 DRUMS (1 T/S PER DRUM)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	7 PALLETS (1 T/S PER PALLET)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	25 DRUMS LAWs ~ 40%	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	7 PALLETS LAWs ~15%	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	UNDERSIDE OF 7 PALLETS LAWs ~ 40%	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

Map/Sketch

Map Name:

Map Description:

Legend: # Direct Measurement; Air Sample; Smear; # LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101518

COPY

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO-20	ICEB4-1448	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0072	DTHNC-0958	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	6-1-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-2-11	[signature]

History

2011-06-01 09:18:13 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101526 COPY

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/2/2011	0800 / 1530	200 WEST / 2404 WB / N/A / RBA	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: WRAP-RSP-015 Rev 0
  - Released to: Operations
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-037
- [ ] Job Coverage: N/A
- [x] Other: ~~N/A~~ TT 6-6-11 Contamination survey of egress/SOP area in 2404 WB

Description of Work/Comments:

WP-SH003 & WP-W037 - shiftly and weekly contamination and dose rate verification of 2404 WB.

Shiftly contamination survey of egress/SOP area in 2404 WB.

Release survey of battery powered, riding floor sweeper in the west end of 2404 WB during the time it was posted HCA/ARA based on WRAP-RSP-015 Rev. 0.

Comments: *NOTE: Direct surveys of floor sweeper and egress/SOP area did NOT include Beta/Gamma due to high background Beta/Gamma readings.

**NOTE: Tech smears from egress/SOP area counted using 1 minute scaler function on 2360 for Alpha and 1 minute counts on GM in shielded cave for Beta/Gamma

Dose rates in CA/RA isles not taken due to limited access.

Air Sample started in HCA/RA on east end of 2404 for environmental sampling on 5/24/11. Air filter changed today. Results on GWP-1101526.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate verification (highest) inside 2404 WB	F	30.0	30.0	3	1	1.5	31.5	31.5
D2	Dose rate verification (highest) on exterior walls of 2404 WB	F	3.0	3.0	3	1	<0.2	3	3

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech smears in RBA area of 2404 WB floor (25 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	LAWs (~20%) of floors in RBA area in 2404 WB	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

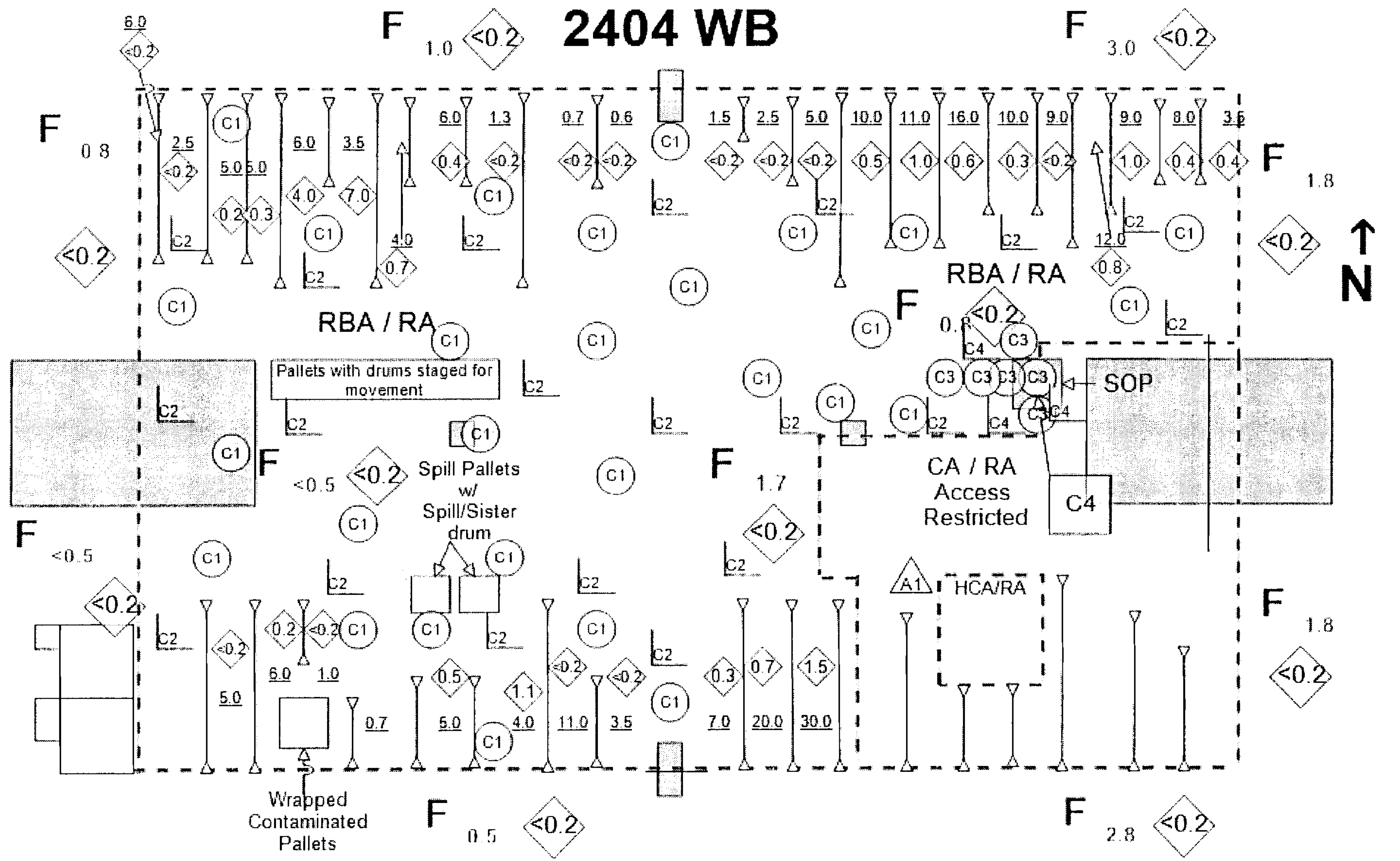
RSR No. WP-1101526

COPY

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C3	Shiftly tech smears of egress/SOP area in 2404 WB (6 TS) **SEE NOTE	100	0	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C4	Shiftly LAW (~90%) and direct survey of egress/SOP area in 2404 WB *SEE NOTE	100	0	N/A	0	N/A†	<500†	10	6	<D/LAW†	<D/LAW†
C5	Tech smears of riding floor sweeper for release from building (10 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	LAWs (~80%) and direct surveys of riding floor sweeper *SEE NOTE	100	0	N/A	0	N/A†	<500†	10	6	<D/LAW†	<D/LAW†

Contamination Measurements (Continued); † Manually Calculated by RCT

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly Shiftly, SOP/Egress Survey & Weekly Survey Locations

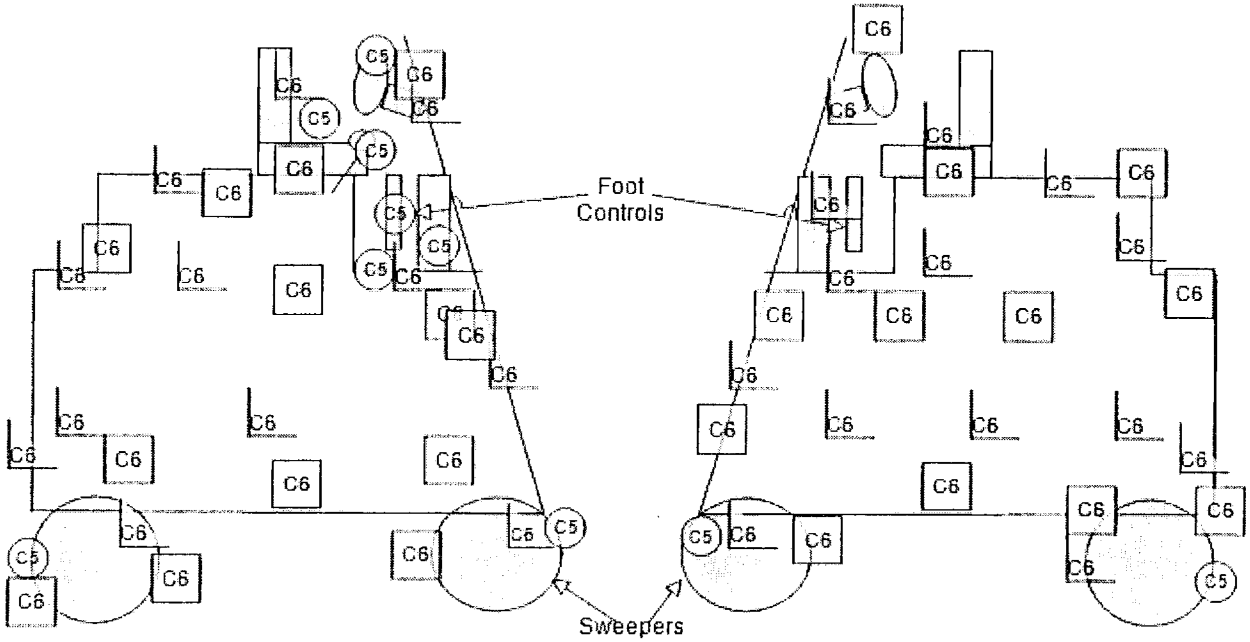
Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	**RSR No.** WP-1101526	Page 4 of 5

Map/Sketch



Map Name: Battery Operated Floor Sweeper			Map Description: Battery Operated Floor Sweeper Survey Locations					
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.	

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101526	

Air Sample Measurements

A1	GWP-1101526

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0456	N/A	N/A
PAM	ACHN2-0378	DTHN3-0800	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
2360	SCLL8-0486	DTLLP-0593	0.10
2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	6-3-11	M. McKenna

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-6-11	T. Terry

History

2011-06-02 03:49:27 - Submitted
2011-06-03 07:11:03 - UnSubmitted Correction
2011-06-03 07:12:53 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101537	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/2/2011	1700 / 1800	200 W / 2336 W / 2404 WB / N/A	WP-001/ Rev 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 in 2404WB. surveyed drums for pay loads DM0566/DM0567 IN ROW 27

Comments: TECH SMEARS WERE COUNTED IAW WRP1-OP-1230. LAWS WERE PERFORMED IAW WMP-350 SECTION 6.2. Drums were not moved due to wind speeds. Drums and pallets surveyed in accordance with survey plan # WRAP-RSP-016 REV 0

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

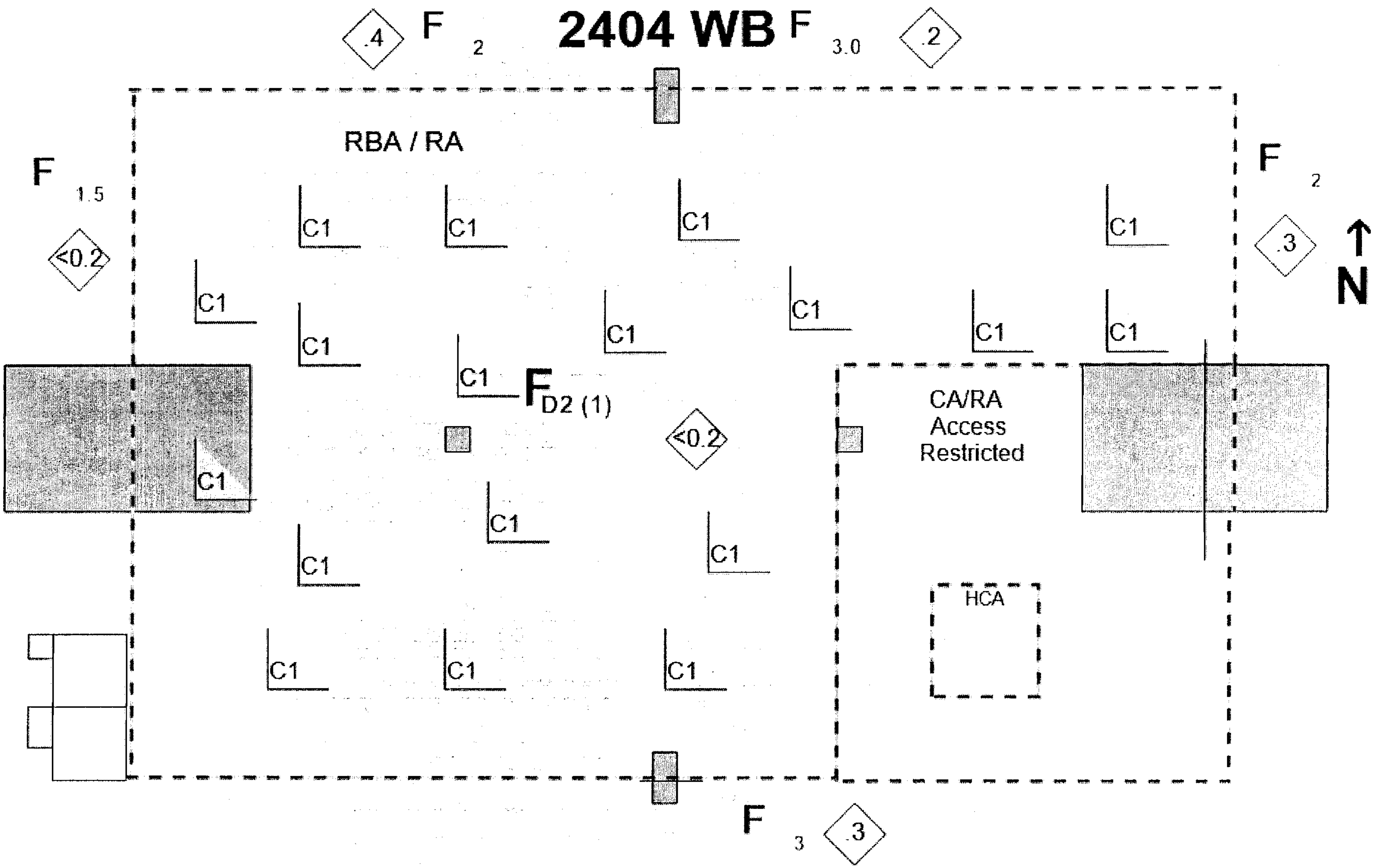
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	highest dose on WB outer wall	F	3	3	3	1	0.3	3.3	3.3
D2	general area dose rate	F	1	1	3	1	N/A	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of floors in WB (20% LAW)	50	0	N/A	N/A.	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	smears on drums and pallets(1 smear each)	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101537 COPY	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0039	DTEB9-0458	0.10
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	6-2-11	Noe Curiel

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-2-11	T. Terry

History

2011-06-02 10:29:48 - Submitted
2011-06-02 11:16:26 - UnSubmitted correction
2011-06-02 11:22:47 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101542

COPY

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/3/2011	0900 / 1400	200 WEST / 2404 WB / N/A / West side	WP-002/23

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: Drum moves
- ☐ Other: N/A

Description of Work/Comments:

Transfered 78 drums on 21 pallets from 2404WB to 2336W and 28 drums on 8 pallets from 2404WB to 2404WC.

Comments: Tech. smears were counted per WRP1-OP-1230. Laws were taken per WMP-350 section 6.2. Drums were surveyed out of 2404WB per radiological survey plan WRAP-RSP-016 rev 0. 2404WB west side is posted a RBA/RA.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	78 drums from 2404WB to 2336W	F	12	12	2	1	<0.2	12	12
D2	28 drums from 2404WB to 2404WC	F	15	15	2	1	<0.2	15	15

Contamination Measurements

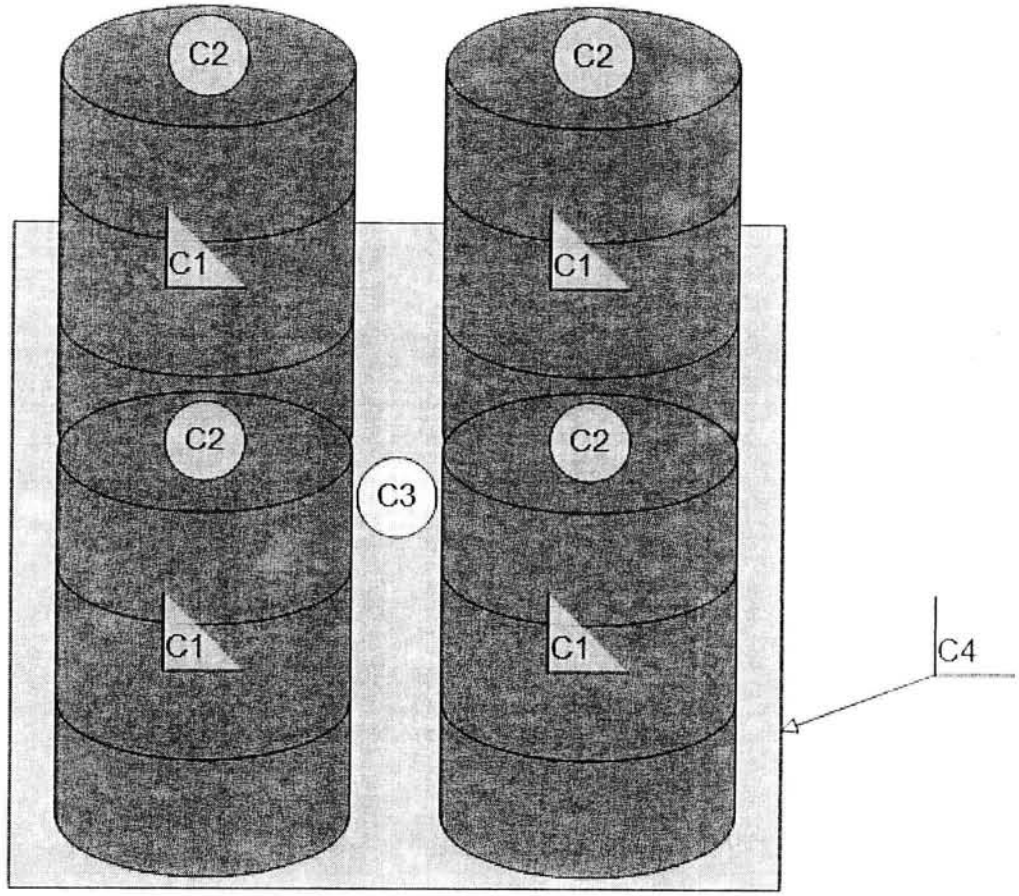
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's on 35% of each drum	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	Tech. smears on drums 1 per drum	150	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C3	Tech. smears on pallets 1 per pallet	150	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW's on 40% of bottom of pallets	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101542	COPY	

Map/Sketch



Map Name: Pallette with drums		Map Description: Pallette containing four waste drums						
Legend	# Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary					Note: Dose Rates in mrem/hr unless otherwise noted.			

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
GM	CMEB3-0072	DTHNC-0958	0.10
PAM	ACHN2-0411	DTHN3-0862	0.16
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stadelman, James	H6907254	6-7-11	James Stadelman

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-7-11	T. Terry

History

2011-06-03 02:08:19 - Submitted
2011-06-07 11:15:25 - UnSubmitted corrections
2011-06-07 02:36:33 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101543

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/3/2011	0800 / 1500	200W / 2404 WB / 2404 WC / NA	RWP 001/ REV 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, AND WP-W041
- ☑ Job Coverage: DRUM MOVEMENT
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003, AND WP-W041.
RECEIVED 23 SWB TRANSFER FROM CWC.
SURVEY 5 SWB'S FOR HERTR.
SURVEY OF 3 SWB'S FR SUPERHENC

Comments: Tech smears counted per WRP1-OP-1230. LAWS WERE TAKEN IN ACCORDANCE WITH WMP -350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	GEN AREA DOSE RATE INSIDE 2404 WC	F	1.0	1.0	2	1	<0.2	1	1
D2	MAX. DOSE RATE OUTSIDE 2404 WC	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	WP-W041 MAX. DOSE IN SUPERHENC	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D4	23 SWB'S FROM CWC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	5 SWBS FOR HERTR	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D6	3 SWB'SFOR SUPERHENC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

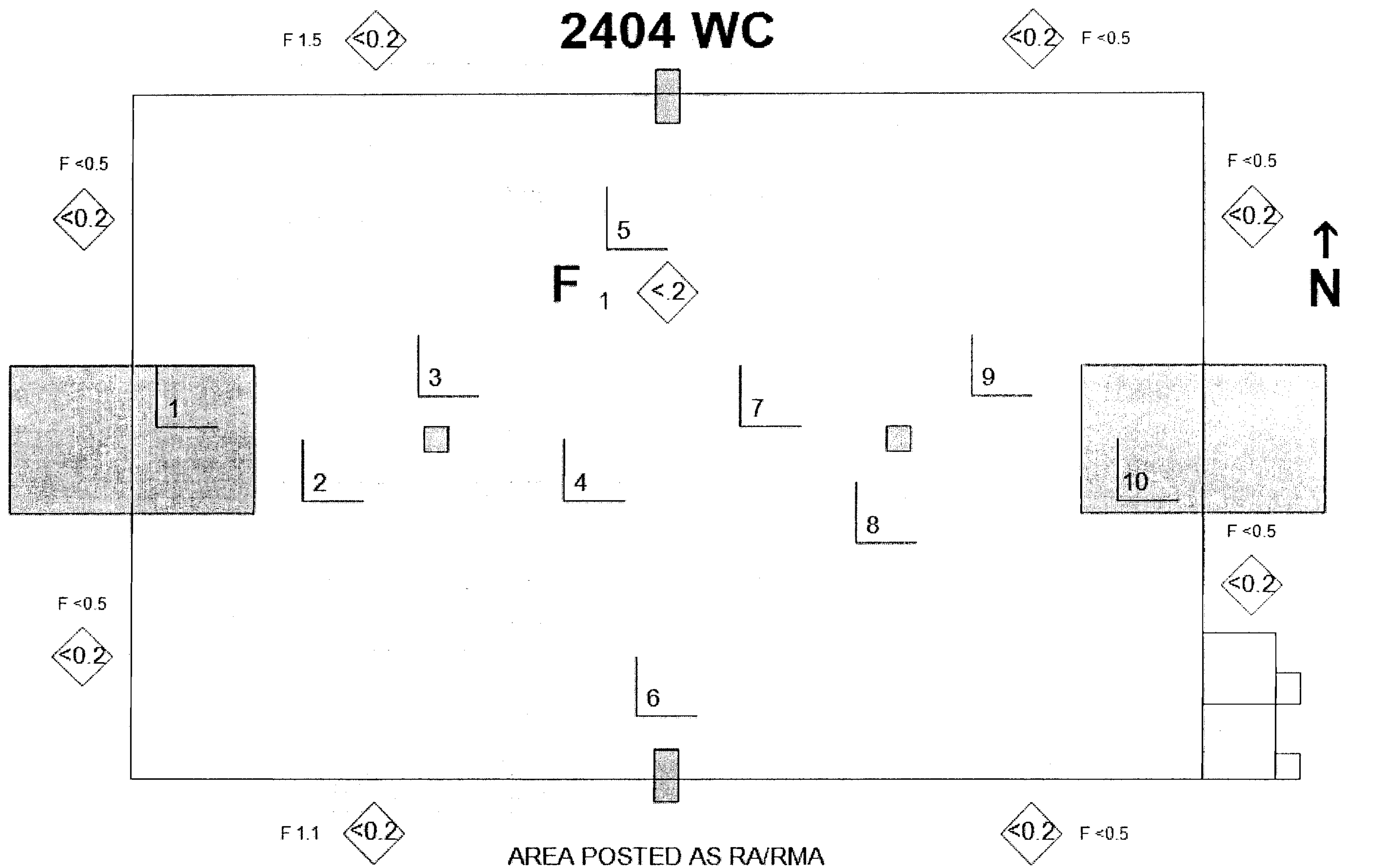
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOORS OF 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW OF SUPERHENC ~(40%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	10T/S TAKEN IN AND AROUND SUPERHENC	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW (50%) 3 SWB'S FOR SUPERHENC	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	LAW (50%) 5 SWB'S FOR HERTR	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C6	LAW (50%) 23 SWB'S FROM CWC	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101543

COPY

Map/Sketch

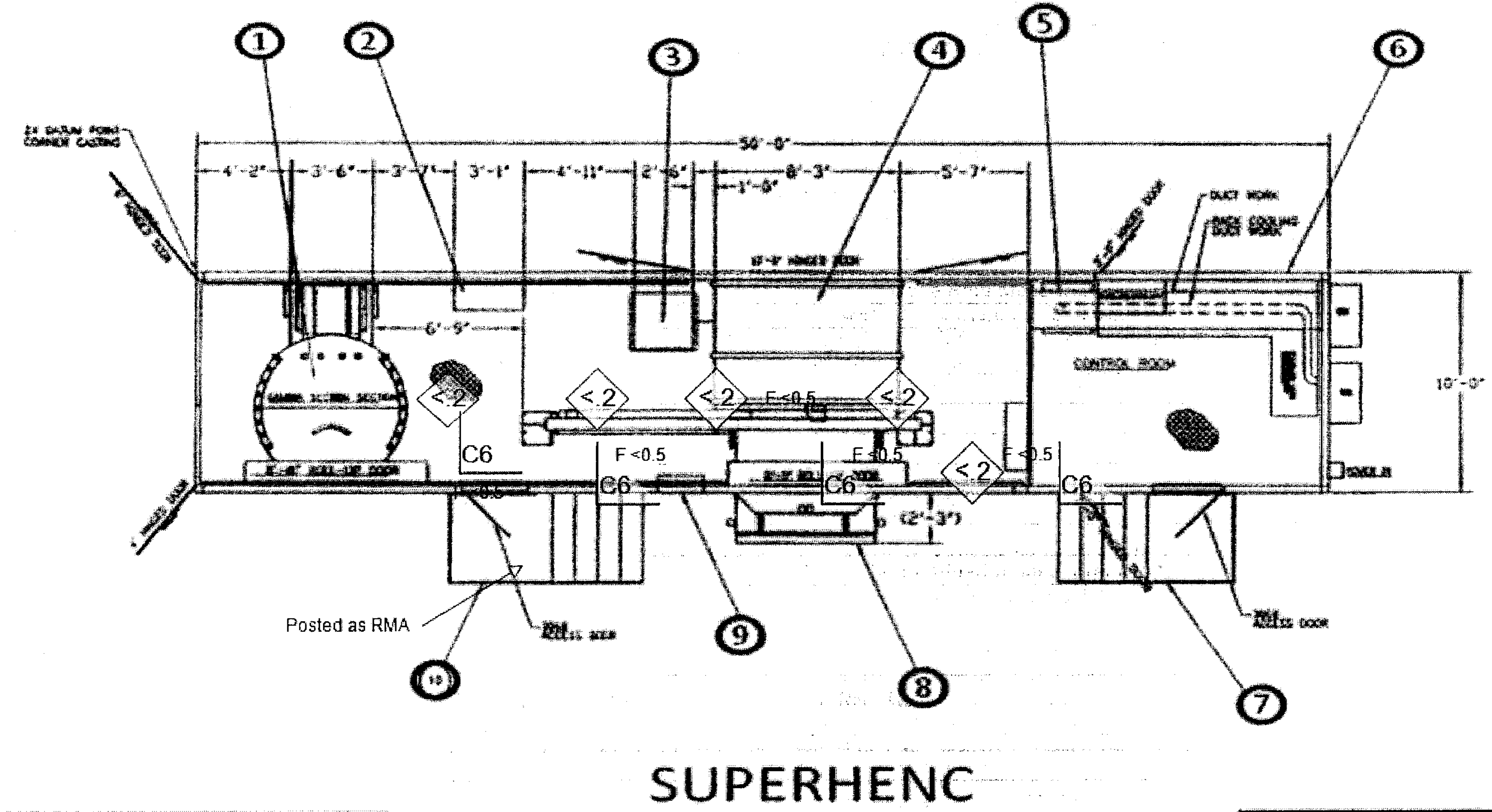


Map Name: 2404 WC	Map Description: WP-SH004

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Submitted: 06/07/2011 07:02:37 ~~OFFICIAL USE ONLY - EXEMPTION 6~~ A-6004-663-SS (Rev. 0)

Map/Sketch



Map Name: WP-W041			Map Description: Super HENC					
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101543

COPY

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
RO-20	ICEB4-1447	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
spaite, steven	h1667034	6-7-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-7-11	T. Terry

History

2011-06-03 02:52:53 - Submitted
2011-06-07 07:01:27 - UnSubmitted correction
2011-06-07 07:02:37 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101548

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/3/2011	0730 / 1430	200 W / 2404 WB / N/A / N/A	WP-611 Rev 3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

Shiftly survey of 2404 WB

Comments: All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

BETA DIRECT SURVEYS NOT PERFORMED DUE TO HIGH BACKGROUND.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

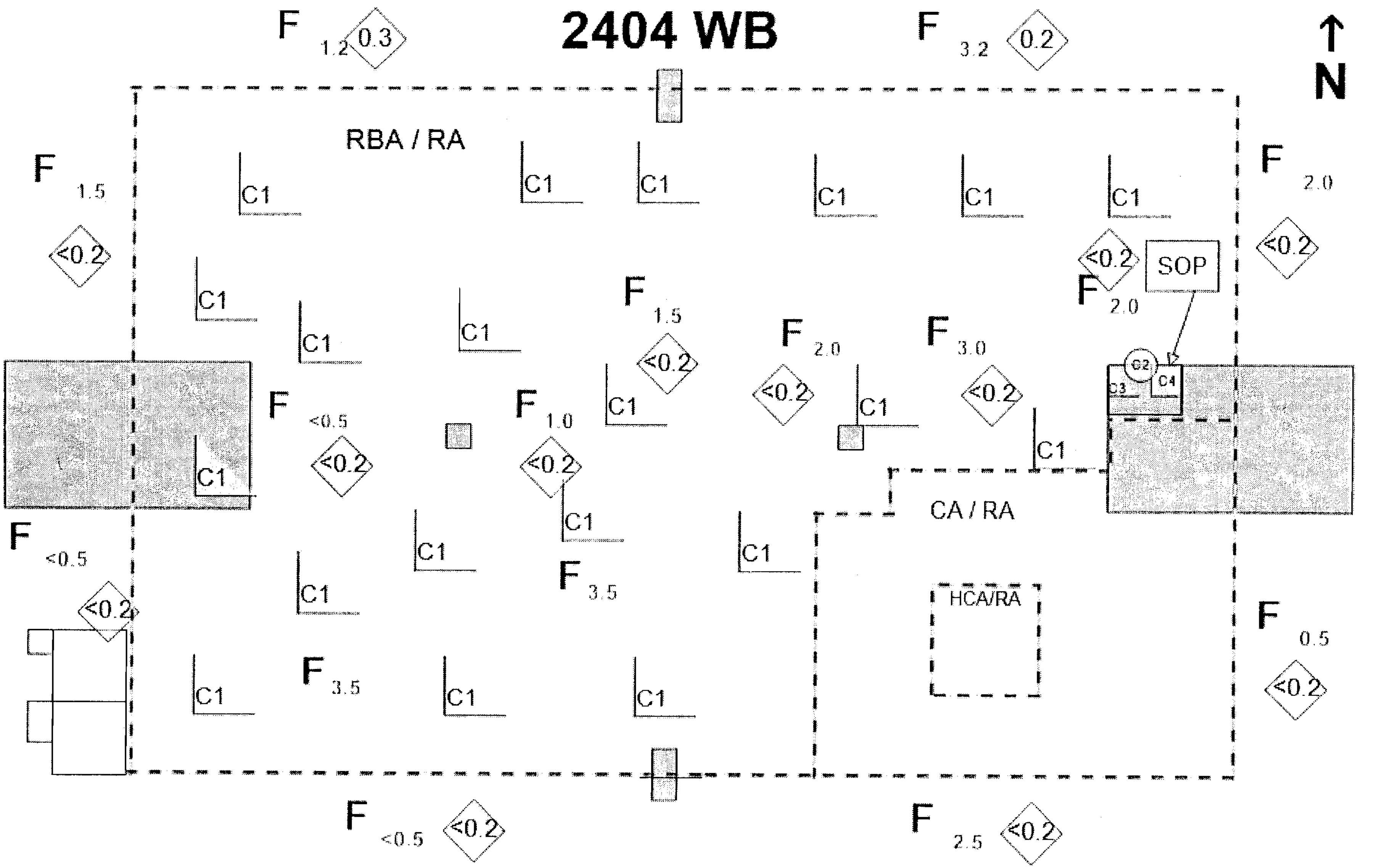
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX OUTSIDE 2404WB	F	3.2	3.2	3	1	0.2	3.4	3.4
D2	MAX GENERAL AREA INSIDE 2404WB	F	3.5	3.5	3	1	<0.2	3.5	3.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs 2404 WB FLOOR ~ 40% OF RBA AREA	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	T/S OF CA SOP	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	LAW OF CA SOP 100%	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	DIRECT SURVEY OF CA SOP 100%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†

Map/Sketch



Map Name: 04 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101548	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Bumble Bee CP	ICHN2-0009	N/A	N/A
PAM	ACHN2-0166	DTHN3-0037	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
AN/PDR-70 Snoopy	NMNR1-0045	N/A	N/A
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Tubbs, Duane	h0106412	6-13-11	[signature]

Reviewers

Name	HID	Date	Signature
C Wieloang	6197614	JUN 22 2011	[signature]

History

2011-06-06 04:11:26 - Submitted
2011-06-13 03:37:28 - UnSubmitted Corrections
2011-06-13 03:39:31 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101553

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/6/2011	0900 / 1500	200 WEST / 2404 WB / N/A / West side	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☑ Job Coverage: DRUM TRANSFER
- ☐ Other: N/A

Description of Work/Comments:

Transfered 74 drums on 19 pallets from 2404WB to CWC.
RECEIVED 6 DRUM TRANSFER FROM CWC.
SHIFTLY SURVEY OF 2404 WB.

Comments: Tech. smears were counted per WRP1-OP-1230. Laws were taken per WMP-350 section 6.2. Drums were surveyed out of 2404WB per release plan WRAP-RSP-016 rev 0. 2404WB west side is posted a RBA/RA.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	74 drums from 2404WB CWC	F	25	25	2	1	<0.2	25	25
D2	6 DRUMS FROM CWC TO 2336W	F	6	6	2	1	<0.2	6	6
D3	HIGHEST DOSE AT 2404WB EXTERIOR	F	4	4	2	1	0.2	4.2	4.2
D4	GENERAL AREA DOSE RATE 2404 WB INTERIOR	F	1	1	2	1	<0.2	1	1

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's on 74 drums to CWC (~50%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	Tech. smears (1 each) on 74 drums to CWC	150	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C3	Tech. smears (1 each) on 19 pallets to CWC	150	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW's on bottom of 19 pallets to CWC (~50%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	LAW's of 6 drums from CWC. (~50%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	LAW'S OF 2404 WB FLOORS (~25%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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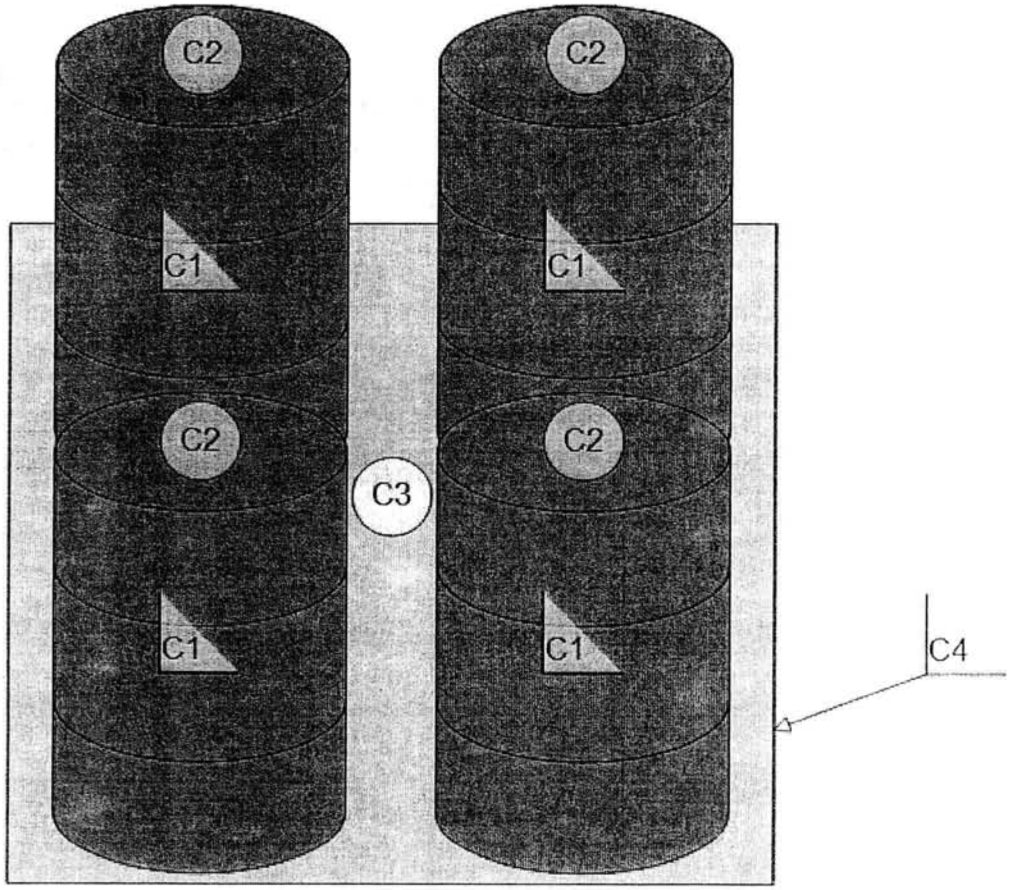
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101553

Map/Sketch

PALLET WITH 4 DRUMS

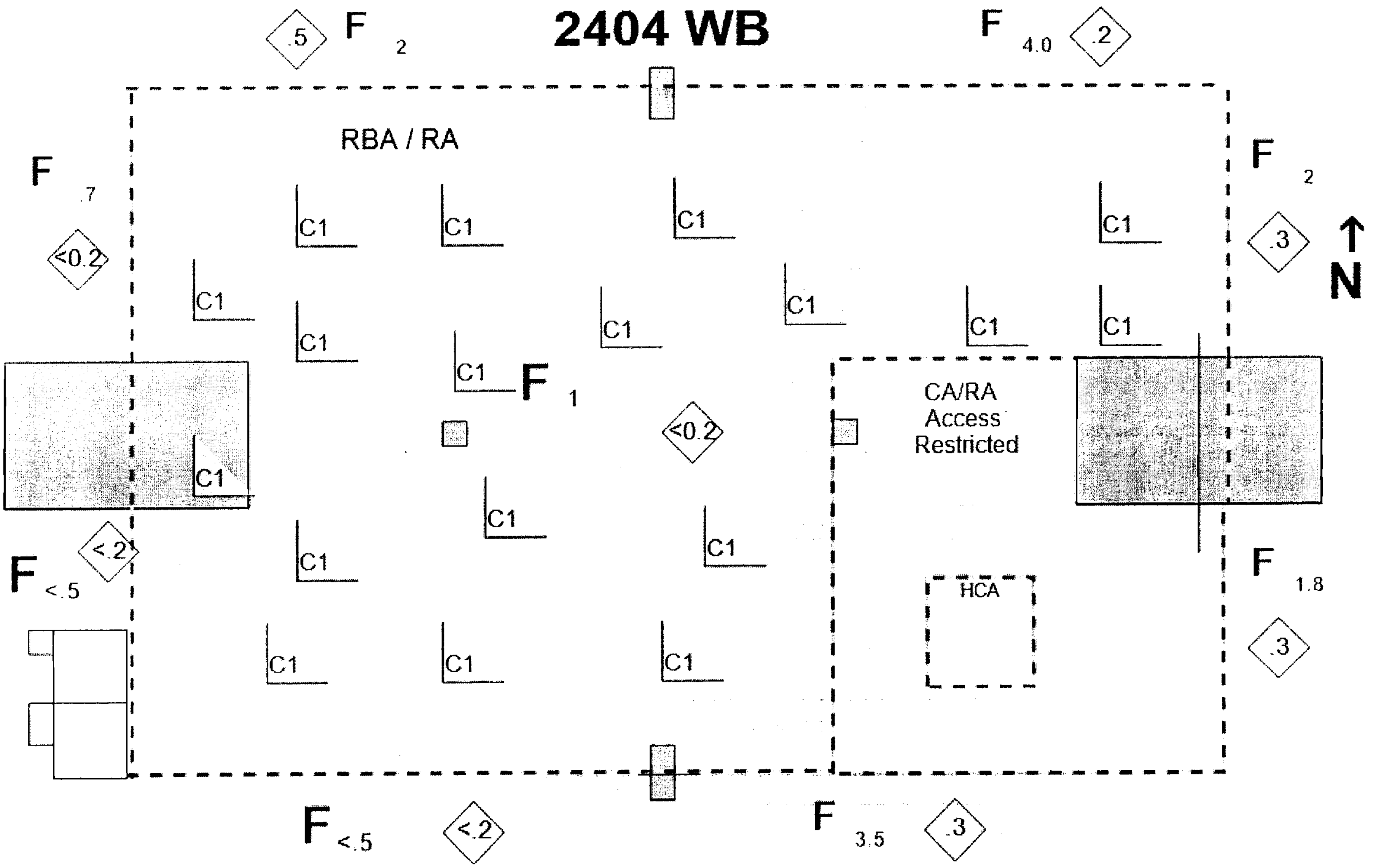


Map Name: MAP			Map Description: MAP						
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101553

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101553	COPY	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0682	DTHN3-0948	0.16
GM	CMEB5-0013	DTEB9-0344	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
spaite, steven	h1667034	6-7-11	

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-7-11	T. Terry

History

2011-06-06 02:57:07 - Submitted
2011-06-07 07:03:55 - UnSubmitted CORRECTION
2011-06-07 07:05:30 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101554

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/3/2011	0830 / 1430	200 WEST / 2336 / 2404 WB / N/A	WP-611/Rev 3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: Downpost of CA
- [ ] Other: N/A

Description of Work/Comments:

Downpost of part of CA to allow removal of drums in rows 2 and 4 of 2404WB. Survey plans WRAP-RSP-015, rev 1; RSP-WP-10-001-01.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
TECH SMEARS COUNTED PER WRP1-OP-1230.
Directs for beta not taken due to high background.
Not all smears and directs are shown on map due to limited space; 130 total smears taken, about every three feet apart; roughly 60% of area direct surveyed.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

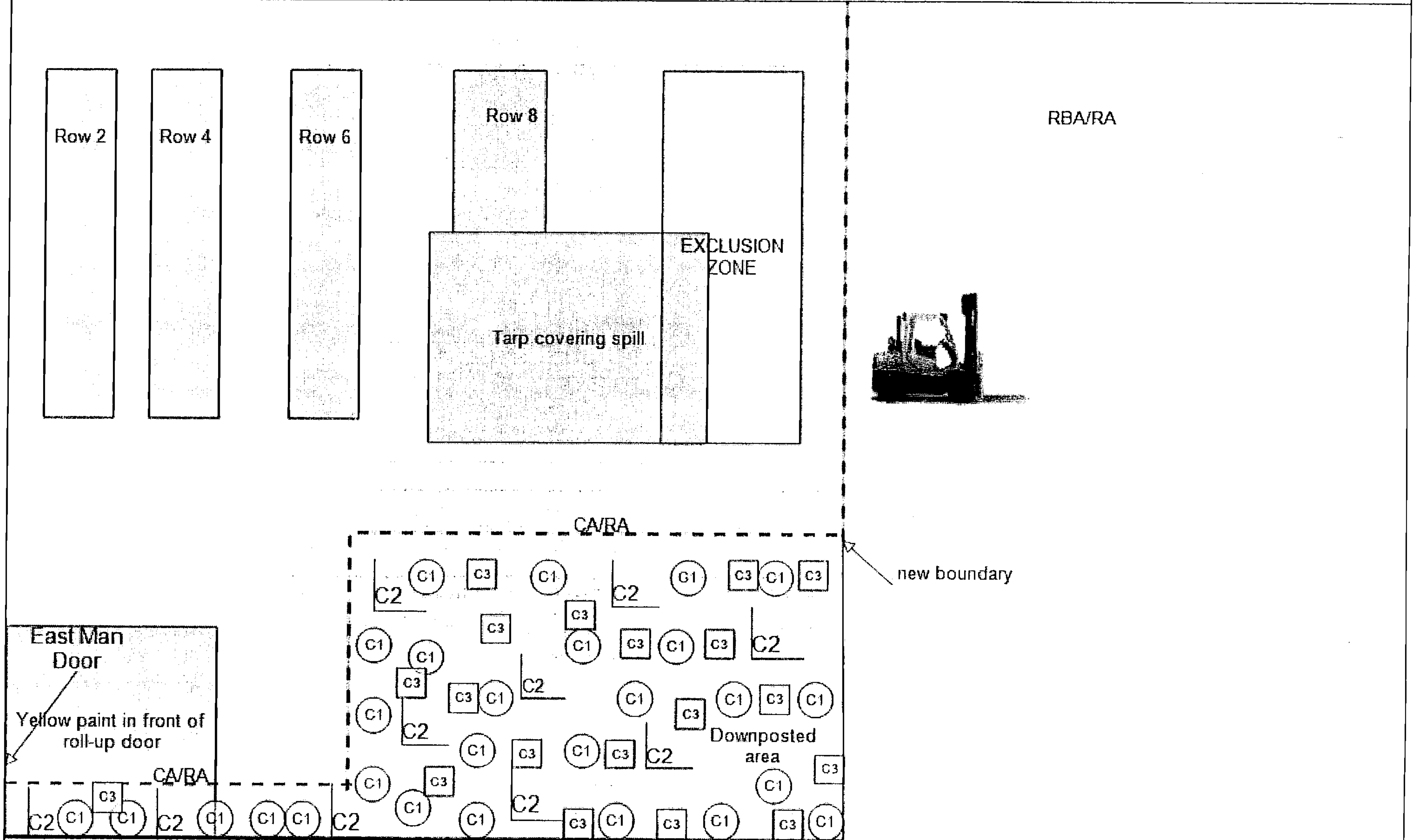
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	1 Laundry Bag	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D2	1 Laundry Bag	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	130 total smears throughout downpost area	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	100% LAW of downpost area	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	60% directs of downpost area	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C4	Release of instruments (2 smears per PAM, 1 smear on CP)	50	0	N/A	0	N/A†	TT 6-9-11 ~~<500†~~ <100	N/A	N/A	<1000†	<20†
C5	1 laundry bag (2 smears)	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	LAW of instruments and laundry bag (60%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

Map/Sketch



Map Name: WB RECOVERY 2ND ENTRY | Map Description: WB RECOVERY 2ND ENTRY

Legend # Direct Measurement | Air Sample | Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101554

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
CP	ICHN2-0009	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Ludlum 2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36
GM	CMEB5-0013	DTEB9-0344	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	6-9-11	Nadia Rhodes

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-9-11	T. Terry

History

2011-06-07 02:54:25 - Submitted
2011-06-08 02:59:26 - UnSubmitted Changes
2011-06-08 03:01:18 - Submitted
2011-06-09 03:04:47 - UnSubmitted added RSP
2011-06-09 03:09:26 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101558	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/6/2011	0900 / 1430	200 W / 2336 W / 2404 WB / N/A	WP-611/REV.3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001 REV.1
  - Released to: RADCON
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [ ] Job Coverage: N/A
- [x] Other: Down post CA per WRAP-RSP-015-REV 1

Description of Work/Comments:

Surveyed for down post of CA in WB, and surveyed 38 drums from row 6.

Comments: 38 drums surveyed out of row 6 and CA per WRAP-RSP-015. See Map/sketch area for list of drum numbers. HEDL drum marked with asterik in map section. Spots on floor with counts between 100cpm alpha to 400cpm alpha were deconned to less than detectable, no removable. Surveyed 1 laundry bag and one bagged roll of paper. All smears taken were 100 smears shown on map plus 50 on horizontal surfaces(tables, drums and walls). Alpha direct surveys and LAWs taken in same locations as smears. Tech smears counted per WRP1-OP-1230. LAWs performed per WMP-350 sec. 6.2. Background too high for beta/gamma directs.

'Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose on 2 drums and a laundry bag and bagged roll of paper	C	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	smears of 2 waste drums/ L. bag/ roll of paper (2 each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	LAW of drums/ L. bags/ roll of paper (65%)	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C3	smears of 38 drums/10 pallets in row 6 (4 each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C4	LAW of 38 drums (70%)	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C5	150 smears of floor and surfaces in CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C6	LAW of CA floor (60%)	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW
C7	directs of floor and horizontal surfaces	N/A	0	N/A	0	N/A†	<500†	N/A	6	NA†	NA†
C8	smears/directs on instruments in CA (2 smears each)	N/A	0	N/A	0	N/A†	<100†	N/A	6	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C9	LAWs of instruments (100%)	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A/LAW	<D/LAW

COPY

Map/Sketch

DRUMS:		INSTRUMENTS
0006482	0044402	CP
*0025090	0046705	ACHN2-0166
0025152	0047502	DTHN3-0037
0025267	0047513	
0028771	0047683	ACHN2-0378
0030842	0047724	DTHN3-0800
0030963	0052461	
0031570	0057114	ACHN2-0290
0033032	0057167	DTHN3-1021
0034318	0057371	
0035693	0057552	
0035716	0057995	
0035749	0058772	
0038312	0059664	
0038352	0061104	
0039573	0061519	
0041875	9600467	
0041981		
0044043		
0044060		
0044346		

COPY

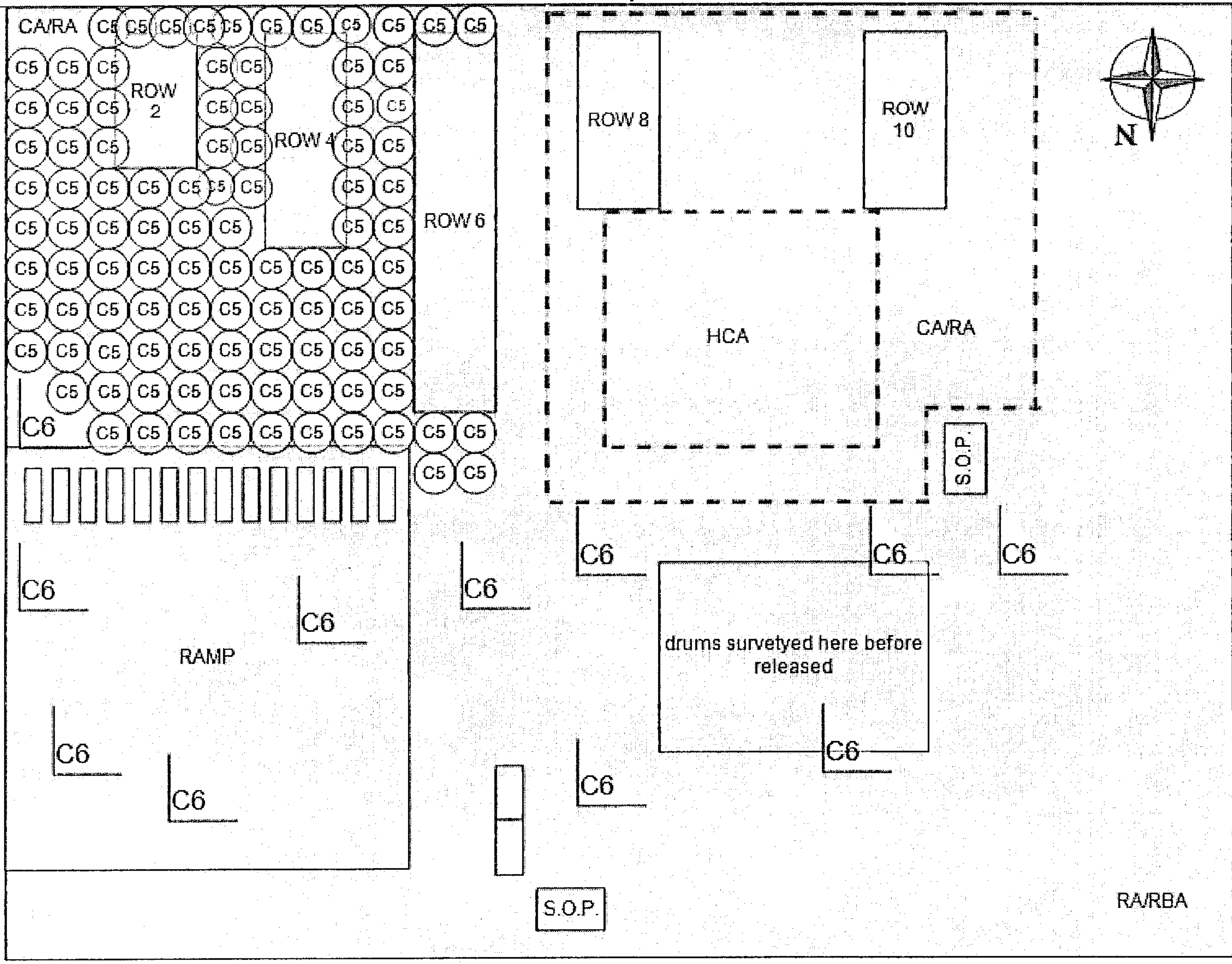
Map Name: Drums Released from row 6
Map Description: List of Drums/ Instruments used in CA

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101558

Map/Sketch



Map Name: map of WB S.E. corner	Map Description: 100 smears on WB CA floor

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101558

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	6-27-11	Noe Curiel
Wilhelm, Jeffrey	h0590882	6/27/11	[illegible]

Reviewers

Name	HID	Date	Signature
So Mellgren	0066236	6-29-11	[illegible]

History

2011-06-13 08:29:08 - Submitted
2011-06-27 03:34:33 - UnSubmitted corrections
2011-06-27 03:37:27 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101562

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/6/2011	1530 / 2330	200 WEST / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

☐ Material Release
Number: N/A
Released to: N/A
☐ Ram Shipment: N/A
☑ Required Task: WP-SH003 & WP-SH004
☑ Job Coverage: Drum Movement; SWB Movement
☐ Other: N/A

Description of Work/Comments:
WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Survey of 7 drum transfer from 2404 WC to 2336 W.

Survey of 2 SWB transfer from 2404 WC to SuperHENC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

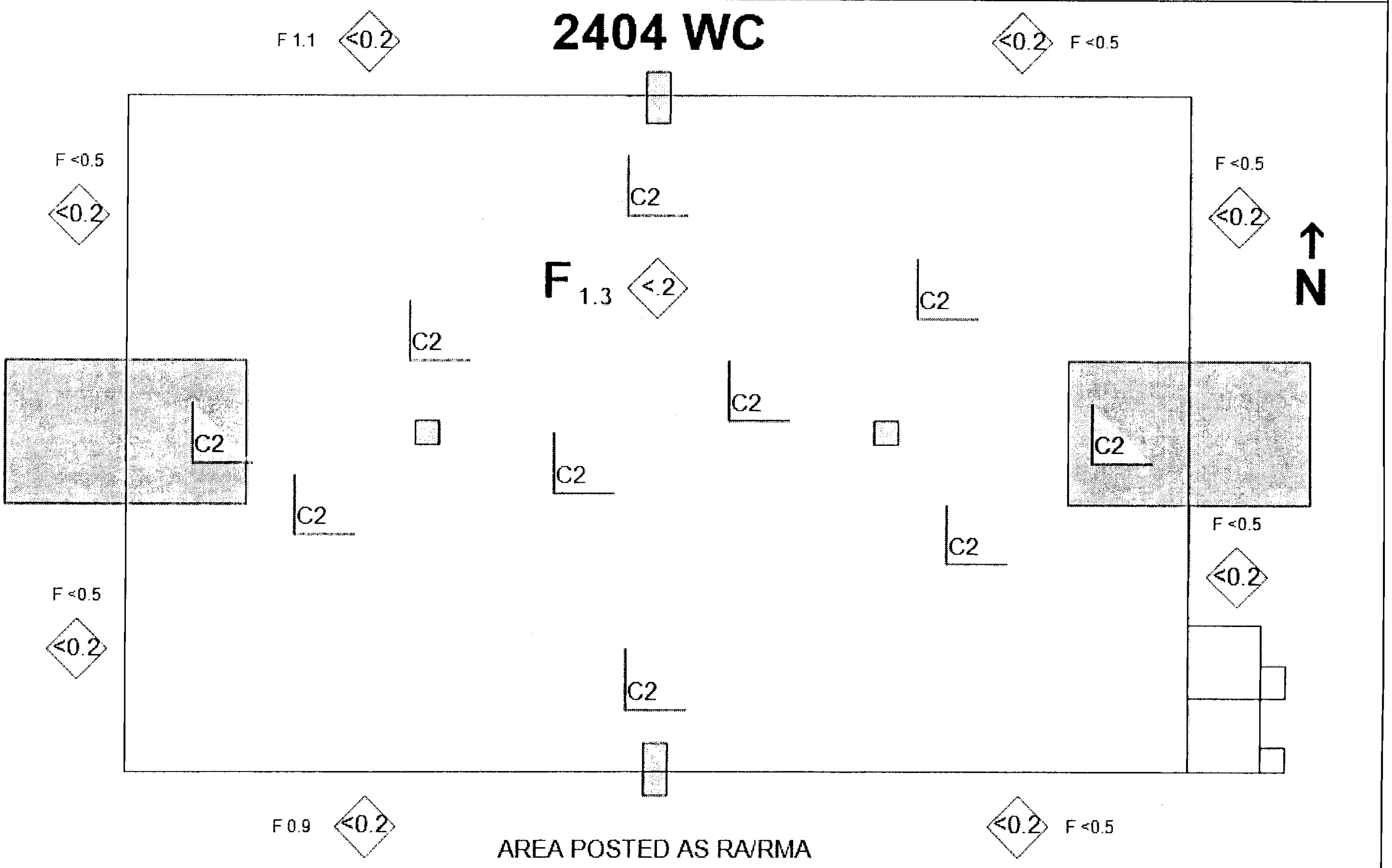
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1	1	3	1	<0.2	1	1
D2	2404 WB highest dose rate of exterior walls	F	2.6	2.6	3	1	<0.2	2.6	2.6
D3	2404 WC highest dose rate of general work area	F	1.3	1.3	3	1	<0.2	1.3	1.3
D4	2404 WC highest dose rate of exterior walls	F	1.1	1.1	3	1	<0.2	1.1	1.1
D5	Highest dose rate of 7 drum transfer	F	1.3	1.3	3	1	<0.2	1.3	1.3
D6	Highest dose rate of SWB transfer	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 7 drum transfer	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	LAW of 2 SWB transfer	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

Map/Sketch



Map Name: 2404 WC | Map Description: WP-SH004

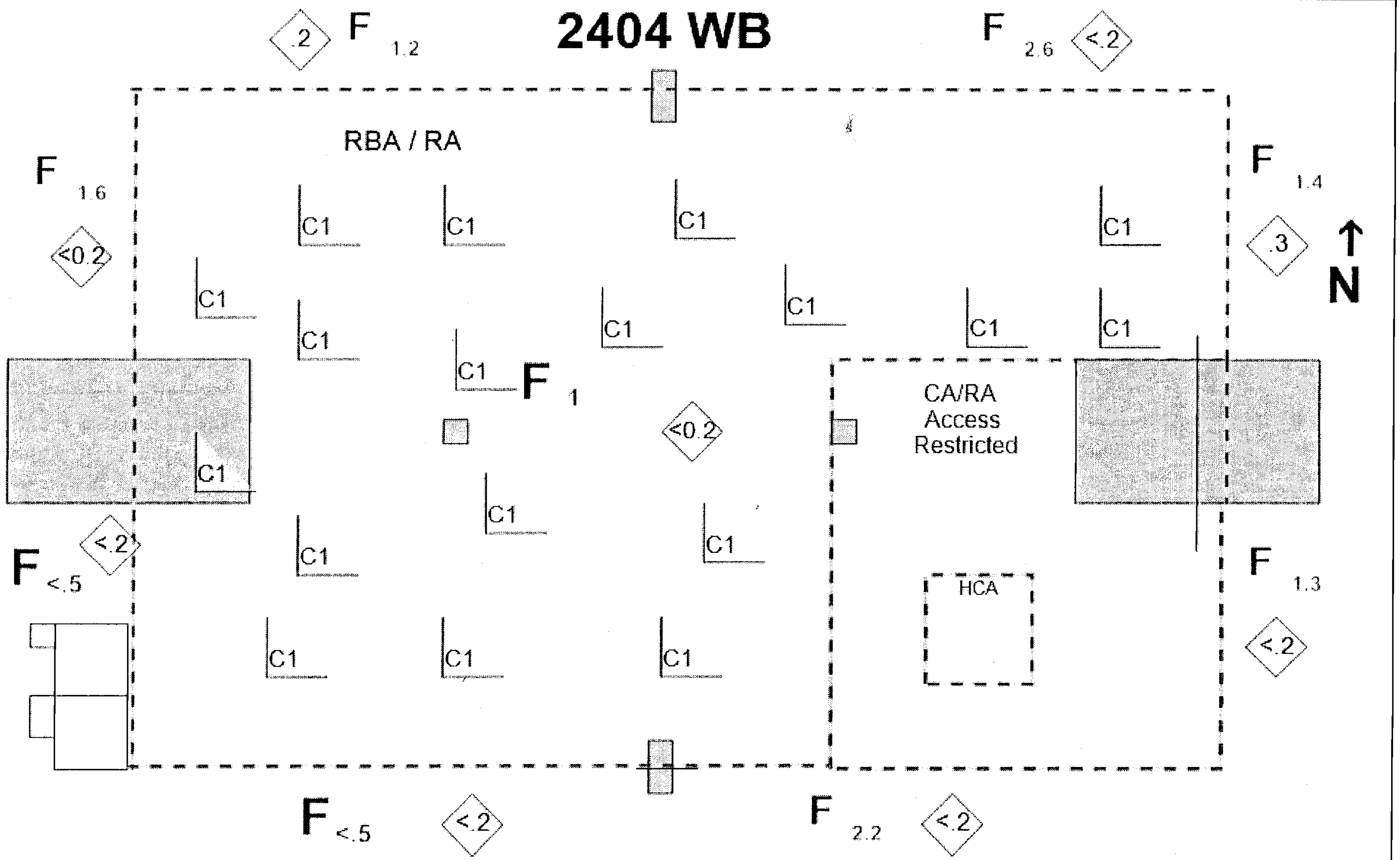
Legend	[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101562	

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEBB-0136	DTHNC-0343	0.10
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-6-11	B. Stancil

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-7-11	T. Terry

History

2011-06-06 11:17:52 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101563

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/6/2011	1630 / 2330	200 W / 2404 Complex / WB /	WP-611 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RSP-016 Rev 0
- [ ] Other: N/A

Description of Work/Comments:

Survey of 25 Drums and 7 pallets in WB per WRAP-RSP-016 . Drums to be moved to 2336W on 6-7-2011. See pg 2 for list of drums surveyed.

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Tech Smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Field Dose of 25 Drum Shipment	F	6	6	2	1	<0.2	6	6

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	25 Drums (1 T/S Per Drum)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	7 Pallets (1 T/S Per Pallet)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	LAWs @ 40% of each Drum	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	LAWs @ 20% of each Pallet	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101563	

Map/Sketch

Drums Surveyed:

0036661, 0048336, 0048814,
0048815, 0048900, 0049161,
0050858, 0051010, 0054968,
0055170, 0054969, 0056692,
0061351, 0062207, 0071644,
0061300, 0062290, 0062356,
0075951, 0079424, 0081193,
0050181, Z77-A3283, Z77-A3335,
0032704

COPY

Map Name: WB DRUMS	Map Description: List of Surveyed Drums in 2404 WB

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101563

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0033	DTHNC-0328	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0065	DTLLC-0075	β0.413α0.364

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	6-6-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-6-11	T. Terry

History

2011-06-06 10:15:43 - Submitted
2011-06-06 10:16:01 - UnSubmitted
2011-06-06 10:16:56 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101574

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/7/2011	0900 / 1500	2336 W / 2404WB / / 2404WB East End	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RP-11-03
- ☑ Other: WRAP-RSP-015 Rev 1

Description of Work/Comments:

Survey of drums in row 6 being moved out of the CA to the RBA per survey plan WRAP-RSP-015 Rev 1.

Comments: Tech smears taken per WRP1-OP-1230.
LAWs performed in accordance with WMP-350 section 6.2.
All drums surveyed out listed in map/sketch area.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate	F	3	3	2	1	N/A	3	3

Contamination Measurements

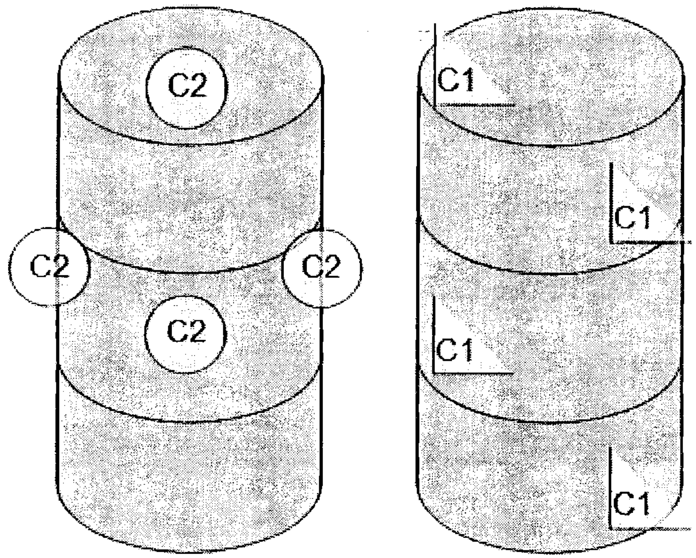
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of each drum/pallet (~25% of each pallet, ~50% of each drum)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C2	Tech smears of drums/pallet (4 smears per drum, 4 smears per pallet)	100	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

Map/Sketch

Drums:

0006502	0035452	9500521
0006504	0038666	9600270
0020117	0038867	9600408
0020155	0038923	9600412
0020157	0039371	9600417
0023471	0039411	9703401
0025129	0042063	
0026665	0043016	
0028258	0043128	
0028282	0044150	
0028395	0044815	
0028599	0044830	
0028768	0045078	
0028792	0046366	
0028846	0046679	
0028894	0047457	
0029878	0047499	
0029943	0047806	
0029944	0047844	
0029946	0053424	
0030785	0057342	
0030841	0057357	
0031003	0058105	
0032034	0059660	
0033048	0059808	
0033253	0061518	
0033730	0061731	
0034367	0062043	
0034372	9400789	



Typical Drum Survey

Map Name: Survey of drums out of the CA

Map Description: List of drum #s

Legend: # Direct Measurement | Air Sample | Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101574

Air Sample Measurements

Smear Sample Measurements

S1	WP-1101574

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-0427	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
Tennelec "A"	S5-XLB 75063	1430	α0.25 β0.39
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
GM	CMEB3-0033	DTHNC-0328	0.10
RO-20	ICEB4-1448	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	**h0590882**	6/23/11	[signature]
spaite, steven	h1667034	6-23-11	[signature]
McKenna, Melanie	h9032270	6-23-11	Melanie McKenna

Reviewers

Name	HID	Date	Signature
CWieland	6197614	JUN 23 2011	[signature]

History

2011-06-07 03:47:53 - Submitted
2011-06-10 01:08:58 - UnSubmitted Correction
2011-06-10 01:10:37 - Submitted
2011-06-23 06:48:37 - UnSubmitted Corrections

2011-06-23 06:49:00 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101576

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/7/2011	1230 / 1330	200 W / 2336 W / 2404 WB / N/A	WP-611/REV.3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 Completed.

Comments: All technical smears counted in accordance with WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.
BETA DIRECTS OF S.O.P.NOT PERFORMED DUE TO HIGH BACKGROUND. DIRECT SCAN OF LAWs AND T.S. PERFORMED IN SHIELDED CAVE DUE TO HIGH BACKGROUND.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX OUTSIDE 2404WB	F	3	3	2	1	0.2	3.2	3.2
D2	MAX GENERAL AREA INSIDE 2404 WB	F	2.5	2.5	2	1	<0.2	2.5	2.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWs 2404 WB FLOOR ~ 40% OF RBA AREA	300	1	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C2	T/S OF CA SOP	300	1	N/A	N/A	N/A†	N/A†	10	10	<1000†	<20†
C3	LAW OF CA SOP 100%	300	1	N/A	N/A	N/A†	N/A†	10	10	<D/LAW†	<D/LAW†
C4	DIRECT SURVEY OF CA SOP 100%	N/A	0	N/A	0	N/A†	<500†	N/A	10	N/A†	N/A†

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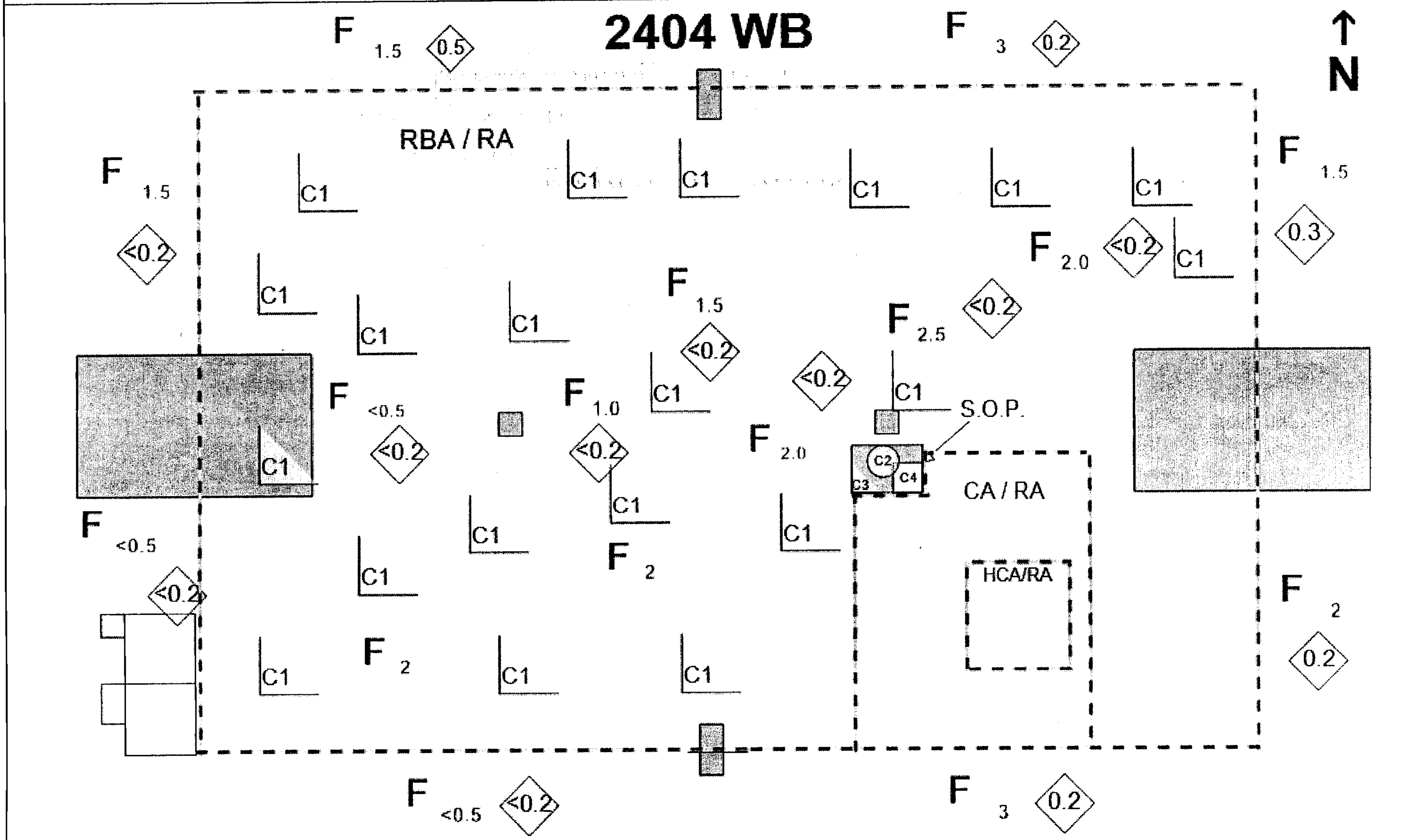
CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101576

Map/Sketch



Map Name: 04 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/09/2011 07:33:44

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101576

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
Ludlum 2360	SCLL8-0466	DTLLP-0573	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	6-13-11	Noe Curiel

Reviewers

Name	HID	Date	Signature
C. Wielang	6197614	6-13-11	C. Wielang

History

2011-06-07 03:27:28 - Submitted
2011-06-09 07:27:14 - UnSubmitted corrections
2011-06-09 07:33:44 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101577	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/1/2011	1300 / 1430	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☑ Job Coverage: WRAP-RSP-016/0
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 in 2404WB. Survey of 27 TRUPACT drums and associated pallets that were in 2404 WB. Drums located in RBA/RA. Survey based on WRAP-RSP-016/0.

Comments: Drums surveyed included those that would eventually make up TRUPACT 14-Pack Payloads DMO531 & DMO532.

LAWs of the bottom of pallets associated with the listed drums and dose rates of payloads to be performed in the future when drums are staged for movement.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose (27 drums)	F	9	9	2	1	<0.2	9	9
D2	Highest Dose (WP-SH003)	F	3.2	3.2	2	1	0.3	3.5	3.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech smears of 27 TRUPACT drums in various locations of 2404 WB (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	LAWs (~40%) of 27 TRUPACT drums in various locations of 2404 WB	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	Tech smears of pallets associated with the above drums (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C4	LAWs (~10-50%) of accessable top and sides of pallets associated with the above drums	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	WP-SH003 LAW's of 80% of RBA	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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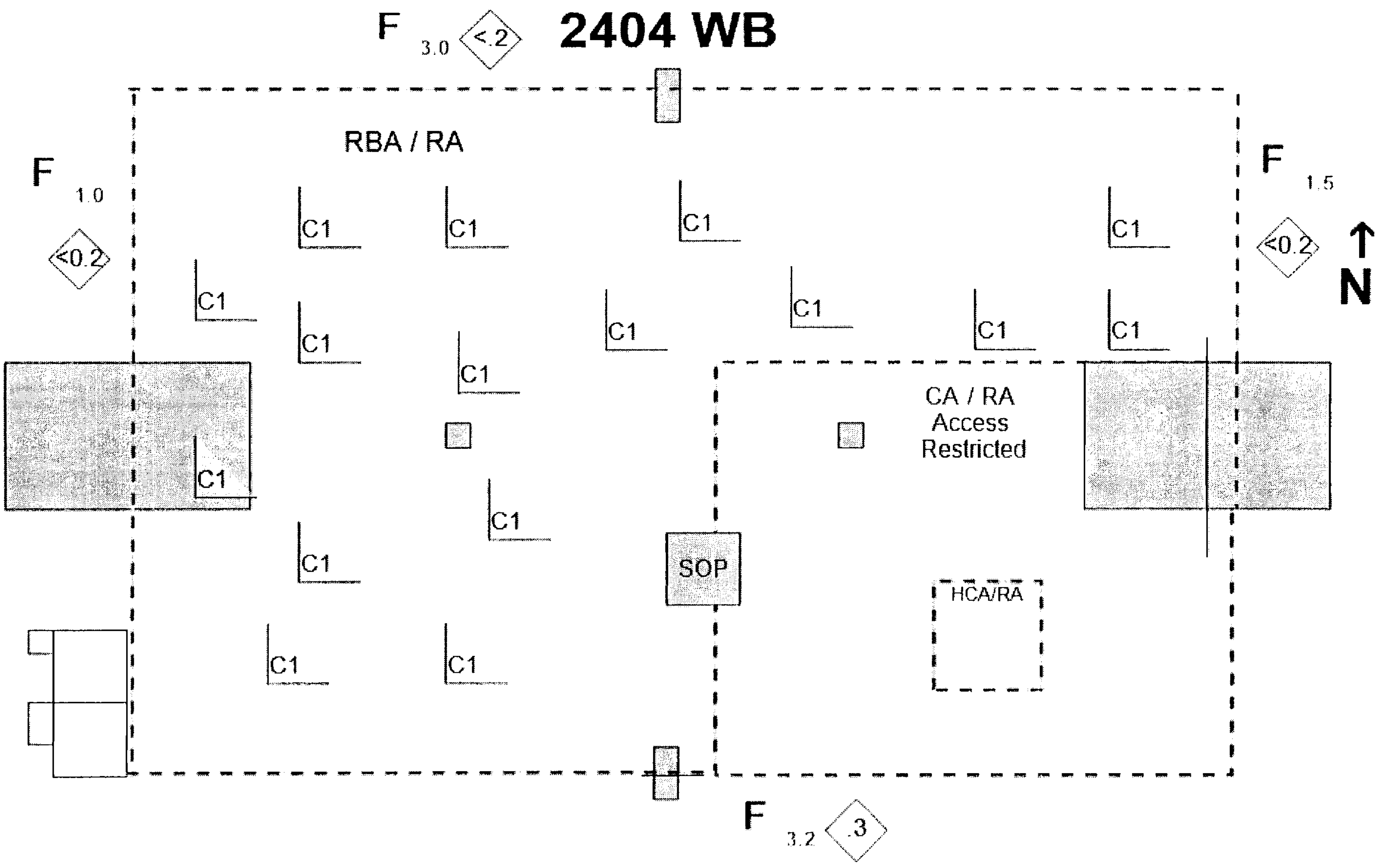
Map/Sketch

Drums surveyed:
0069058
0069144
0069191
0070091
0070468
0070496
0070506
0071053
0071404
0071421
0071524
0071913
0069944
0070630
0071043
0071983
0072627
0073350
0074548
0074559
0074572
0074626
0074659
MW10800080
Z72-8-54
0058617
0058232

Map Name: drums | Map Description: drums

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101577	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO-20	ICEB4-1448	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0292	DTHNC-0890	0.10
2929	6-8-11 SCLL~~2~~4-0064	DTLLC-0074	β0.38 α0.35
Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	6-8-11	Nadia Rhodes

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-8-11	T. Terry

History

2011-06-07 02:53:27 - Submitted
2011-06-08 02:58:08 - UnSubmitted Changes
2011-06-08 02:58:41 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101581	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/7/2011	0800 / 1530	200 WEST / 2404 WB / N/A / CA on SE Corner of Building	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: RadCon
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [x] Other: Surveys of drums, laundry bag & waste drum

Description of Work/Comments:

Decon of non-slip patches from east man-door westward down ramp and downpost SE corner of 2404 WB to smaller CA/RA surrounding inner HCA. Performed according to Recovery Plan WRAP-RP-11-03.

Weekly survey of drums # 0053165 and 0053739 in row 4 of 2404 WB.

Surveys of miscellaneous items used in CA/RA during work.

Comments: This survey includes surveys for release of 3 PAMS and 1 RO-20 used in the CA, 1 laundry bag & 1 waste drum. Instruments released according to RSP-WP-10-001-01.

The weekly contamination survey on the drums # 0053165 & 0053739 in Row 4 of 2404 WB has not been done since the spill in 2404 WB in late April 2011 due to inaccessabilty and priority issues.

Direct Beta/Gamma (B/G) surveys and B/G surveys on LAWs not performed due to high background.

*Note: Tech smears and direct surveys of SE corner of 2404 WB in isles around rows 2, 4 & 6 performed 6/6/11 see survey WP-1101554.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General area dose rate in work area (highest)	F	3.0	3.0	2	1	N/A	3	3
D2	Dose rate of laundry bag	C	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D3	Dose rate of laundry bag	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D4	Dose rate of room waste drum #0082479	C	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D5	Dose rate of room waste drum #0082479	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5

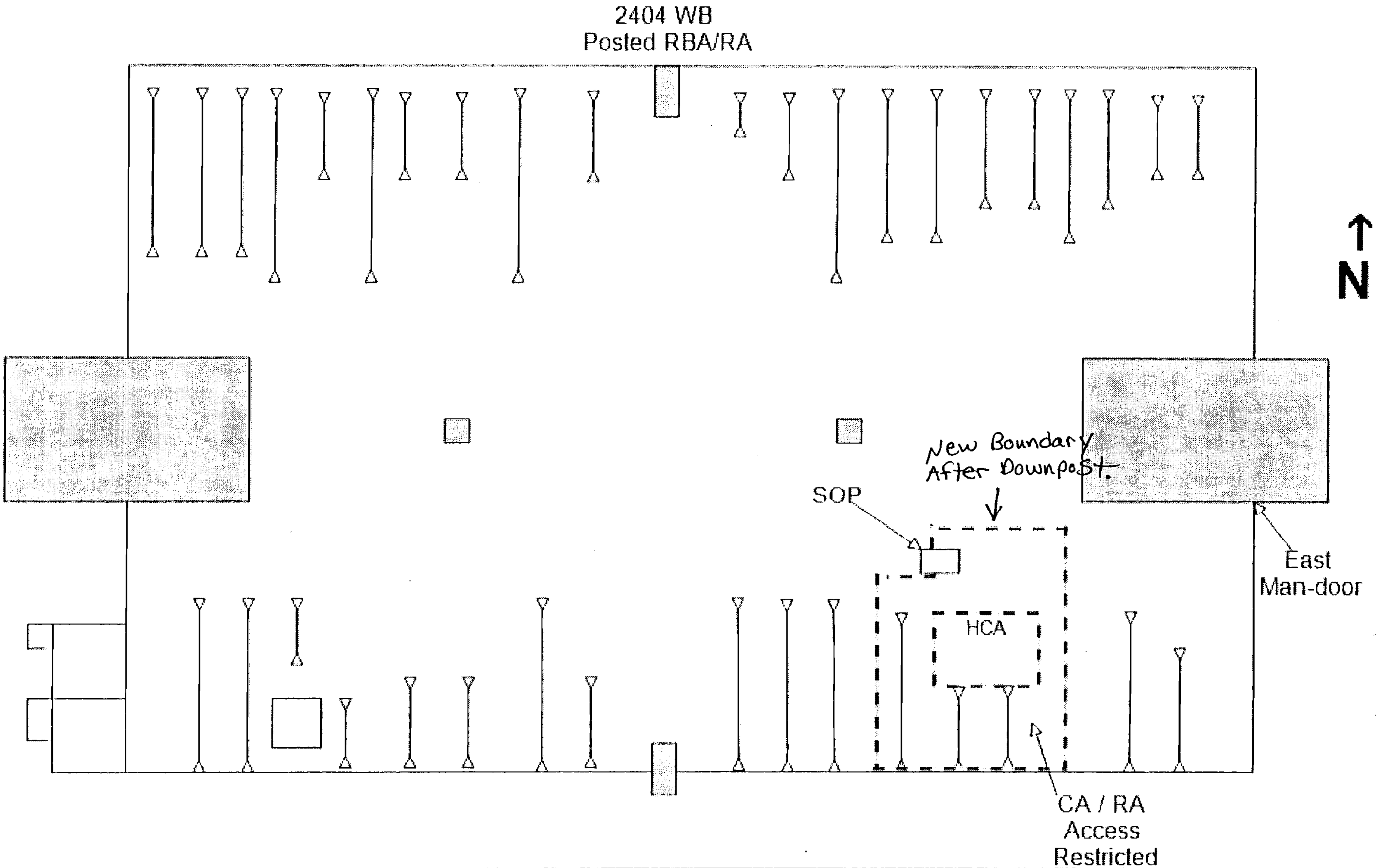
No.	Description	Contamination Measurements † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct survey of tape (covering Alpha contamination) non-slip strips near east man-door, prior to removal of tape and non-slip patch	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C2	Direct survey of tape (covering Alpha contamination) non-slip strips near east man-door, during/after removal of tape and non-skid patch	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C3	Tech smears of affected areas (taped areas of non-slip patch) after removal of tape/patch (9 TS total)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C4	LAWs (~80%) and direct survey of south side of ramp	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C5	LAWs (~90%) and direct survey of Row 6 after pallets with drums removed	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C6	Tech smears of Row 6 (28 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C7	Tech smears of south half of ramp (40 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C8	Confirmatory Laws (~90%) of accessable isle areas around rows 2, 4 & 6 (Tech Smears and directs done previously *SEE NOTE*).	N/A	0	N/A	N/A	N/A†	NA†	N/A	6	N/A/LAW †	<D/LAW†
C9	Tech Smears of 1 Laundry bag (2 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C10	LAWs (~50%) of 1 Laundry bag	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C11	Tech Smears of 1 room waste drum #0082479 (2 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C12	LAWs (~75%) of 1 room waste drum # 0082479	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C13	Tech smears on 2 drums in Row 4 (2 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C14	LAWs (~75%) of 2 drums in Row 4)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C15	Tech smears of 3 Ludlum 2360 probe protectors used in CA (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C16	LAWs (~95%) and direct survey of 3 Ludlum 2360 probe protectors used in CA	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C17	Tech Smears on 3 PAMs and 1 RO-20 used in CA (1 TS each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C18	LAWs (~95%) and direct survey of 3 PAMs and 1 RO-20 used in CA	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†

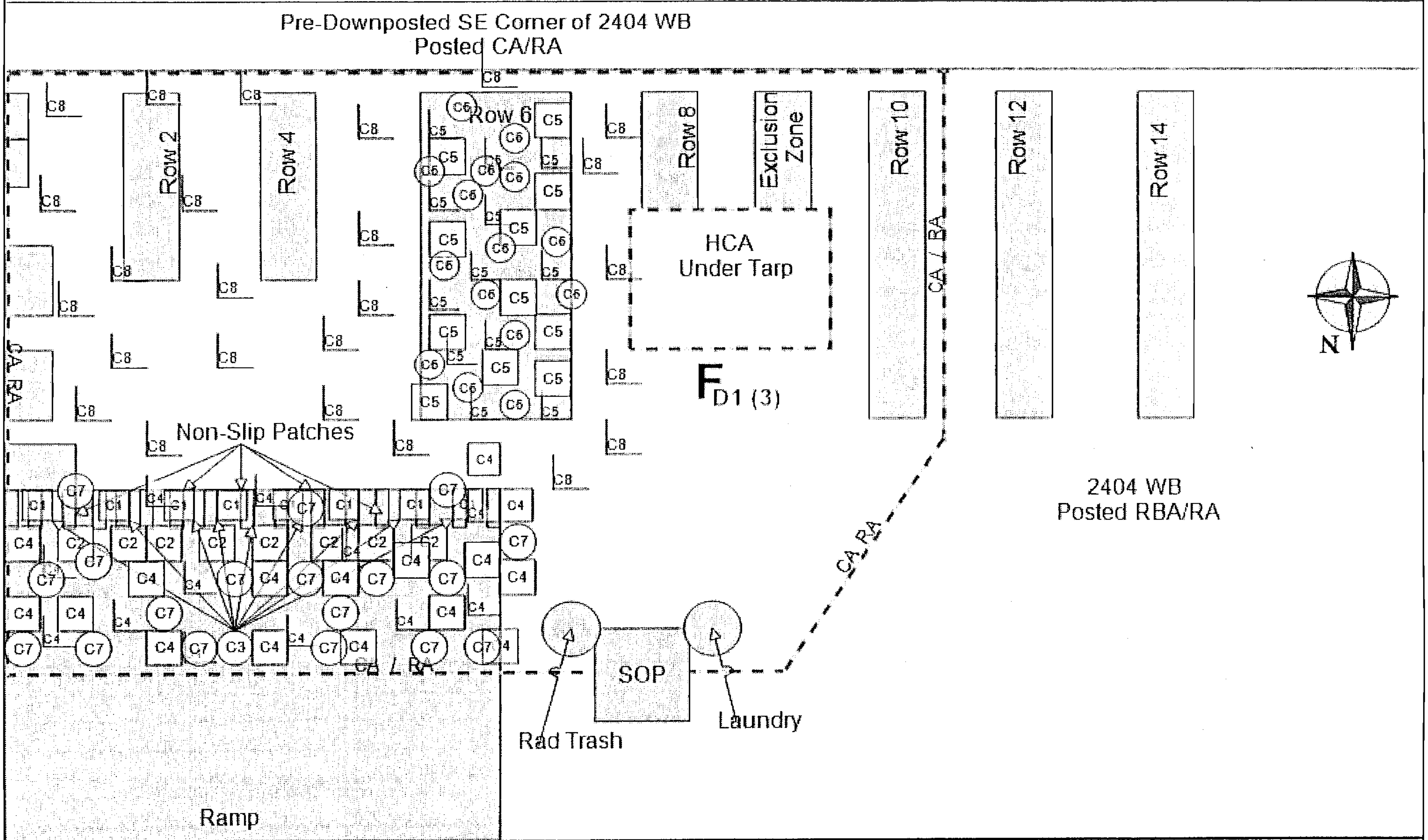
Map/Sketch



Map Name: 2404 WB	Map Description: Configuration of Postings in 2404 WB as of 6/7/11

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB	Map Description: Survey Locations for Downposting SE Corner of 2404 WB

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101581	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0033	DTHNC-0328	0.1
PAM	ACHN2-0063	DTHN3-0427	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	6-8-11	M. McKenna
spaite, steven	h1667034	6-8-11	[illegible]
Wilhelm, Jeffrey	h0590882	6-8-11	[illegible]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-8-11	T. Terry

History

2011-06-07 07:10:19 - Submitted
2011-06-08 06:55:25 - UnSubmitted Correction
2011-06-08 06:56:13 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101583

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/7/2011	1530 / 2330	200 WEST / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☑ Job Coverage: Drum Movement
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Survey of 28 drums transferring from 2404 WC to 2336 W.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	2.7	2.7	2	1	<0.2	2.7	2.7
D3	2404 WC highest dose rate of general work area	F	5	5	2	1	<0.2	5	5
D4	2404 WC highest dose rate of exterior walls	F	1.1	1.1	2	1	<0.2	1.1	1.1
D5	28 drum transfer	F	5	5	2	1	<0.2	5	5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 28 drum transfer 30% Each	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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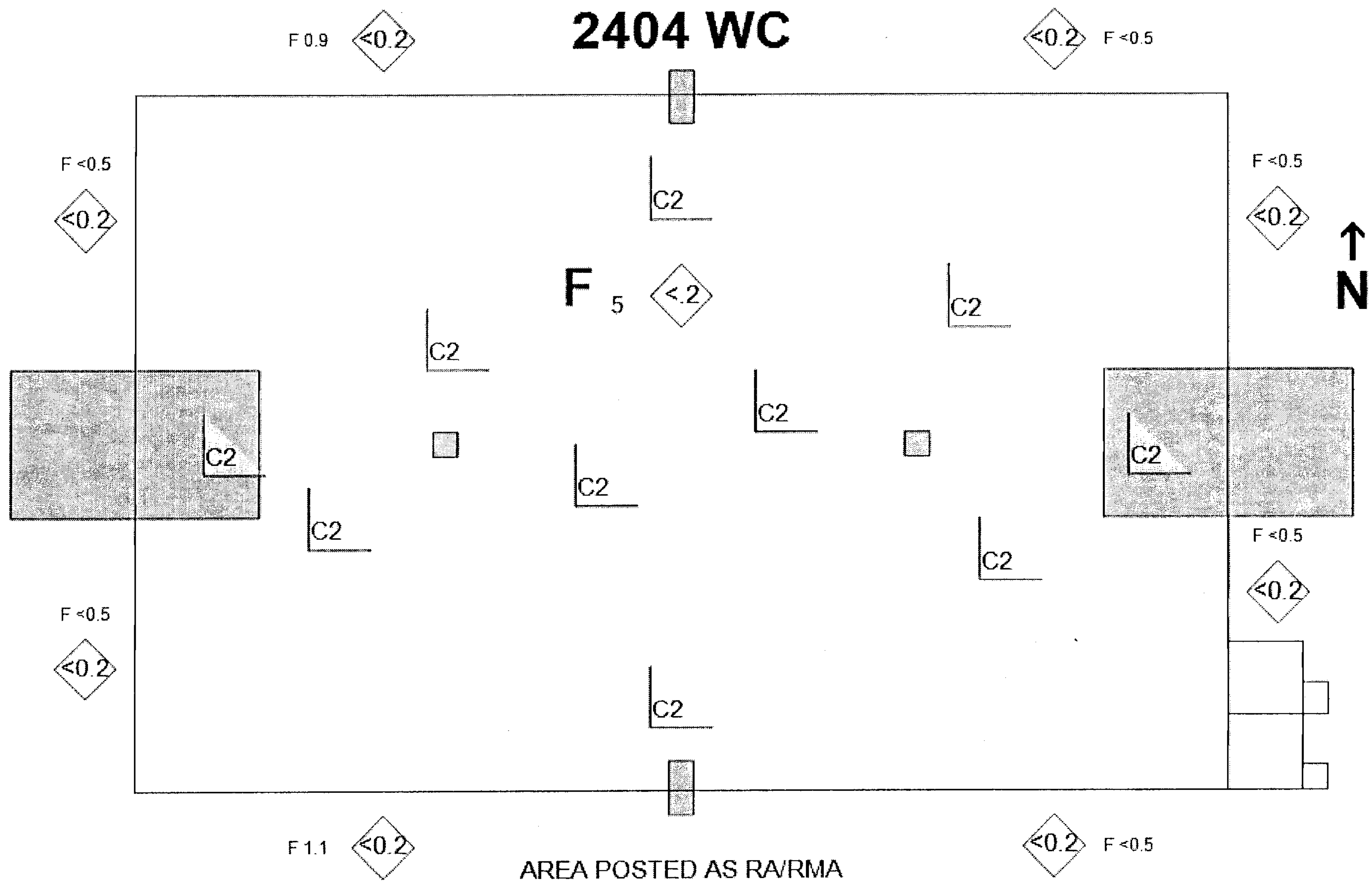
Map/Sketch

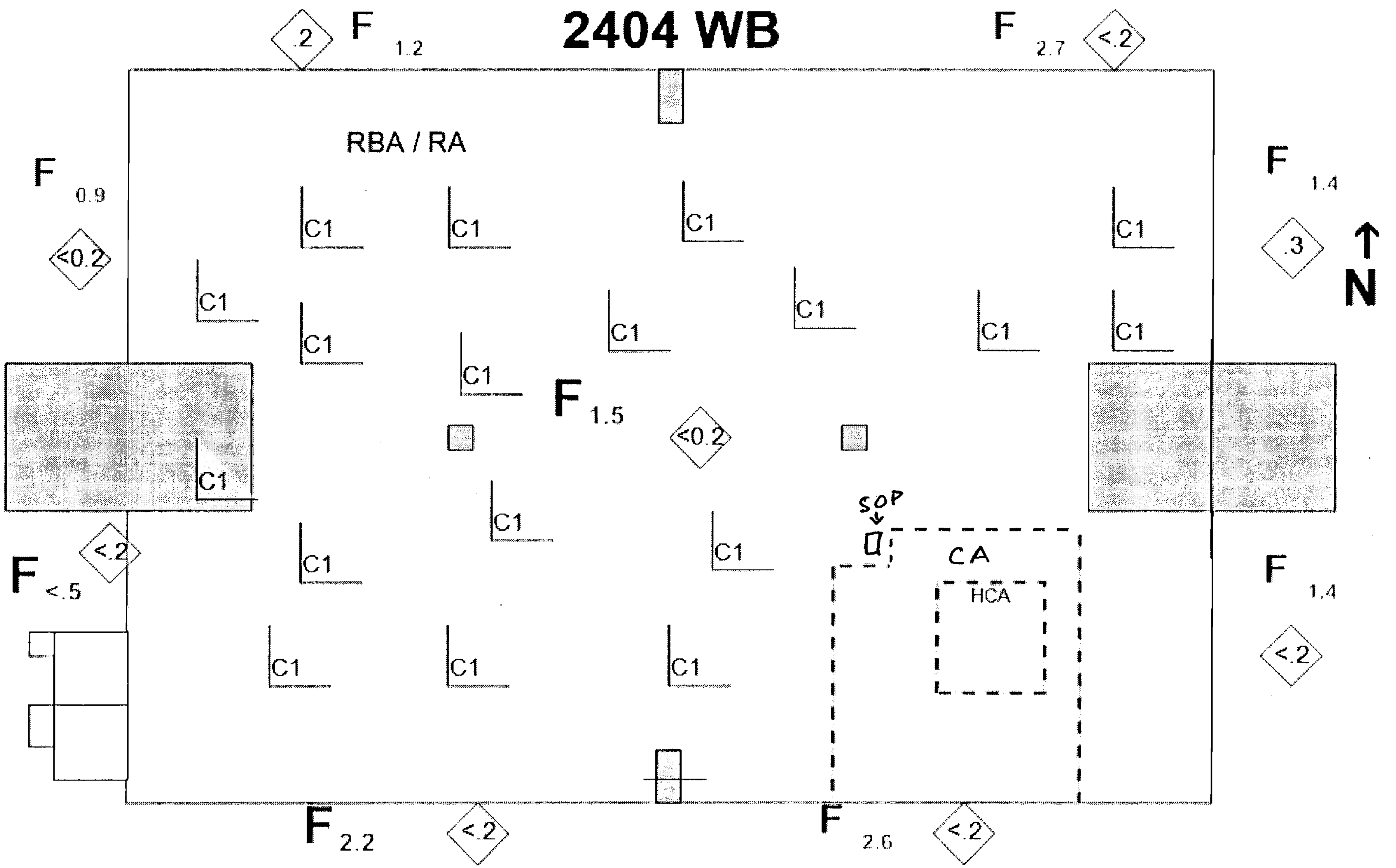


Map Name: 2404 WC	Map Description: WP-SH004

Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Subm : 06/07/2011 11:10:19 ~~OFFICIAL USE C / EXEMPTION~~ 6 COPY A-6004- SS (Rev. 0)

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101583	Page 4 of 4

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0342	DTHN3-0275	0.16
GM	CMEBB-0165	DTEB9-0048	0.10
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-7-11	B. Stancil

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-8-11	T. Terry

History

2011-06-07 11:10:19 - Submitted
2011-06-08 12:14:14 - UnSubmitted Updated information
2011-06-08 12:31:09 - Submitted
2011-06-08 12:33:43 - UnSubmitted Additional information

2011-06-08 12:33:52 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101591

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/8/2011	1030 / 1230	200 WEST / 2404 WB / 2404 WB / N/A	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: WRAP-RSP-014
  - Released to: IH
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Investigative survey of the area under the tarp covering the spill in the 2404WB building in order to shrink the HCA area. Survey of areas prior to IH beryllium surveys. Downpost of HCA areas under the tarp to CA, in order to shrink the HCA area.

Comments: Direct survey for beta/gamma not taken due to high background.
Tech smears counted per WRP1-OP-1230.
LAWs performed in accordance with WMP-350 section 6.2.
Chain of custody number 11-23649 for beryllium wet wipes, and 11-23650 for beryllium air samples.
Direct survey and technical smears of area taken as representative data for beryllium technical smears.
Lapel air sampler filter surveyed as representative data for beryllium lapel samplers.
Grab air sample taken as representative data for BE air sample.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Directs of area under the tarp area for IH survey location.	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C2	Directs of area under the tarp area, west end of the tarp. (after finding, the area was covered again with the tarp, no samples were taken here due to suspicion of spill area)	N/A	0	N/A	120	N/A†	720†	N/A	6	N/A†	N/A†
C3	Directs/Smear of area under the "tarp area", east end of the tarp for IH survey location	N/A	0	N/A	80	N/A†	480†	N/A	6	<1000†	44†
C4	Smears of all IH survey locations (8 smears of floor, 2 smears were taken on the underside of the tarp.)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	Smears of Downposted tarp area (10 smears)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

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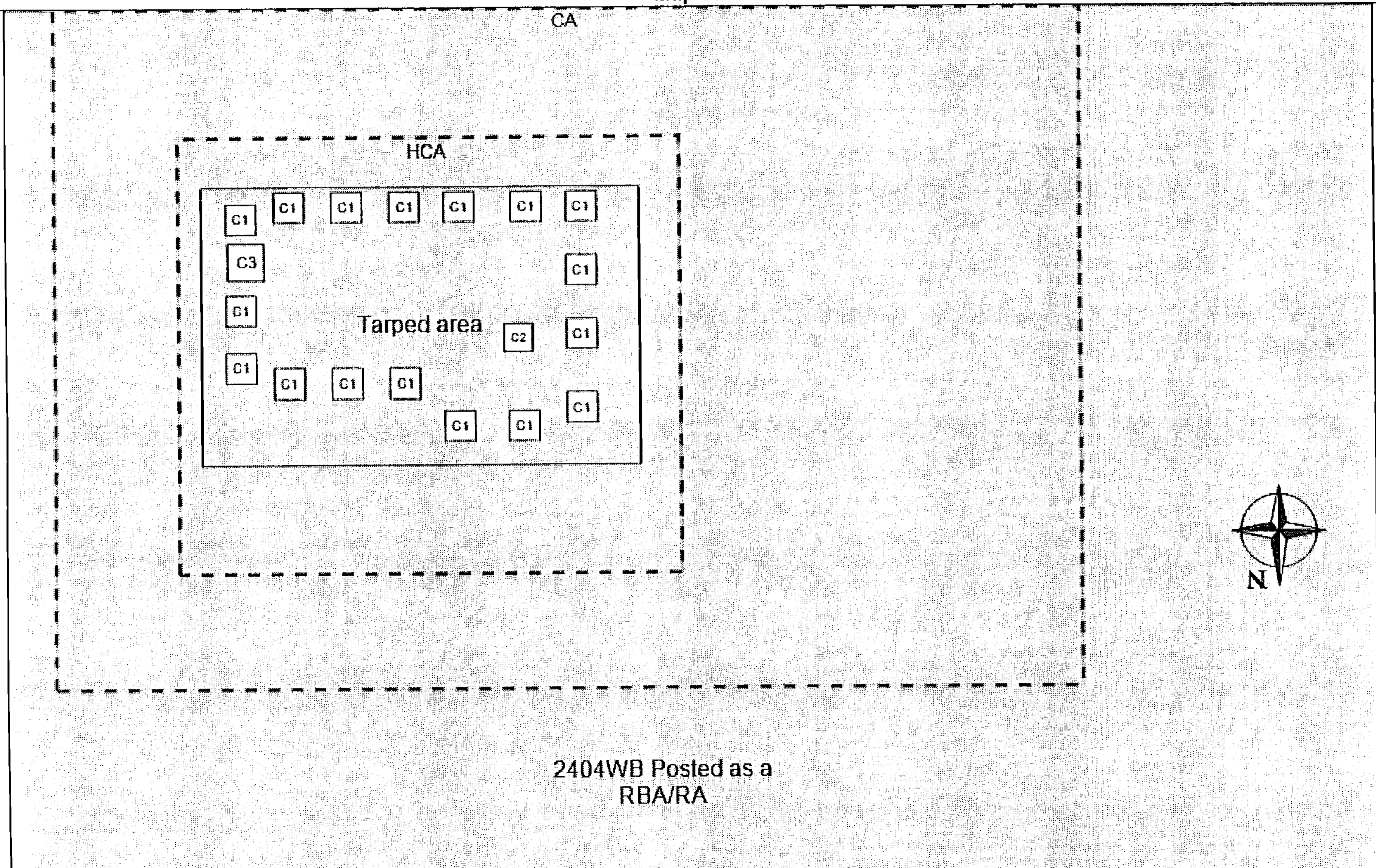
No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C6	LAWs of downposted tarp area (~25%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C7	Smears of various filters in tarp over the spill area (6 smears)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

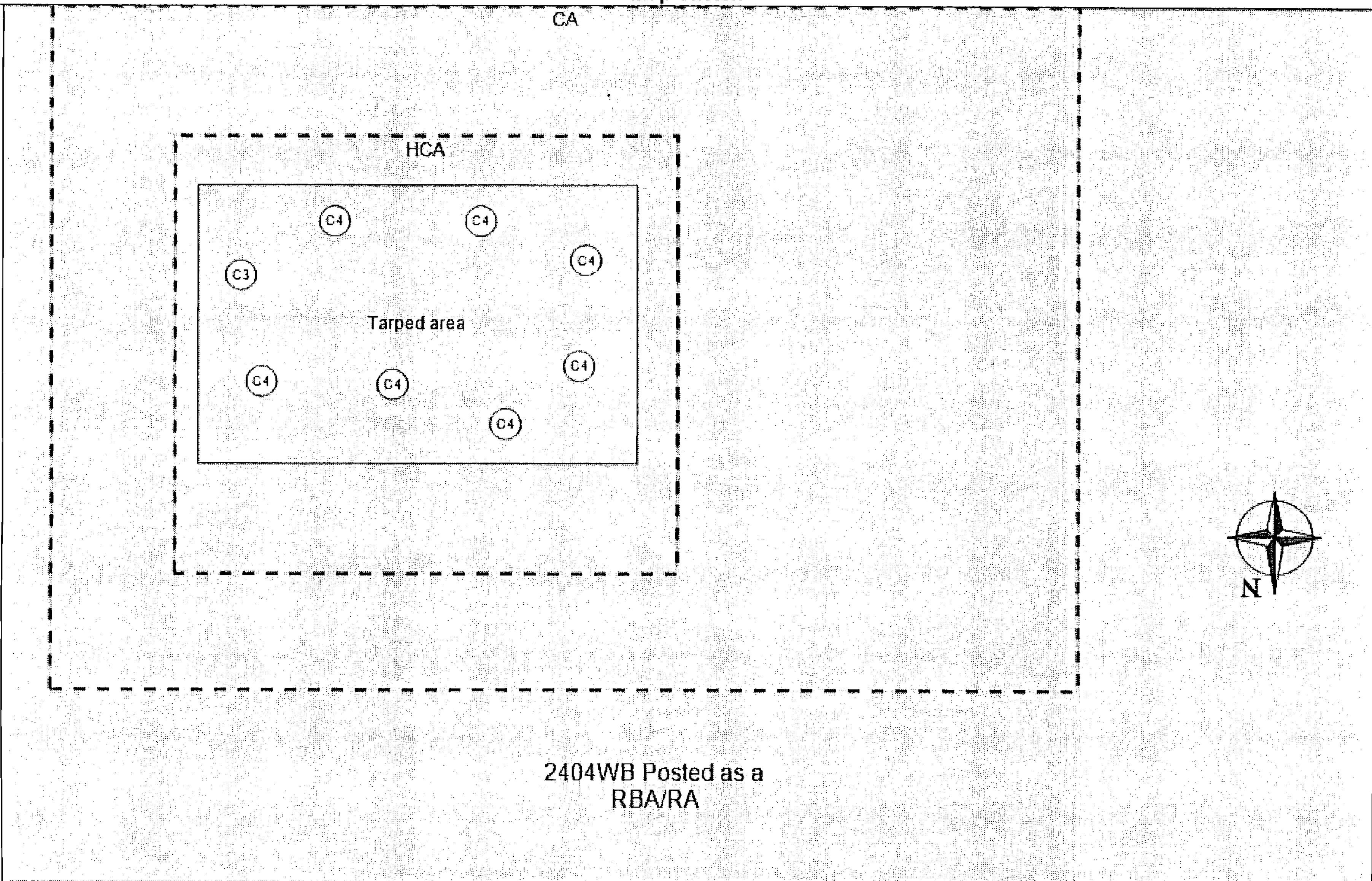
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101591

Map/Sketch



Map Name: 2404WB HCA		Map Description: Survey of area cut under the tarp						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.	

Map/Sketch



Map Name: 2404WB IH Sample locations

Map Description: Smears of areas where IH samples were pulled

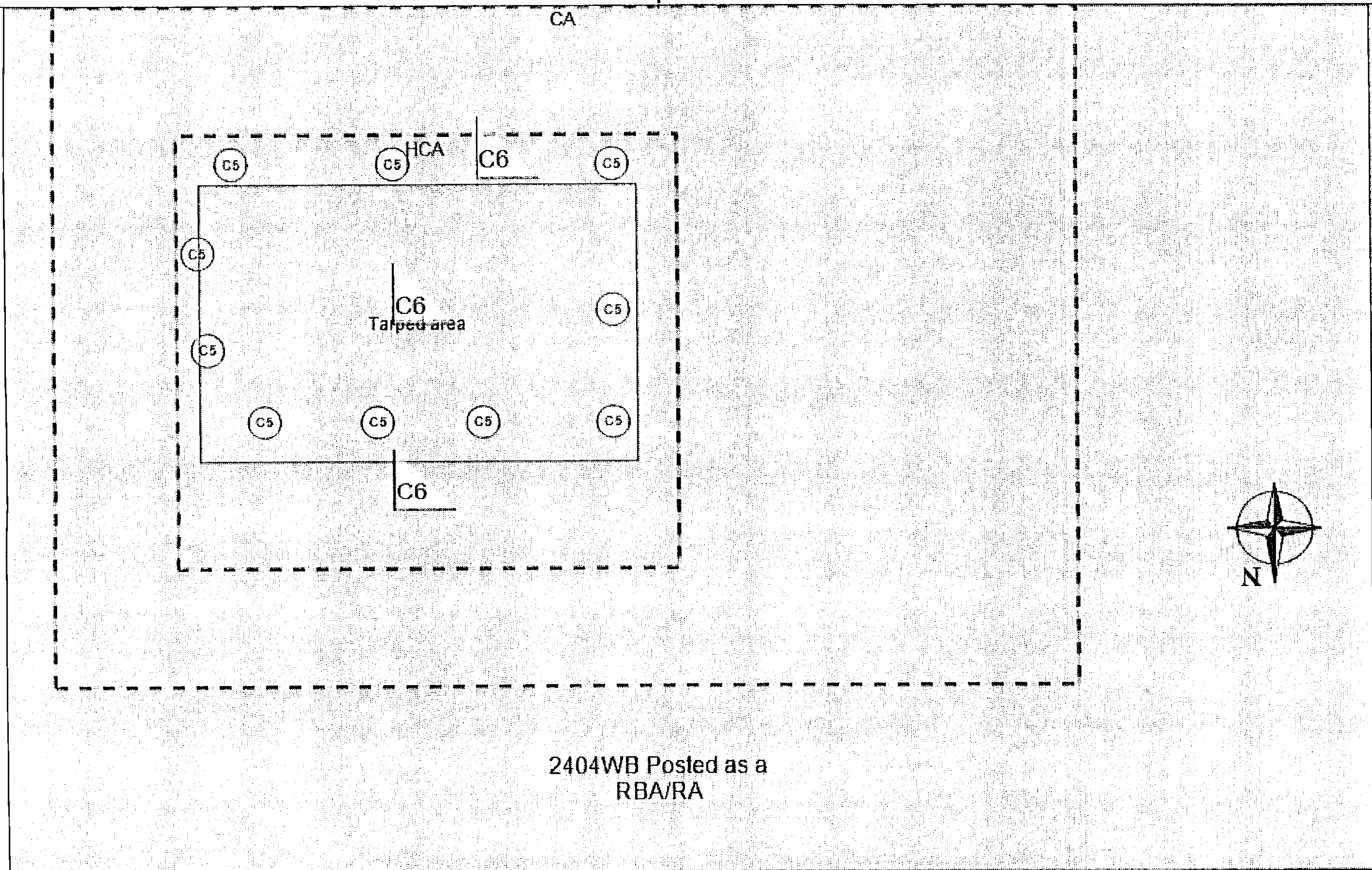
Legend								
[#] Direct Measurement	Air Sample	(#) Smear	#̲ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101591	

Map/Sketch



Map Name: 2404WB HCA

Map Description: Downpost of HCA area around the actual spill location

Legend									
	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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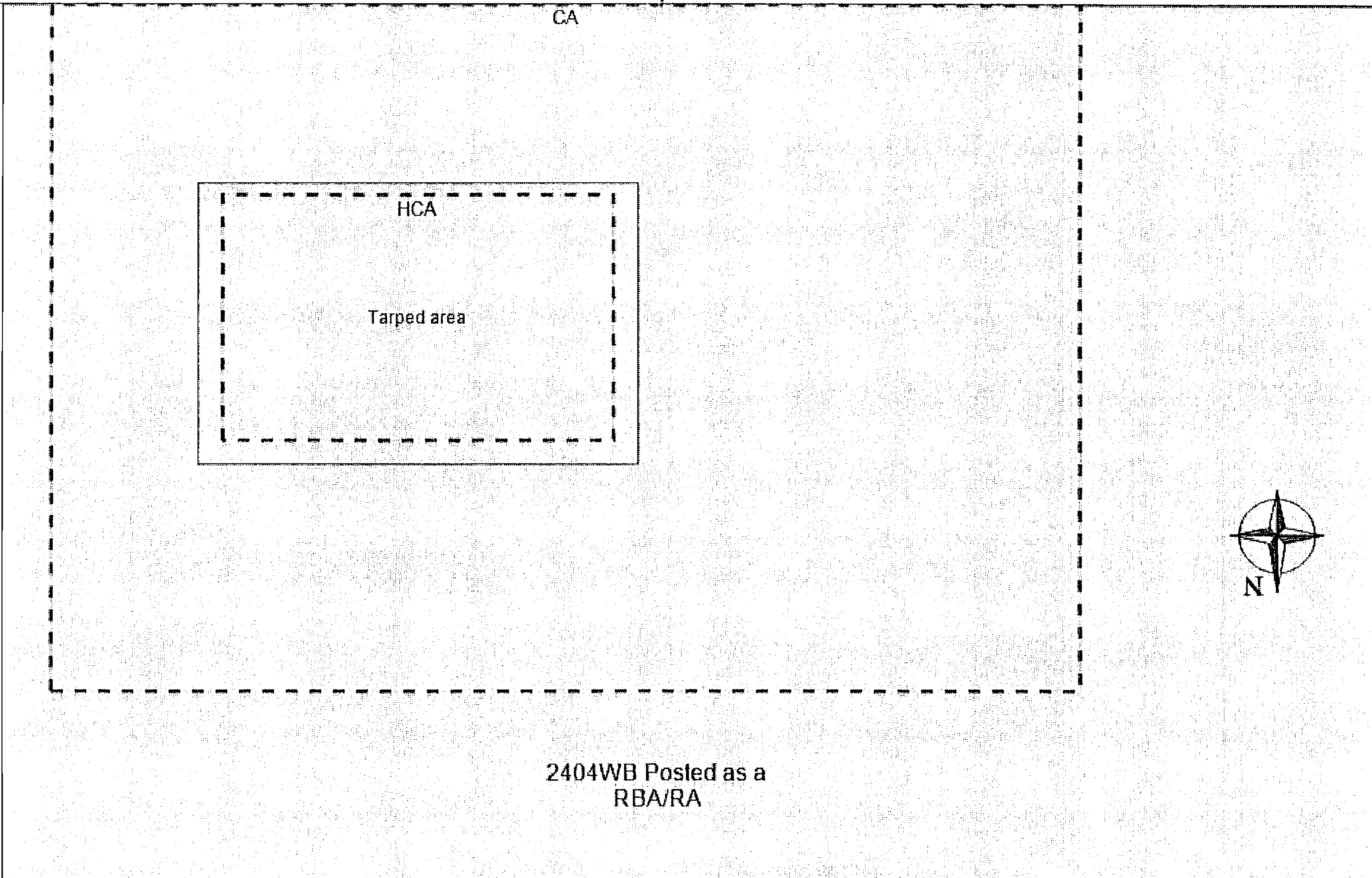
Map/Sketch



Map Name: HCA Posting

Map Description: The HCA was shrunk down to this configuration.

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101591	

Air Sample Measurements

A1	GWP1101591	A2	WP-23922

Smear Sample Measurements

S1	SWP1101591

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
RADECO	H-ASSA1-664	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
Tennelec	S5-XLB 75063	1430	α0.25 β0.39

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	6/10/11	[signature]

Reviewers

Name	HID	Date	Signature
C Wielang	619761Y	JUN 10 2011	[signature]

History

2011-06-08 03:36:16 - Submitted
2011-06-08 03:42:19 - UnSubmitted Corrected errors
2011-06-08 03:43:04 - Submitted
2011-06-10 12:53:11 - UnSubmitted Correction
2011-06-10 01:06:01 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101594

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/8/2011	1000 / 1520	200 W / 2336 W / 2404 WB / N/A	WP-611/REV.3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001 REV.1/RSP-WP-06-008 REV.5
  - Released to: RADCON/OPS/IH
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [x] Job Coverage: WRAP-RP-11-3 REV.5
- [ ] Other: N/A

Description of Work/Comments:

Release of items from WB HCA. WP-SH003 Completed.

Comments: All technical smears counted in accordance with WRP1-OP-1230. LAWs performed in accordance with WMP-350 Section 6.2.
BETA DIRECTS OF S.O.P. NOT PERFORMED DUE TO HIGH BACKGROUND. DIRECT SCAN OF LAWs AND T.S. PERFORMED IN SHIELDED CAVE DUE TO HIGH BACKGROUND.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MAX OUTSIDE 2404WB	F	3	3	2	1	0.3	3.3	3.3
D2	MAX GENERAL AREA INSIDE 2404 WB	F	1.5	1.5	2	1	<0.2	1.5	1.5
D3	DOSE OF LAUNDRY BAG	C	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs 2404 WB FLOOR ~ 40% OF RBA AREA	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	T/S OF CA SOP PRE/POST (5 SMEARS)	150	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	LAW OF CA SOP 100%	150	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	DIRECT SURVEY OF CA SOP 100%	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C5	SMEARS/DIRECTS FOR INSTRUMENTS (2 EACH)	150	0	N/A	0	N/A†	<100†	N/A	6	<1000†	<20†
C6	LAWS ON INSTRUMENTS (100%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C7	SMEARS/DIRECTS ON LAPELS/HEADS(2 EACH, 1 ON HEAD)	N/A	0	N/A	0	N/A†	<100†	N/A	N/A	<1000†	<20†
C8	LAW ON LAPELS AND HEADS(100%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C9	SMEARS/DIRECTS ON PAPR PUMPS (4 SMEARS)	150	0	N/A	0	N/A†	<100†	N/A	N/A	<1000†	<20†
C10	LAW ON PAPR PUMPS (100%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101594

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C11	SMEARS/DIRECTS ON MASK (2 SMEARS)	N/A	0	N/A	0	N/A†	<100†	N/A	N/A	<1000†	<20†
C12	LAW OF MASK (100%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C13	SMEAR ON LAUNDRY BAG (2 SMEARS)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C14	LAW OF LAUNDRY BAG (80%)	150	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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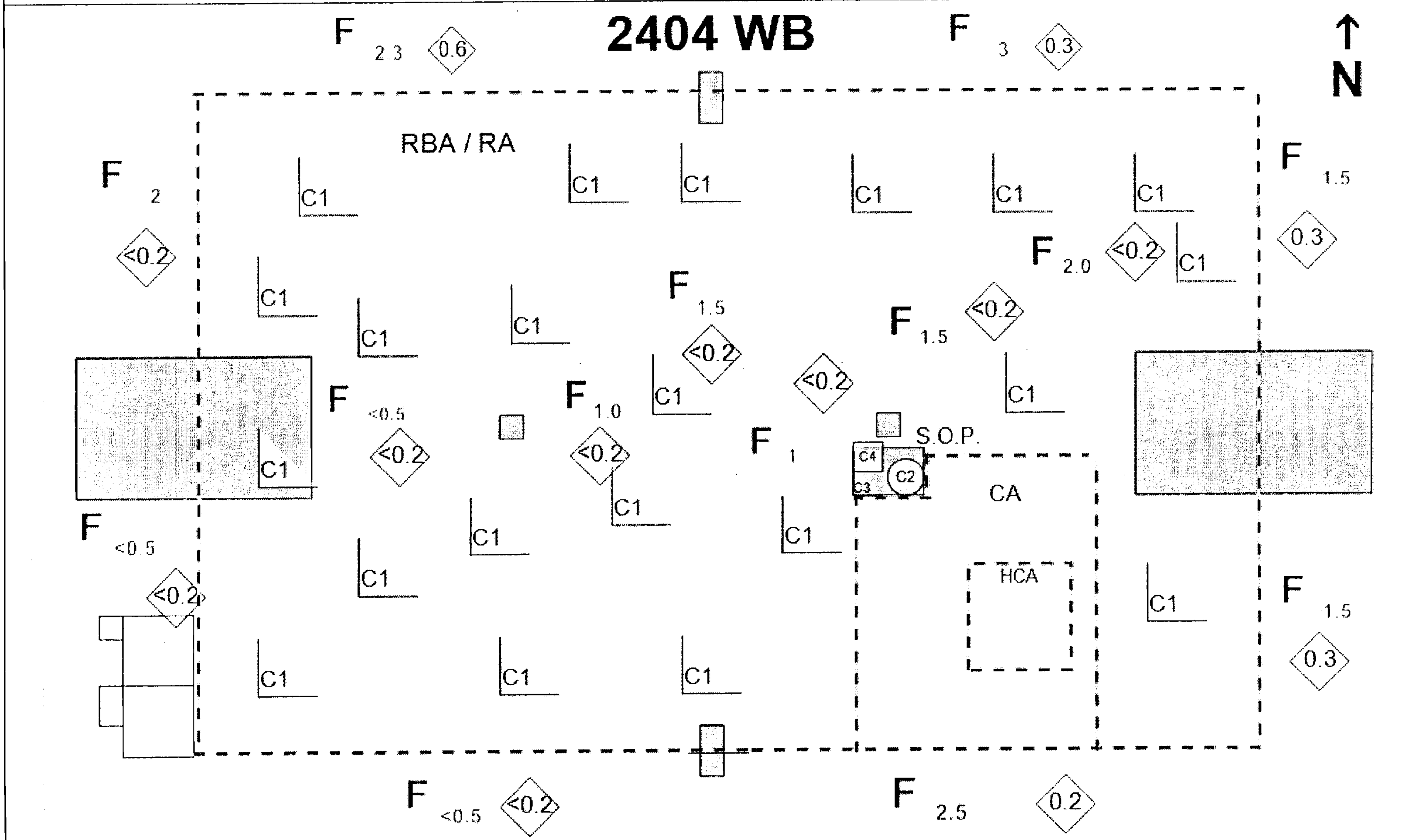
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101594	

Map/Sketch



Map Name: 04 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - (designation inside) - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101594

Map/Sketch

PAMs	LAPELS	PAPR PUMPS	MASK
ACHN2-0166/	4547	711	908
DTHN3-0037	4551	703	
	2694	320	
ACHN2-0290/	2122	313	
DTHN3-1021	4542	306	

Map Name: released items
Map Description: released items

Legend [#] Direct Measurement | Air Sample | Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101594	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-00472	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
GM	CMEB3-0142	DTHNC-0243	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Curiel, Noe	h8605771	6-27-11	Noe Curiel

Reviewers

Name	HID	Date	Signature
SOMellgren	~~60~~ h0066236	6-29-11	

History

2011-06-13 08:13:35 - Submitted
2011-06-27 03:39:37 - UnSubmitted corrections
2011-06-27 03:41:18 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101599

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/8/2011	1600 / 2300	200 WEST / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: Drum Movement
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Survey of 11 drum movement from 2404WC to 2336 W.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	2.5	2.5	2	1	0.2	2.7	2.7
D3	2404 WC highest dose rate of general work area	F	7	7	2	1	<0.2	7	7
D4	2404 WC highest dose rate of exterior walls	F	1.4	1.4	2	1	<0.2	1.4	1.4
D5	11 drum transfer 2404WC to 2336W	F	4	4	2	1	<0.2	4	4

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 11 drum movement	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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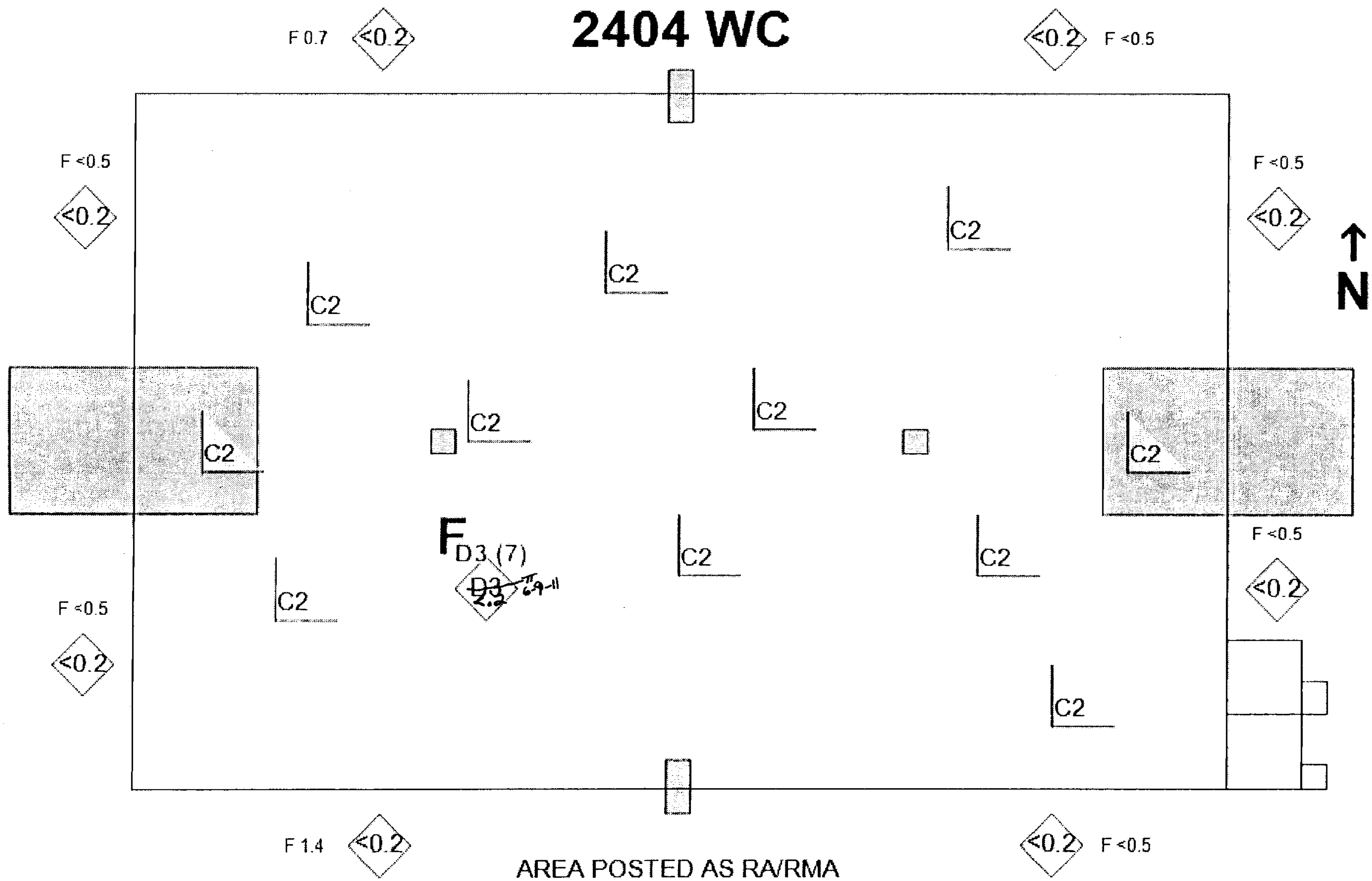
Map/Sketch

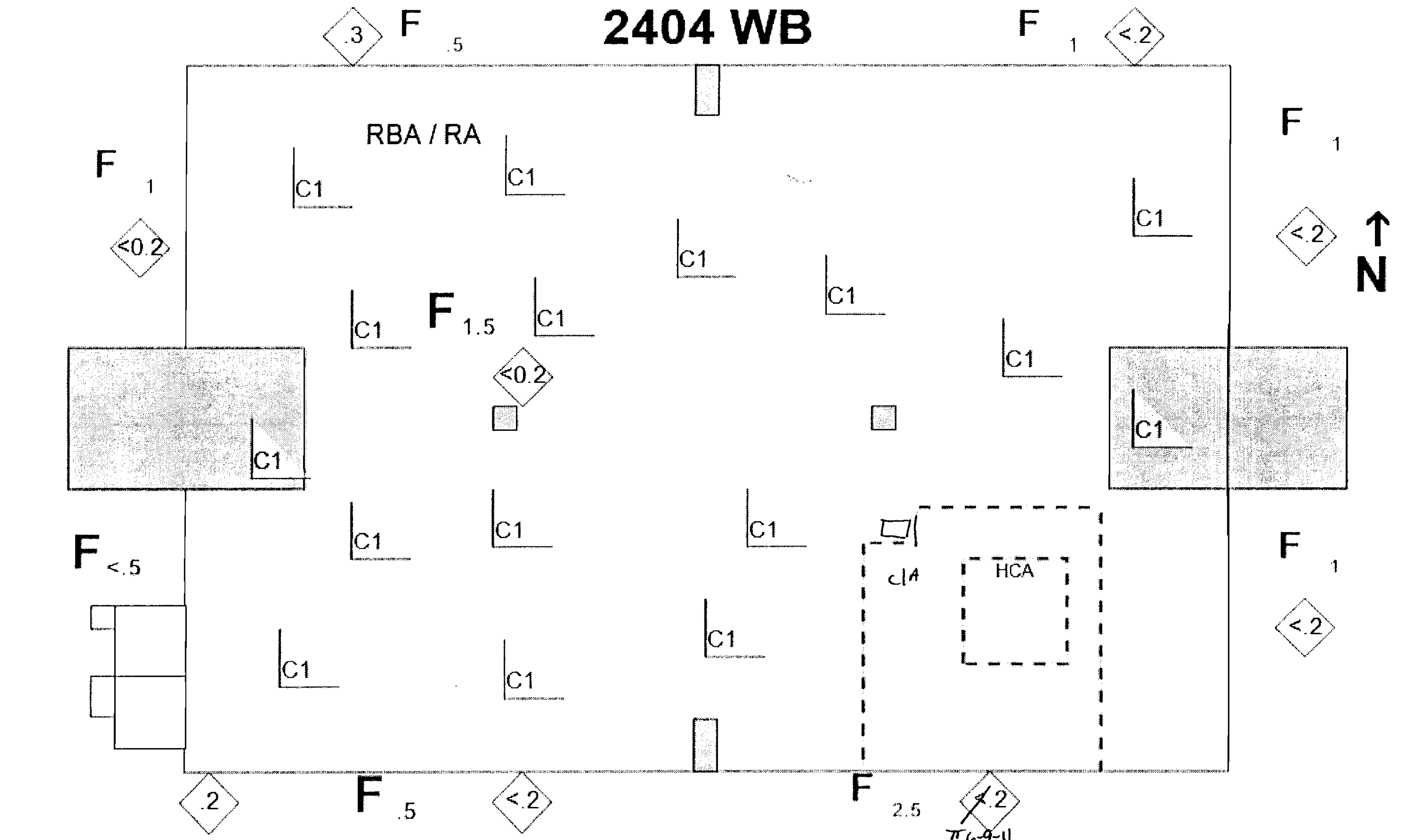


Map Name: 2404 WC			Map Description: WP-SH004					
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0033	DTHNC-0328	0.10
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Orth, Darrell	h8362903	6/8/11	[signature]
Atallah, Rami	h6654231	6/8/11	[signature]
Stancil, Barbara	h5717168	6/8/11	B. [signature]
Hosier, Judith	h7792254	6-8-11	Judith Ho[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-9-11	T. Terry

History

2011-06-08 10:22:35 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101601

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/8/2011	1630 / 2330	200 W / 2404 Complex / WB /	WP-611 Rev 03

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RSP-016 Rev 0
- [ ] Other: N/A

Description of Work/Comments:

Surveyed 35 Drums & 9 Pallets for movement from WB to 2336W (See page 2 for list of drum numbers). Surveyed bottom of 7 Pallets of drums previously surveyed for movement to 2336 (See RSR WP-1101563 from survey results & drum numbers). Surveyed 72 Drums & 18 Pallets for shipments MWTP11012, MWTP11015, MWTP11016, MTW11017 MWTP11018 & MWTP11019 to be moved to CWC on 6-8-2011 (See Page 4 for list of drum numbers).

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Tech Smears counted per WRP1-OP-1230.

Dose Rate Measurements (Continued)

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Field Dose of 35 Drum Shipment	F	7	7	3	1	<0.2	7	7
D2	Highest Field Dose of 72 drum Shipment	F	6	6	3	1	<0.2	6	6

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	105 Drums (1 T/S Per Drum)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	27 Pallets (1 T/S Per Pallet)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	LAWs @ 40% of each Drum	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	LAWs @ 25% of each Pallet	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	LAWs @ 40% bottom of each Pallet	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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Map/Sketch

Drums Surveyed:

0075949, 0078868, 0079399,
0072633, 0072360, 0071753,
0053199, 0055902, 0077623,
0077641, 0073451, 0073430,
0067509, 0067333, 0065380,
0058560, 006550, 0063052, 0056294,
0071210, 0071726, 0067027,
0074663, 0074801, 0067117,
0063080, 0071764, 0072746,
0078694, 0056221, 0058971,
0077626, 0078701, RHZ-212-A18998,
MW10800002

COPY

Map Name: WB DRUMS	Map Description: List of Surveyed Drums in 2404 WB

Legend								
[#] Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101601

Air Sample Measurements (Continued)

Smear Sample Measurements (Continued)

Instruments (Continued)

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-041~~9~~ 4 TT 6-9-11	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0039	DTHNC-0458	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0065	DTLLC-0075	β0.413α0.364

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Atallah, Rami	h6654231	6-8-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	6-9-11	T. Terry

History

2011-06-08 11:14:46 - Submitted

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0013481
0074549
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0075993
0077511
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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101611

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	0900 / 1130	200 WEST / 2404 / WB / na	WP-611/Rev 3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: RADCON
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: Downpost of CA
- [ ] Other: N/A

Description of Work/Comments:

Row 10 downposted to RBA to remove drums, half of row was reposted as CA due to craft paper covering floor. Twelve pallets removed from row. One pallet found with 480 dpm fixed; bagged and placed with other bagged pallets on west side of WB. 3 PAM's released from CA. Survey plan WRAP-RSP-015, rev 1.

Comments: LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
TECH SMEARS COUNTED PER WRP1-OP-1230.
Directs for beta not taken due to high background.
Not all smears and directs are shown on map due to limited space.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	100 smears taken on floor around row 10	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C2	100 smears taken on drums, pallets, and other surfaces	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	LAW's taken on floor, drums, pallets, etc (95%)	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	Directs taken on floor, drums, pallets, etc (65%)	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C5	Bagged pallet (480 dpm fixed on pallet) 2 smears	50	0	N/A	80	N/A†	NA†	N/A	N/A	<1000†	<20†
C6	Bagged pallet (480 dpm fixed on pallet) 2 smears	50	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C7	Direct on pallet	N/A	0	N/A	80	N/A†	480†	N/A	6	N/A†	N/A†
C8	3 PAM's released from CA (2 smears each)	50	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C9	3 PAM's released from CA (80%)	50	0	N/A	0	<5000†	<500†	10	6	<D/LAW†	<D/LAW†

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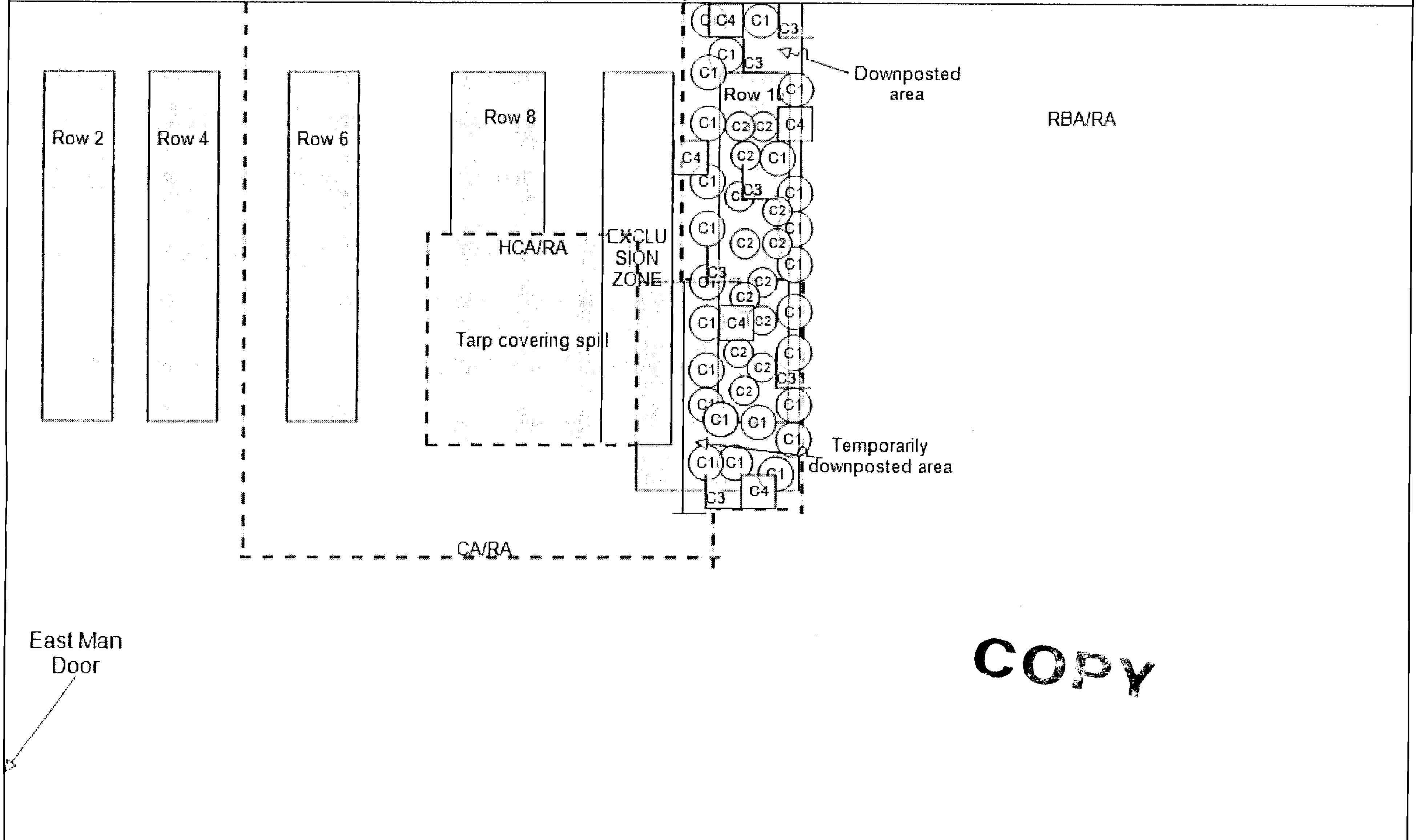
Map/Sketch



COPY

Map Name: WB RECOVERY 2ND ENTRY	Map Description: WB RECOVERY 2ND ENTRY

Legend								
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101611	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-0427	0.16
PAM	ACHN2-0682	DTHN3-0948	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
GM	CMEB3-0068	DTHNC-0670	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	6·9·11	[signature]

Reviewers

Name	HID	Date	Signature
SOMellgren	h0066236	6-29-11	[signature]

History

2011-06-09 03:07:32 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101614

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	0800 / 1530	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: Forklift survey
- [ ] Other: N/A

Description of Work/Comments:

Survey contaminated forklift out of CA/RA in 2404 WB for movement within the building to battery charging area established as a CA.

Comments: Forklift was driven from the posted CA/RA on the east end of 2404 WB to battery charging area on west end of the building. Previously found contamination on tires was taped entirely during recovery process. Contamination on underside of forklift is still unknown. Path traveled by the forklift from CA/RA to new CA was covered by three separate sheets of kraft paper cut approximately 20 feet long. This area was controlled as a CA during movment of the forklift. LAWs taken on the paper following travel by the forklift detected no contamination. These "LAW-surveyed" pieces of paper were placed in a "leapfrog" manner to the final destination at the west end battery charging area. Forklift parked on ample amount of kraft paper to extend beyond the footprint of the forklift. Area posted as CA.

LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr

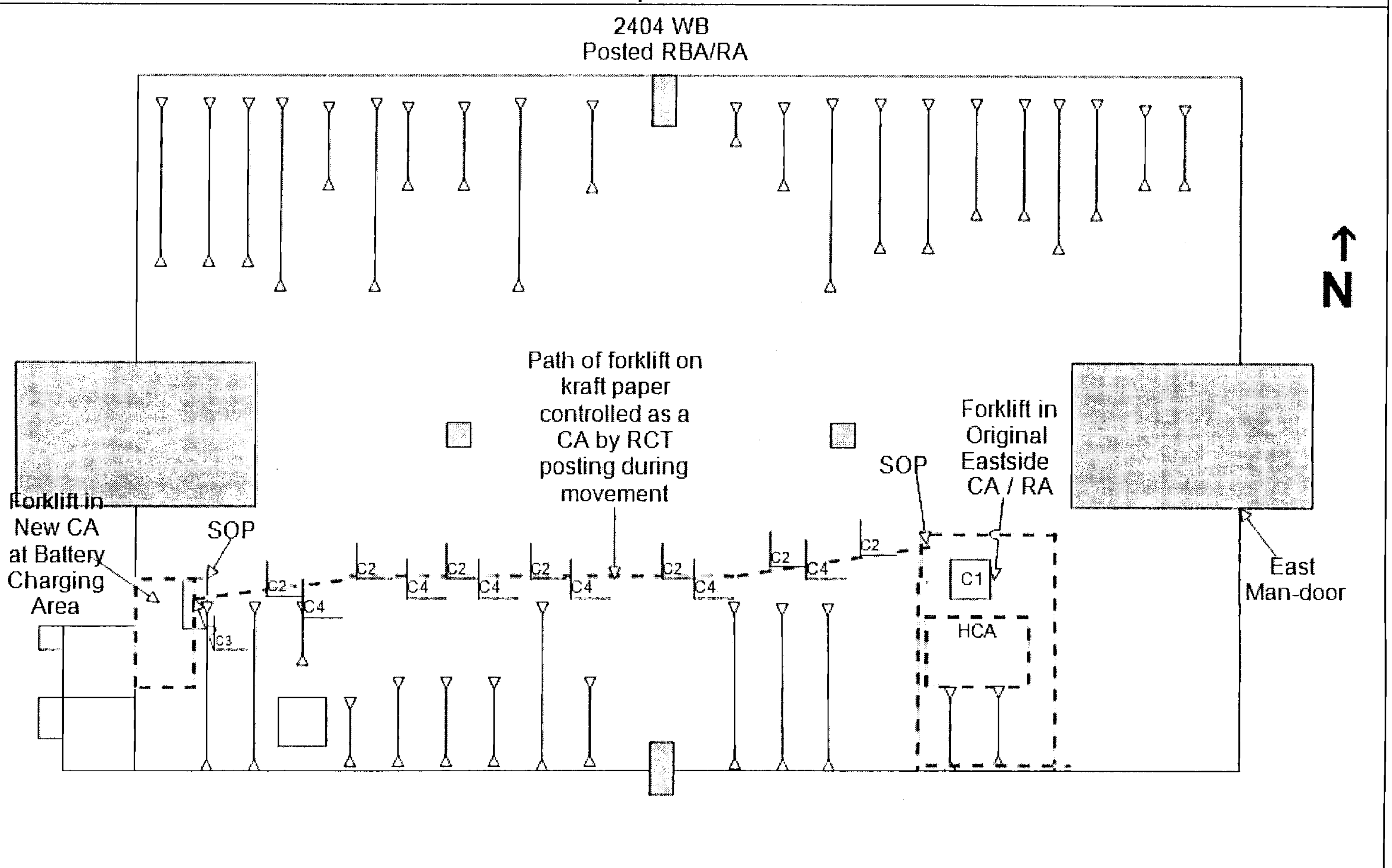
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Direct survey of forklift tires prior to leaving east end CA/RA	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A†	N/A†
C2	LAW (~95%) of kraft paper from east CA/RA to west end CA	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	LAW (~99%) of SOP area(at west end CA) used following undress of forklift operator	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	LAW (~80%) of floor area between eastside CA/RA to westside battery charging area after kraft paper removed following forklift movement	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

Map/Sketch



Map Name: 2404 WB	Map Description: Survey Locations following Contaminated Forklift Movement and Configuration of Postings in 2404 WB as of 6/9/11

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101614

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
GM	CMEB3-0068	DTHNC-0670	0.1
PAM	ACHN2-0682	DTHN3-0948	0.16
2360	SCLL8-0465	DTLLP-0572	0.1

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	6-21-11	M McKenna

Reviewers

Name	HID	Date	Signature
C Wieley	6197614	JUN 22 2011	[illegible]

History

2011-06-09 03:59:37 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101615

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	0930 / 1500	200 W / 2404 Complex / WB / Various	WP-611 Rev 03

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☑ Job Coverage: WRAP-RSP-016 Rev 0
- ☐ Other: N/A

Description of Work/Comments:

Surveyed 8 Drums & 3 Pallets for movement from WB to 2336W (See page 2 for list of drum numbers). Surveyed bottom of 20 Pallets of drums previously surveyed for movement to CWC (See RSR WP-1101601 for survey results & drum numbers).. Surveyed 1 drum (007129) which was included on movement to CWC.

Comments: LAWs performed in accordance with WMP-350 Section 6.2
Tech Smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Field Dose of 8 Drum movement to 2336	F	21	21	3	1	0.3	21.3	21.3
D2	Drum 0070129 added to shipment to CWC	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	9 Drums (1 T/S Per Drum)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	3 Pallets (1 T/S Per Pallet)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C3	LAWs @ 40% of each Drum	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C4	LAWs @ 25% of each Pallet	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C5	LAWs @ 40% bottom of each Pallet (23 pallets)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

Map/Sketch

Drums Surveyed:

added to CWC Shipment
0070129
Drums for Movement to 2336W
0069811
0075950
0077342
0078702
0078796
0078797
0074573
0074667

COPY

Map Name: WB DRUMS	Map Description: List of Surveyed Drums in 2404 WB

Legend

[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101615	Page 3 of 3

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
CP	ICEB3-0456	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	6-9-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 21 2011	[illegible]

History

2011-06-09 03:45:44 - Submitted
2011-06-09 03:50:06 - UnSubmitted fix error
2011-06-09 03:50:45 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101616

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	1030 / 1500	200 WEST / 2404 WB / N/A / Warehouses	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly surveys of 2404 WB.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	3	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	3	3	3	1	0.2	3.2	3.2

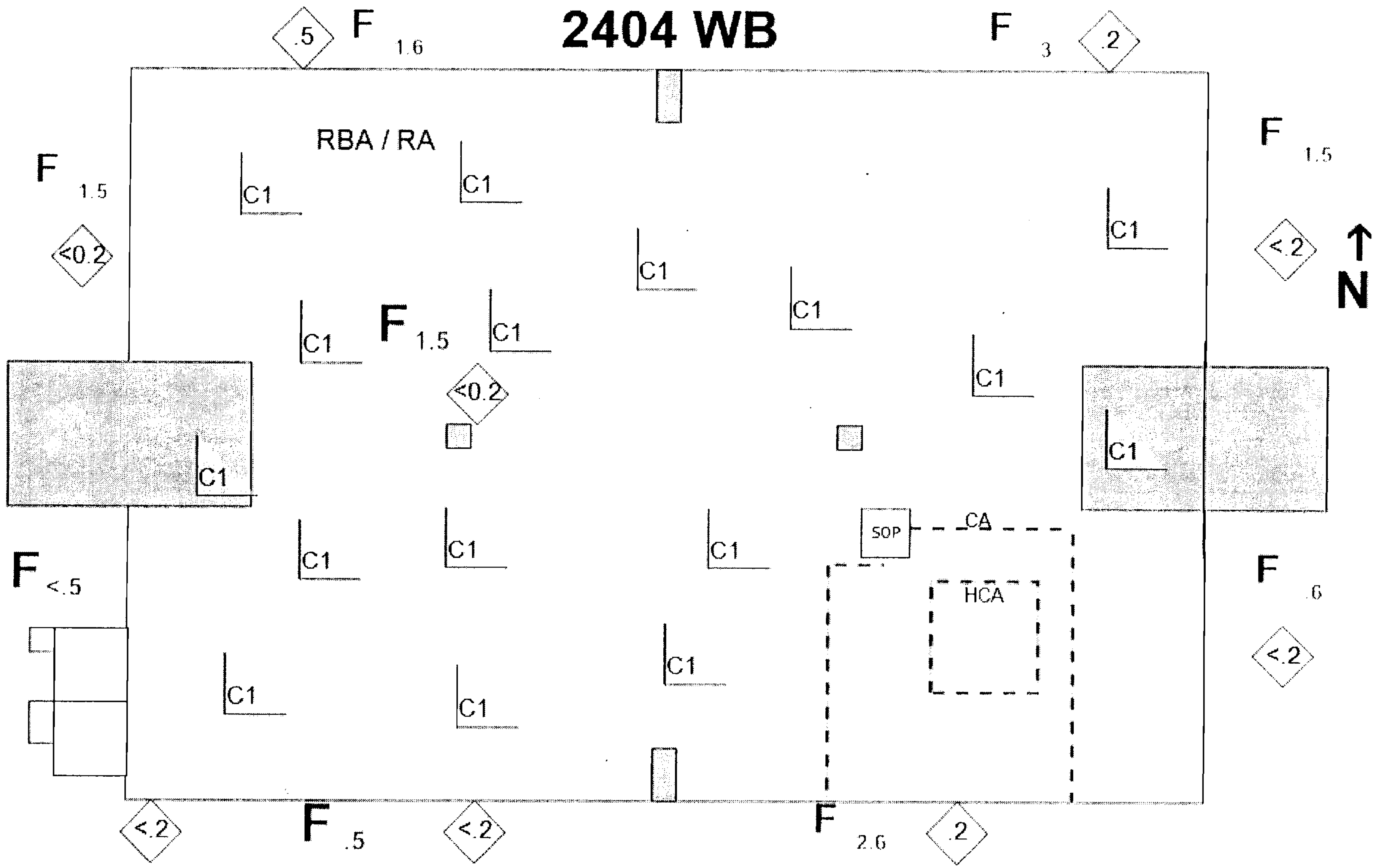
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101616	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	6-9-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C. Delang	6197614	JUN 21 2011	[illegible]

History

2011-06-09 04:05:58 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101619

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	1530 / 2330	200 WEST / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- [ ] Material Release
  Number: N/A
  Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: SWB Movement; Drum Movement
- [ ] Other: N/A

Description of Work/Comments:
WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Survey of 2 SWBs transferring from 2404 WC to SuperHENC.

Survey of 1 drum transferring from 2404 WC to 2336 W.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	10	10	2	1	0.4	10.4	10.4
D2	2404 WB highest dose rate of exterior walls	F	3.5	3.5	2	1	0.2	3.7	3.7
D3	2404 WC highest dose rate of general work area	F	1.8	1.8	2	1	<0.2	1.8	1.8
D4	2404 WC highest dose rate of exterior walls	F	0.9	0.9	2	1	<0.2	0.9	0.9
D5	2 SWB transfer	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D6	1 drum transfer	F	0.5	0.5	2	1	<0.2	0.5	0.5

Contamination Measurements

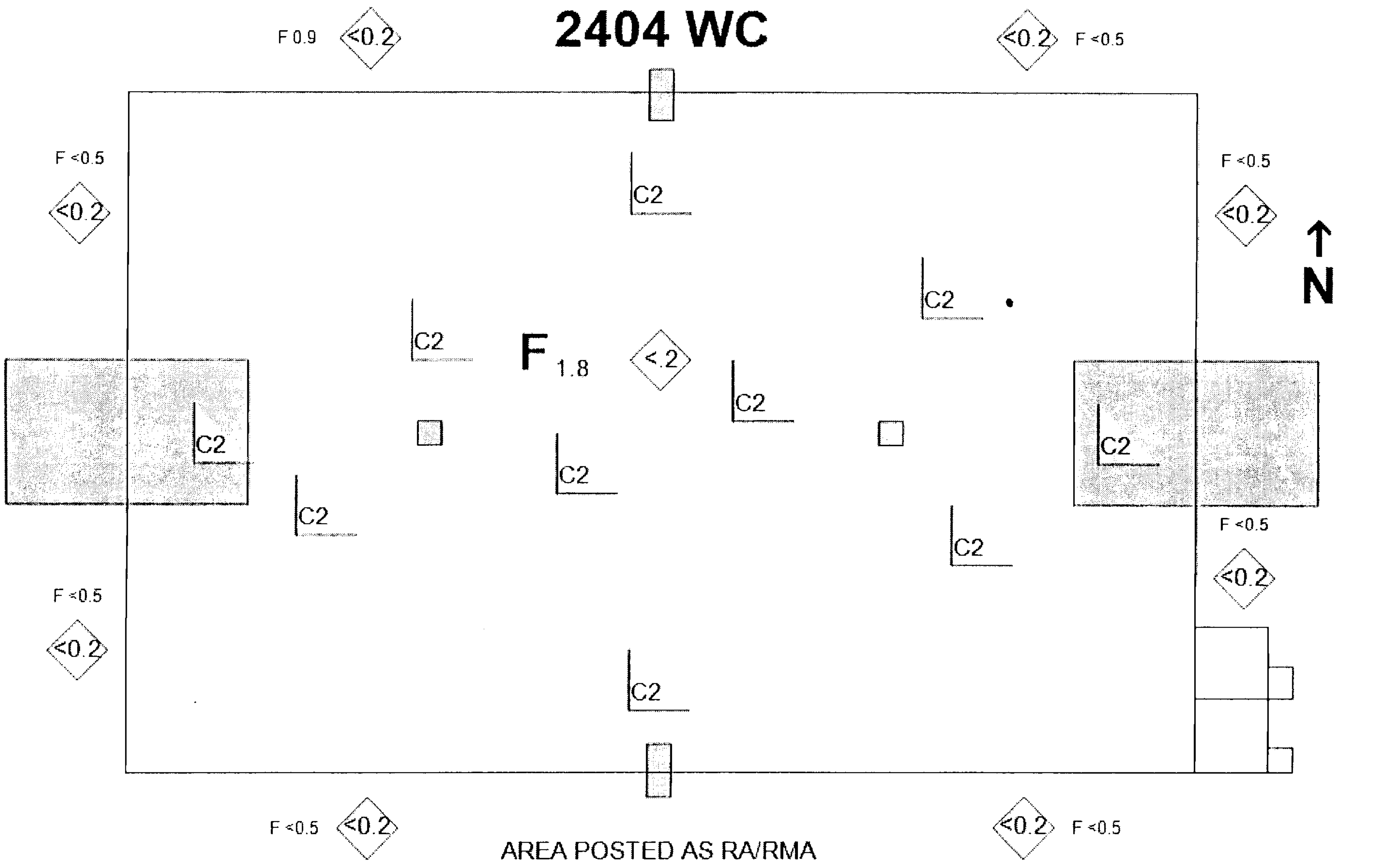
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 2 SWB transfer (~40% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	LAW of 1 drum transfer (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101619

Map/Sketch



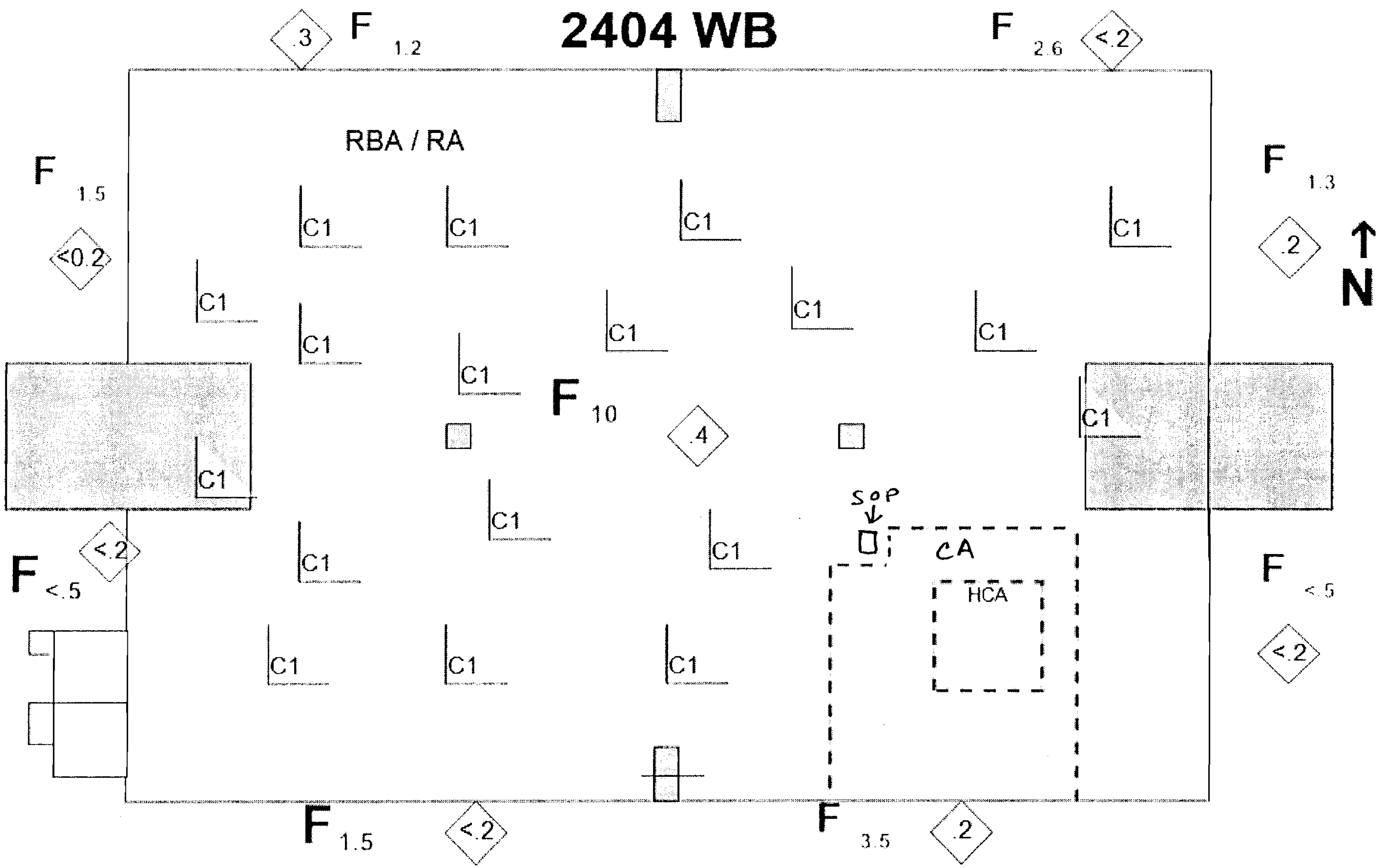
Map Name: 2404 WC | Map Description: WP-SI1004

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - (designation inside) - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101619	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0209	DTHN3-1011	0.16
GM	CMEBB-0142	DTHNC-0243	0.10
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-9-11	B. Stan
Wampole, Michelle	h0009131	6-9-2011	M Wampole

Reviewers

Name	HID	Date	Signature
C Dielang	6197614	JUN 22 2011	C D

History

2011-06-09 10:42:34 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101620

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/9/2011	1700 / 2200	200 WEST / 2404 WB / N/A / N/A	WP-611/REV 3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-W037
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

WP-W037 Weekly dose rate and contamination of 2404 WB.

Comments: LAWs performed in accordance with WMP-350 section 6.2. Smears counted per WRP1-OP-1230. CA's/HCA's not entered; boundary survey only.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB general work area(MAX)	F	10	10	3	1	0.4	10.4	10.4
D2	2404 WB exterior walls(MAX)	F	3.5	3.5	3	1	0.2	3.7	3.7
D3	2404 WB interior(MAX)	F	40	40	3	1	0.3	40.3	40.3
D4	2404 WB main walk ways	F	2.5	2.5	3	1	<0.2	2.5	2.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~30%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	boundary around CA/HCA (~80%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	boundary around CA/HCA (12 smears)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	boundary around CA for forklift (~80%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	boundary around CA for forklift(5 smears)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C6	2404 WB RBA/RA floors(33 smears)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

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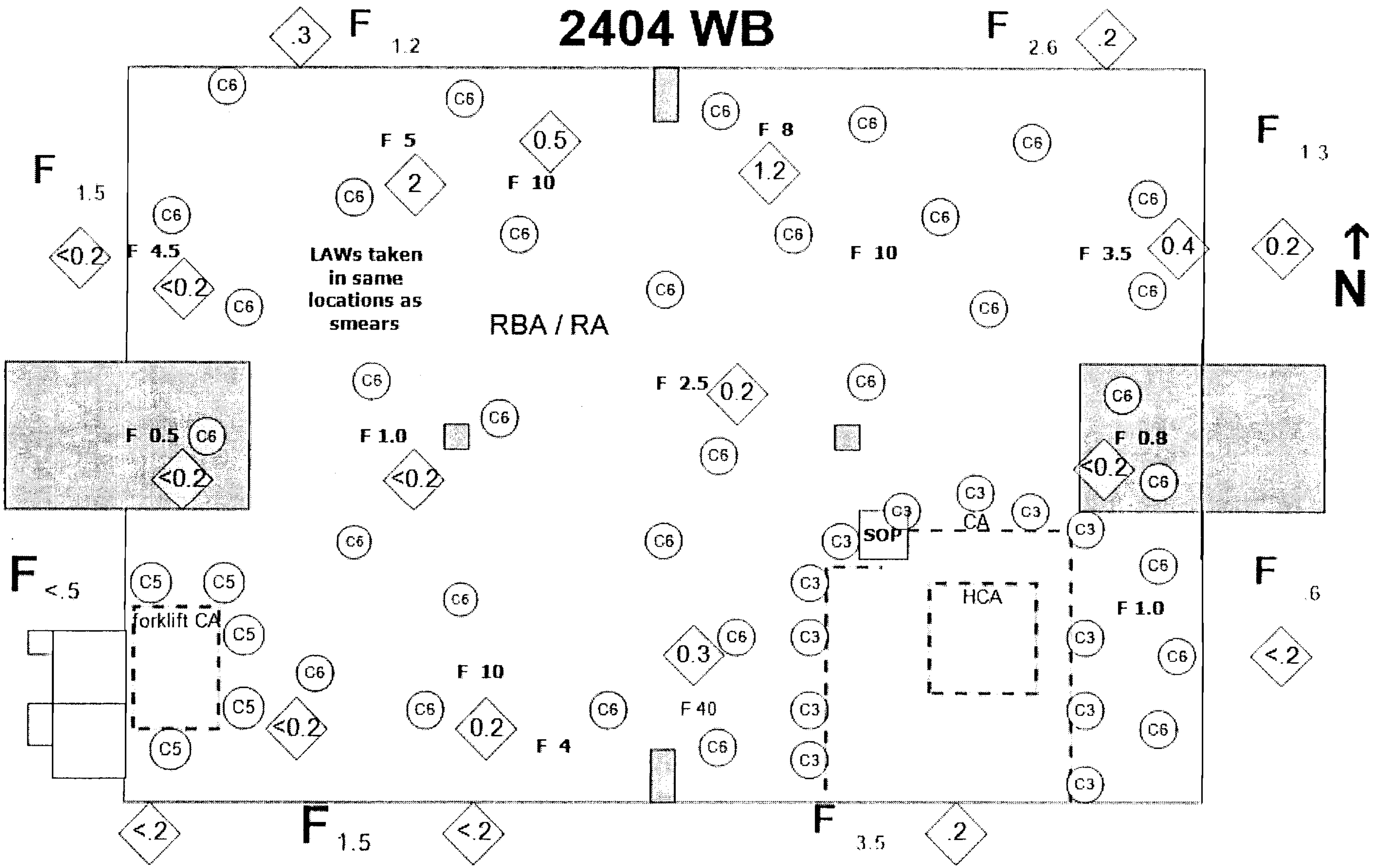
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101620	Page 2 of 3

Map/Sketch



Map Name: 2404 WB			Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Date Sub : 06/09/2011 11:23:21

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101620	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEBB-0136	DTHNC-0343	0.10
CP	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0045	N/A	N/A
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wampole, Michelle	h0009131	6-9-2011	MWampole

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 22 2011	[illegible]

History

2011-06-09 11:20:09 - Submitted
2011-06-09 11:20:49 - UnSubmitted fix mistake
2011-06-09 11:23:21 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101623

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/10/2011	0730 / 1000	200 WEST / 2404-WB/2404-WC;Shipping Receiving;NDE/NDA / /	WP-001/8;WP-611/3

Purpose of Survey

- ☑ Material Release
  - Number: PRC-PRO-RP-40026
  - Released to: Operations
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH002;WP-SH003;WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:

Shiftly routines of the 2404WB, 2404WC,S&R and NDE/NDA area. Release of the end of a forklift charging cable out of a CA in 2404WB to be used to charge a forklift outside the CA.

Comments: No beta gamma directs were taken of the forklift charger cord due to high background.
LAWs performed in accordance with WMP-350 section 6.2.
Tech smears counted per PRC-PRO-RP-40026 section 2.4.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest dose rate outside 2404WB	F	4.5	4.5	2	1	<0.2	4.5	4.5
D2	Highest dose rate outside 2404WC	F	0.5	0.5	2	1	<0.2	0.5	0.5
D3	Highest dose rate outside the 2336W building	F	<0.5	<0.5	2	1	0.9	0.9	0.9

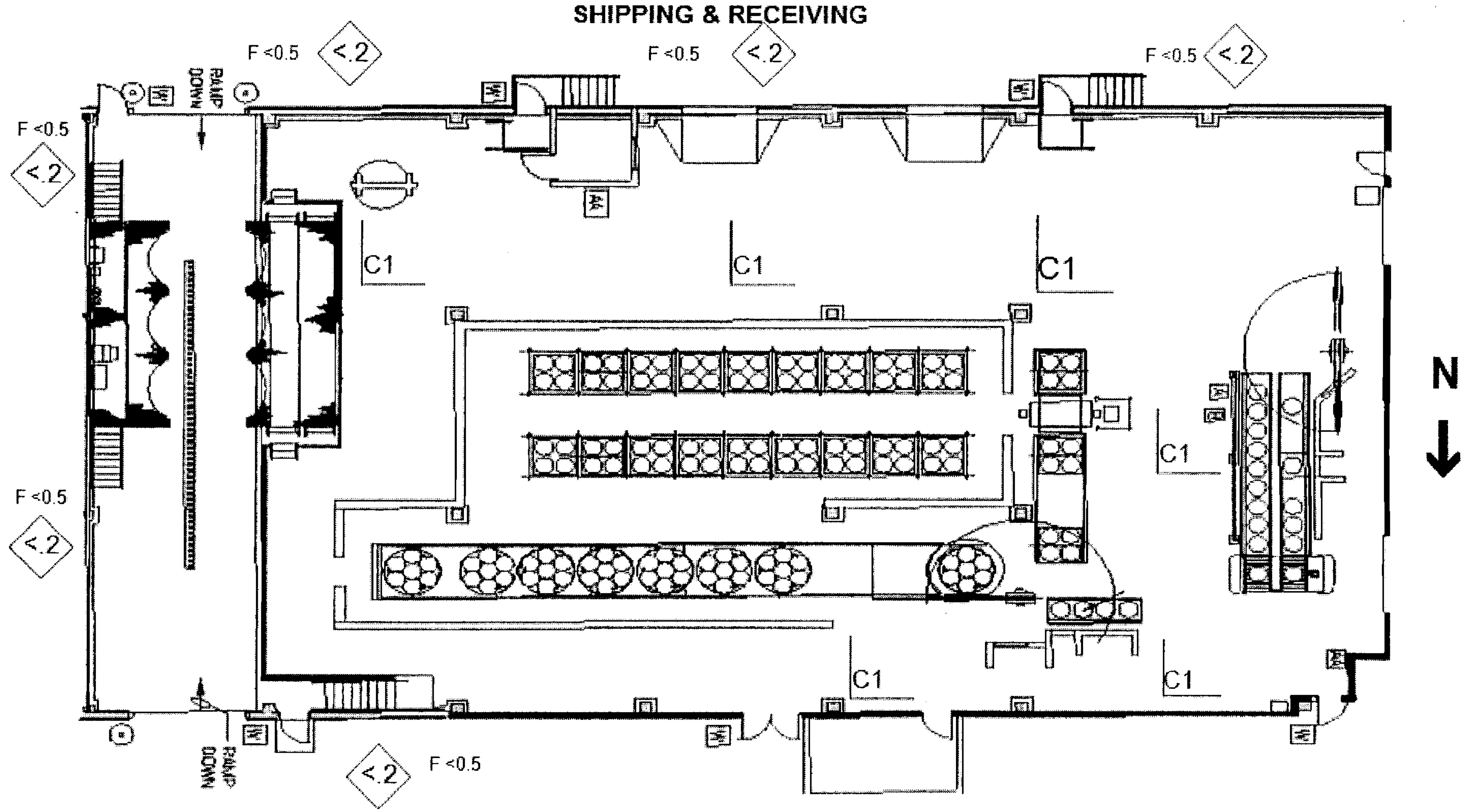
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of floors in each building (25% of all walking areas)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	LAWs of the forklift charger cable (~80% of the portion of cable released)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C3	Directs of the forklift charger cable (~80% of the portion of cable released)	100	0	N/A	0	N/A†	<100†	10	6	N/A†	N/A†
C4	Smears of the forklift charger cable (2 tech smears)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101623	Page 2 of 6

Map/Sketch



AREA POSTED AS RA/RMA

Map Name: HIPPING & RECEIVING (RM 101)	Map Description: WP-SH002

Legend: [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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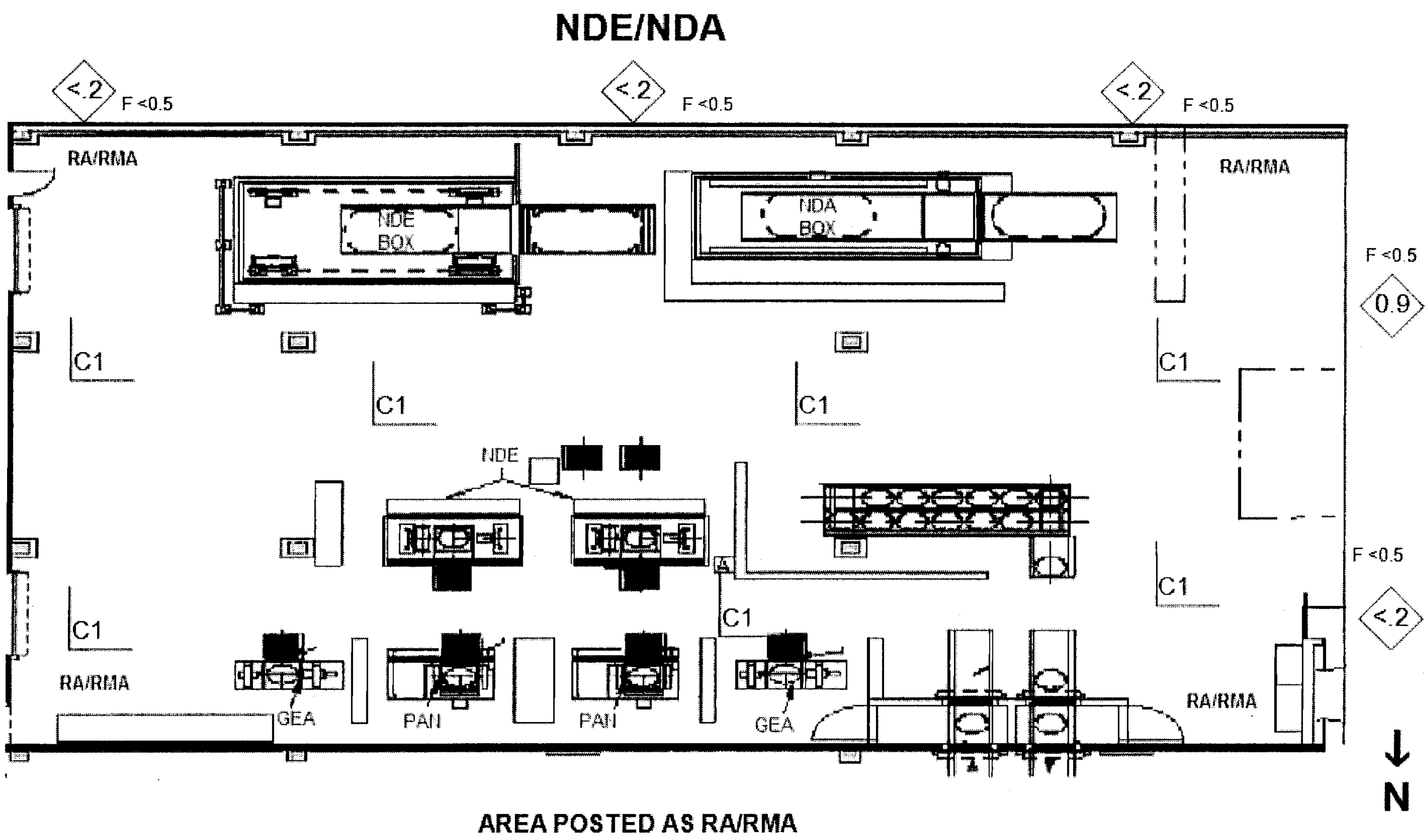
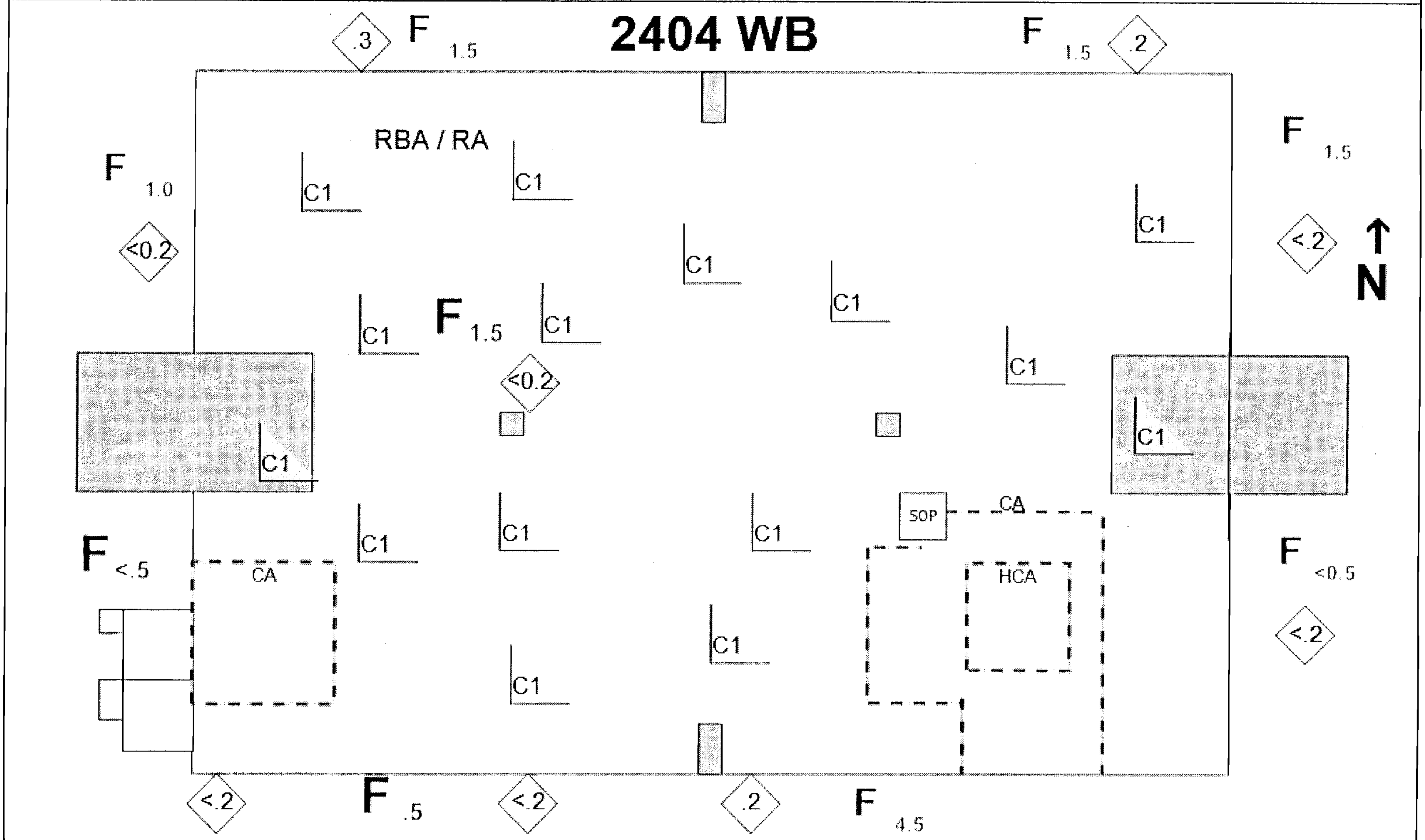
Map/Sketch



Map Name: NDE/NDA (RM 104)	Map Description: WP-SH002

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch

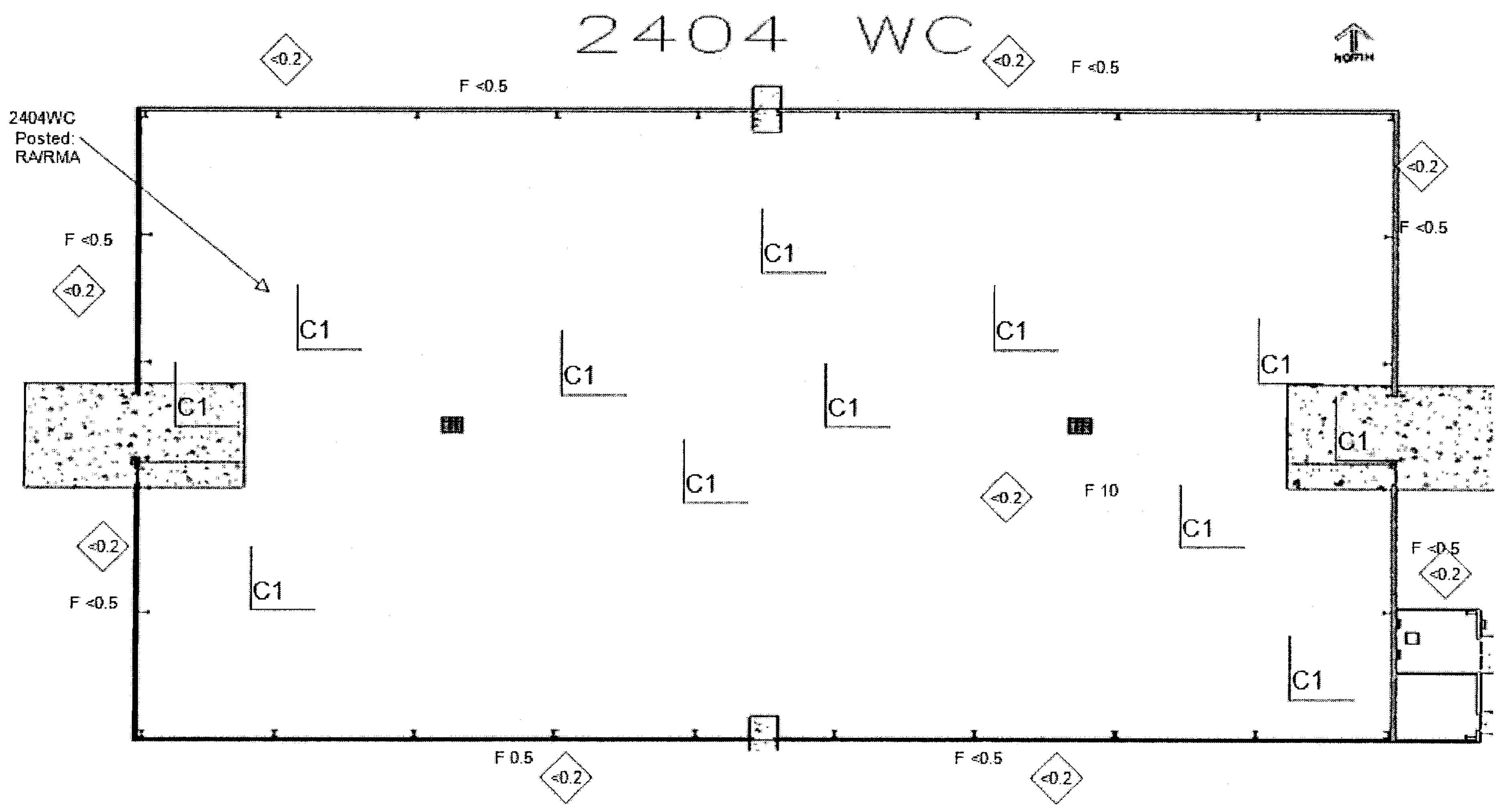


Map Name: 2404 WB			Map Description: 2404 WB Shiftly					
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404WC | Map Description: WP-SH004

Legend

# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101623

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0431	DTHN3-0165	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
AN/PDR-70 Snoopy	NMNR-0041	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	6/10/11	[signature]

Reviewers

Name	HID	Date	Signature
CWieland	6197614	JUN 22 2011	[signature]

History

2011-06-10 11:08:51 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101636

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/13/2011	1400 / 1600	200 WEST / 2404 WB / N/A / N/A	WP-611/REV 3

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-W037:WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-W037 & WP-SH003 Weekly dose rate and contamination of 2404 WB. Along with the shiftly.

Comments: LAWs performed in accordance with WMP-350 section 6.2. Smears counted per WRP1-OP-1230. CA's/HCA's not entered; boundary survey only.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB general work area(MAX)	F	10	10	2	1	1.2	11.2	11.2
D2	2404 WB exterior walls(MAX)	F	4.0	4.0	2	1	0.2	4.2	4.2
D3	2404 WB interior(MAX)	F	30	30	2	1	8.0	38	38
D4	2404 WB main walk ways	F	3.0	3.0	2	1	0.5	3.5	3.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAW of general walkways of 2404 WB (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	boundary around CA/HCA (~80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	boundary around CA/HCA (12 smears)	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	boundary around CA for forklift (~80%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	boundary around CA for forklift(5 smears)	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C6	2404 WB RBA/RA floors(33 smears)	50	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

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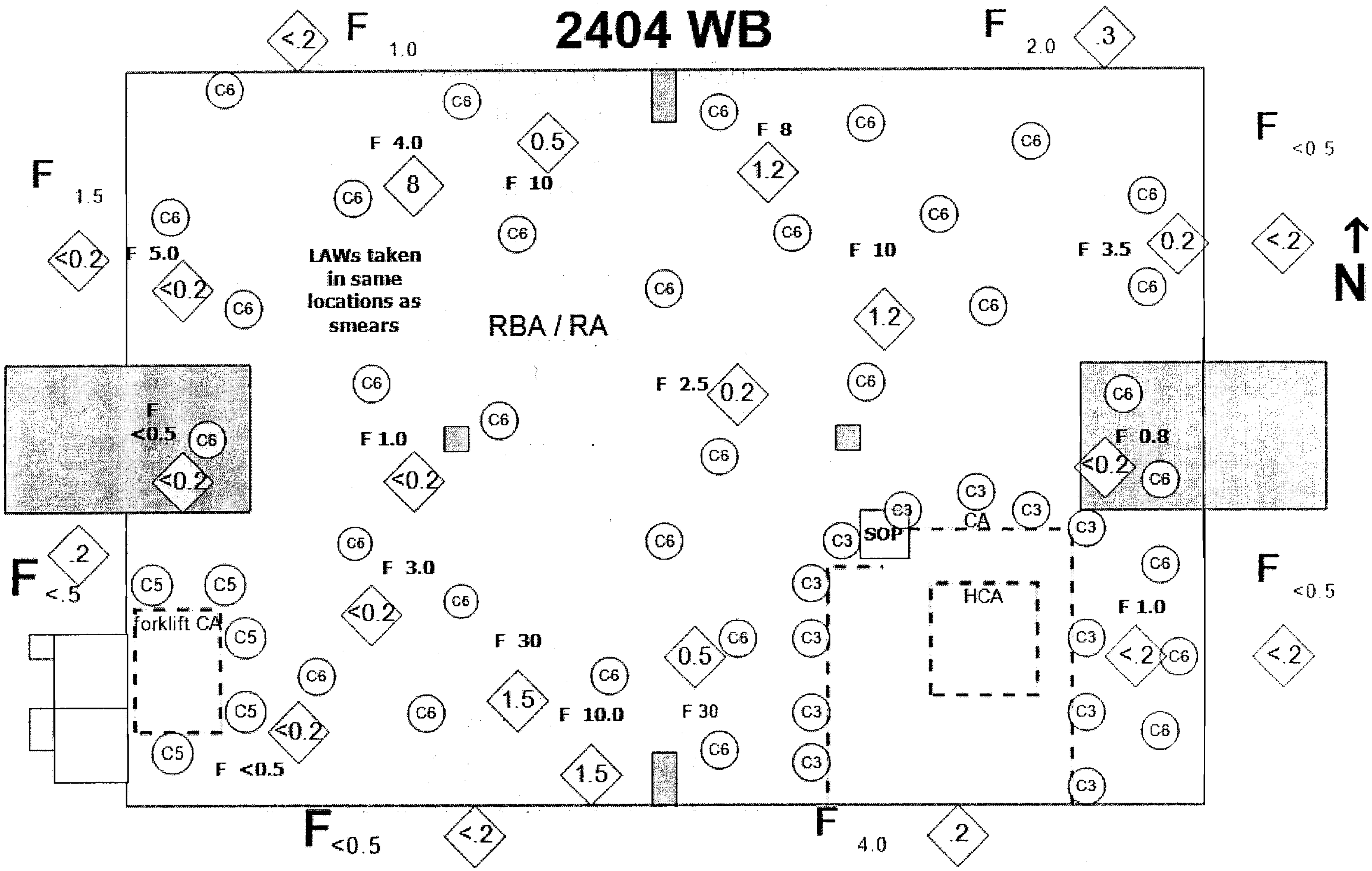
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101636

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101636

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-0427	0.16
GM	CMEBB-0165	DTEB9-0048	0.10
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
2929	SCLL4-0058	DTLLC-0071	β0.39α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	6.14.11	Judith Ho

Reviewers

Name	HID	Date	Signature
CWielang	6197617	JUN 24 2011	[illegible]

History

2011-06-14 07:52:18 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101638

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/13/2011	1630 / 2330	200 WEST / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☑ Job Coverage: Drum Movement
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Survey of 6 drums transferred from 2404 WC to 2336 W.

Survey of 12 empty drums transferred from 2404 WC to 2336 W.

Survey of 15 drums transferred from 2404 WB to 2336 W per Survey Plan #WRAP-RSP- 016, Rev 0: 0002224, 0020319, 0022494, 0035207, 0039901, 0042862, 0049616, 0049769, Z72-7-29, Z72-7-50, Z72-7-9, Z72-8-90, Z72-9-4, Z72-9-91, Z72-9-6.

Survey of 16 drums per Survey Plan #WRAP-RSP-016, Rev 0, staged and ready for transfer in 2404 WB-27: 0067051, 0069221, 0053223, 0056213, 0067444, 0069104, 0069220, 0069954, 0070028, 0070593, 0072280, 0072318, 0073316, 0074706, 0069158, 0077345.

Comments: LAWs performed in accordance with WMP-350, Section 6.2. Tech smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	4	4	2	1	<0.2	4	4
D3	2404 WC highest dose rate of general work area	F	3.5	3.5	2	1	<0.2	3.5	3.5
D4	2404 WC highest dose rate of exterior walls	F	0.9	0.9	2	1	<0.2	0.9	0.9
D5	6 drum transfer from 2404 WC	F	3.5	3.5	2	1	<0.2	3.5	3.5
D6	12 empty drum transfer from 2404 WC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D7	15 drum transfer from 2404 WB	F	17	17	2	1	<0.2	17	17

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No.	Description	Contamination Measurements († Manually Calculated by RCT)									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW of 6 drum transfer (~35% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	LAW of 12 empty drum transfer (~35% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C5	LAW of 15 drum transfer (~35% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	Tech smear of 15 drum transfer (1/drum)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C7	LAW of 16 drums ready for transfer (~35% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C8	Tech smear of 16 drums ready for transfer (1/drum)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C9	LAW of 8 pallets accessible areas (~15% each). Bottom of 4 pallets (~75% each)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C10	Tech smear of 8 pallets (1/pallet)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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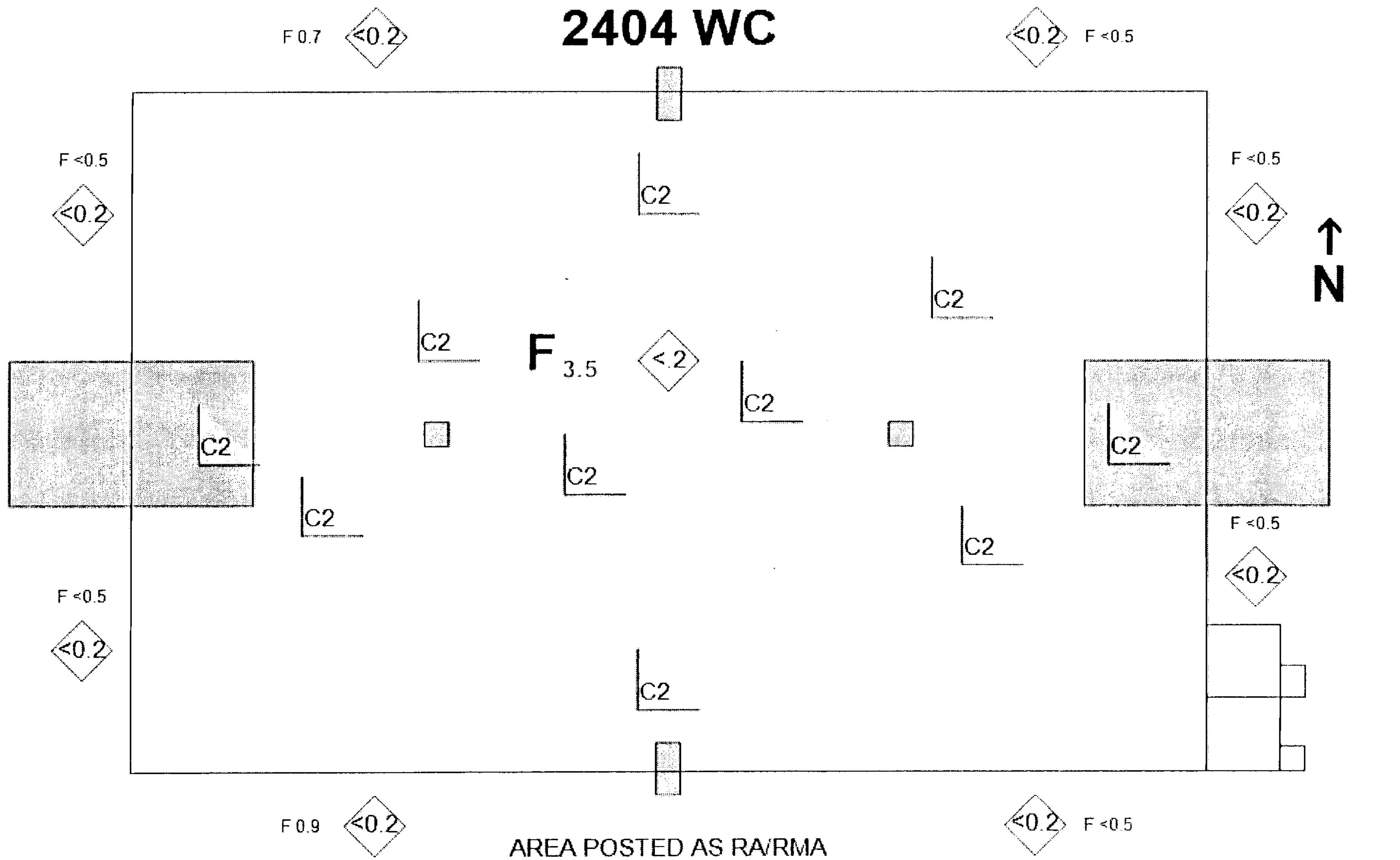
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101638

Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/13/2011 11:16:16

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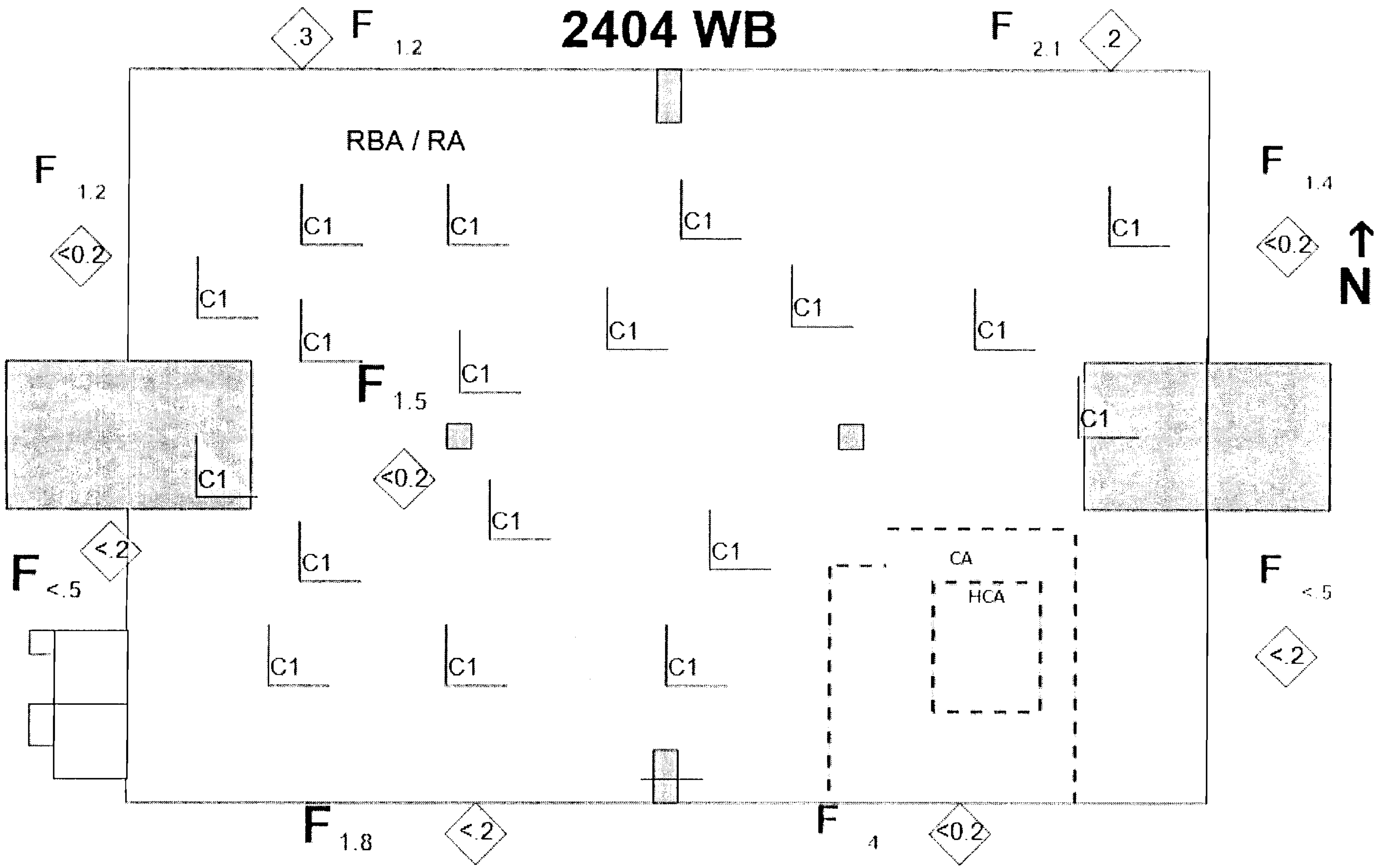
Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101638

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0072	DTHNC-0958	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0066	SCLL4-0076	β0.40α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-13-11	B. Stancil
Tubbs, Duane	h0106412	6-13-11	[illegible]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 28 2011	[illegible]

History

2011-06-13 11:16:16 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101640

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/13/2011	1000 / 1115	200 WEST / 2404WB / N/A / N/A	WP-611/3

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☐ Required Task: N/A
- ☐ Job Coverage: N/A
- ☑ Other: WRAP-RSP-016

Description of Work/Comments:

Survey of waste drums out of the 2404WB RBA per WRAP-RSP-016. All portions of the survey were complete except for the LAWs of the bottom of the pallets, those are to be performed prior to the drums physcially leaving the building.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rates of drums	F	18	18	2	1	0.4	18.4	18.4

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	Tech Smears (1 per drum, 1 per pallet)	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C2	LAWs of drums (~35% of each drum)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101640	

Map/Sketch

DRUMS:

0058965
342109-07
Z72-7-76
WH-86-066
RHZ-213-A18385
LC8202-02
LC8201-06
LC8201-04
LC8201-04
LC8201-02
LC8112-23
LC8006-06
A-84-015
342116-09
642109-10
LC8112-09
ZORGA9205
LC8112-13
LC8112-08
LC8112-07
LC8112-04
LC8112-02
LC800907
LC8112-11
LC8112-18
LC8201-17
LC8201-23
LC8006-04
BN-83-001

Map Name: List of drums released		Map Description: List of drum #s						
Legend # Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101640	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
PAM	ACHN2-0682	DTHN3-0948	0.16
GM	CMEBB-0165	DTEB9-0048	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	6/14/11	[signature]

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 23 2011	[signature]

History

2011-06-14 07:48:07 - Submitted
2011-06-14 07:49:54 - UnSubmitted Fixed the date information.

2011-06-14 07:50:08 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101652

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/14/2011	0900 / 1600	200 W / 2404 Complex / 2404 WB / contamintation area	WP-611/3

Purpose of Survey:

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: Radcon
- [ ] Ram Shipment: N/A
- [x] Required Task: WRAP-RSP-015/1
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - 10 Count Time (Sec.) — 40 % Surveyed
  - 20 # of Static Counts — 40 Square Feet
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - 5 Count Time (Sec.) — 40 % Surveyed
  - 20 # of Static Counts — 40 Square Feet
- [ ] Other: N/A

Description of Work / Comments:

Performed survey of drums located in the contaminated area inside 2404 WB. This activity was in support of the WB Recovery.
Air sample taken on this entry in the CA

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Comments: Laws were performed IAW WMP-350 section 6.2. and tech smears performed IAW WRP1-OP-1230.
LAWs performed on lines C3,C4, and C6 along with directs on line C9 were performed without beta-gamma readings due to high background, smears were taken.

Removed remaining pallets of drums from row 8 inside 2404 WB located inside the contaminated area. Along with the pallets of drums located inside the exclusion zone also located inside the contaminated area. These drums where surveyed to be set inside a RBA. Instruments released from the CA where moved to a lower background area to saticfy the beta-gamma requirements for instrument release.
Beta-gamma survey performed with a sheilded probe GM.
~~For all the drum numbers see additonal pages 7 and 8.~~ CH 7.13.11

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Dose rate on the two bags of laundry	C	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D2	General area dose rate of the area around the CA	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101652

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Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Performed smears on drums removed from the CA (4) tech smear per drum (1)top(1)bolt(1) side(1)bottom lip	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C2	Performed smears on the pallets removed from the CA (4) tech smears per pallet(1) top(1)side(1)forklift hole(1)bottom	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C3	Performed laws on drums removed from the CA (~75%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	NA/LAW †	<D/LAW †
C4	Performed laws on pallets moved from the CA (~50%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	N/A†	<D/LAW †
C5	Survey of instruments used inside the CA. two smears on each located, (1) smear on the body (1) smear on the probe	50	0	N/A	N/A	N/A†	N/A†	N/A	6	Smear	50	0	<1000†	<20†
C6	Survey of instruments used inside the CA. Laws on both the body and the probe (~80%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	NA/LAW †	<D/LAW †
C7	Performed direct survey on the instruments used inside the CA for the release survey.	50	0	N/A	N/A	<5,000 †	<100†	10	6	N/A	N/A	N/A	N/A	N/A
C8	Performed laws on the floor in the RBA outside the CA	50	0	N/A	N/A	N/A†	N/A†	10	6	LAW	50	0	<D/LAW †	<D/LAW †

Contamination Measurements (Continued)

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C9	Performed survey on the step off pad law (~95%) and direct. took the law to the cave for beta gamma survey. No beta gamma direct performed due to high of background.	50	0	N/A	N/A	NA†	<100†	10	6	LAW	50	0	<D/LAW †	<D/LAW †
C10	Performed survey on the step off pad tech smears (2)	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C11	Performed survey on the laundry bags Laws on both bags	50	0	N/A	N/A	N/A†	N/A†	10	6	LAW	50	0	<D/LAW †	<D/LAW †
C12	Performed survey on the laundry bags (2) smears on each laundry bag	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†

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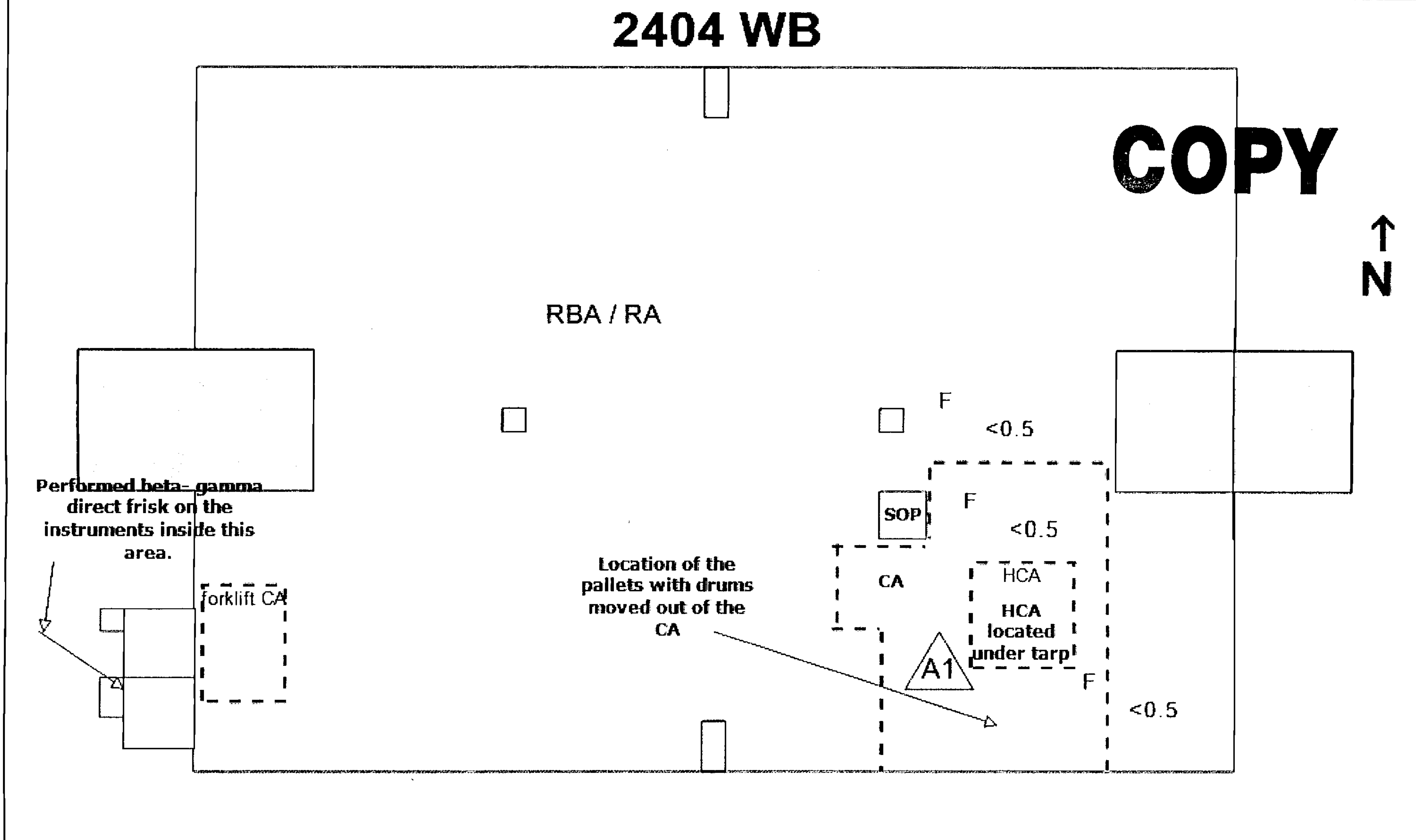
Map/Sketch



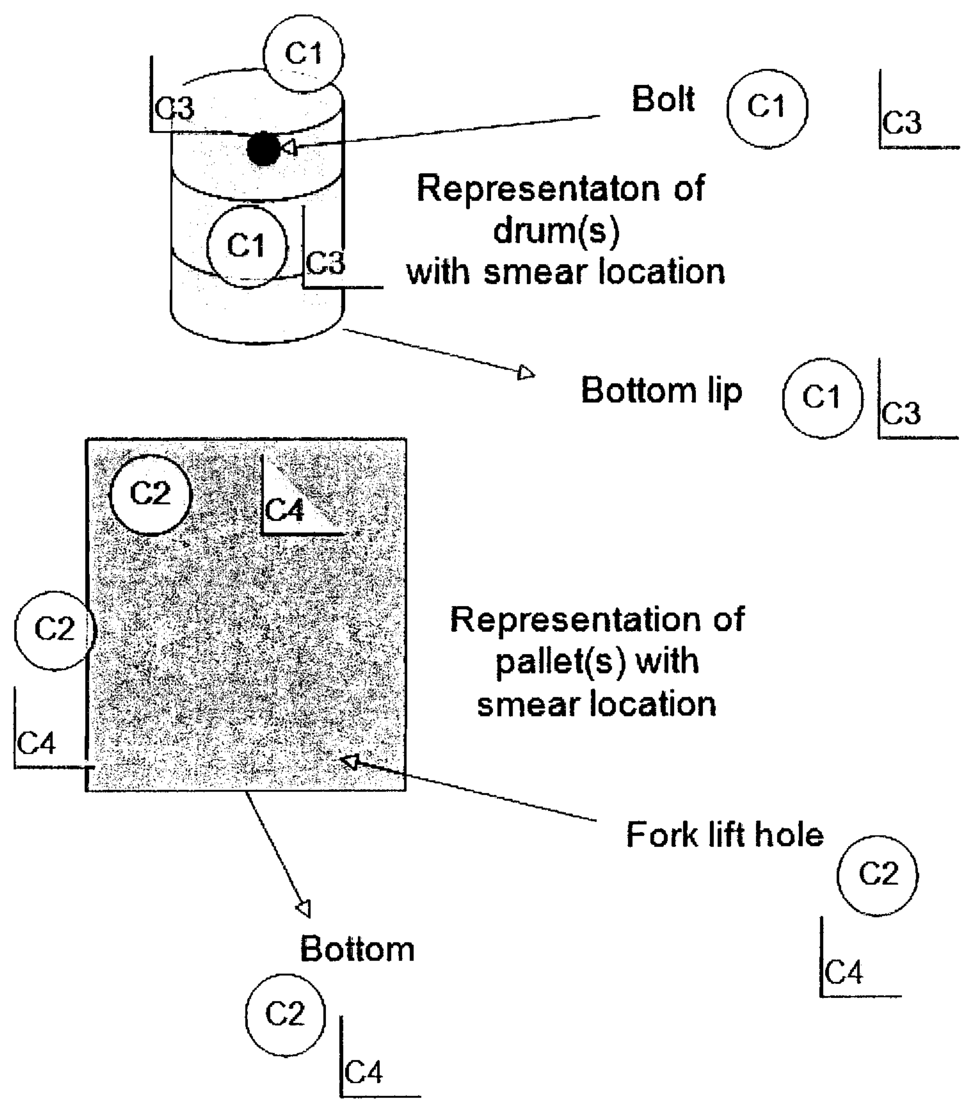
Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB	Map Description: Drums and Pallets

Legend										
	[#] Direct Measurement	Air Sample	(#) Smear	|# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
	---------- (designation inside) ---------- Radiological Area Boundary							Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch

Instruments used inside the CA

Pams

BODY	PROBE
ACHN2-0063	DTHN3-0427
ACHN2-0209	DTHN3-1011
ACHN2-0411	DTHN3-0862

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Map Name: 2404 WB | Map Description: Instruments released

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101652	

Air Sample Measurements

A1	GW1101652

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-0427	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
CP	ICEB3-0414	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
2929	SCLL4-0054	DTLLC-0068	βb0.37 αa0.36
GM	CMEB3-0069	DTEB5-0076	0.10
RADECO	H-ASSA1-664	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	7-12-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUL 13 2011	CWielang

History

2011-06-27 10:08:37 - Submitted
2011-07-05 09:01:27 - UnSubmitted Corrections made

2011-07-06 21:11:40 - Submitted
2011-07-11 14:00:46 - UnSubmitted corrections Made

2011-07-12 08:53:10 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101653

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/14/2011	0830 / 1030	200 WEST / 2404 WB / N/A / Warehouses	WP-001/8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly surveys of 2404 WB.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	3	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	4	4	3	1	0.2	4.2	4.2

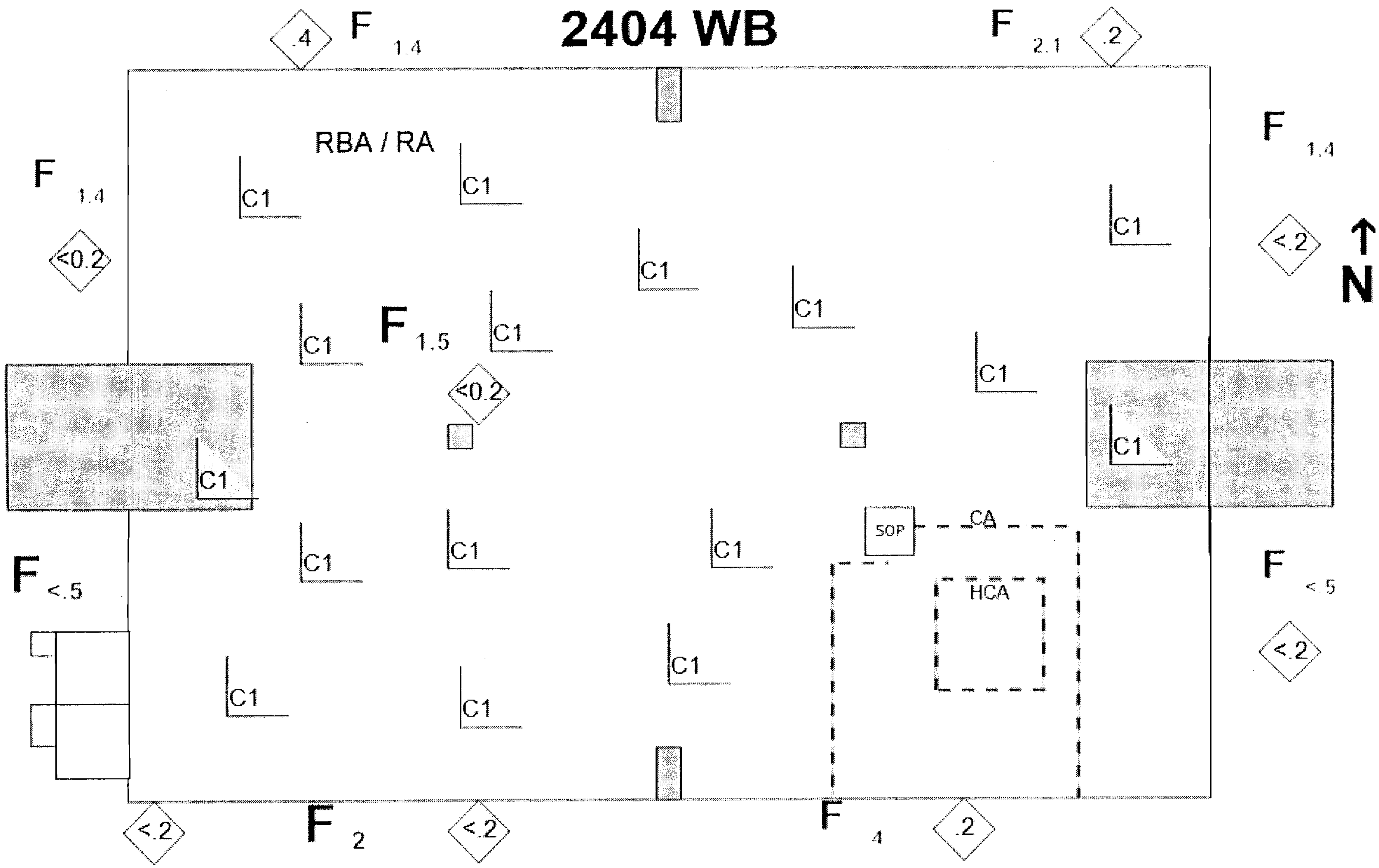
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend: [#] Direct Measurement; Air Sample; (#) Smear; # LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101653

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0136	DTHNC-0343	0.10
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	6-14-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	JUN 24 2011	[illegible]

History

2011-06-14 03:47:36 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101656

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/14/2011	1730 / 2330	200 W / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	2.6	2.6	2	1	0.4	3	3
D3	2404 WC highest dose rate of general work area	F	1.6	1.6	2	1	<0.2	1.6	1.6
D4	2404 WC highest dose rate of exterior walls	F	1	1	2	1	<0.2	1	1

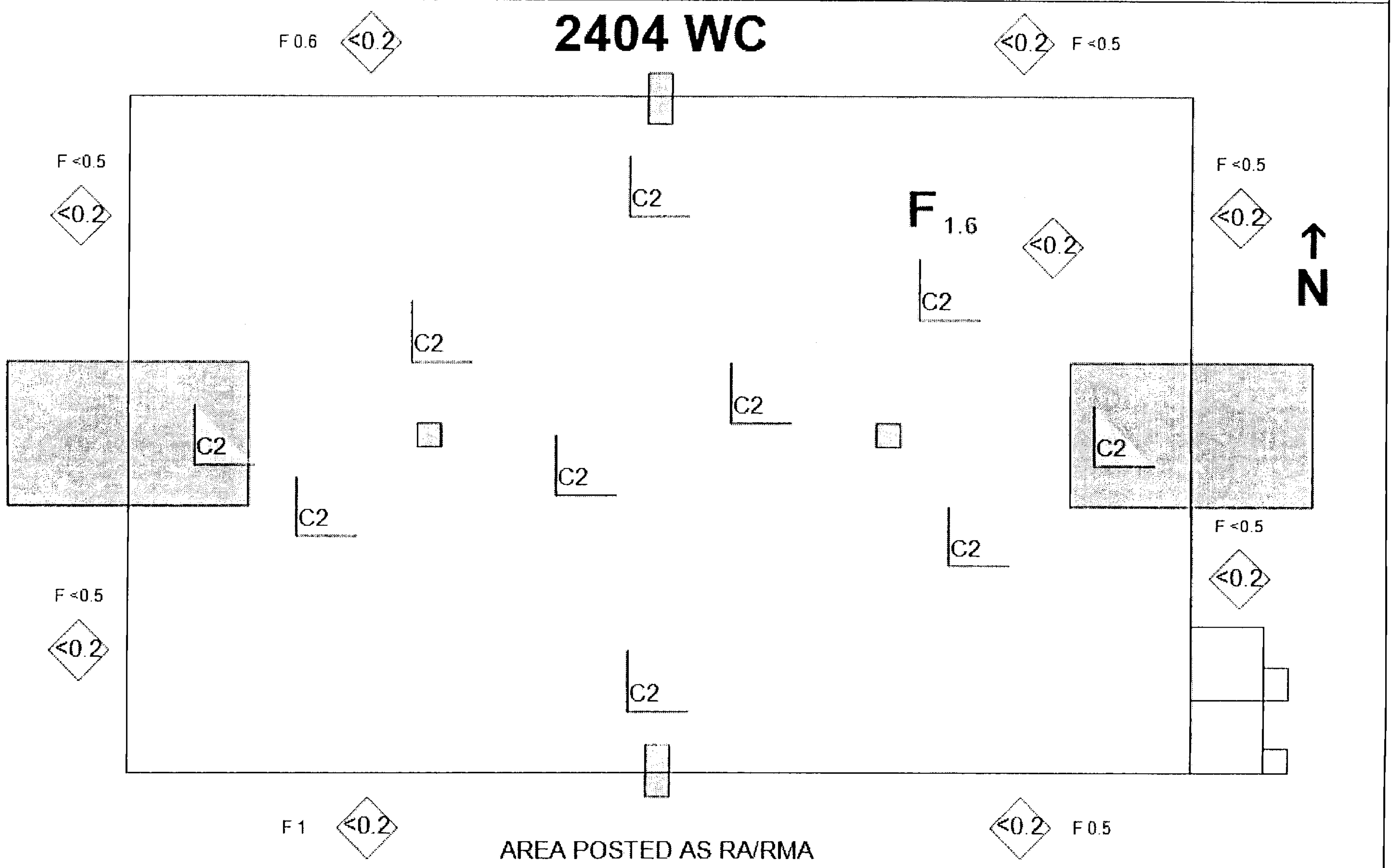
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

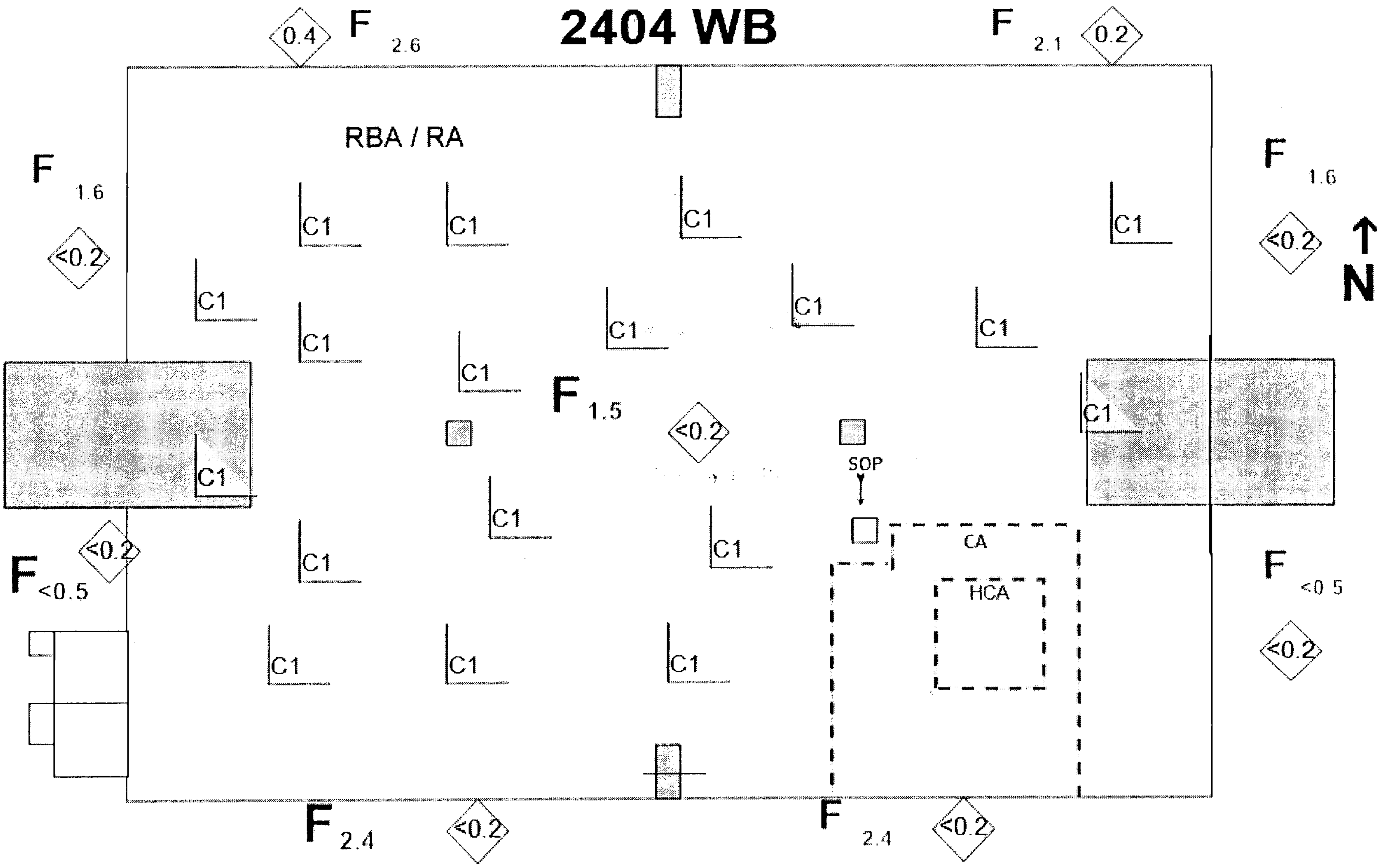
Map/Sketch



Map Name: 2404 WC	Map Description: WP-SII004

Legend								
	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ----------			Radiological Area Boundary			Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101656	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEBB-0165	DTEB9-0048	0.10
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-14-11	B. Stancil

Reviewers

Name	HID	Date	Signature
CWieland	6197614	JUN 24 2011	CWi

History

2011-06-14 11:56:20 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101665

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/15/2011	0800 / 1600	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001/1, RSP-WP-008/5, RSP-WP-002-00
  - Released to: RadCon & Operations
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 & WRAP-RSP-002/5
- [x] Other: Survey out laundry bags

Description of Work/Comments:

Survey and decon CA/RA (HCA is within the CA under tarps) in 2404 WB.

This entry entailed removal of tarps and kraft paper up to, but not including, the HCA (under a separate tarp). Survey the CA/RA using LAWs, tech smears and directs to downpost the CA/RA area around the HCA, release the rolling ladder, and leave the HCA (under the tarp) with a CA/RA above.

Tarps and kraft paper, removed from north and south sides of HCA. Decon of small areas of fixed and low level removable contamination necessary on the floor area north of the HCA.

Although the area south of the HCA was cleared for downpost, decon was in process in the area north of the HCA at the end of the entry. Therefore, downposting of this area will continue when decon of the north side of the area is resolved.

Comments: Although not downposted, the area south of the HCA (under tarp) was surveyed in accordance with WRAP-RSP--002/5.

This survey includes surveys for release of 3 PAMS used in the CA, 2 laundry bags & 2 Lapel Pumps/2 heads (ID numbers in maps section) and One rolling ladder. Instruments released according to RSP-WP-10-001-01. Lapels and heads released according to RSP-WP-008/5. The ladder was released according to RSP-WP-002-00.

*Note: Tech smears on the rolling ladder were taken as follows: 4 TS - one on each wheel, 2 TS - one on each handrail, 10 TS - one on each step and 3 TS on the frame.

Direct Beta/Gamma (B/G) surveys and B/G surveys on LAWs not performed due to high background.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Area Dose Rate in CA/RA of 2404 WB	F	0.5	0.5	3	1	N/A	0.5	0.5
D2	Dose rate of 2 laundry bags from CA	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101665

Dose Rate Measurements (Continued)

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

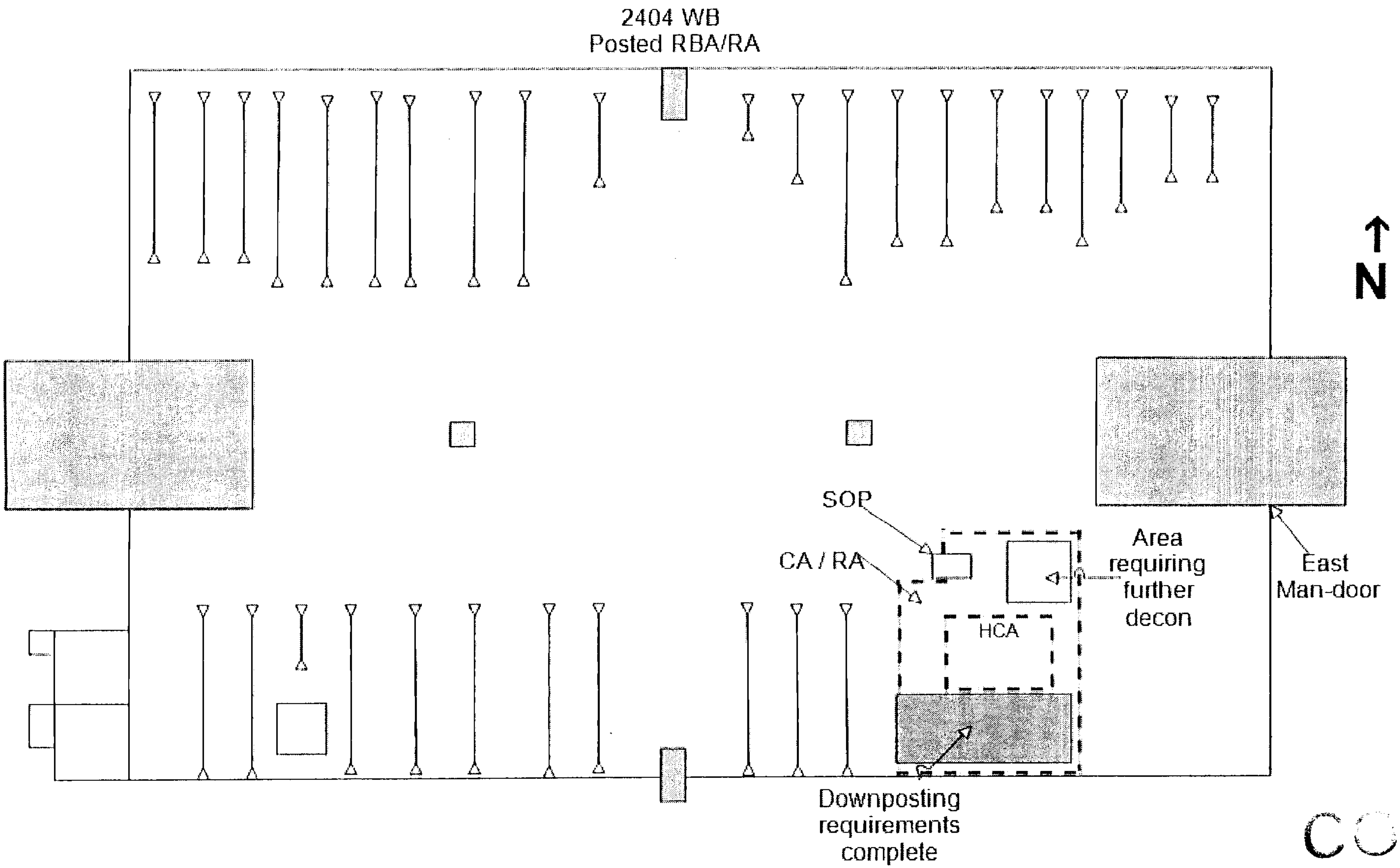
No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D3	Dose rate of 2 laundry bags from CA	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Pre-Job LAWs (~85%) of floor areas in CA/RA including tarped/papered areas of CA/RA and HCA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C2	Tech smears of floor area south of HCA (60 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	LAWs (~90%) and direct survey of floor and accessable vertical surfaces in area of CA/RA south of HCA coverd tarp	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C4	Tech smears of 2 laundry bags (2 TS ea)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C5	LAWs (~50%) of 2 laundry bags	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C6	Tech smears of 3 PAMs, 2 lapel pumps & 2 lapel heads (1 TS ea)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C7	LAWs (~85%) and direct survey of 3 PAMs, 2 lapel pumps & 2 lapel heads	N/A	0	N/A	0	N/A†	<500†	N/A	6	N/A/LAW †	<D/LAW†
C8	Tech smears on rolling ladder in CA/RA (19 TS)*SEE NOTE	N/A	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C9	LAWs (~50%) and direct surveys of rolling ladder in CA/RA	N/A	0	N/A	0	N/A†	<100†	N/A	6	N/A/LAW †	<D/LAW†

Map/Sketch

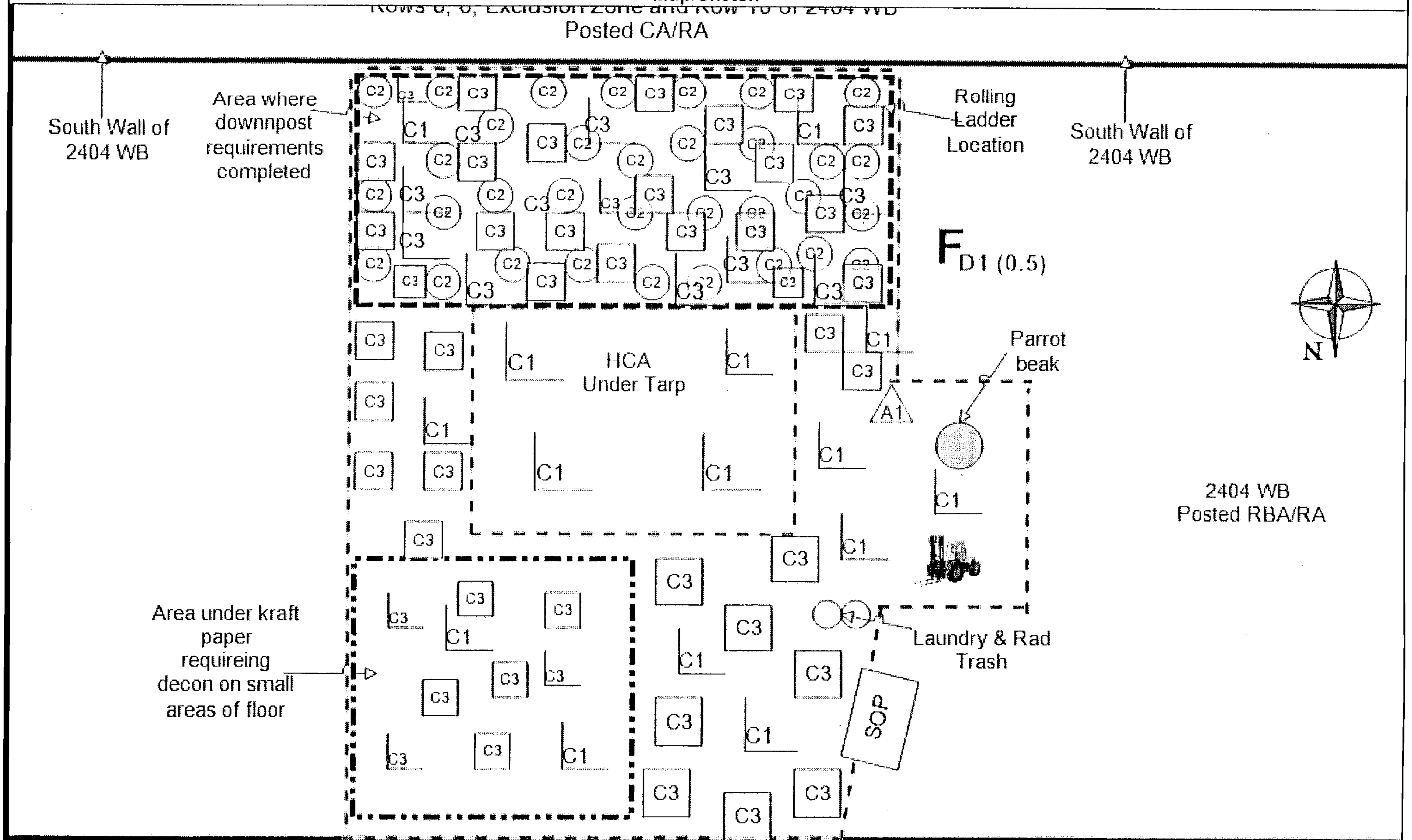


Map Name: 2404 WB

Map Description: Configuration of Postings in 2404 WB as of 6/15/11

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 404 WB	Map Description: Survey Locations for Downposting SE Corner of 2404 WB

Legend

[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch

PAMS surveyed and released from the CA:

ACHN2-0063 / DTHN3-0427
ACHN2-0166 / DTHN3-0037
ACHN2-0209 / DTHN3-1011

LAPEL Pumps & associated heads surveyed
and released from CA

4545
4542

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Map Name: Instrument List

Map Description: List of instruments and LAPEL pumps used during work

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101665

Air Sample Measurements

A1	GWP-1101665	A2	WP-23962

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0063	DTHN3-0427	0.16
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
CP	ICEB3-0456	N/A	N/A
RADECO	H-ASSA1-664	N/A	N/A
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36
Tennelec "A"	S5-XLB 75063	1430	β0.39 α0.25

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	h9032270	6-17-11	M. McKenna

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	JUN 24 2011	[illegible]

History

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101667

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/15/2011	0830 / 1030	200 WEST / 2404 WB / N/A / Warehouses	WP-001/8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 Shiftly surveys of 2404 WB.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area around the CA	F	0.8	0.8	3	1	<0.2	0.8	0.8
D2	2404 WB highest dose rate of exterior walls	F	3	3	3	1	0.4	3.4	3.4
D3	2404 WB highest dose rate of general work area	F	1.5	1.5	3	1	<0.2	1.5	1.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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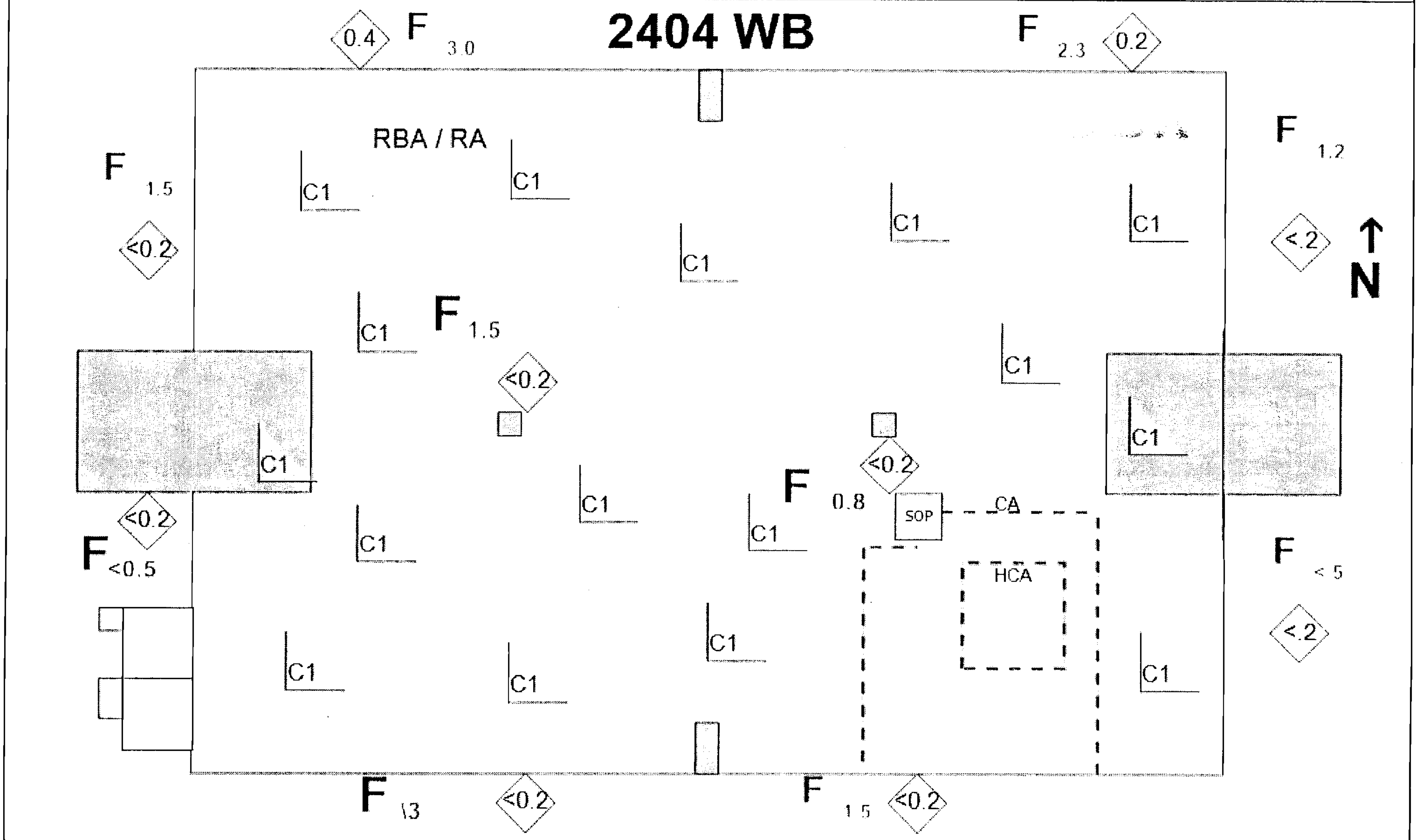
Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101667

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0041	DTHN3-0717	0.16
GM	CMEB3-0072	DTHNC-0958	0.10
CP	ICEB3-0456	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	6-15-11	Rebecca D Dinger

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	JUN 24 2011	[illegible]

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101670

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/15/2011	1730 / 2330	200 W / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:
WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	2404 WB highest dose rate of exterior walls	F	2.8	2.8	2	1	0.4	3.2	3.2
D3	2404 WC highest dose rate of general work area	F	1.0	1.0	2	1	<0.2	1	1
D4	2404 WC highest dose rate of exterior walls	F	4	4	2	1	<0.2	4	4

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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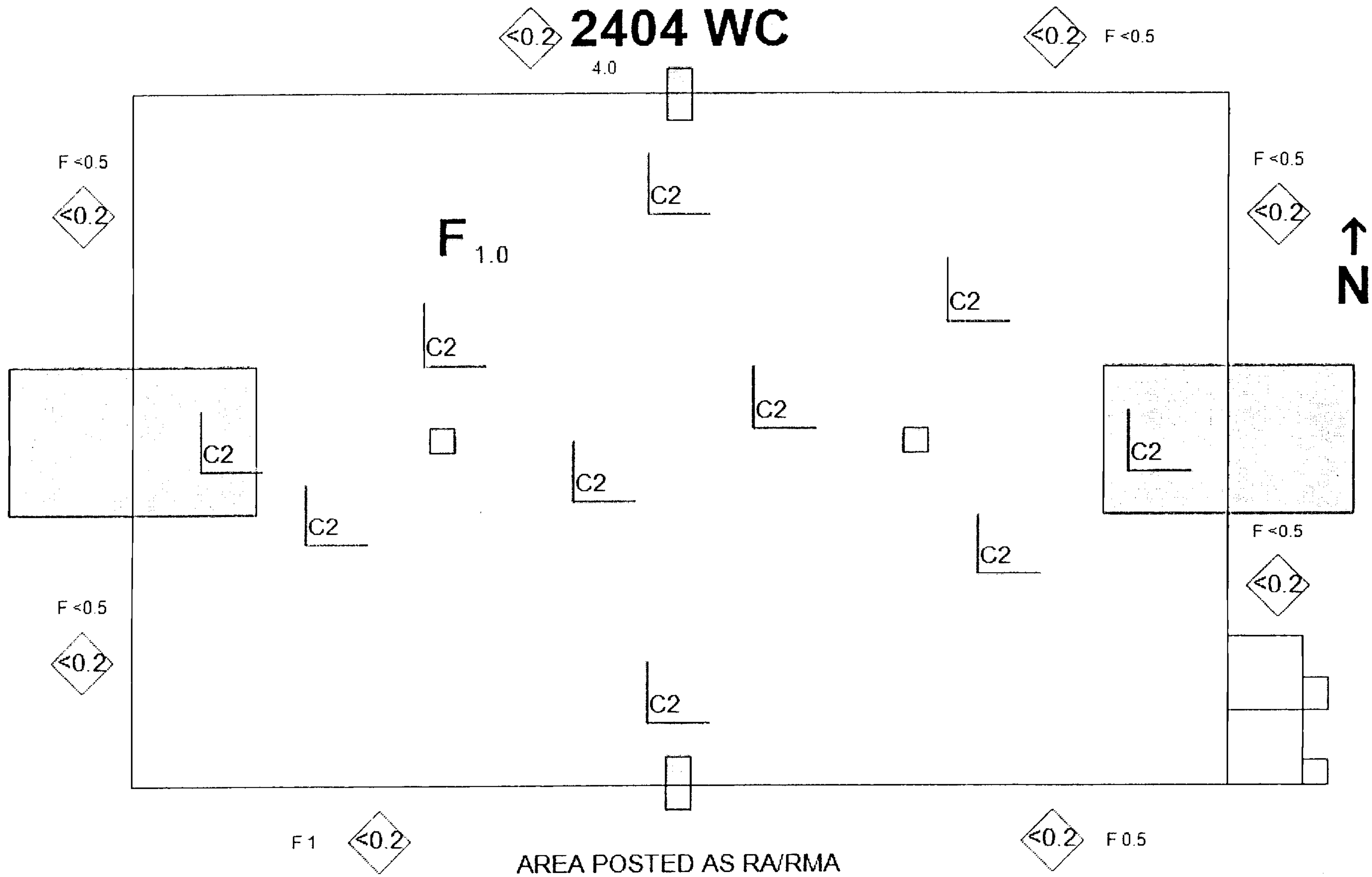
Map/Sketch



Map Name: 2404 WC

Map Description: WP-SH004

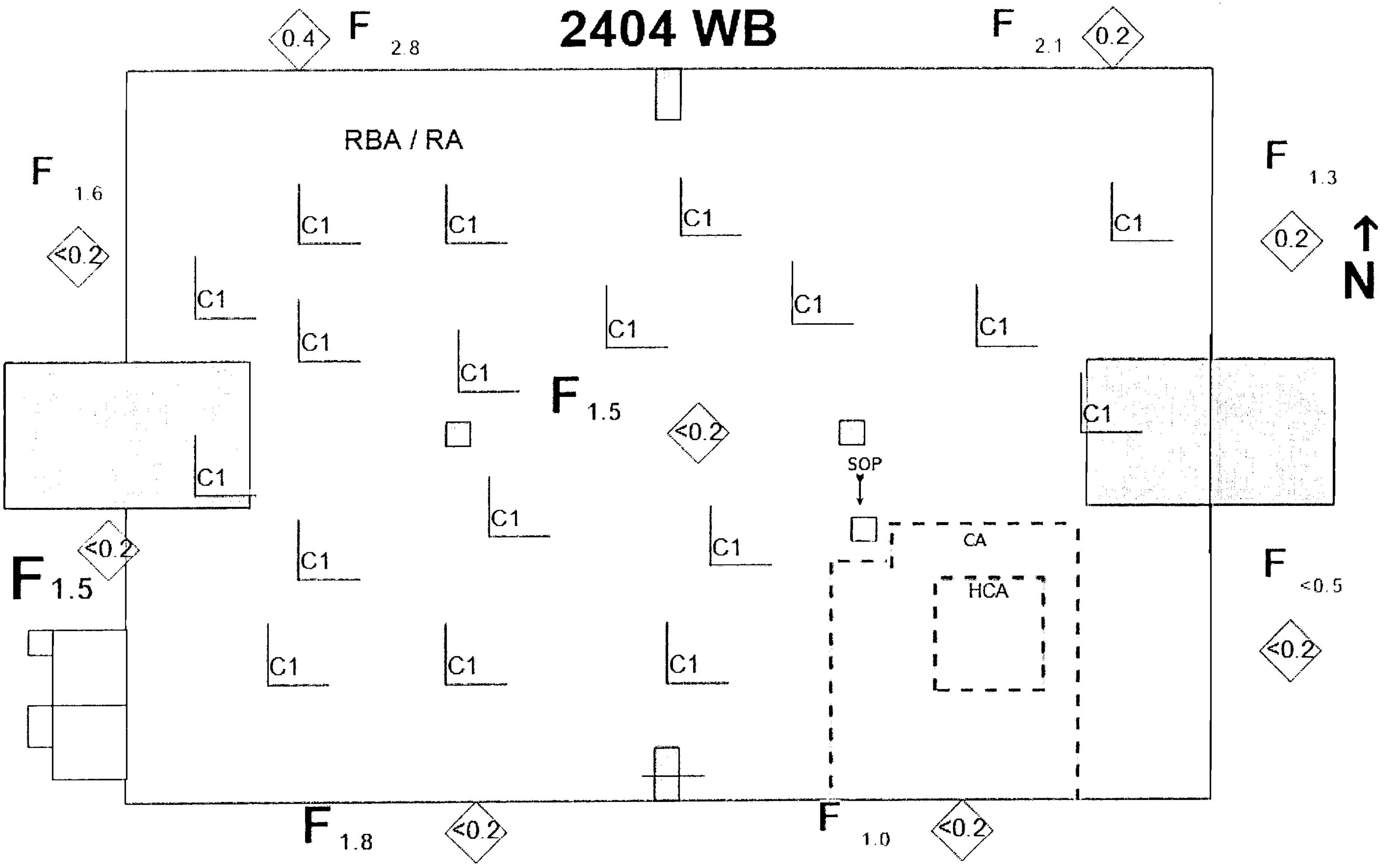
Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101670

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0682	DTHN3-0948	0.16
GM	CMEBB-0068	DTHNC-0670	0.10
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Park, Nancy	h7274392	6-15-11	[signature]
Stancil, Barbara	h5717168	6-15-11	B. [signature]

Reviewers

Name	HID	Date	Signature
CWielong	6197614	JUN 24 2011	[signature]

History

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101673

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/16/2011	0730 / 0830	200 WEST / 2336 / 2404 WB / na	WP-001/Rev 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 in 2404 WB and weekly survey of drums 0053165 and 0053739

Comments: LAWs performed in accordance with WMP-350 section 6.2.
TECH SMEARS COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Outside Dose (WP-SH003)	F	3	3	3	1	0.4	3.4	3.4

Contamination Measurements

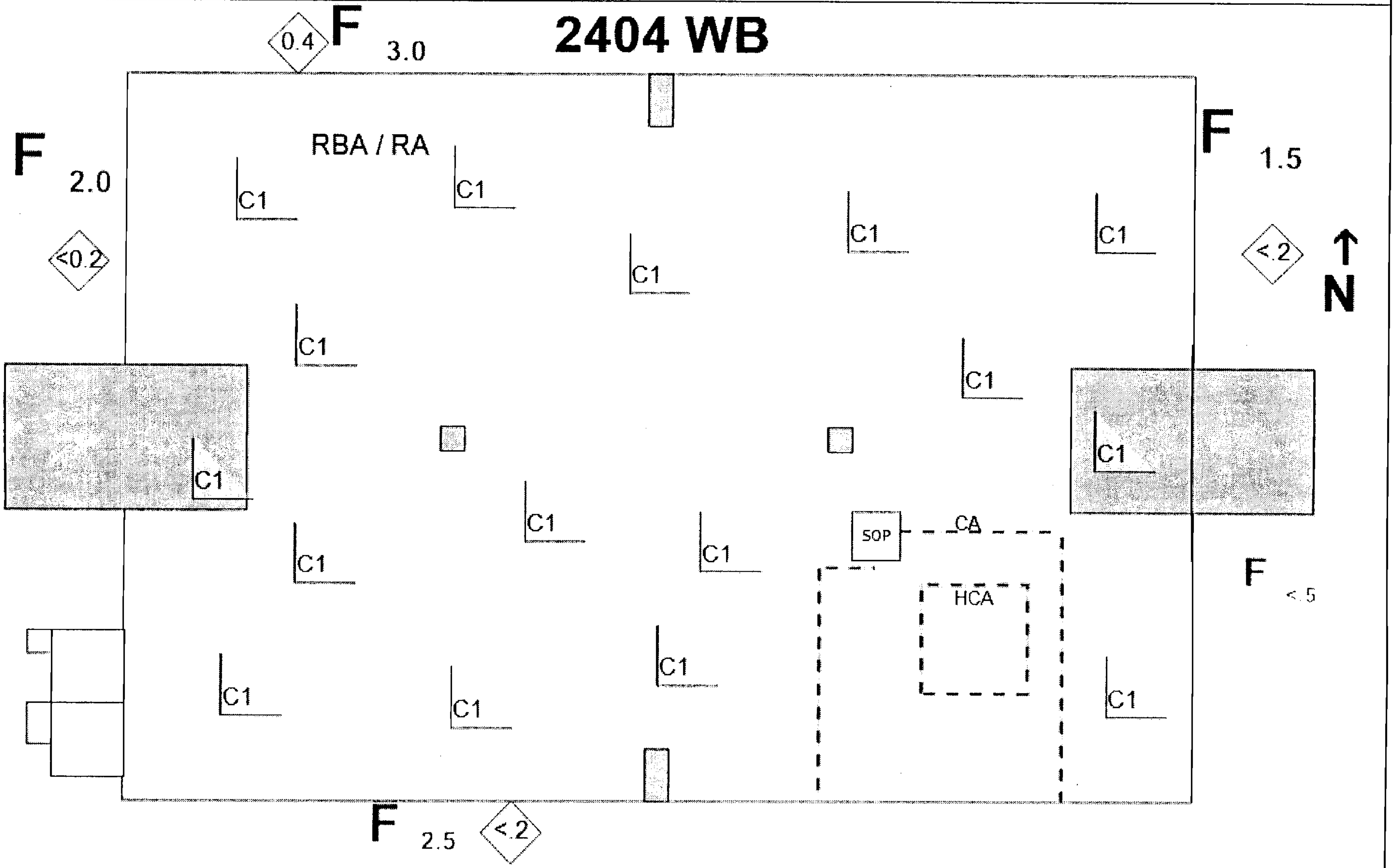
† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	WP-SH003 (70%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	drums 0053165 and 0053739 (2 smears each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	drums 0053165 and 0053739 (70%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

C

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101673

Map/Sketch



Map Name: map	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend									
	[#] Direct Measurement	Air Sample	(#) Smear	#̲ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101673

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0049	N/A	N/A
CP	ICHN2-0009	N/A	N/A
PAM	ACHN2-0063	DTHN3-0427	0.16
GM	CMEB3-0072	DTHNC-0958	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	6·17·11	

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 24 2011	

History

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101676

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/16/2011	0800 / 1600	200 West / WRAP / 2336 W / N/A / various	RWP WP-001, Rev 8

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH004
- [ ] Job Coverage: N/A
- [ ] Verification survey α = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Verification survey βγ = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [x] Other: SWB TRANSFER, DRUM MOVEMENTS

Description of Work / Comments:

Shifty surveys at 2404WC.

3 SWB'S to HERTR from WC.
12 SWB'S FROM CWC TO 2404WC. (CCP-FD-SWB-07)

19 DRUMS AND 5 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2404 WC.
PER SURVEY PLAN WRAP-RSP-016 REV. 0.
4 DRUMS AND ONE PALLET SURVEYED FOR TRANSFER FROM 2404 WB TO 2336 /R.
PER SURVEY PLAN WRAP-RSP-016 REV. 0.

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2. Tech smears counted per WRP1-OP-1230.

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Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest 2404WC outside dose rate.	F	1.6	1.6	2	1	<0.2	1.6	1.6
D2	highest general area dose rate of drum moves FROM 2404WB TO 2404WC	F	9	9	2	1	<0.2	9	9
D3	highest general are dose rate of SWB move	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D4	HIGHEST GENERAL AREA DOSE RATE OF DRUM MOVES FROM 2404WB TO 2336	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D5	HIGHEST GENERAL AREA DOSE RATE OF SWB TRANSFER FROM CWC TO 2404WC.	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C2	LAW's on all drum moves (30% of each drum)	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C3	LAW's of SWB move (30 % of each SWB)	100	0	N/A	N/A	N/A†	N/A†	10	6	LAW	100	0	<D/LAW †	<D/LAW †
C4	LAW's in 2404WC on floor. (10%)	100	0	N/A	N/A	N/A†	N/A†	10	6	LAW	100	0	<D/LAW †	<D/LAW †
C5	DRUM MOVEMENTS FROM 2404WB -SMEAR (1) PER DRUM 15 DRUMS AND (1) PER PALLET- FOUR PALLETS TO 2404WC	100	0	N/A	N/A	N/A	N/A	10	6	Smear	100	0	<1000	<20
C6	DRUM MOVEMENTS FROM 2404WB -SMEAR (1) PER DRUM 4 DRUMS AND (1) PER PALLET- 1 PALLETS TO 2336 S/R	100	0	N/A	N/A	N/A	N/A	10	6	Smear	100	0	<1000	<20

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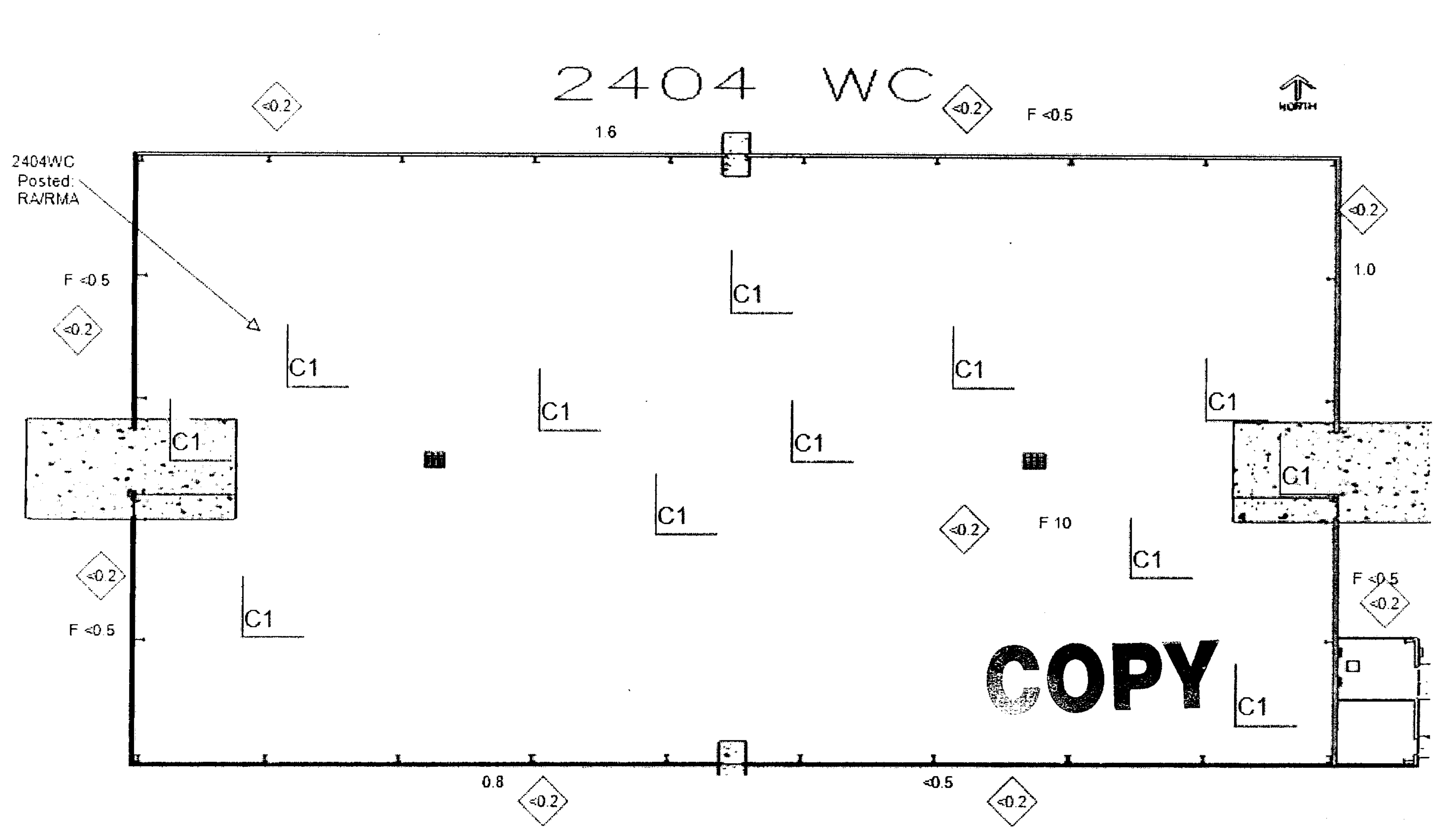
Map/Sketch



Map Name: 2404WC	Map Description: WP-SH004

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101676	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1557	N/A	N/A
PAM	ACHN2-0209	DTHN3-1011	0.16
GM	CMEB3-0068	DTHNC-0670	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Michelle	h3963478	7-11-2011	Michelle North
Cleveland, Shon	h2820202	7/11/2011	[illegible]

Reviewers

Name	HID	Date	Signature
C Wieland	619761Y	JUL 11 2011	[illegible]

History

2011-07-11 07:27:17 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101682

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/16/2011	0800 / 1600	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey:

- [x] Material Release
  - Number: RSP-WP-10-001/1, RSP-WP-008/5, RSP-WP-002-00
  - Released to: RadCon & Operations
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 & WRAP-RSP-002/5
- [x] Verification survey α = <D
  - <D=No increase in audible count rate

2	Inches/Sec.	.25	Inches Away
N/A	Count Time (Sec.)	25	% Surveyed
N/A	# of Static Counts	100	Square Feet

- [ ] Verification survey βγ = <D
  - <D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Other:
  N/A

Description of Work / Comments:

Decon the North side of CA/RA in 2404 WB.

Comments: Downposted, the area south of the HCA, see WP-1101682.

Surveyed one room waste drum(0056329)

Surveyed and deconned 8 spots on the NE corner of the floor in the CA.

This survey includes surveys for release of 2 PAMS used in the CA. Instruments released according to RSP-WP-10-001-01.

Direct Beta/Gamma (B/G) surveys and B/G surveys on LAWs not performed due to high background.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Area Dose Rate in CA/RA of 2404 WB	F	0.5	0.5	3	1	N/A	0.5	0.5
D2	DRUM 0056329	C	<0.5	<0.5	3	1	N/A	<0.5	<0.5
D3	DRUM 0056329	F	<0.5	<0.5	3	1	N/A	<0.5	<0.5

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Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	Pre-Job LAWs (~85%) of floor areas in CA/RA including tarped/papered areas of CA/RA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	N/A†	<D/LAW †
C2	pre decon Directs on floor of CA (highest)	N/A	0	N/A	1200	N/A	7200	N/A	6	N/A	N/A	N/A	N/A	N/A
C3	post decon Directs on floor of CA (highest)	N/A	0	N/A	200	N/A	1200	N/A	6	N/A	N/A	N/A	N/A	N/A
C4	Drum 0056329 @ 70%	N/A	0	N/A	N/A	N/A	N/A	N/A	6	LAW	N/A	0	N/A	<D/LAW
C5	Drum 0056329 (2 T/S)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	Smear	N/A	N/A	<1000†	<20†
C6	LAWs (~85%) and direct survey of 2 PAMs released from CA	N/A	0	N/A	0	N/A†	<100†	N/A	6	LAW	N/A	0	N/A†	<D/LAW †
C7	Smears OF 2 PAMs released from CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	Smear	N/A	N/A	<1000†	<20†

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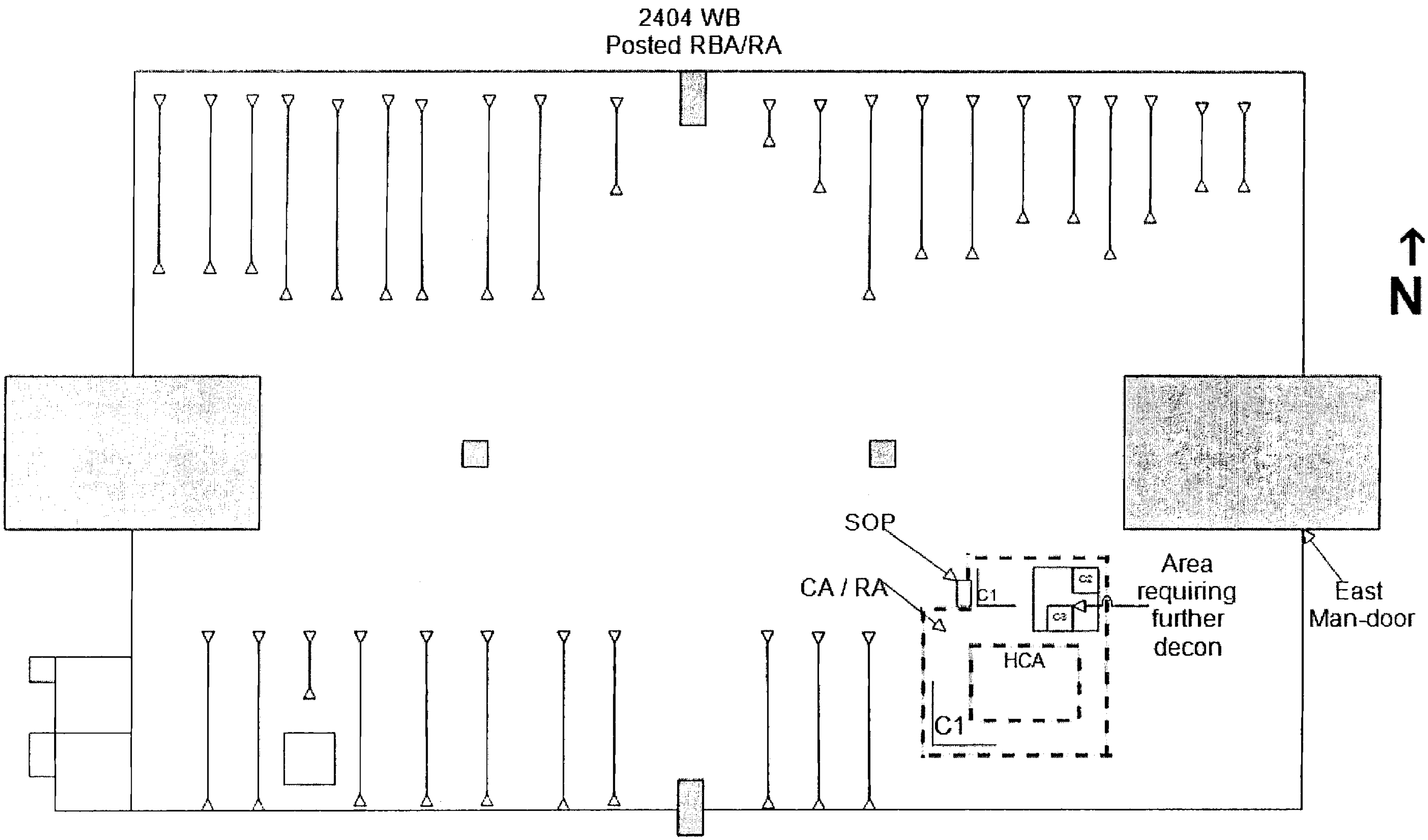
Map/Sketch



Map Name: 2404 WB	Map Description: Configuration of Postings in 2404 WB as of 6/16/11

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	0# Other Measurement

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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Map/Sketch

PAMS surveyed and released from the CA:

ACHN2-0680 / DTHN3-0950
ACHN2-0378 / DTHN3-0800

Map Name: Instrument List	Map Description: List of instruments and LAPEL pumps used during work

Legend

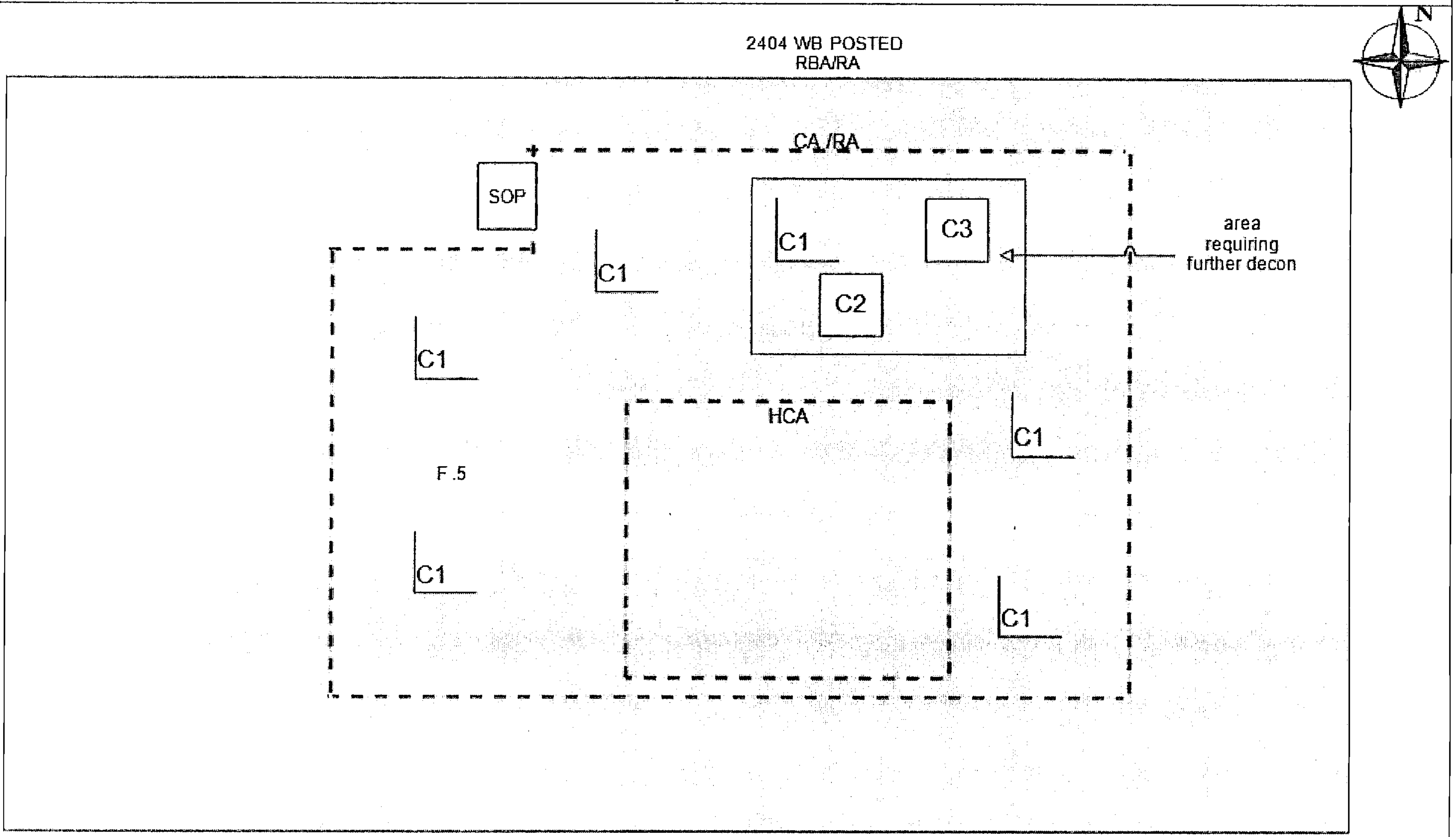
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

• ---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101682	

Map/Sketch



Map Name: 2404 WB	Map Description: CA in 2404 WB

Legend	# Direct Measurement	Air Sample	# Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary							Note: Dose Rates in mrem/hr unless otherwise noted.		

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0680	DTHN3-0950	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
BBCP	ICHN2-0009	N/A	N/A
2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	7-8-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	7-8-11	CW

History

2011-06-21 14:12:41 - Submitted
2011-06-29 14:57:50 - UnSubmitted correction
2011-06-29 14:58:09 - Submitted
2011-07-01 14:37:59 - UnSubmitted correction
2011-07-06 15:07:39 - Submitted
2011-07-08 10:08:34 - UnSubmitted CORRECTION
2011-07-08 10:24:43 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101686

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/16/2011	1630 / 2330	200 W / 2404 WB & 2404 WC / N/A / Warehouses	WP-001/8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003 & WP-SH004
- ☐ Job Coverage: N/A
- ☐ Other: N/A

Description of Work/Comments:
WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Comments: LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	2	2	2	1	<0.2	2	2
D2	2404 WB highest dose rate of exterior walls	F	2.9	2.9	2	1	0.2	3.1	3.1
D3	2404 WC highest dose rate of general work area	F	1	1	2	1	<0.2	1	1
D4	2404 WC highest dose rate of exterior walls	F	1.3	1.3	2	1	<0.2	1.3	1.3

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of general walkways of 2404 WB (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWs of general walkways of 2404 WC (~35%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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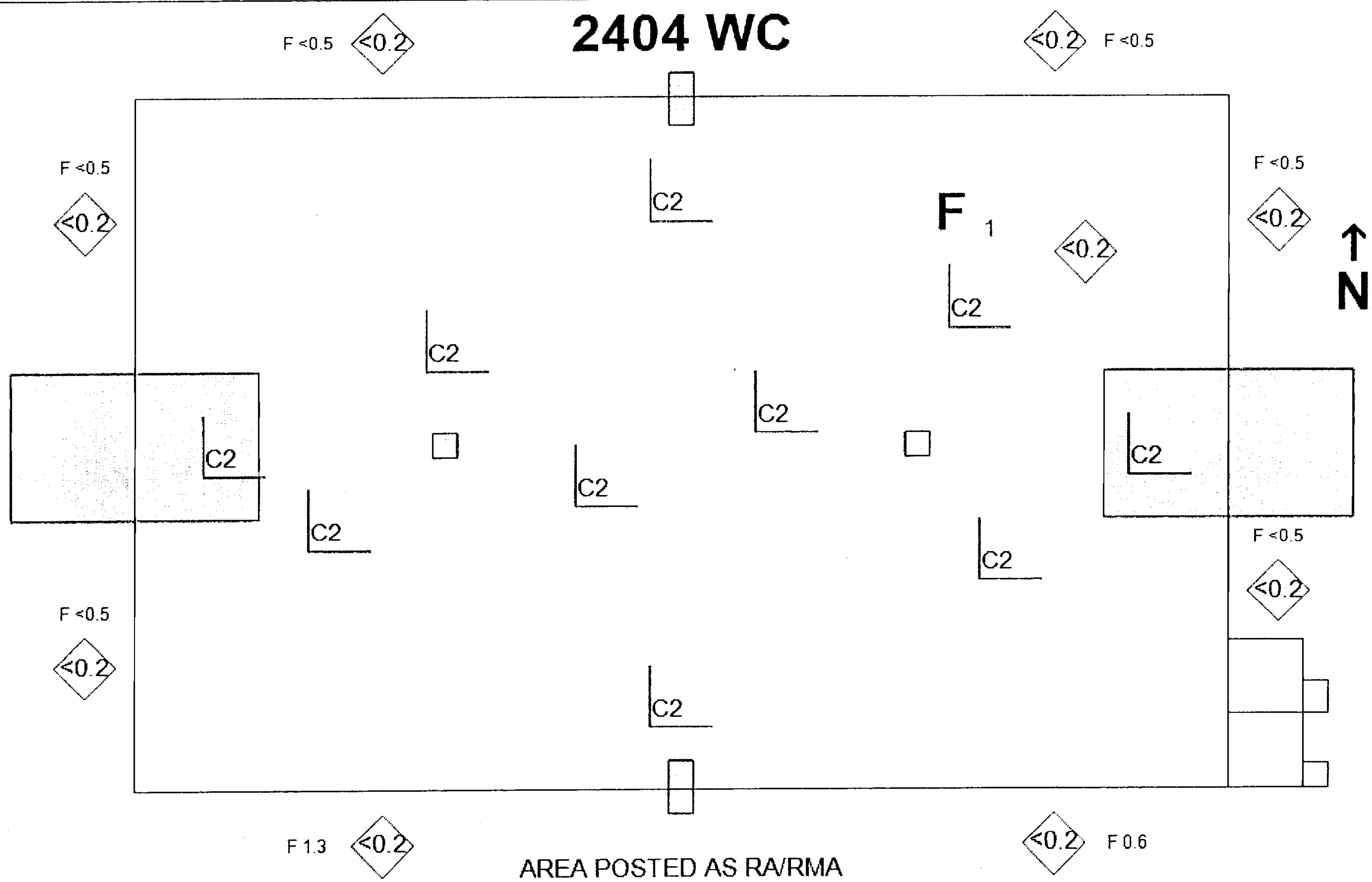
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101686

Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004

Legend | # Direct Measurement | Air Sample | (#) Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance |

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/16/2011 09:18:28

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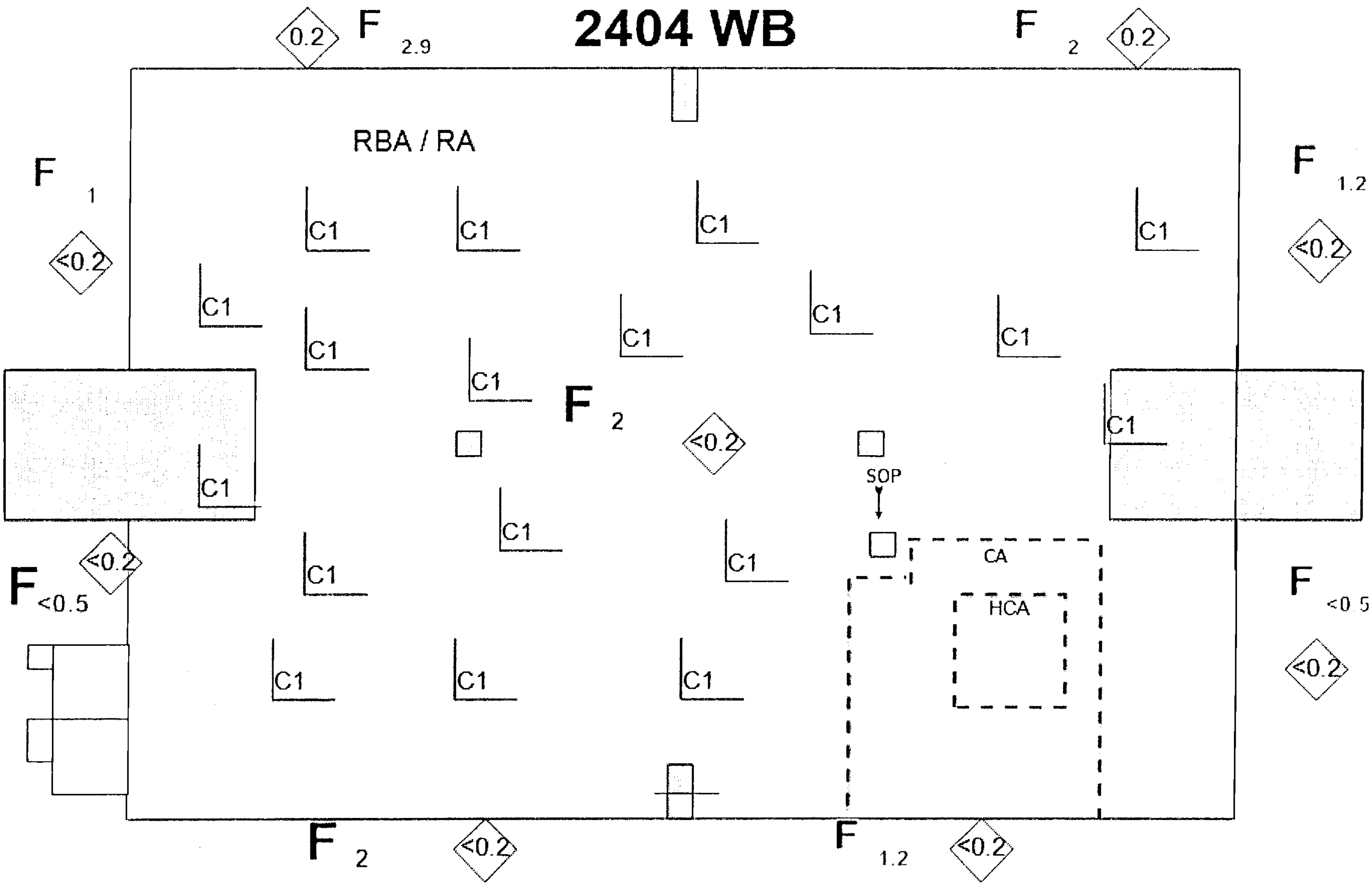
Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101686

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0041	DTHN3-0717	0.16
GM	CMEB3-0072	DTHNC-0958	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-16-11	B. Stancil
Park, Nancy	h7274392	6-16-11	N Park

Reviewers

Name	HID	Date	Signature
CWielang	6197614	JUN 24 2011	[illegible]

History

2011-06-16 09:18:28 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101693

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/17/2011	0830 / 1130	200 WEST / 2404 / WB / na	WP-611/ Rev 3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: RADCON
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 and instrument release from CA of two PAM's and one laundry bag.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWs performed in accordance with WMP-350 section 6.2.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	highest dose (WP-SH003)	F	3	3	2	1	<0.2	3	3
D2	laundry bag	C	<0.5	<0.5	2	1	N/A	<0.5	<0.5
D3	laundry bag	F	<0.5	<0.5	2	1	N/A	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	WP-SH003 (60%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C2	laundry bag (2 smears)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C3	2 PAM's (2 smears each)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	<1000†	<20†
C4	LAW's of laundry bag and PAM's (50%)	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

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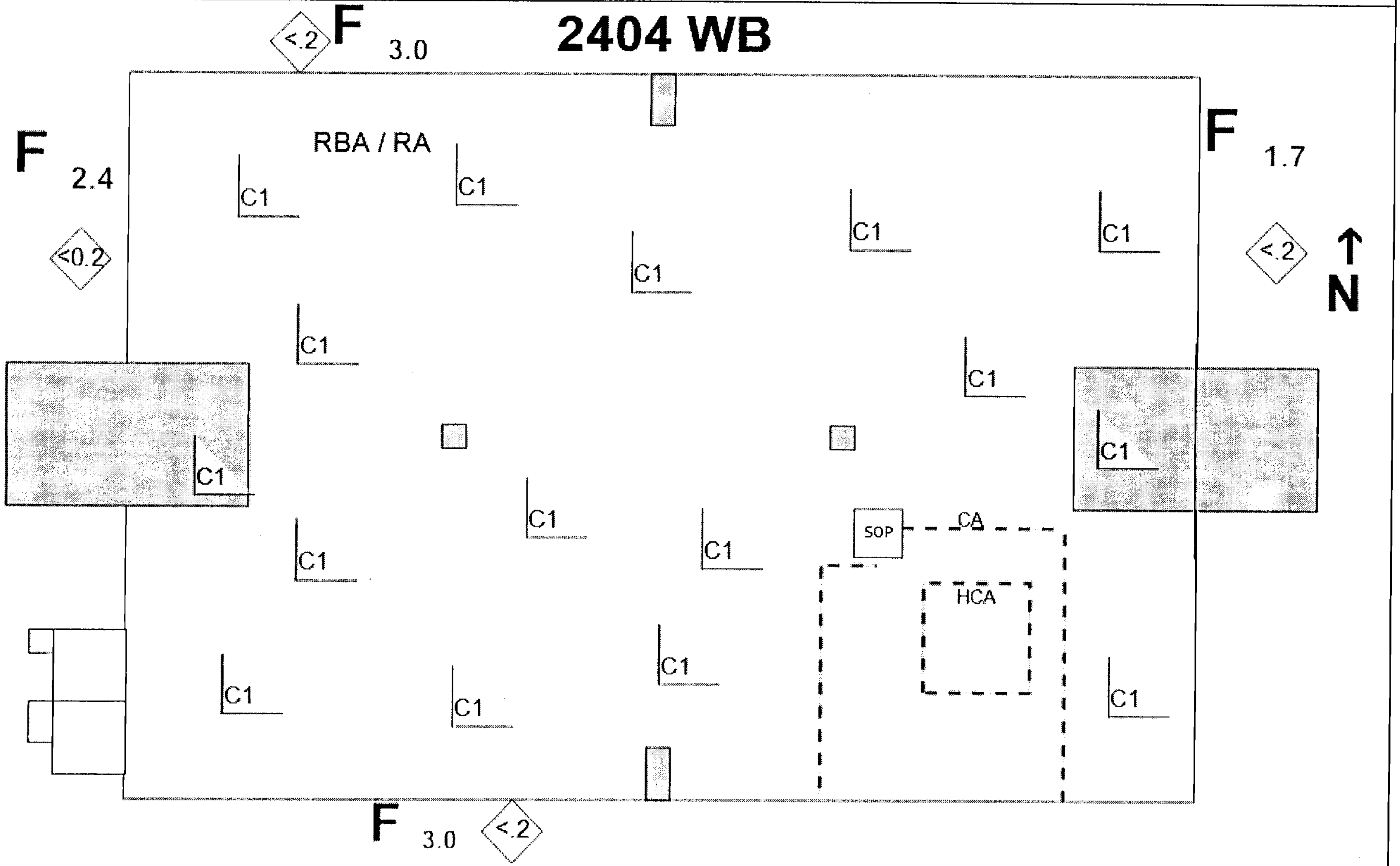
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101693

COPY

Map/Sketch



Map Name: map	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101693 COPY

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0041	DTHN3-0717	0.16
GM	CMEB3-0292	DTHNC-0890	0.10
RO-20	ICEB4-1448	N/A	N/A
Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Rhodes, Nadia	h1552305	6.17.11	[signature]

Reviewers

Name	HID	Date	Signature
SO Mellgren	h0066236	6-29-11	[signature]

History

2011-06-17 11:30:49 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101695

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/17/2011	0900 / 1600	200 W / 2404 Complex / 2404 WB / contamintation area	WP-611/3

Purpose of Survey:

- [x] Material Release
  - Number: RSP-WP-10-001-01
  - Released to: Radcon
- [ ] Ram Shipment: N/A
- [x] Required Task: WRAP-RSP-015/1
- [x] Job Coverage: WRAP-RP-11-03
- [ ] Verification survey α = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Verification survey βγ = <D

<D=No increase in audible count rate

N/A	Inches/Sec.	N/A	Inches Away
N/A	Count Time (Sec.)	N/A	% Surveyed
N/A	# of Static Counts	N/A	Square Feet

- [ ] Other:

N/A

Description of Work / Comments:

Performed survey of floor inside 2404 WB contamination area. Removal of the tarp covering the CA was completed on this entry.

Comments: Laws were performed IAW WMP-350 section 6.2. and tech smears performed IAW WPR1-OP-1230.

The tarp covering the CA was removed and discarded. Direct frisk survey performed on the bare floor in the CA where tarp was located. Tarp over the HCA was untouched and it is still intacted no entry made into the HCA. Background too high to performed direct frisk for beta gamma survey.

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Contamination Measurements

† Manually Calculated by RCT

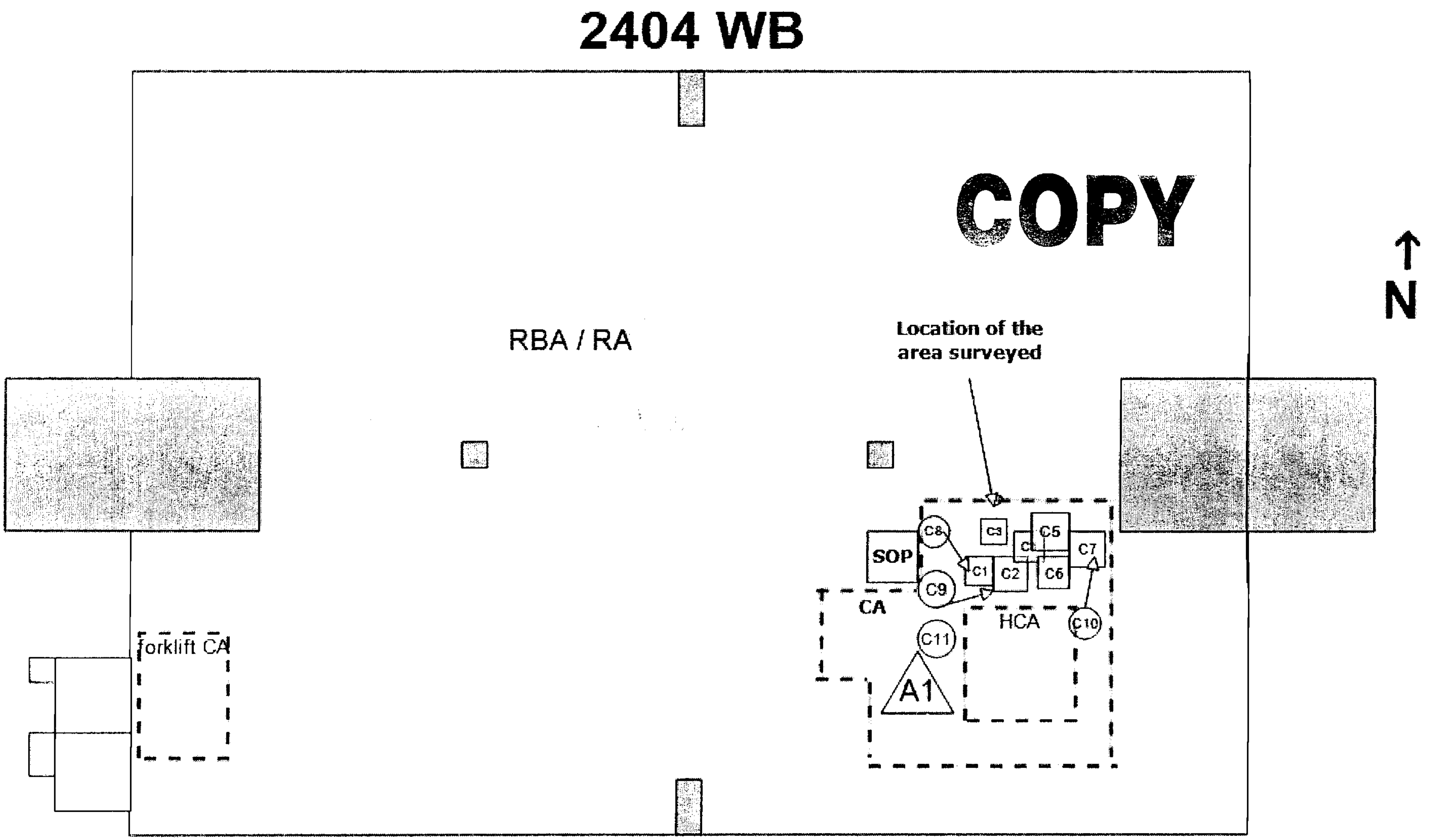
No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Performed direct survey of floor inside the CA. see map on page 2 for the location	N/A	0	N/A	400	N/A†	2400†	N/A	6	N/A	N/A	N/A	N/A	N/A
C2	performed direct survey of floor inside the CA. See page 2 for the location	N/A	0	N/A	120	N/A†	720†	N/A	6	N/A	N/A	N/A	N/A†	N/A†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C3	Direct survey of the floor inside CA. See page 2 for the location	N/A	0	N/A	40	N/A†	240†	N/A	6	N/A	N/A	N/A	N/A†	N/A†
C4	Direct survey of the floor inside the CA. See map on page 2 for location	N/A	0	N/A	100	N/A†	600†	N/A	6	N/A	N/A	N/A	N/A†	N/A†
C5	Direct survey of the floor inside the CA. See map on page 2 for location	N/A	0	N/A	120	N/A†	720†	N/A	6	N/A	N/A	N/A	N/A†	N/A†
C6	Direct survey of the floor inside the CA. See map on page 2 for location	N/A	0	N/A	100	N/A†	600†	N/A	6	N/A	N/A	N/A	N/A†	N/A†
C7	Direct survey of the floor inside the CA. See map on page 2 for location	N/A	0	N/A	300	N/A†	1800†	N/A	6	N/A	N/A	N/A	N/A†	N/A†
C8	Performed tech smear on C1 direct area inside the CA	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	360†
C9	Performed tech smear on C2 direct area inside the CA	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	240†
C10	Performed tech smear on C7 direct area inside the CA	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	360†
C11	Performed tech smear on C3,C4,C5	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend

# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101695	

Air Sample Measurements

A1	GW1101652

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0680	DTHN3-0950	0.16
PAM	ACHN2-0290	DTHN3-1021	0.16
2929	SCLL4-0058	DTLLC-0071	β0.39α0.36
GM	CMEB3-0292	DTHNC-0890	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Hosier, Judith	h7792254	7-12-11	Judith Hosier

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	JUL 14 2011	C Wiel

History

2011-06-27 10:09:36 - Submitted
2011-07-05 08:35:31 - UnSubmitted Corrections made
2011-07-05 08:58:45 - Submitted
2011-07-12 08:55:55 - UnSubmitted Corrections made

2011-07-12 11:24:41 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101697

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/20/2011	0800 / 1600	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	RWP WP-001, Rev 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [x] Other: SWB TRANSFER, DRUM MOVEMENTS

Description of Work/Comments:

Shiftly surveys at 2404 WC & 2404 WB.

15 SWB'S FROM CWC TO 2404WC.

129 DRUMS AND 32 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO CWC PER SURVEY PLAN WRAP-RSP-016 REV. 0.

59 DRUMS AND 16 PALLET SURVEYED FOR TRANSFER FROM 2404 WB TO 2404 WC. PER SURVEY PLAN WRAP-RSP-016 REV. 0.

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2. Tech smears counted per WRP1-OP-1230.

Dose Rate Measurements (Continued)

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WC.	F	1.7	1.7	2	1	<0.2	1.7	1.7
D2	Highest dose rate inside 2404WC (work area).	F	2	2	2	1	<0.2	2	2
D3	Highest outside dose rate 2404WB.	F	2.5	2.5	2	1	0.3	2.8	2.8
D4	Highest dose rate inside 2404WB (work area).	F	1.5	1.5	2	1	0.2	1.7	1.7
D5	Highest general area dose rate of drum moves FROM 2404WB TO CWC	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D6	Highest general area dose rate of drum moves FROM 2404WB TO 2404WC	F	60	60	2	1	<0.2	60	60
D7	Highest general area dose rate of SWB's moves FROM CWC TO 2404WC	F	15	15	2	1	<0.2	15	15

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's in 2404WC on floor. (10%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW's in 2404WB on floor. (10%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

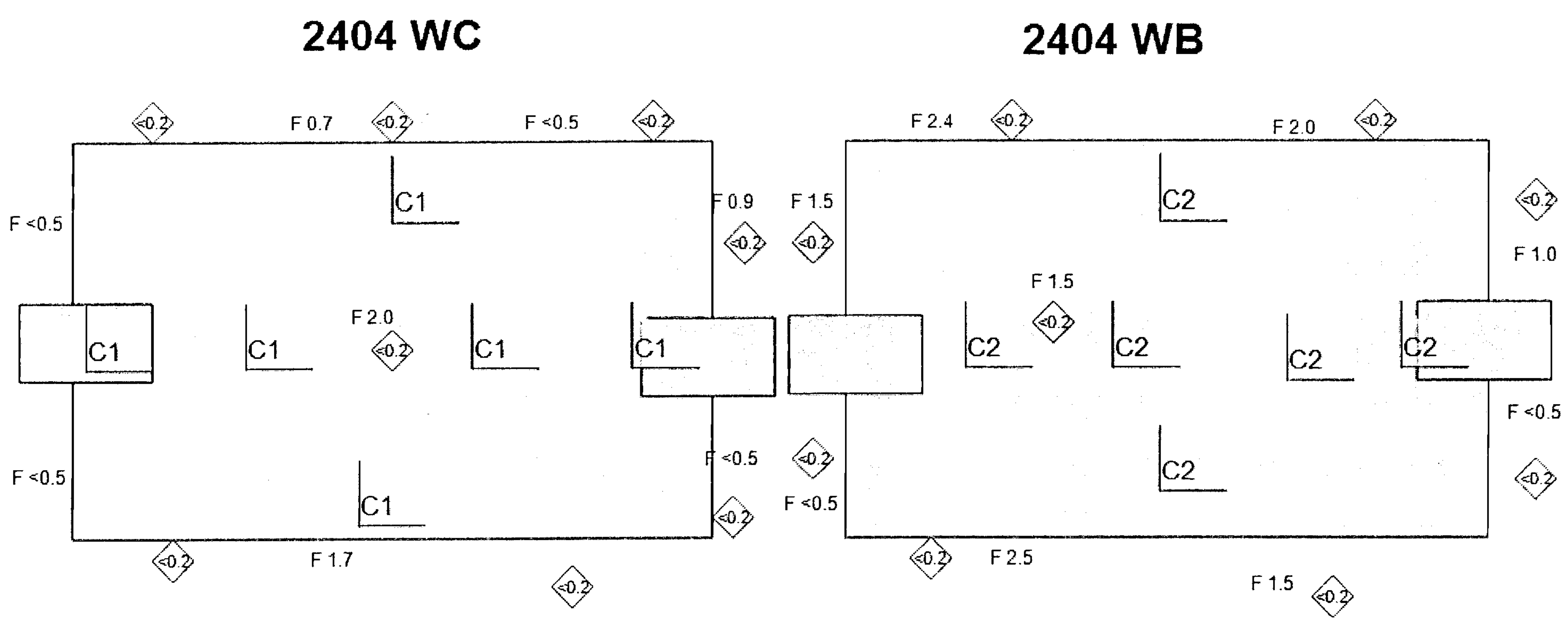
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C4	129 drums and 32 pallets moved from 2404WB to CW.	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C5	129 drums and 32 pallets moved from 2404WB to CW.	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C6	59 drums and 16 pallets moved from 2404WB to CW.	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C7	59 drums and 16 pallets moved from 2404WB to CW.	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C8	15 SWB's moved received from CWC to 2404WC.	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 2404WC | Map Description: WP-SH004

Legend									
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101697	

Air Sample Measurements (Continued)

Smear Sample Measurements (Continued)

Instruments (Continued)

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
RO-20	ICEB4-1557	N/A	N/A
PAM	ACHN2-0682	DTHN3-0948	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
GM	CMEB3-0072	DTHNC-0958	0.10
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.383α0.351

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd -107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	**h9427748**	6-20-2011	Harry [signature]
North, Michelle	h3963478	6-20-2011	Michelle North
Cleveland, Shon	h2820202	6/20/2011	[signature]
Berg, Lindsey	H3344063	6/20/11	[signature]
Hosier, Judith	h7792254	6-20-2011	Judith Ho[signature]

Reviewers

Name	HID	Date	Signature
CWieland	619764	JUN 24 2011	[signature]

History

2011-06-20 02:52:55 - Submitted

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SHIP #	CREATE DATE	STATUS	FROM	TO
35588	6/20/2011	Transfer	2404WB	2404WC

DRUM PIN
'0014193
'0029141
'0029681
'0034396
'0035408
'0036939
'0038440
'0038441
'0038445
'0038447
'0038789
'0042473
'0047603
'0047651
'0055842
'0057649
'0061726
'0061729
'0066829
'0069079
'0070260
'0072528
'0074553
'0074558
'0074570
'0074632
'0074638
'0074658
'0074675
'0074680
'0076069
'0077552
'0077563
'0077602
'0077619
'0078687
'0078696
'0078727
'0078733
'0078746
'0078830
'0078836
'0078837
'0078846
'0078863
'0078887
'0078891
'0079366
'0079418
'0079421
'202A-82-87
'3138205-2
'426621-23
'HRO-92-0000207
'L72-141
'MW10800030
'Z80A-6872
'Z84A11203

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SHIP #	CREATE DATE	STATUS	FROM	TO
35585	6/20/2011	Shipment	2404WB	NONE

DRUM PIN
'0002866
'0006477
'0006502
'0006507
'0020155
'0020157
'0021017
'0023476
'0024473
'0025129
'0025179
'0025222
'0025267
'0027493
'0028258
'0028263
'0028381
'0028395
'0028558
'0028594
'0028595
'0028599
'0028603
'0028759
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'0028797
'0028894
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'0029672
'0029674
'0029678
'0029706
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'0029724
'0029802
'0029828
'0029830
'0029845
'0029848
'0029867
'0029878
'0029891
'0029892

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'0045078
'0046366
'0046705
'0047499
'0047502
'0047513
'0047683
'0047724
'0047731
'0052461
'0052503
'0057167
'0057183
'0057342
'0057371
'0057486
'0057552
'0057995
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'9500521
'9703401

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101700

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/20/2011	1700 / 2330	200 WEST / 2404 Complex / WB, WC / N/A	wp-001(rev.8)/WP-611 (rev. 3)

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004, WP-W035, WP-W037, WP-W040
- ☑ Job Coverage: MOVEMENTS
- ☐ Other: N/A

Description of Work/Comments:

*WP-SH003
*WP-SH004
*WP-W035
*WP-W037
*WP-W040
*14 DRUMS AND 4 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2336W PER SURVEY PLAN WRAP-RSP-016 REV. 0. and done under RWP-WP-611 REV. 3
Drum surveyed: #0034328, #0057531, #0025093, #0044949, #0045135, #0045092, #0044926, #0045138, #0045140, #0047848, #0044944, #0033943, #0061143, #0057137

Comments: *ALL LAWS TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.
*ALL SMEARS COUNTED PER WRP1-OP-1230 ON LUDLUM 2929.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest Dose inside 2404 wc; W035	F	20	20	2	1	<0.2	20	20
D2	Highest Dose OUTSIDE 2404 wc; W035, SH004	F	2	2	2	1	<0.2	2	2
D3	Highest Dose inside 2404 wb; W037	F	17	17	2	1	0.3	17.3	17.3
D4	Highest Dose OUTSIDE 2404 wb; W037, SH003	F	2.5	2.5	2	1	<0.2	2.5	2.5
D5	HIGHEST DOES INSIDE MO-444, MO-446;W040	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D6	14 drum Movement from 2404wB to 2336	F	7	7	2	1	<0.2	7	7

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	W035, SH004; LAW~50%	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	W037, SH003; LAW~50%	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	W035; TECH SMEARS (20)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	W037: TECH SMEARS (12) ; AROUND CA/HCA	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101700

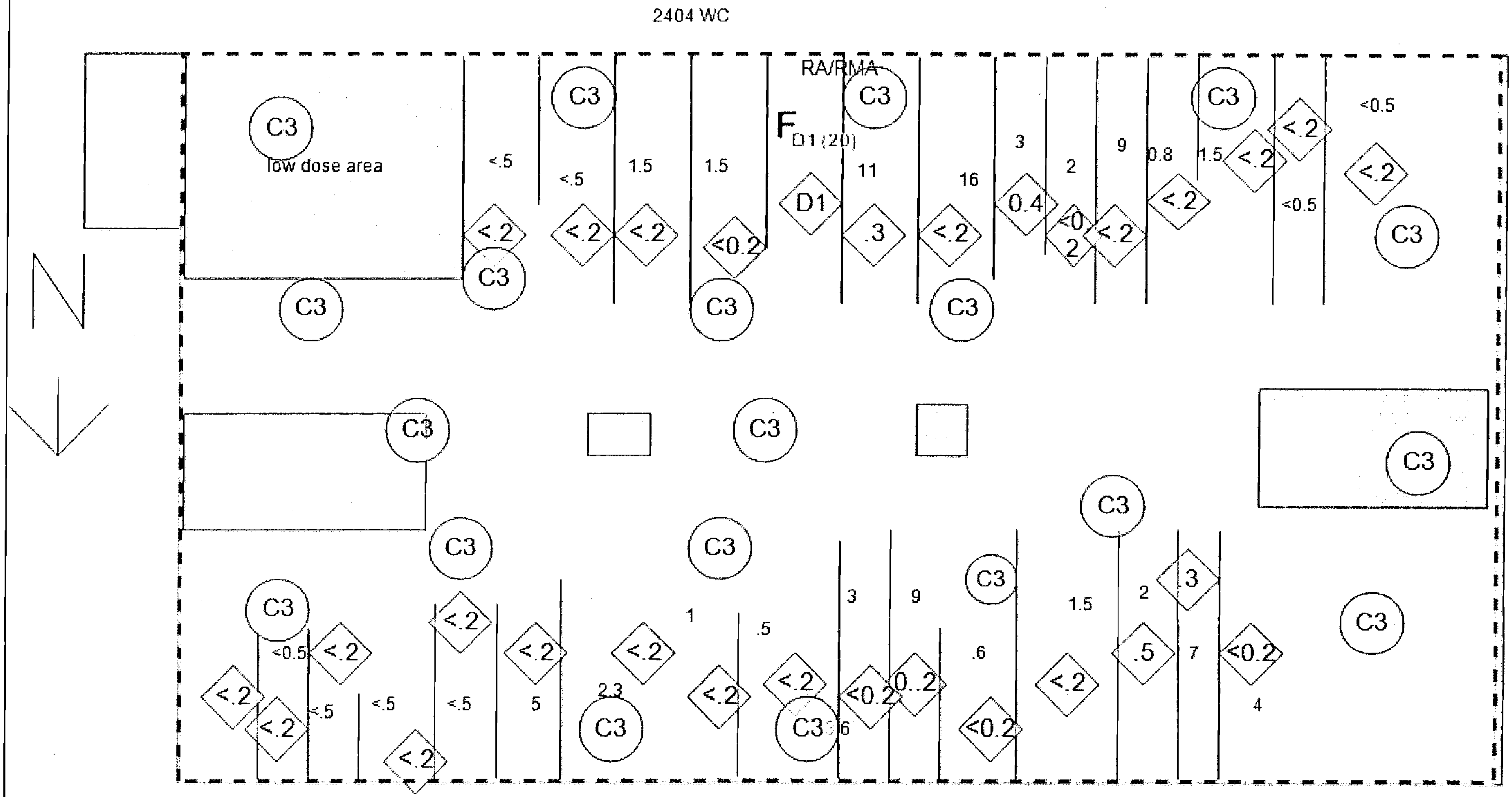
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	W037: TECH SMEARS (5); AROUND CA WITH FORKLIFT	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C6	W037: TECH SMEARS (33); RBA/RA	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C7	WP-W040; LAWS~50%	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C8	14 drum Movement from 2404wB to 2336; LAW~90% (DRUMS & PALLETS)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C9	14 drum Movement from 2404wB to 2336; TECH SMEARS (1 PER DRUM) (1 PER PALLET)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

COPY

Map/Sketch



Map Name: wc	Map Description: WP-W035- SEE SHIFTLY MAP FOR LAWS AND OUTSIDE DOSE RATES.

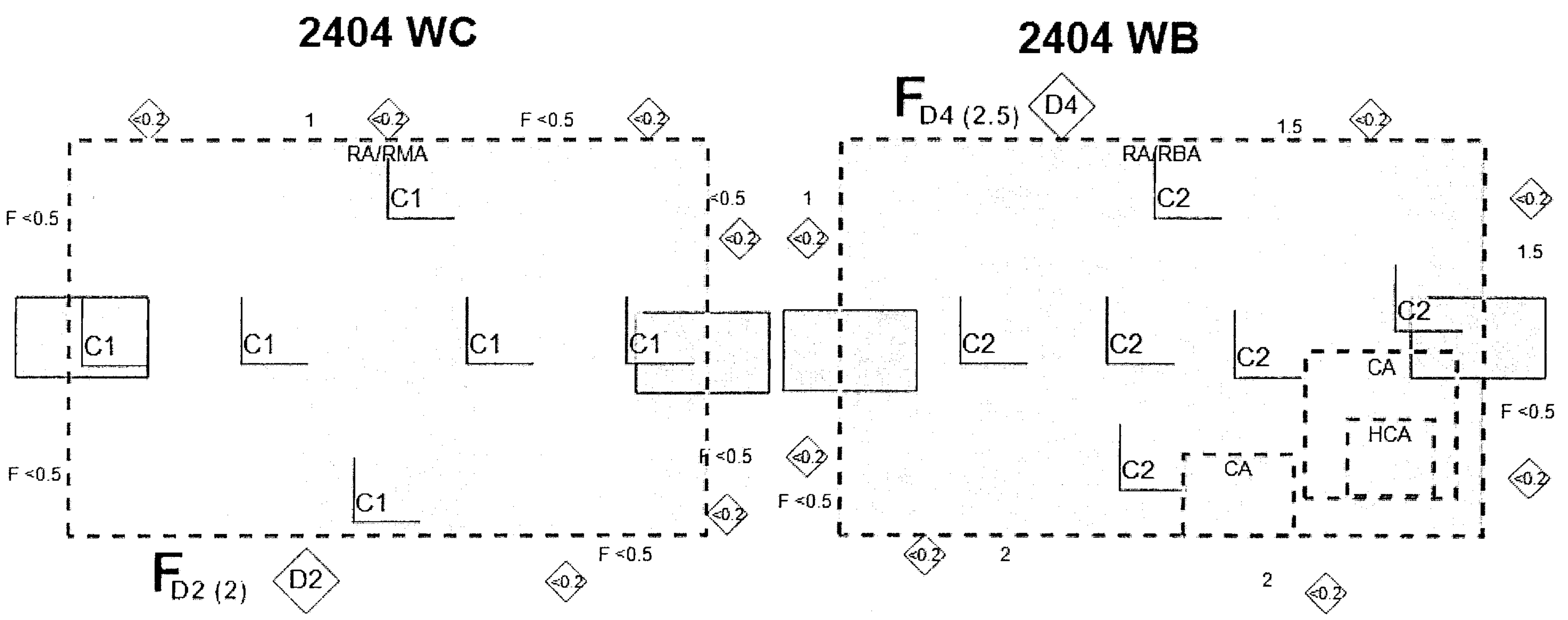
Legend: # Direct Measurement; Air Sample; # Smear; # LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

COPY

Map/Sketch



Map Name: 2404WC&2404WB	Map Description: WP-SH004, WP-SH003

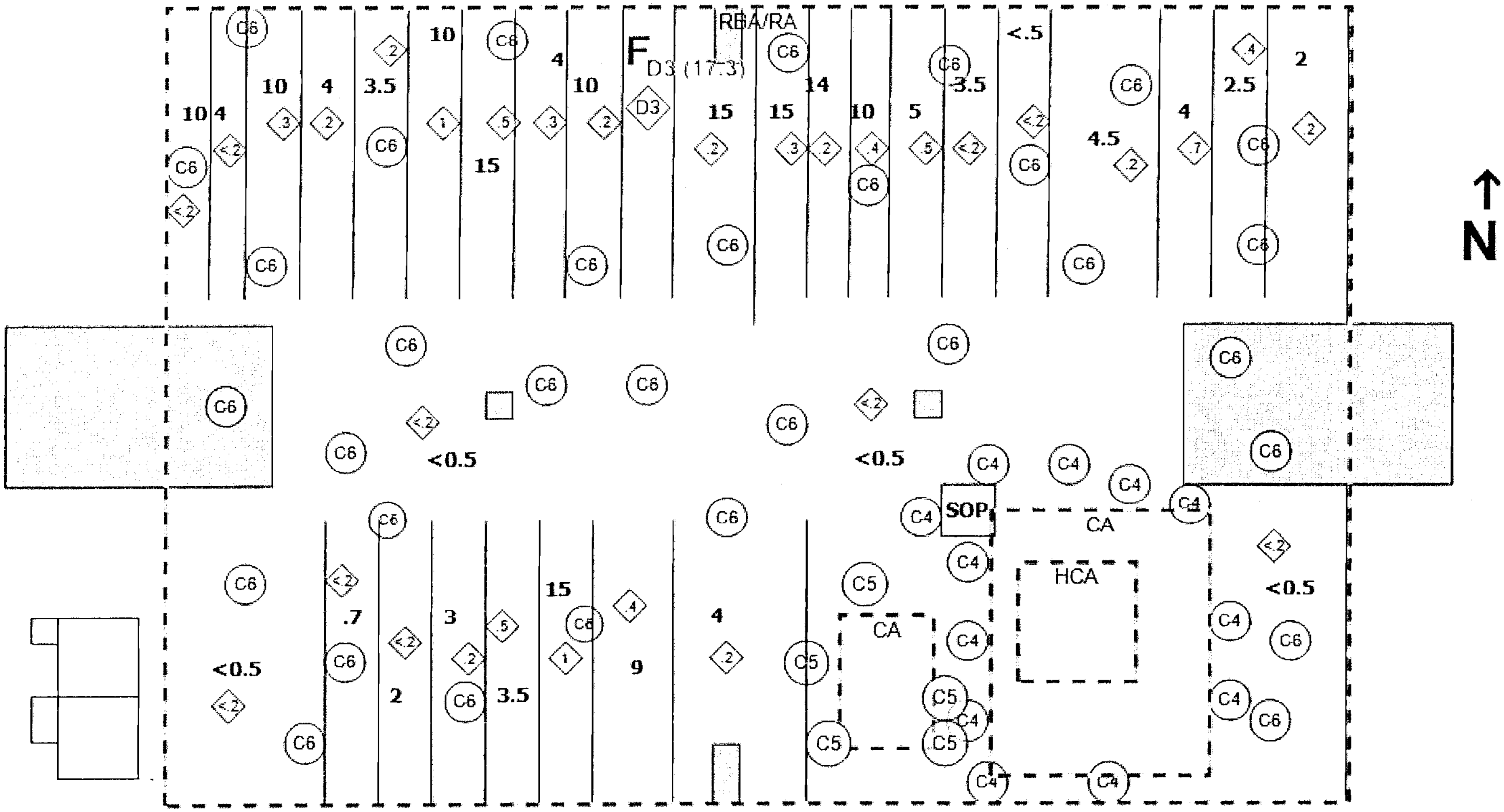
Legend								
[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch

2404 WB



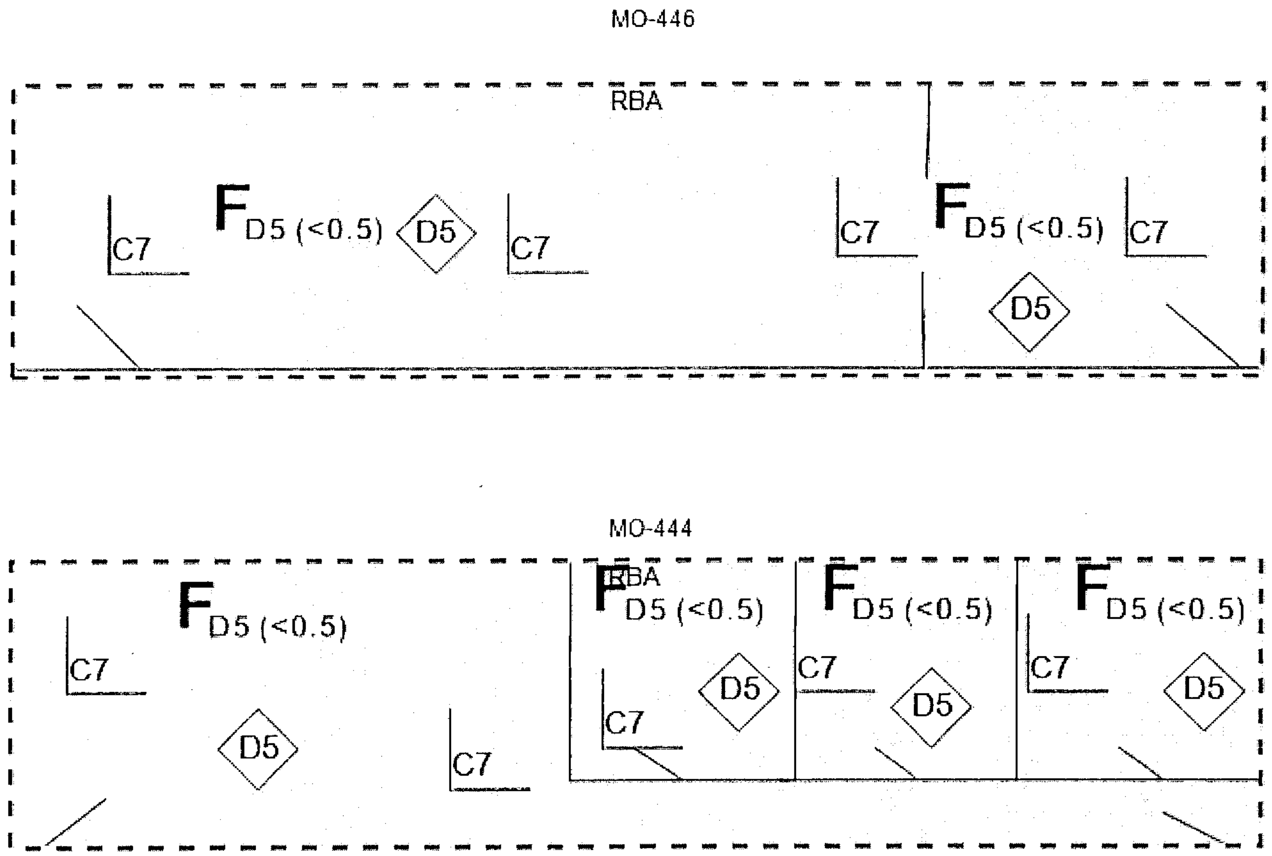
Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend: [#] Direct Measurement; Air Sample; (#) Smear; L# LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: WP-W040	Map Description: MO-444 & MO-446

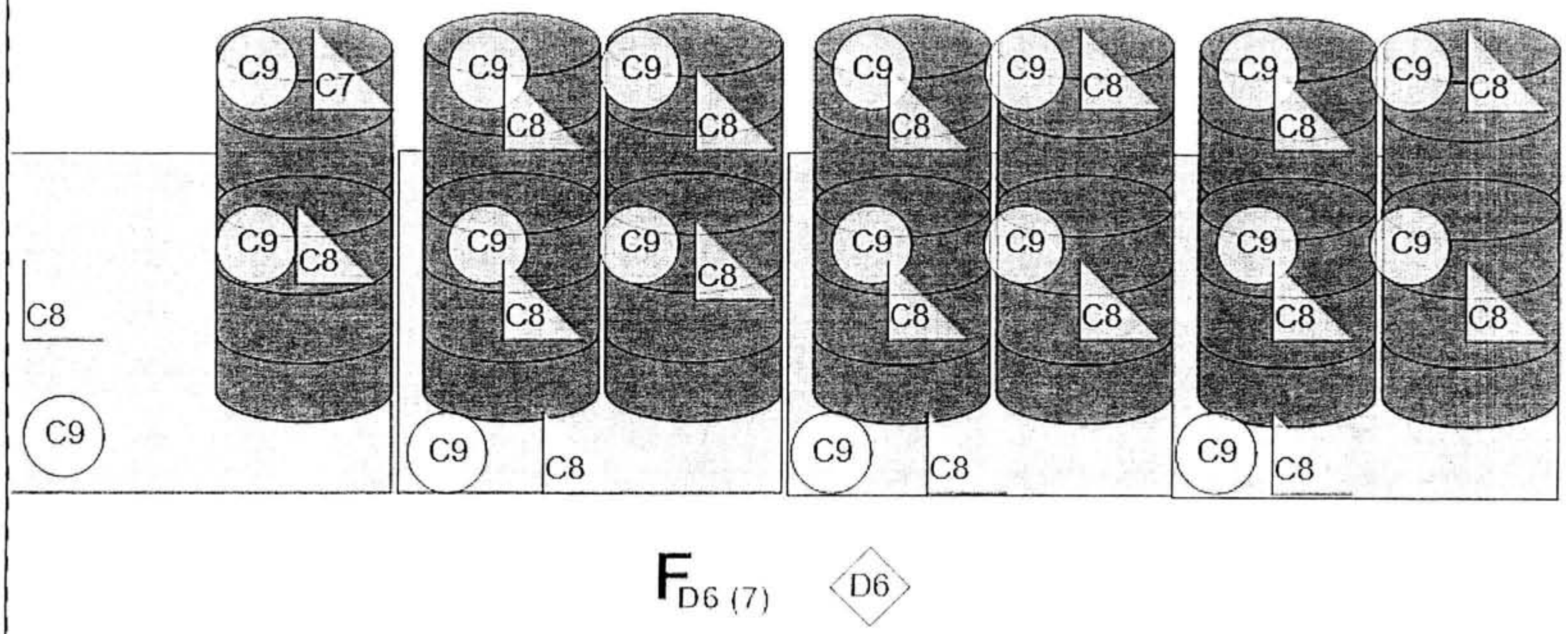
Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

COPY

Map/Sketch

RA/RBA

SURVEY OF 14 DRUMS FROM 2404WB TO 2336W



Map Name: DRUMS AND PALLET	Map Description: DRUM MOVEMENT OUT OF WB

Legend: # Direct Measurement | Air Sample | (#) Smear | # LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

COPY

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0068	DTHNC-0670	0.1
RO-20	ICEB4-1557	N/A	N/A
SNOOPY	NMNR1-0030	N/A	N/A
SNOOPY	NMNR1-0041	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38α0.35
2929	SCLL4-0067	DTLLC-0077	β0.38α0.36
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEBB-0165	DTEB9-0048	0.1
RO-20	ICEB4-1449	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	h0527264	6-20-11	Jared R. Massie

Reviewers

Name	HID	Date	Signature
C. Wieland	619761 4	JUN 21 2011	[illegible]

History

2011-06-20 09:23:04 - Submitted
2011-06-20 11:19:03 - UnSubmitted correction

2011-06-20 11:37:04 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101703

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/20/2011	0800 / 1500	200 WEST / 2404 WB / N/A / N/A	WP-611/3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001/1, RSP-WP-008/5, RSP-WP-002-00
  - Released to: RadCon & Operations
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RP-11-03 & WRAP-RSP-002/5
- [ ] Other: N/A

Description of Work/Comments:

SURVEY AND REMOVEAL OF TARPS IN THE CA/RA IN 2404 WB. SURVEY OF FLOOR IN CA.

Comments: Moved fork lift and drum mover out of the CA to the South West and set up new CA.

Removed paper and tarps covering the floor in the CA.

Discovered one spot of contamination on the tarp covering the HCA when removing outer tarp. Replaced outer tarp and taped down.

This survey includes surveys for release of 3 PAMS used in the CA. Instruments released according to RSP-WP-10-001-01.

Direct Beta/Gamma (B/G) surveys and B/G surveys on LAWs not performed due to high background.

All technical smears counted per WRP1-OP-1230. LAWs performed in accordance with WMP-350, Section 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	General Area Dose Rate in CA/RA of 2404 WB	F	0.5	0.5	3	1	N/A	0.5	0.5

Contamination Measurements

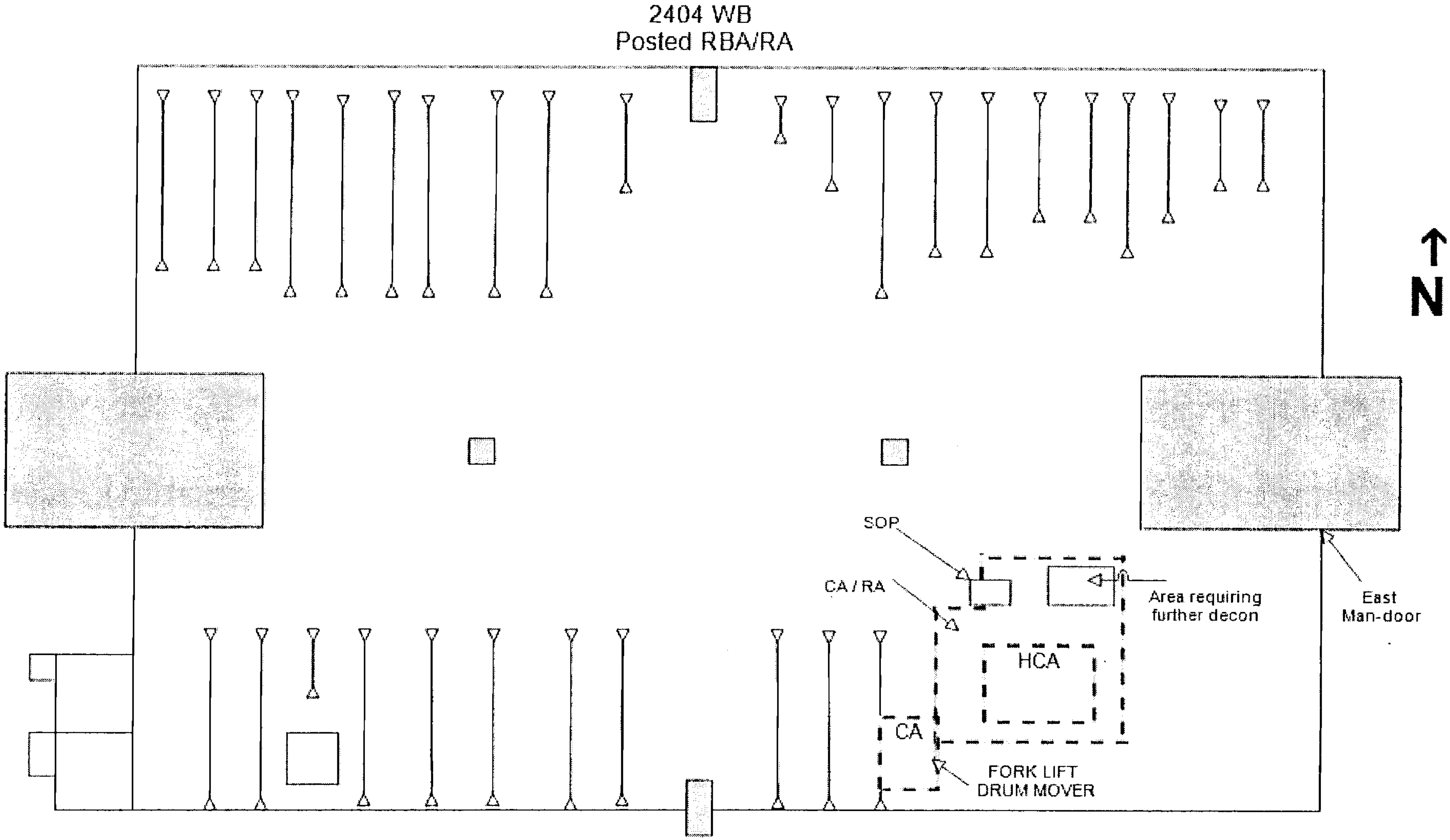
† Manually Calculated by RCT

No.	Description	Background cpm βγ	Background cpm α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	Pre-Job LAWs (~85%) of floor areas in CA/RA including tarped/papered areas of CA/RA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†

No.	Description	Contamination Measurements (Continued) † Manually Calculated by RCT									
		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C2	Directs on top of Tarp covering the HCA (highest)	N/A	0	N/A	11000	N/A	66000	N/A	6	N/A	N/A
C3	smear of hot spot on top of tarp covering the HCA	N/A	0	N/A	N/A	N/A	N/A	N/A	6	N/A	4800
C4	smears of 3 PAMS released out of the CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C5	LAWs (~80%) and direct survey of 3 PAMs released out of the CA	N/A	0	N/A	0	N/A	<500	N/A	6	N/A/LAW	<D/LAW
C6	Directs and LAWs of floor under removed tarps and paper	N/A	0	N/A	0	N/A	<500	N/A	6	N/A/LAW	<D/LAW

COPY

Map/Sketch



Map Name: 2404 WB			Map Description: Configuration of Postings in 2404 WB as of 6/15/11						
Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch

PAMS surveyed and released from the CA:

ACHN2-0041 / DTHN3-0717
ACHN2-0166 / DTHN3-0037
ACHN2-0063 / DTHN3-0427

Map Name: Instrument List

Map Description: List of instruments and LAPEL pumps used during work

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101703

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0209	DTHN3-1011	0.16
PAM	ACHN2-0041	DTHN3-0717	0.16
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0063	DTHN3-0427	0.16
2929	SCLL4-0066	DTLLC-0076	β0.392α0.359
2360	SCLL8-0473	DTLLP-0580	0.10
CP	ICEB3-0414	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	6-21-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
SO Mellgren	h0066236	6-29-11	[illegible]

History

2011-06-21 02:14:53 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101706

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/21/2011	0730 / 1400	200 WEST / 2404 Complex / 2404 WB / N/A	WP-611/REV 3

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-W037, WP-SH003, & WP-W042
- [x] Job Coverage: Survey of Parrot Beak out of RBA
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - 10 Count Time (Sec.) — 25 % Surveyed
  - 3 # of Static Counts — see comments Square Feet
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - N/A Count Time (Sec.) — 25 % Surveyed
  - N/A # of Static Counts — see comments Square Feet
- [x] Other: Confirmatory survey

Description of Work / Comments:

WP-W037, WP-SH003, & WP-W042.
Weekly dose rate and contamination of 2404 WB. Shiftly of 2404 WB. Weekly survey of drums 0053165 and 0053739.
Release of Parrot Beak from RBA. Survey of step off pad from CA to RBA.
CA was not entered.

Verification Survey info:
Drums surveyed at ~5 square feet per law.
Floors surveyed at ~100 square feet per law.

Comments: LAWs performed in accordance with WMP-350 section 6.2.
Smears counted per WRP1-OP-1230.
Unable to perform beta/gamma directs due to high background.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	GENERAL WORKING AREA DOSE RATE	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D2	HIGHEST DOSE RATE ON EXTERIOR OF 2404 WB	F	2.5	2.5	2	1	<0.2	2.5	2.5
D3	HIGHEST DOSE RATE INSIDE 2404 WB	F	27	27	2	1	0.3	27.3	27.3

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101706	

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAWs OF GENERAL WALKWAYS (~30%)	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C2	TECH SMEARS OF FLOOR (20)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C3	LAWs OF DRUMS 0053165 and 0053739 (~60% OF EACH)	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C4	TECH SMEARS OF DRUMS 0053165 and 0053739 (4 EACH)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C5	LAWs OF PARROT BEAK (~50%)	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C6	TECH SMEARS OF PARROT BEAK (5)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C7	LAWs OF STEP OFF PAD (~75%)	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C8	TECH SMEARS OF STEP OFF PAD (2)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C9	DIRECT OF STEP OFF PAD	N/A	0	N/A	0	N/A	<500	N/A	6	N/A	N/A	N/A	N/A	N/A

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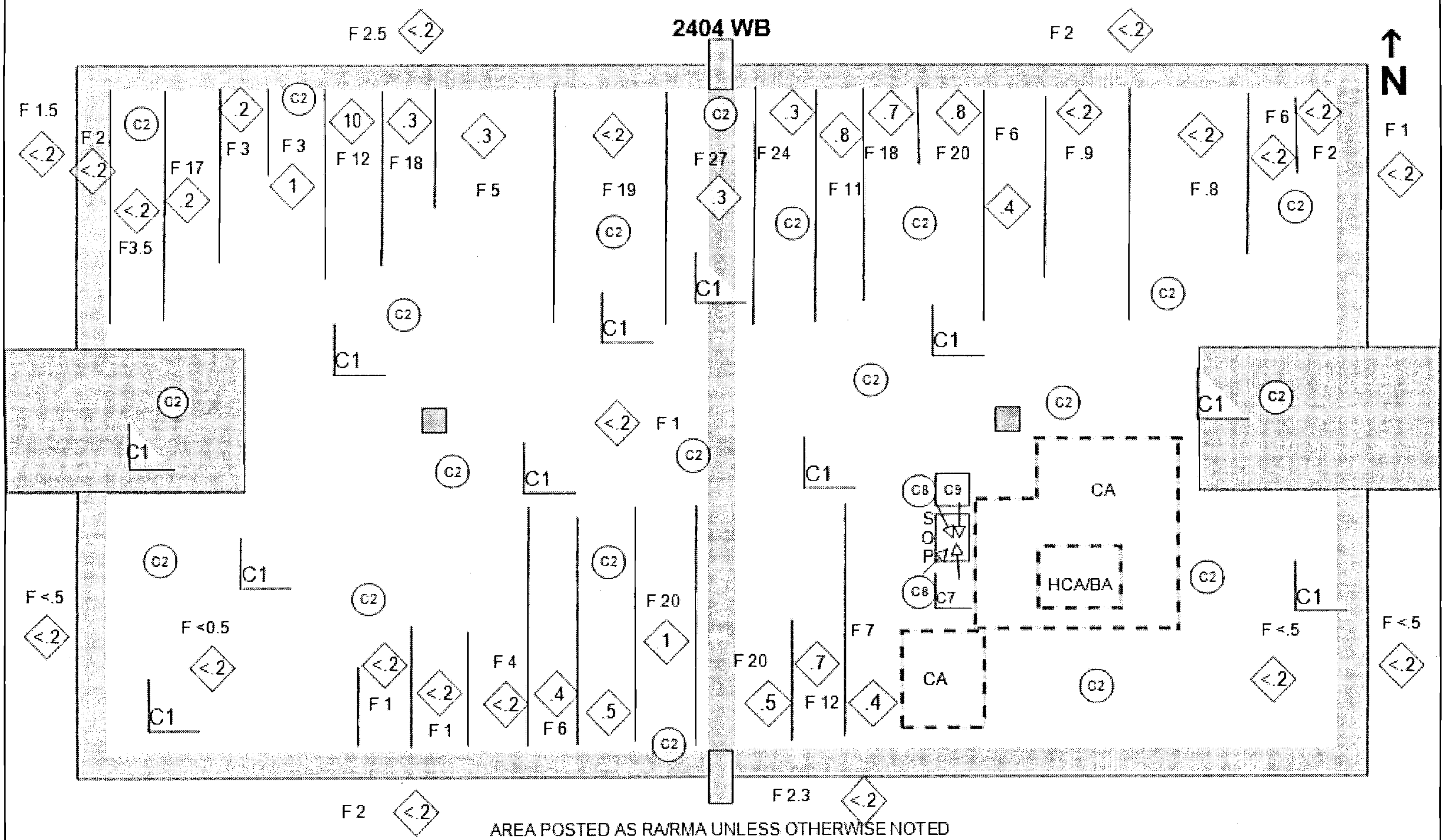
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101706	

Map/Sketch



Map Name: 2404 WB

Map Description: WP-SH003 & WP-W037

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 07/06/2011 12:52:28

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A-6004-663-SS (Rev. 1)

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101706	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0041	DTHN3-0717	0.16
GM	CMEB3-0142	DTHNC-0243	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
2929	SCLL4-0066	DTLLC-0076	β0.3923α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Chadderdon, Melissa	H4837929	7-6-11	Melissa Chadderdon

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	T. Terry

History

2011-06-21 14:55:32 - Submitted	
2011-06-28 07:19:22 - UnSubmitted	correction
2011-06-28 07:20:25 - Submitted	
2011-06-30 15:54:08 - UnSubmitted	add info
2011-06-30 15:54:47 - Submitted	
2011-06-30 16:00:18 - UnSubmitted	correction
2011-06-30 16:01:05 - Submitted	
2011-07-06 12:45:10 - UnSubmitted	fix error
2011-07-06 12:49:31 - Submitted	
2011-07-06 12:50:00 - UnSubmitted	CORRECTION
2011-07-06 12:51:07 - Submitted	
2011-07-06 12:51:53 - UnSubmitted	change efficiency
2011-07-06 12:52:28 - Submitted	

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101712

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/21/2011	0800 / 1600	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	RWP WP-001, Rev 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH004
- [x] Job Coverage: DRUM TRANSFER
- [x] Other: SWB TRANSFER, DRUM MOVEMENTS

Description of Work/Comments:

Shiftly surveys at 2404 WC & 2404 WB.

5 SWB'S2404WC TO HERTR

14 DRUMS AND 4 PALLETS FROM 2404WB TO 2336.

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2. Tech smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WC.	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	Highest dose rate inside 2404WC (work area).	F	1	1	2	1	<0.2	1	1
D3	HIGHEST DOSE ON 14 DRUMS FROM 2404WB TO 2336W	F	6	6	2	1	<0.2	6	6
D4	HIGHEST DOSE OF 5 SWB'S TO HERTR	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's in 2404WC on floor. (15%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW OF 5 SWB'S FOR HERTR 50% EACH	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	14 drums and 4 pallets moved from 2404WB to 2336W. 1 T/S EACH.	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW of 14 drums and 4 pallets moved from 2404WB to 2336W. 50% each, including bottoms of pallets.	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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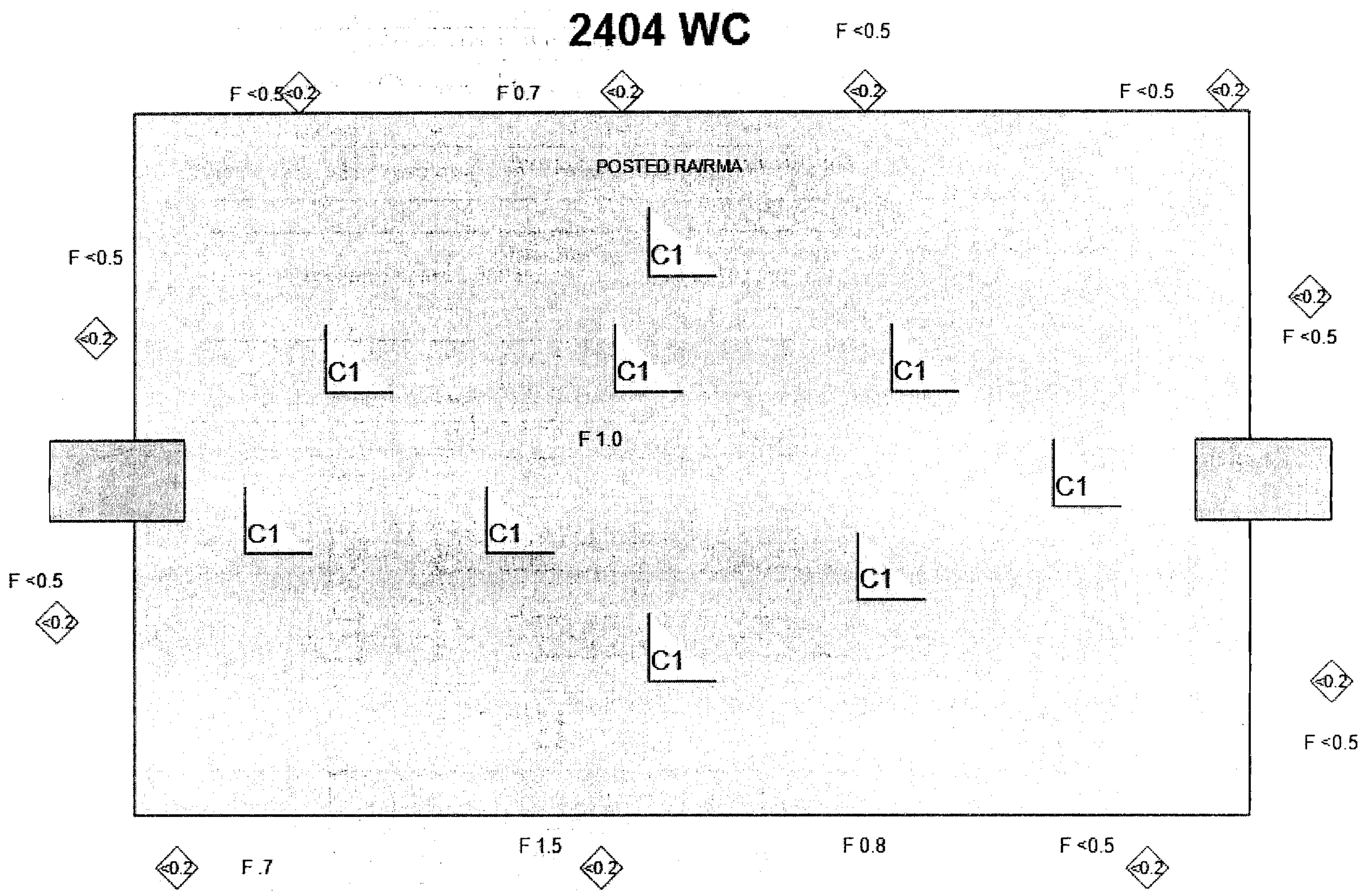
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101712	

Map/Sketch



Map Name: 2404WC	Map Description: WP-SH004

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101712	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
spaite, steven	h1667034	6-21-11	

Reviewers

Name	HID	Date	Signature
SO Mellgren	h0066236	6-29-11	

History

2011-06-21 04:15:20 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101713	

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/21/2011	0800 / 1430	200 West / WRAP / 2404 WB / /	WP-611/ REV. 3

Purpose of Survey	Description of Work/Comments:
☐ Material Release Number: N/A Released to: N/A ☐ Ram Shipment: N/A ☐ Required Task: N/A ☑ Job Coverage: WRAP-RSP-015/REV.1/ WRAP-RP-11-03 ☐ Other: N/A	TOOK TECH SMEARS AND LAWS IN SUPPORT OF THE DOWNPOST AROUND THE SPILL IN 2404WB. Comments: 2404 WB RECOVERY TEAM ENTERED TO SUPPORT THE DOWNPOST OF THE CA/RA AROUND THE SPILL AREA. 200 TECH SMEARS WERE TAKEN ON THE FLOOR AROUND AND ON THE TARP COVERING THE SPILL. 90% OF THE FLOOR WAS ALSO LAWED. DIRECT ALPHA SURVEYS ARE YET TO BE DONE. WILL BE COMPLETED UPON NEXT ENTRY. TECH SMEARS COUNTED PER WRP1-OP-1230. ALL LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2. BETA/GAMMA SURVEYS NOT PERFORMED DUE TO HIGH BACKGROUND IN BUILDING.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	HIGHEST GENERAL WORKING AREA DOSE RATE	F	3.5	3.5	3	1	<0.2	3.5	3.5

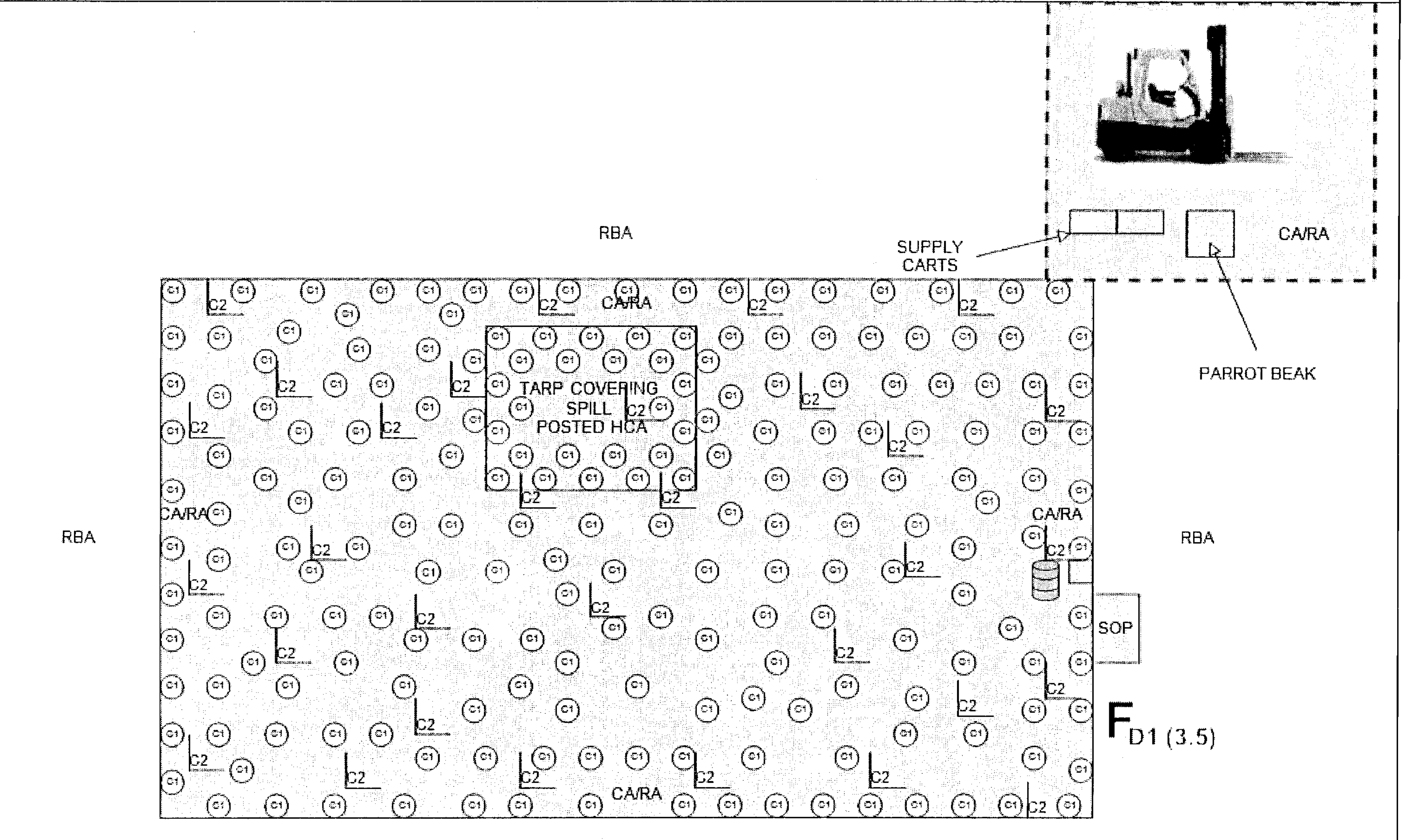
Contamination Measurements

† Manually Calculated by RCT

		Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	200 TECH SMEARS ON FLOOR IN CA	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C2	LAWS ON FLOOR IN CA~90%	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†

COPY

Map/Sketch



Map Name: 2404 WB | Map Description: 2404 WB RECOVERY

Legend	[#] Direct Measurement	Air Sample	(#) Smear	#̲ LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101713	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0166	DTHN3-0037	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEBC-0052	DTEB9-0274	0.10
CP	ICEB3-0456	N/A	N/A
2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	10-21-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
SO Mellgren	h0066236	6-29-11	[signature]

History

2011-06-21 04:11:39 - Submitted
2011-06-21 04:13:02 - UnSubmitted MAKE CORRECTION

2011-06-21 04:13:39 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101714

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/21/2011	1700 / 2330	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	RWP WP-001, Rev 8

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004
- ☑ Job Coverage: DRUM MOVEMENTS
- ☐ Other: N/A

Description of Work/Comments:

*WP-SH003; Shiftly surveys at 2404 WB
*WP-SH004; Shiftly surveys at 2404 WC
*9 DRUM MOVEMENT FROM 2404WC TO 2336W

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WB.	F	2.5	2.5	2	1	<0.2	2.5	2.5
D2	Highest dose rate inside 2404WB (work area).	F	1	1	2	1	<0.2	1	1
D3	Highest outside dose rate 2404WC.	F	2	2	2	1	<0.2	2	2
D4	Highest dose rate inside 2404WC (work area).	F	0.8	0.8	2	1	<0.2	0.8	0.8
D5	9 DRUM MOVEMENT FROM 2404WC TO 2336W (HIGHEST)	F	12	12	2	1	0.2	12.2	12.2

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's in 2404WB on floor. (25%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW's in 2404WC on floor. (25%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAW's OF 9 DRUM MOVEMENT FROM 2404WC TO 2336W (35%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

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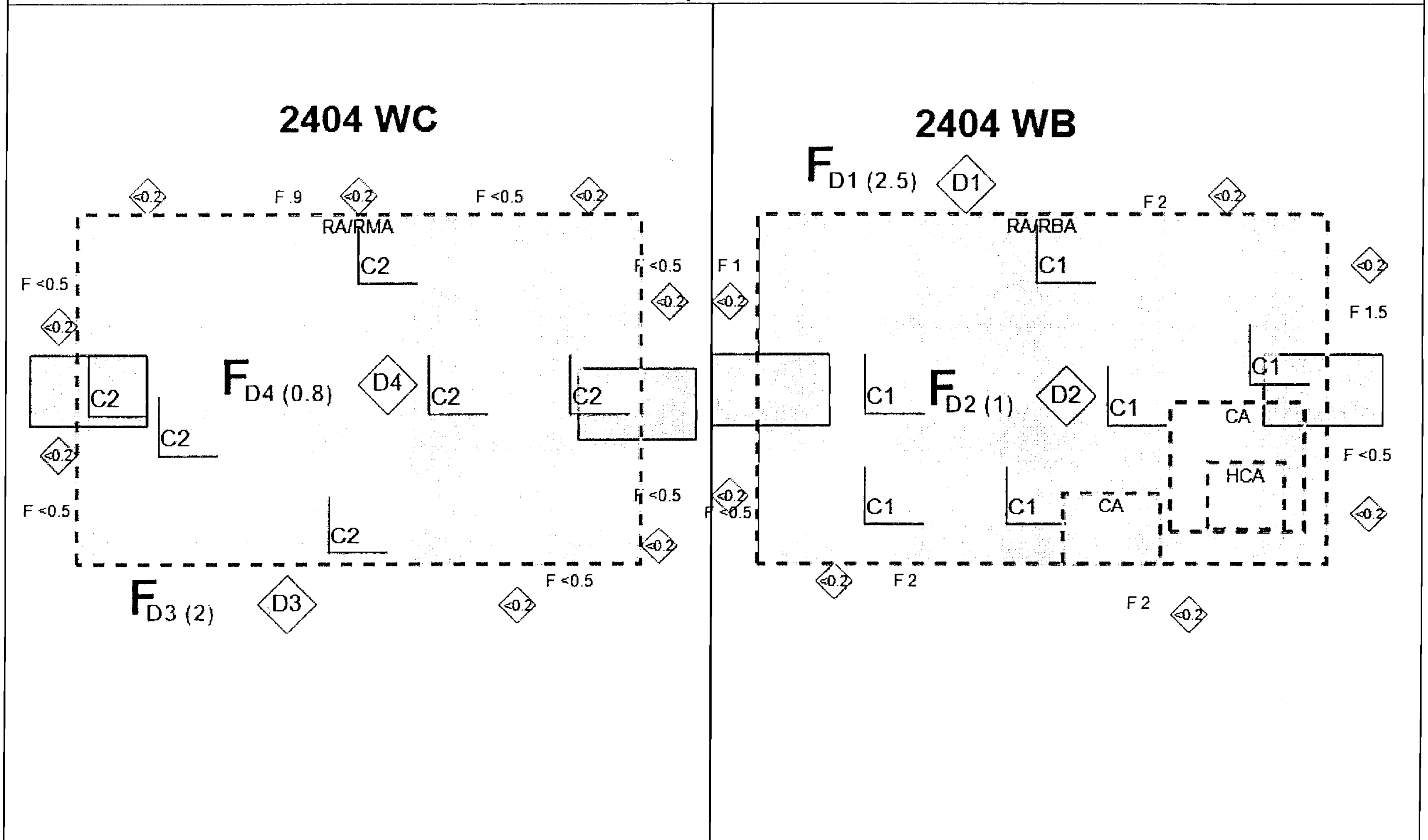
Map/Sketch



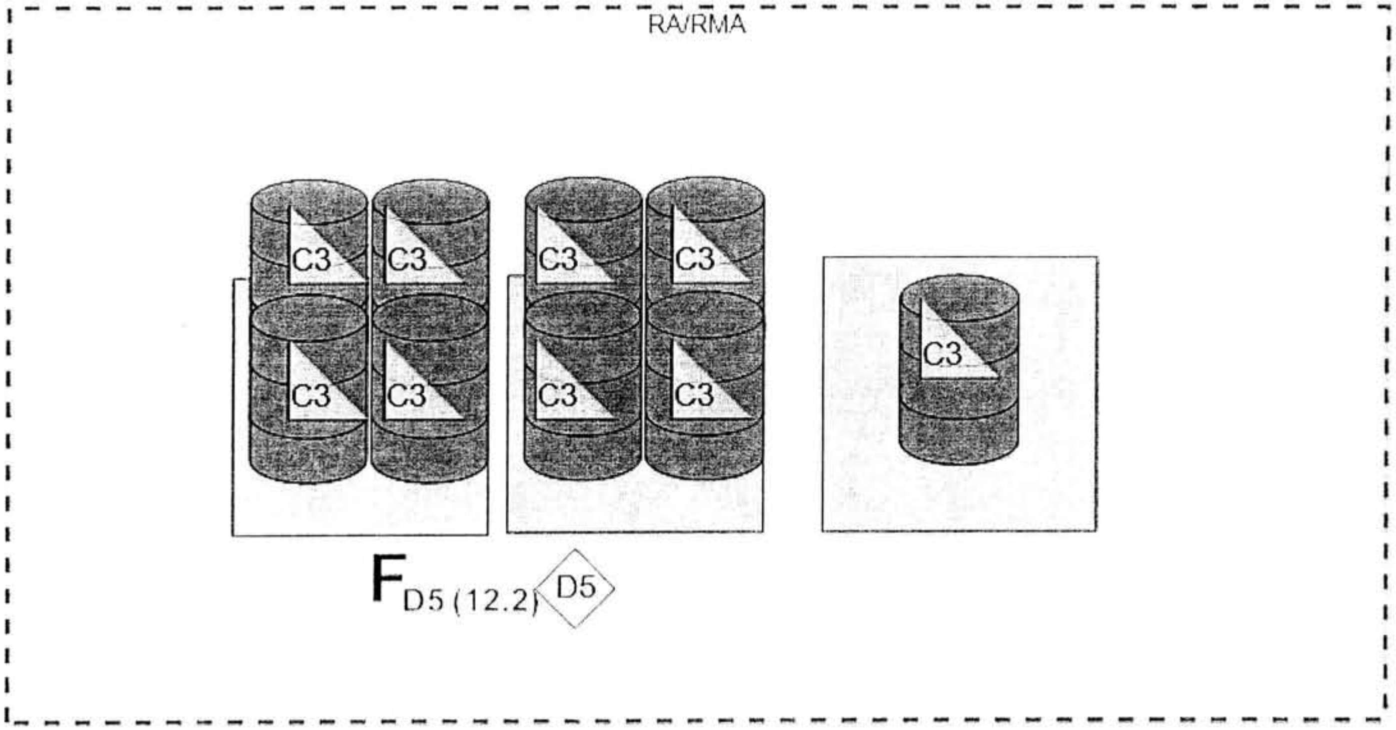
Map Name: C12404WC&2404WB	Map Description: WP-SH004, WP-SH003

Legend: [#] Direct Measurement | Air Sample | (#) Smear | LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: dRUMS	Map Description: mOVEMEnt

Legend	# Direct Measurement	Air Sample	(#) Smear	L# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101714

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0290	DTHN3-1021	0.16
GM	CMEB3-0068	DTHNC-0670	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	h0527264	6·21·11	Jared R. Massie

Reviewers

Name	HID	Date	Signature
SoMellgren	h0066236	6-29-11	[illegible]

History

2011-06-21 11:15:55 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101718

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/22/2011	0800 / 1500	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	RWP WP-001, Rev 8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP- SH003 AND SH004
- [x] Job Coverage: DRUM TRANSFER
- [x] Other: SWB TRANSFER, DRUM MOVEMENTS

Description of Work/Comments:

Shiftly surveys at 2404 WC & 2404 WB.

5 SWB'S2404WC TO HERTR

3 DRUMS AND 1 PALLET FROM 2404WB TO CWC.

14 DRUMS AND 4 PALLETS FROM 2404WB TO 2336W.

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2. Tech smears counted per WRP1-OP-1230.

Dose Rate Measurements (Continued)

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WC.	F	1.5	1.5	2	1	<0.2	1.5	1.5
D2	Highest outside dose rate 2404WB	F	2.5	2.5	2	1	0.5	3	3
D3	Highest dose on 5 SWB transfer	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5
D4	Highest dose on 3 drum transfer to CWC	F	11	11	2	1	0.4	11.4	11.4
D5	General area dose in 2404WC	F	1	1	2	1	<0.2	1	1
D6	Highest dose on 14 drum transfer	F	2.5	2.5	2	1	<0.2	2.5	2.5

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's in 2404WC on floor. (15% of floor area)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW's in 2404WB on floor (15% of floor area)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	3 drums and 1 pallets moved from 2404WB to CWC. 1 T/S EACH.	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20
C4	LAW of 3 drums and 1 pallets moved from 2404WB to CWC. 50% each, including bottoms of pallets.	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

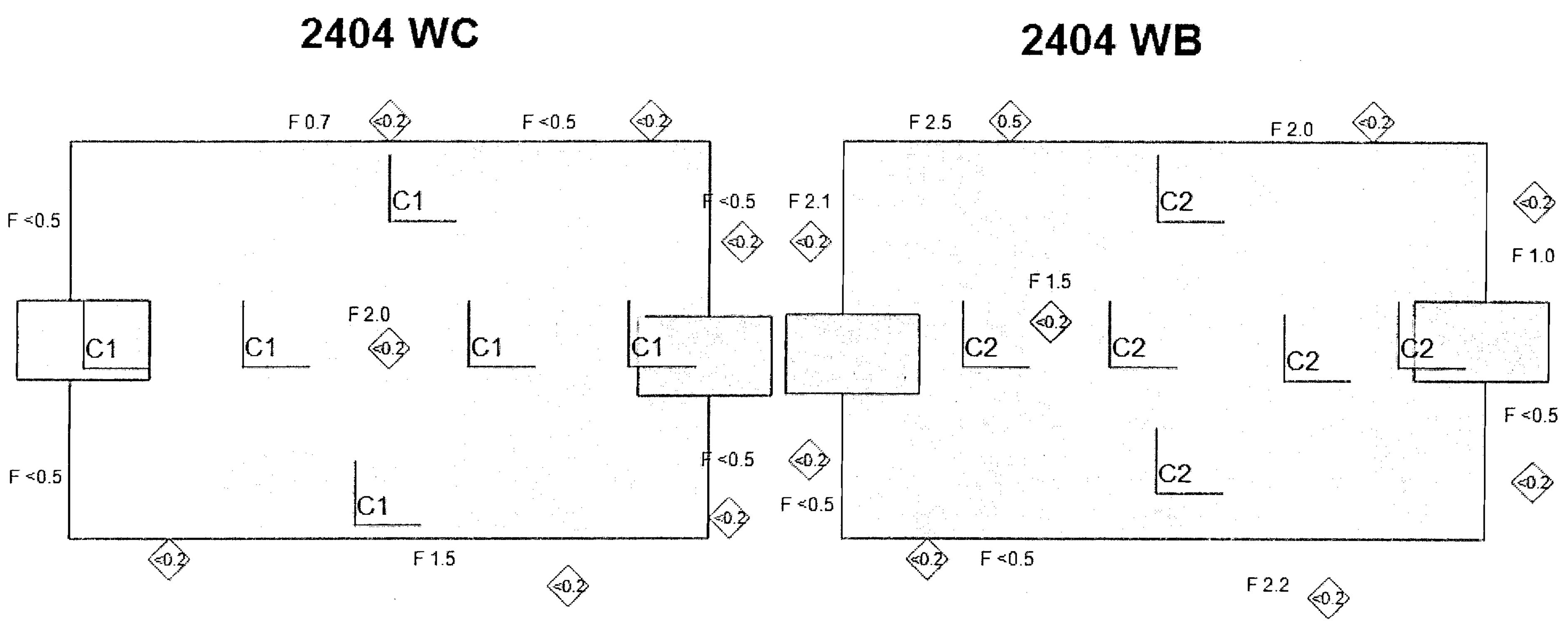
CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101718

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		Contamination Measurements (Continued) † Manually Calculated by RCT									
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C5	LAW of 5 SWB's from 2404WC to HERTR	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†
C6	14 drums and 4 pallets moved from 2404WB to 2336W 1 T/S each	100	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C7	14 drums and 4 pallets moved from 2404WB to 2336W LAW 50% of each including bottoms of pallets	100	0	N/A	N/A	N/A†	N/A†	10	6	<D/LAW†	<D/LAW†

COPY

Map/Sketch



Map Name: 2404WC	Map Description: WP-SH004

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101718	

Air Sample Measurements (Continued)

Smear Sample Measurements (Continued)

Instruments (Continued)

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0166	DTHN3-0037	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0068	DTHNC-0670	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Berg, Lindsey	**H3344063**	6/22/11	[signature]
North, Harry	h9427748	6-22-11	[signature]
spaite, steven	h1667034	6.22-11	[signature]
Cleveland, Shon	h2820202	6/22/11	[signature]

Reviewers

Name	HID	Date	Signature
SO Mellgren	h6066236	6-29-11	[signature]

History

2011-06-22 03:05:14 - Submitted
2011-06-22 03:05:35 - UnSubmitted CORRECTION

2011-06-22 03:06:18 - Submitted

COPY

Shipment of Containers

PIN	DMS LOCN	SWITS LOCN	PALLET	TIER	SIDE	SHIPMENT	SIZE	DATE RUN
0024175	IN_TRANSIT	TRANSIT				TRUPR11027	55 GALLON	06/22/2011 09:09:50
32787	IN_TRANSIT	TRANSIT				TRUPR11027	55 GALLON	06/22/2011 09:09:50
0032689	IN_TRANSIT	TRANSIT				TRUPR11027	55 GALLON	06/22/2011 09:09:50

COPY

6 of 6

SHIP #	CREATE DATE	STATUS	FROM	TO
35603	6/22/2011	Transfer	2404WB	2336W

DRUM PIN
'0056329
'0075735
'0079400
'0079443
'0081258
'0082478
'0082479
'0082535
'0082542
'0082572
'0082573
'0082598
'NFD-230
'Z-72-6-2

WP-110118

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101720

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/22/2011	0800 / 1130	200 WEST / 2404 WB / 2404 WB / CA	WP-611/ REV 3

Purpose of Survey

- [x] Material Release
  - Number: RSP-WP-10-001-REV 1
  - Released to: RADCON
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: WRAP-RSP-015 REV 1, WRAP-RP-11-03
- [ ] Other: N/A

Description of Work/Comments:

Down post survey of area around the tarp(HCA) with LAW'S and DIRECTS. survey out of various items.

Comments: LAWS AND DIRECTS WERE DONE THIS ENTRY, FOR TECH SMEARS REFER TO SURVEY WP-1101173.
TECH SMEARS COUNTED PER WRP1-OP-1230.
ALL LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.
BETA/GAMMA SURVEYS NOT PERFORMED DUE TO HIGH BACKGROUND IN BUILDING.
INSTRUMENTS; ACHN2-0411, ACHN2-0431, ACHN2-0680, ACHN2-0209 WERE RELEASED TO RADCON PER RELEASE PLAN.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	highest general area dose rate	F	3	3	3	1	<0.2	3	3

Contamination Measurements

† Manually Calculated by RCT

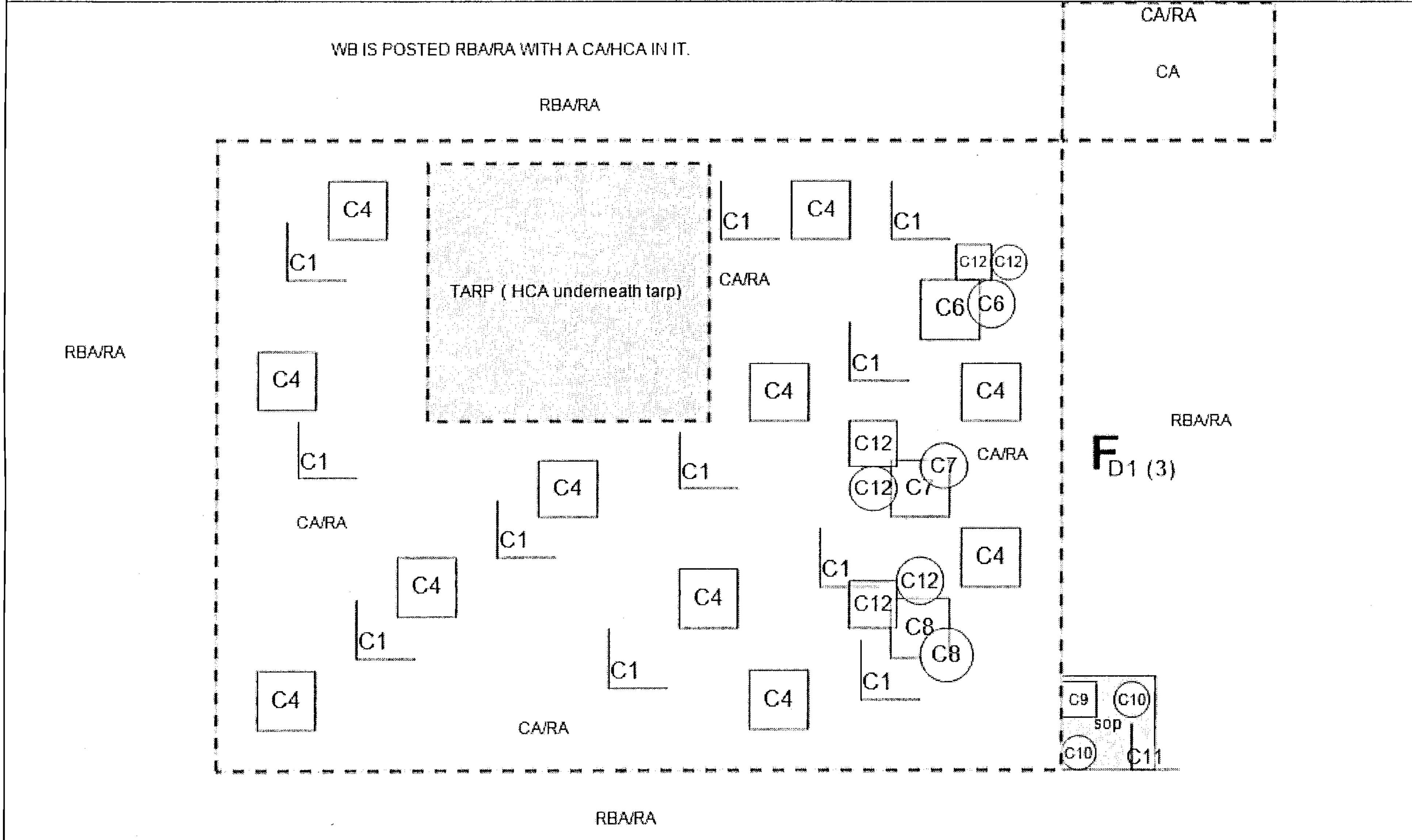
No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW'S of floor (100%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C2	LAW'S of various items (100%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	N/A/LAW †	<D/LAW†
C3	smears of various items	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C4	Directs of floor (100%)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	NA†	NA†
C5	Directs of various items	N/A	0	N/A	N/A	NA†	<500†	N/A	6	NA†	N/A†
C6	Direct of floor, 1 smear of directed spot	N/A	0	N/A	N/A	N/A†	4800†	N/A	6	<1000†	<20†
C7	direct of floor, 1 smear of directed spot	N/A	0	N/A	N/A	N/A†	1200†	N/A	6	<1000†	<20†
C8	direct of floor, 1 smear of directed spot	N/A	0	N/A	N/A	N/A†	360†	N/A	6	<1000†	<20†
C9	direct on sop (100%)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A†	N/A†
C10	Smears on sop (2)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C11	Law on sop (100%)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C12	POST DECON DIRECT AND SMEARS (3 EACH)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	<1000†	<20†
C13	INSTRUMENTS (1 ON EACH)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	<1000†	<20†
C14	LAW OF INSTRUMENTS (100% ON EACH)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	NA/LAW†	<D/LAW†
C15	DIRECTS ON INSTRUMENTS	N/A	0	N/A	N/A	N/A†	<100†	N/A	6	N/A†	N/A†

Map/Sketch



Map Name: DOWN POST	Map Description: DOWN POST IN WB

Legend

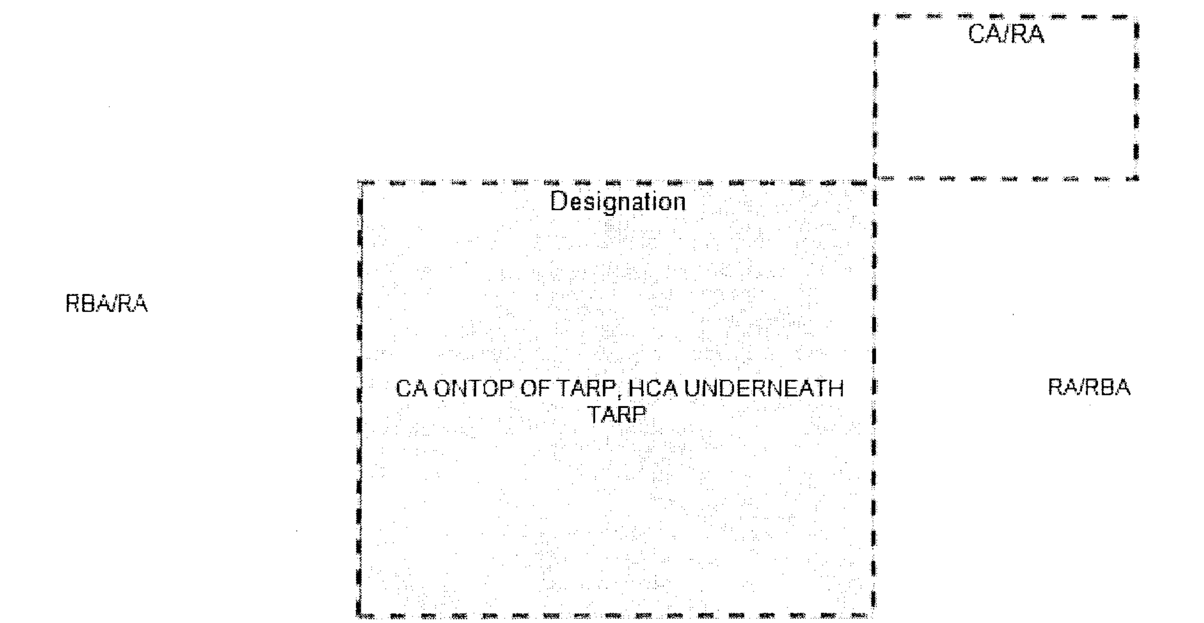
# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101720	Page 4 of 5

Map/Sketch



Map Name: WHAT WB LOOKS LIKE NOW

Map Description: WHAT WB LOOKS LIKE AFTER DOWN POST

Legend: # Direct Measurement | Air Sample | (#) Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101720	

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0431	DTHN3-0165	0.16
PAM	ACHN2-0680	DTHN3-0950	0.16
PAM	ACHN2-0209	DTHN3-1011	0.16
Bumble Bee CP	ICHN2-0009	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	**h0000101**	6-22-11	
Dinger, Rebecca	h6393942	6-22-11	
Pomeroy, Bryson	H9792336	6-22-11	

Reviewers

Name	HID	Date	Signature
SoMellgren	h0066236	6-29-11	

History

2011-06-22 02:49:10 - Submitted
2011-06-22 02:52:47 - UnSubmitted CORRECTIONS
2011-06-22 02:54:22 - Submitted
2011-06-22 02:58:07 - UnSubmitted corrections
2011-06-22 03:05:34 - Submitted
2011-06-22 03:12:39 - UnSubmitted CORRECTIONS
2011-06-22 03:17:01 - Submitted
2011-06-22 03:17:15 - UnSubmitted CORRECTIONS
2011-06-22 03:21:18 - Submitted
2011-06-22 03:23:16 - UnSubmitted CORRECTIONS
2011-06-22 03:34:29 - Submitted

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101727

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/22/2011	1700 / 2330	200 West / WRAP / 2404 Complex / WB & WC / N/A	WP-001(REV3)/WP-611 (REV3)

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003, WP-SH004
- ☑ Job Coverage: DRUM MOVEMENTS
- ☐ Other: N/A

Description of Work/Comments:

*WP-SH003; Shiftly surveys at 2404 WB
*WP-SH004; Shiftly surveys at 2404 WC
*4 DRUMS AND 1 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2404WC PER SURVEY PLAN WRAP-RSP-016 REV. 0. and done under RWP-WP-611 REV.3:Drum surveyed; #0065492, #0077679, #0074665, #0063673

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WB.	F	2	2	2	1	0.4	2.4	2.4
D2	Highest dose rate inside 2404WB (work area).	F	1.3	1.3	2	1	<0.2	1.3	1.3
D3	Highest outside dose rate 2404WC.	F	1.9	1.9	2	1	<0.2	1.9	1.9
D4	Highest dose rate inside 2404WC (work area).	F	1	1	2	1	<0.2	1	1
D5	4 DRUM MOVEMENT FROM 2404WB TO 2404WC	F	1.7	1.7	2	1	<0.2	1.7	1.7

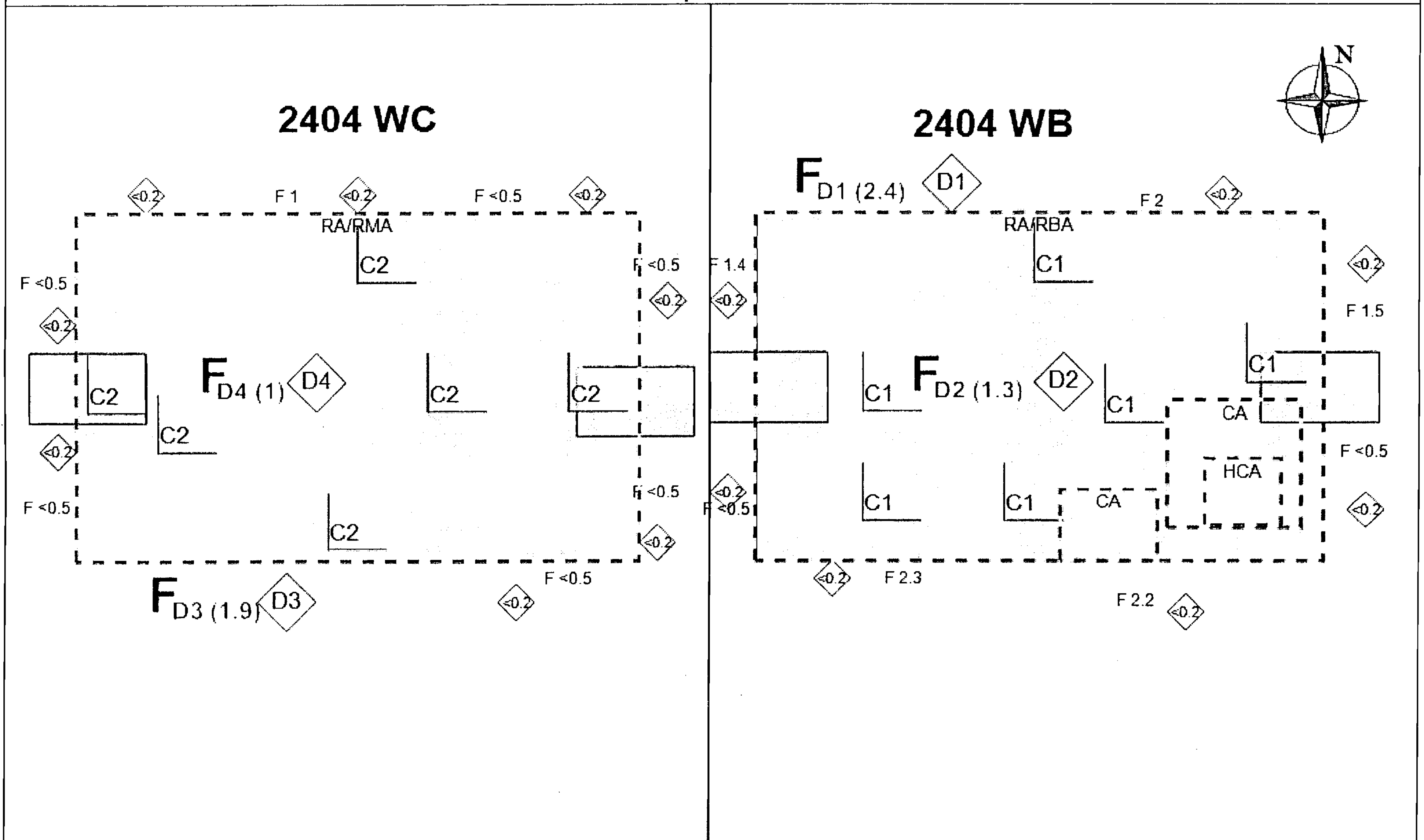
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAW's in 2404WB on floor. (25%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAW's in 2404WC on floor. (25%)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	4 DRUM MOVEMENT FROM 2404WB TO 2404WC; LAW~90% (DRUMS & PALLET)	100	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	4 DRUM MOVEMENT FROM 2404WB TO 2404WC; TECH SMEARS (1 PER DRUM & 1 PER PALLET)	100	0	N/A	N/A	N/A	N/A	10	6	<1000	<20

COPY

Map/Sketch



Map Name: 2404WC&2404WB | Map Description: WP-SH004, WP-SH003

Legend

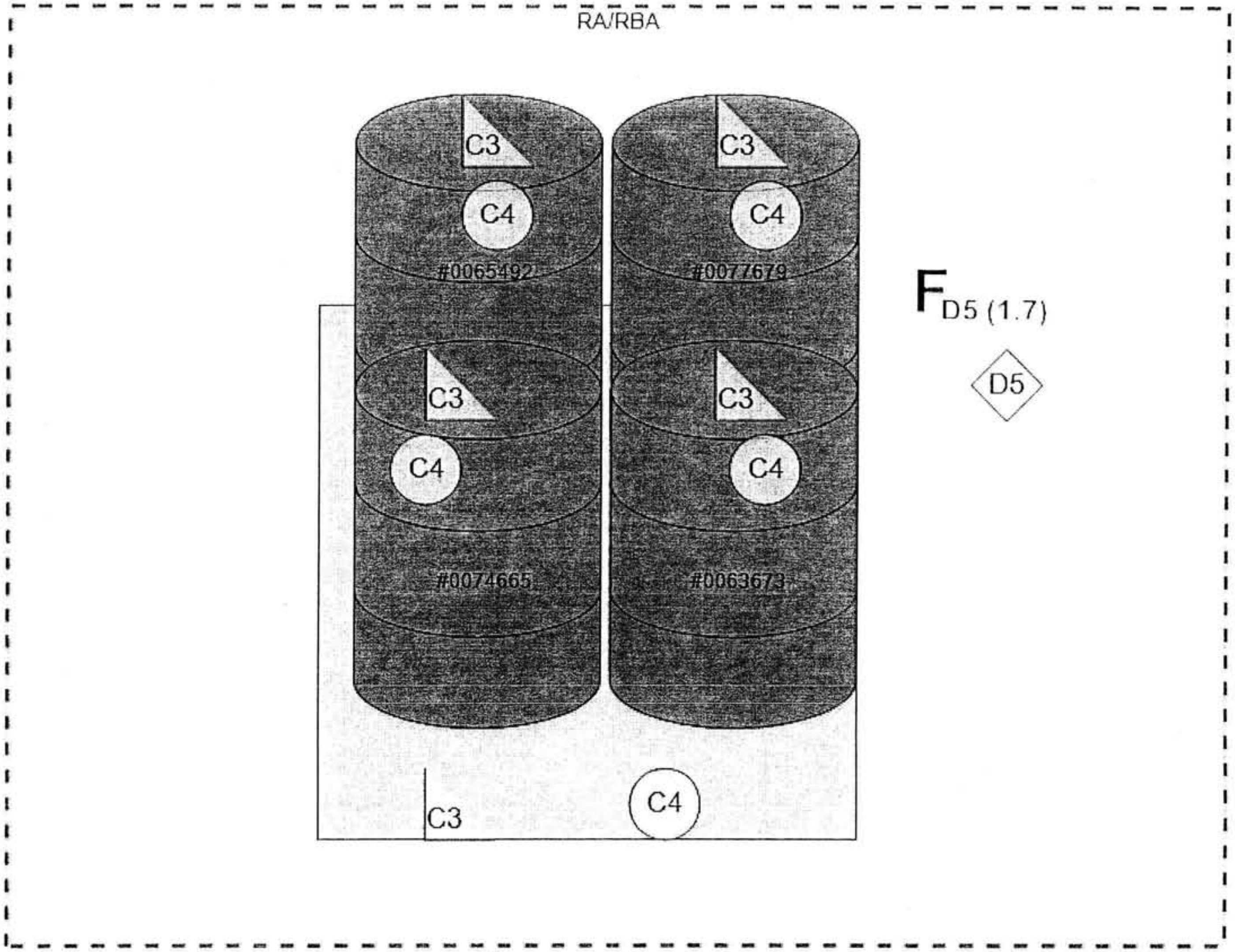
[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101727

Map/Sketch



Map Name: drum	Map Description: drum

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101727

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39α0.36
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35
PAM	ACHN2-0041	DTHN3-0717	0.16
GM	CMEB3-0305	DTHNC-0384	0.10
RO-20	ICEB4-1557	N/A	N/A

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
MASSIE, JARED	h0527264	6·22·11	Jared R. Massie

Reviewers

Name	HID	Date	Signature
SO Mellgren	h0066236	6-29-11	[illegible]

History

2011-06-22 11:39:04 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101731

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/23/2011	0800 / 1600	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	RWP WP-001, Rev 8

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [ ] Job Coverage: N/A
- [ ] Verification survey α = <D
  - <D=No increase in audible count rate
  - N/A Inches/Sec.; N/A Inches Away
  - N/A Count Time (Sec.); N/A % Surveyed
  - N/A # of Static Counts; N/A Square Feet
- [ ] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - N/A Inches/Sec.; N/A Inches Away
  - N/A Count Time (Sec.); N/A % Surveyed
  - N/A # of Static Counts; N/A Square Feet
- [x] Other: SWB TRANSFER, DRUM MOVEMENTS

Description of Work / Comments:

Shiftly surveys at 2404 WC & 2404 WB.

5 SWB's trasfered to 2406W and returned to 2404WC.

6 DRUMS AND 2 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2336W PER SURVEY PLAN WRAP-RSP-016 REV. 0.

Comments: LAW's were performed in accordance with WMP-350 SECTION 6.2. Tech smears counted in accordance with WRP1-OP-1230.

Dose Rate Measurements (Continued)

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

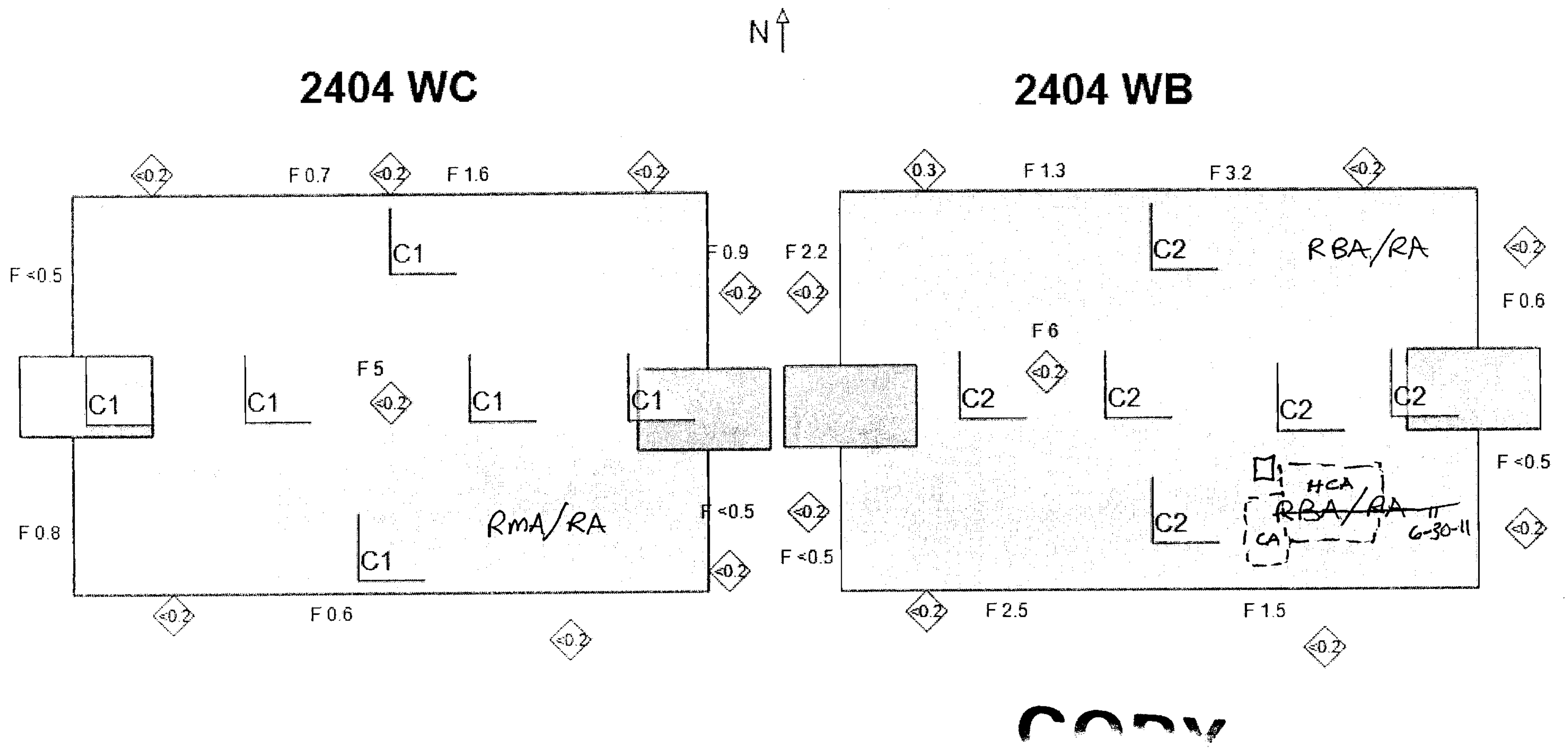
No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WC.	F	1.6	1.6	2	1	<0.2	1.6	1.6
D2	Highest dose rate inside 2404WC (work area).	F	5	5	2	1	<0.2	5	5
D3	Highest outside dose rate 2404WB.	F	3.2	3.2	2	1	<0.2	3.2	3.2
D4	Highest dose rate inside 2404WB (work area).	F	6	6	2	1	<0.2	6	6
D5	Highest gen area on 5 SWB's	F	5	5	2	1	<0.2	5	5
D6	Highest gen area on 6 drum's	F	6	6	2	1	<0.2	6	6

Contamination Measurements (Continued)

		† Manually Calculated by RCT												
		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAW's in 2404WC on floor. (10%)	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C2	LAW's in 2404WB on floor. (10%)	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C3	LAW's on 6 SWBs	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C4	LAW's on 5 drums and 2 pallets	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C5	Tech smears on 5 drums and 2 pallets	100	0	N/A	N/A	N/A	N/A	10	6	Smear	100	0	<1000	<20

COPY

Map/Sketch



Map Name: 2404WC | Map Description: WP-SH004

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	0# Other Measurement

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101731	

Instruments (Continued)

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
RO-20	ICEB4-1447	N/A	N/A
PAM	ACHN2-0166	DTHN3-0037	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
North, Harry	h9427748	6-30-11	Harry W North
Hosier, Judith	h7792254	7-1-11 7.1.11	Judith Hosier

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-1-11	T. Terry

History

2011-06-23 15:21:50 - Submitted
2011-06-30 07:13:39 - UnSubmitted typo
2011-06-30 07:14:09 - Submitted

COPY

~~page 4 of 7~~ 6-30-11
Page 5 of 5

SHIP #	CREATE DATE	STATUS	FROM	TO
35625	6/23/2011	Transfer	2404WB	2336W

DRUM PIN
'0071437
'22-08
'HRO-92-0000188
'HRO-92-0000189
'HRO-92-0000205
'HRO-92-0000209

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101734

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/23/2011	1000 / 1400	200 WEST / 2336 W / Process Area Airlock / N/A	WP-535/ REV 23

Purpose of Survey:

☑ Material Release
Number: RSP-WP-10-002 REV 2
Released to: RESPIRATORS- OPS

☐ Ram Shipment: N/A

☐ Required Task: N/A

☐ Job Coverage: N/A

☑ Verification survey α = <D
<D=No increase in audible count rate

2 Inches/Sec. — 1/4 Inches Away
N/A Count Time (Sec.) — 50 % Surveyed
N/A # of Static Counts — 1 Square Feet

☑ Verification survey βγ = <D
<D=No increase in audible count rate

2 Inches/Sec. — 1/4 Inches Away
N/A Count Time (Sec.) — 50 % Surveyed
N/A # of Static Counts — 1 Square Feet

☐ Other:
N/A

Description of Work / Comments:
release of respirators and surveying out lapels.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.
LAWS PERFORMED IN ACCORDANCE WITH WMP-350 SECTION 6.2.

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	Respirator, hose, belt, pump. (1 smear for each item on each respirator	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	Smear	N/A	0	<1000†	<20†
C2	Law of 100% of each resirator, hose, pump and belt	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	N/A†	<D/LAW †
C3	directs of each respirator, hose, pump, & belt (50%)	N/A	0	N/A	N/A	N/A†	<100†	N/A	6	N/A	N/A	N/A	N/A	N/A

Contamination Measurements (Continued)

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C4	Law of 100% of each lapel	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	LAW	N/A	0	N/A†	<D/LAW †
C5	smears on lapels (1 on each)	N/A	0	N/A	N/A	N/A†	N/A†	N/A	6	Smear	N/A	0	<1000†	<20†
C6	directs of lapels (50% on each)	N/A	0	N/A	N/A	N/A†	<500†	N/A	6	N/A	N/A	N/A	N/A†	N/A†

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101734

Map/Sketch

RELEASE OF RESPORATORS PER RSP-WP-10-002 REV 2

SURVEY OF LAPELS

RESPIRATORS

BODY	BATTERY	SURVEY OF LAPELS
709	815	4542
317	409418	4097
315	424404	4547
711	819	4553
717	802	2694
		4551

COPY

Map Name: RELEASE

Map Description: RELEASE CRITERIA

Legend: [#] Direct Measurement | Air Sample | (#) Smear | L# LAW | Neutron Dose Rate | T# Transferability | F# Field | C# Contact | D# Other Distance | O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101734	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0302	DTHN3-0745	0.16
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	7-6-11	

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	T. Terry

History

2011-06-23 22:37:18 - Submitted
2011-06-30 14:22:41 - UnSubmitted corrections

2011-06-30 14:24:57 - Submitted
2011-07-06 09:51:57 - UnSubmitted needs corrections
2011-07-06 09:55:47 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101744

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/24/2011	0800 / 1600	200W / 2404 WB / 2404 WC / N/A	WP-001/ REV 7

Purpose of Survey

- [x] Material Release
  - Number: WRAP-RSP-016 REV 1
  - Released to: OPS
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-SH004
- [x] Job Coverage: DRUM MOVEMENT
- [ ] Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004.
COMPLETED SHIFTLY TASKS IN 2404 WB & WC.
SURVEYED 55 DRUMS FROM WB TO WC.

Comments: LAWS TAKEN IN ACCORDANCE WITH WMP-350 SECTION 6.2.
SMEARS WERE COUNTED PER WRP1-OP-1230.
DRUMS AND PALLETS WERE RELEASED PER RELEASE PLAN.
LIST OF DRUMS ARE ON PAGE ~~4~~5. JC 6/24/11

Dose Rate Measurements (Continued)

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D2	MAX. DOSE RATE OUTSIDE 2404 WB	F	2.5	2.5	2	1	<0.2	2.5	2.5
D4	MAX. DOSE RATE OUTSIDE 2404 WC	F	0.8	0.8	2	1	<0.2	0.8	0.8
D5	MAX GENERAL AREA DOSE RATE OF DRUM MOVE FROM WB TO WC	F	30	30	2	1	<0.2	30	30

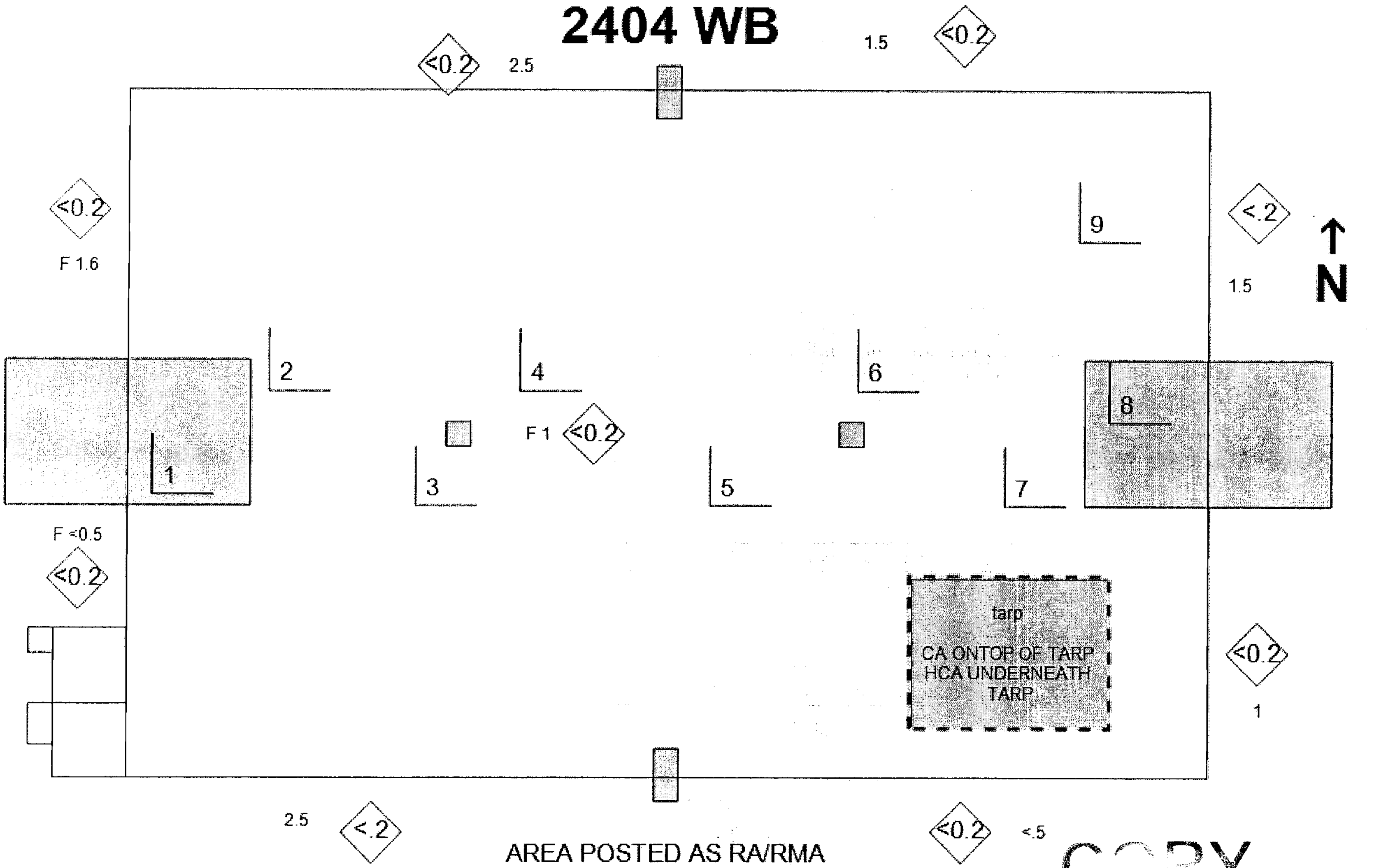
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WB (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWS OF FLOOR IN 2404 WC (25%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAWS OF DRUMS TO BE TRANSFERRED (30%)	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C4	SMEARS OF DRUM TRANSFER (1 PER DRUM AND PALLET - 68 SMEARS)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

COPY

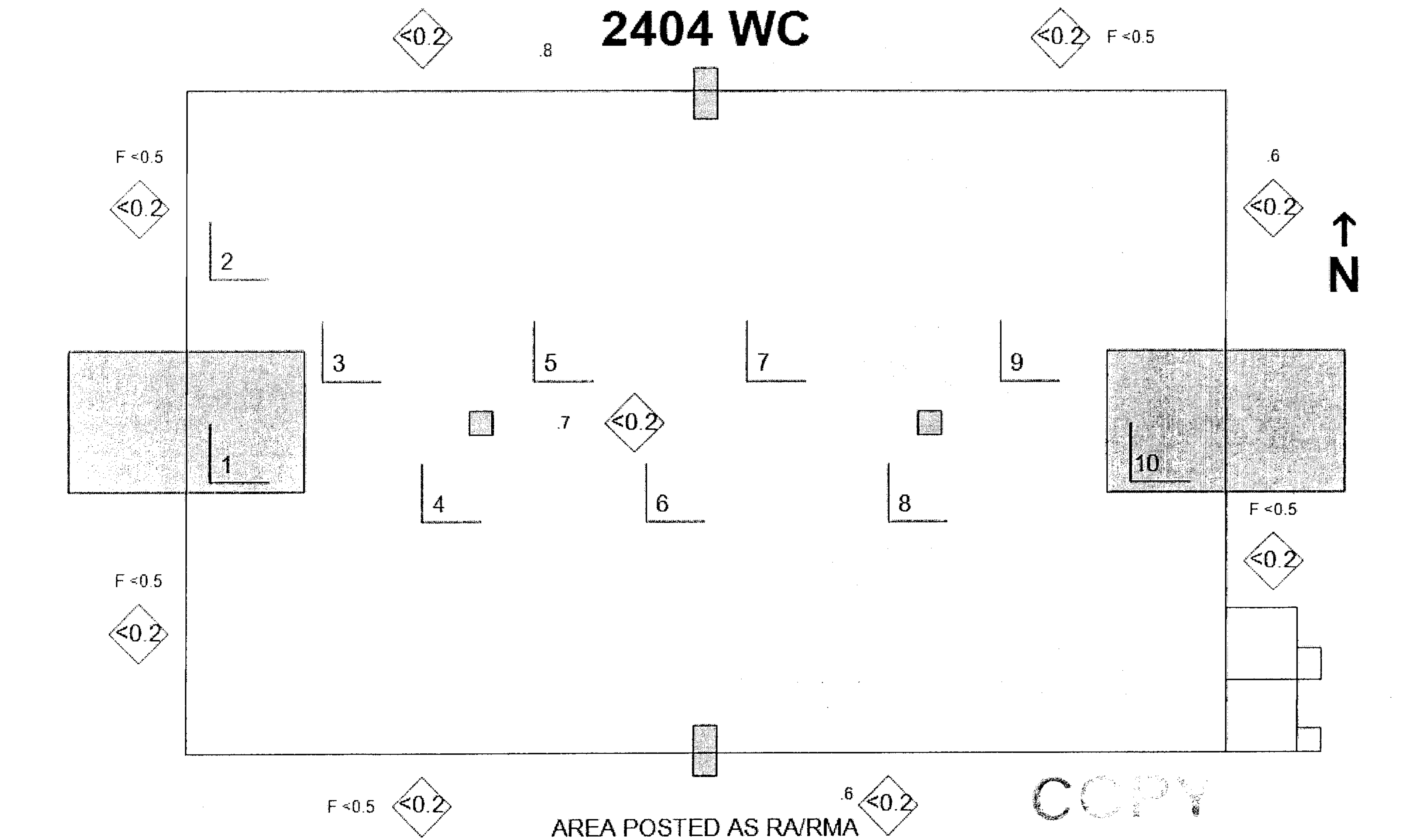
Map/Sketch



Map Name: 2404 WB				Map Description: WP-SH003				
Legend	[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101744

Map/Sketch



AREA POSTED AS RA/RMA

Map Name: 2404 WC	Map Description: WP-SH004

Legend									
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Air Sample Measurements (Continued)

Smear Sample Measurements (Continued)

Instruments (Continued)

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0411	DTHN3-0862	0.16
GM	CMEB3-0069	DTEB5-0076	0.10
RO-20	ICEB4-1557	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	β0.38 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Conley, Jordan	h0000101	6-24-11	

Reviewers

Name	HID	Date	Signature
C Wieland	6197614	6-25-11	

History

2011-06-24 01:28:24 - Submitted

COPY

WP-1101744

JC 6/24/11

SHIP #	CREATE DATE	STATUS	FROM	TO
35626	6/24/2011	Transfer	2404WB	2404WC

DRUM PIN
'0056102
'0056688
'0056787
'0058609
'0061243
'0067191
'0070467
'0070629
'0072355
'0072372
'0073494
'201C-91-000117
'201C-91-000118
'201C-91-000119
'201C-91-000120
'201C-91-000121
'201C-91-000122
'201C-91-000123
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'201C-91-000159
'201C-91-000160
'HRO-92-0000187
'HRO-92-0000190

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101751

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/27/2011	0800 / 1530	200 WEST / 2404 WB / N/A / RBA	WP-001/8

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003 & WP-W037
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2.0 Inches/Sec. — 0.25 Inches Away
  - N/A
  - N/A Count Time (Sec.) — 10 % Surveyed
  - # of Static Counts — ~~540~~ 5.5 Square Feet (MA 7/6/11)
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2.0 Inches/Sec. — 0.25 Inches Away
  - N/A Count Time (Sec.) — 10 % Surveyed
  - N/A # of Static Counts — 5.5 Square Feet
- [ ] Other: N/A

Description of Work / Comments:

WP-SH003 & WP-W037 - shiftly, weekly contamination & dose rate verification IN 2404 WB

Comments: All technical smears counted per WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Exterior dose rate (highest)	F	2.0	2.0	2	1	0.6	2.6	2.6
D2	Interior dose rate (highest)	F	30.0	30.0	2	1	1.6	31.6	31.6

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	Technical Smears of 2404 WB Floor (25 TS)	100	0	N/A	N/A	N/A†	N/A†	N/A	N/A	Smear	10	6	<1000†	<20†

COPY

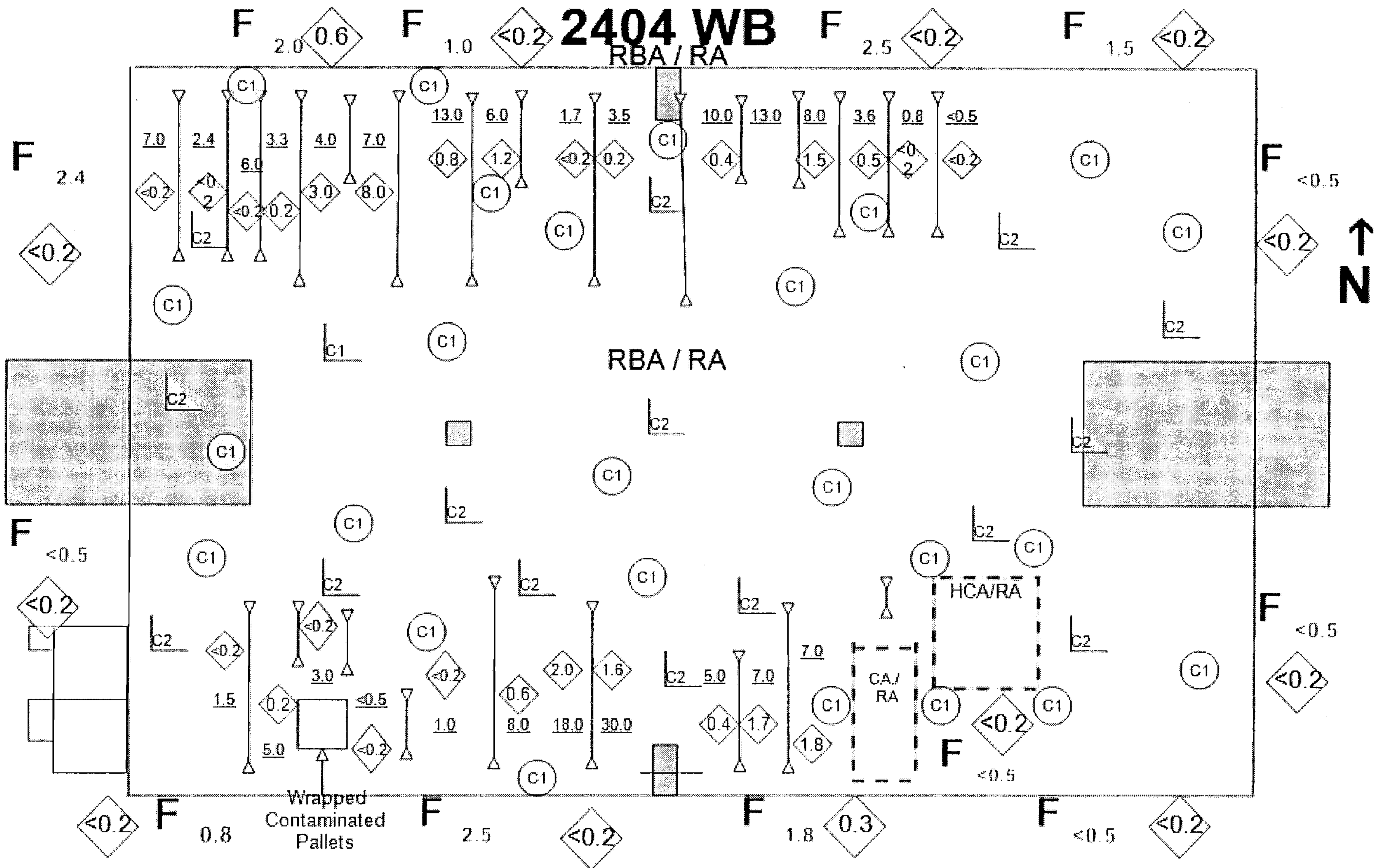
Contamination Measurements (Continued)

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C2	LAWs (~10%/540 sq. ft) of 2404 WB	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW

COPY

Map/Sketch



Map Name: RBA / RA2404 WB

Map Description: 2404 WB Shiftly Shiftly & Weekly Survey Locations

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101751	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
GM	CMEBC-0052	DTEB9-0274	0.1
PAM	ACHN2-0166	DTHN3-0037	0.16
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
2929	SCLL4-0066	DTLLC-0076	β0.39α0.36
2929	SCLL4-0053	DTLLC-0067	β0.40 α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
McKenna, Melanie	**h9032270**	7/6/11	M. McKenna
Dinger, Rebecca	h6393942	7/6/11	Rebecca Dinger
Pomeroy, Bryson	H9792336	7-6-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	T. Terry

History

2011-06-28 14:03:09 - Submitted
2011-07-06 07:05:15 - UnSubmitted Corrections
2011-07-06 07:07:35 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101755

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/27/2011	1630 / 2030	200 WEST / 2404 WB / 2404 WB / 2404 WB	WP-001/8;WP-002/24

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: ~~N/A~~ 7-6-11 WP-SH003
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - N/A Count Time (Sec.) — 10 % Surveyed
  - N/A # of Static Counts — 65 Square Feet
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. — 1/4 Inches Away
  - N/A Count Time (Sec.) — 10 % Surveyed
  - N/A # of Static Counts — 65 Square Feet
- [x] Other:
  WRAP-RSP-016 Rev 0

Description of Work / Comments:

Shiftly survey WP-SH003 and survey of drums to leave the RBA the following day.

Comments: All technical smears counted per WRP1-OP-1230.
See maps/sketch area for drums surveyed out of the RBA.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Exterior dose rate (highest)	F	2.0	2.0	2	1	0.5	2.5	2.5
D2	Dose rate of drums to be moved (highest)	F	25	25	2	1	<0.2	25	25

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAWs of flloor (~10%/540 sq feet.)	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101755

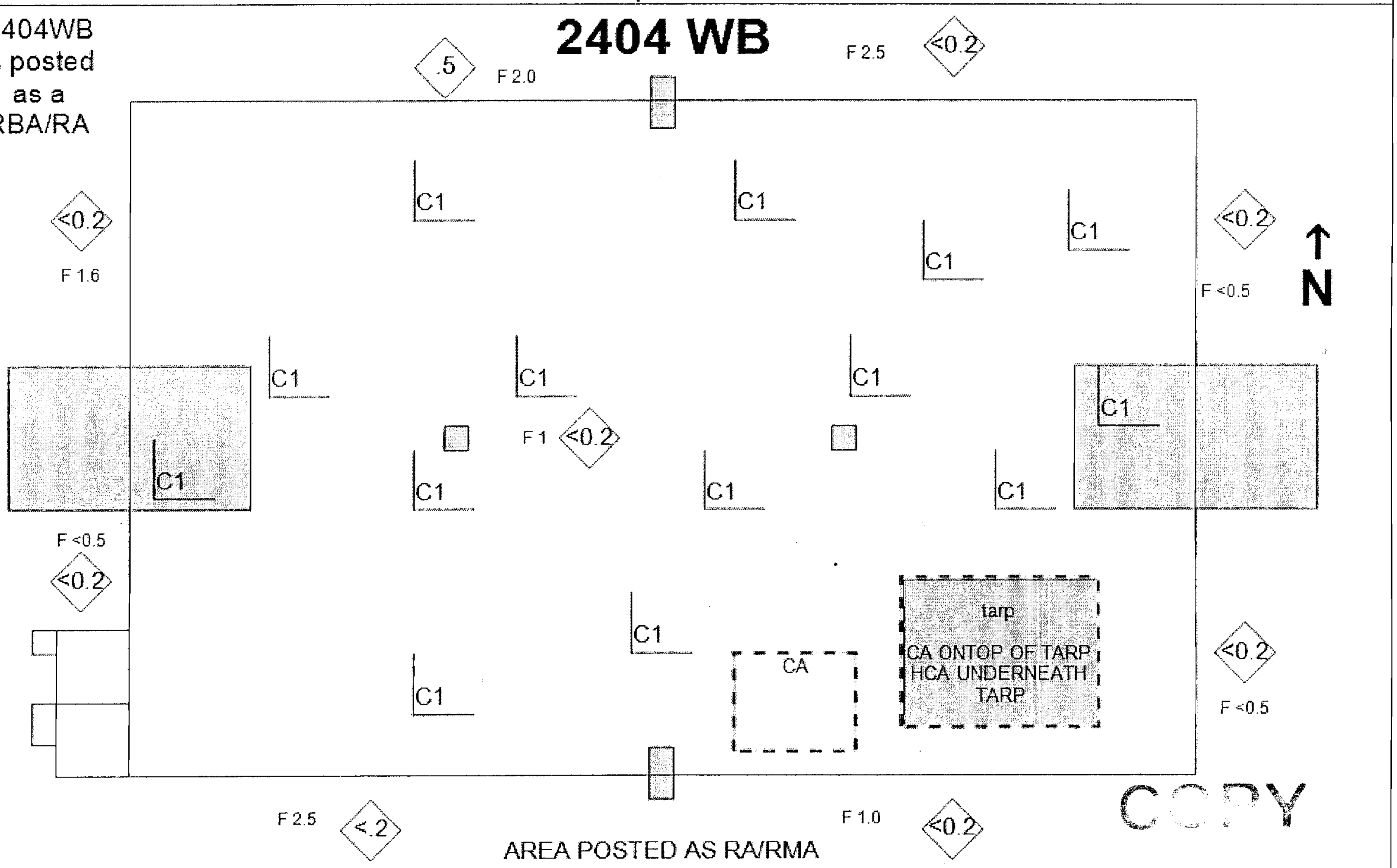
Contamination Measurements (Continued)

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C2	Technical Smears of drums/pallets (1 smear per drum and pallet)	100	0	N/A	N/A	N/A†	N/A†	10 ~~N/A~~ TT 7-	6 ~~N/A~~ 6-11	Smear	100	0	<1000†	<20†

COPY

Map/Sketch



Map Name: 2404 WB | Map Description: WP-SH003

Legend									
[#] Direct Measurement	Air Sample	Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	0# Other Measurement

- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101755	

Map/Sketch

ZORGA9181	RHZ-212-A18445
0035206	RHZ-212-A18447
0035224	RHZ-212-A18497
0039985	RHZ-212-A19729
0040153	RHZ-212-A22423
0049773	RHZ-212-A22424
0055619	RHZ-212-A22893
0055629	RHZ-212-A22892
0055630	RHZ-212-A22922
0058551	RHZ-301-A15001
0062931	S30301
4266-1221	WH87010
9402839	WRM-6900-88-6
0017317	Z72-7-23
0025880	Z78A-4297
ZORGA9173	Z82A-8935
9522348	ZORGA9144
9522360	ZORGA9172
9601038	22-08
9608004	0071437
9608055	
9804590	
BP-192006	
HRO-92-0000204	
LC810712	
LC8112-17	
LC8201-01	
PNL-186046	

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Map Name: DRUMS SURVEYED TO BE MOVED FROM THE RBA

Map Description: LIST OF DRUM #s

Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101755

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
GM	CMEBC-0052	DTEB9-0274	0.1
PAM	ACHN2-0302	DTHN3-0745	0.16
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0064	DTLLC-0074	α0.35 β0.38
Ludlum 2929	SCLL4-0067	DTLLC-0077	α0.36 β0.38

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Wilhelm, Jeffrey	h0590882	7/6/11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	T. Terry

History

2011-06-27 21:58:17 - Submitted
2011-07-06 09:46:30 - UnSubmitted Corrections

2011-07-06 09:48:25 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101759

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/28/2011	0830 / 1030	200 WEST / 2404 WB / N/A / Warehouses	WP-001/REV.8 WP-611/REV.4

Purpose of Survey:

- [ ] Material Release
  Number: N/A
  Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003/WEEKLY VERIFICATION SURVEY OF DRUMS IN WB
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  <D=No increase in audible count rate

2	Inches/Sec.	.25	Inches Away
N/A	Count Time (Sec.)	10	% Surveyed
N/A	# of Static Counts	30	Square Feet

- [x] Verification survey βγ = <D
  <D=No increase in audible count rate

2	Inches/Sec.	.25	Inches Away
N/A	Count Time (Sec.)	10	% Surveyed
N/A	# of Static Counts	30	Square Feet

- [ ] Other:
  N/A

Description of Work / Comments:

WP-SH003 SHIFTLY SURVEY OF 2404 WB.
WEEKLY VERIFICATION SURVEY OF 2 DRUMS IN 2404 WB. DRUM # 0053739 & 0053165.
WP-W042.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB HIGHEST DOSE RATE OF EXTERIOR WALLS	F	2.5	2.5	3	1	0.2	2.7	2.7
D2	2404 WB HIGHEST GENERAL WORKING AREA DOSE RATE ON WEST END OF BUILDING.	F	1	1	3	1	<0.2	1	1
D3	2404 WB HIGHEST DOSE RATE AROUND HCA/CA BOUNDARY FOR WP-W042	F	7	7	3	1	0.2	7.2	7.2
D4	GENERAL AREA DOSE RATES AROUND CA BOUNDARIES.	F	0.5	0.5	3	1	<0.2	0.5	0.5

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101759

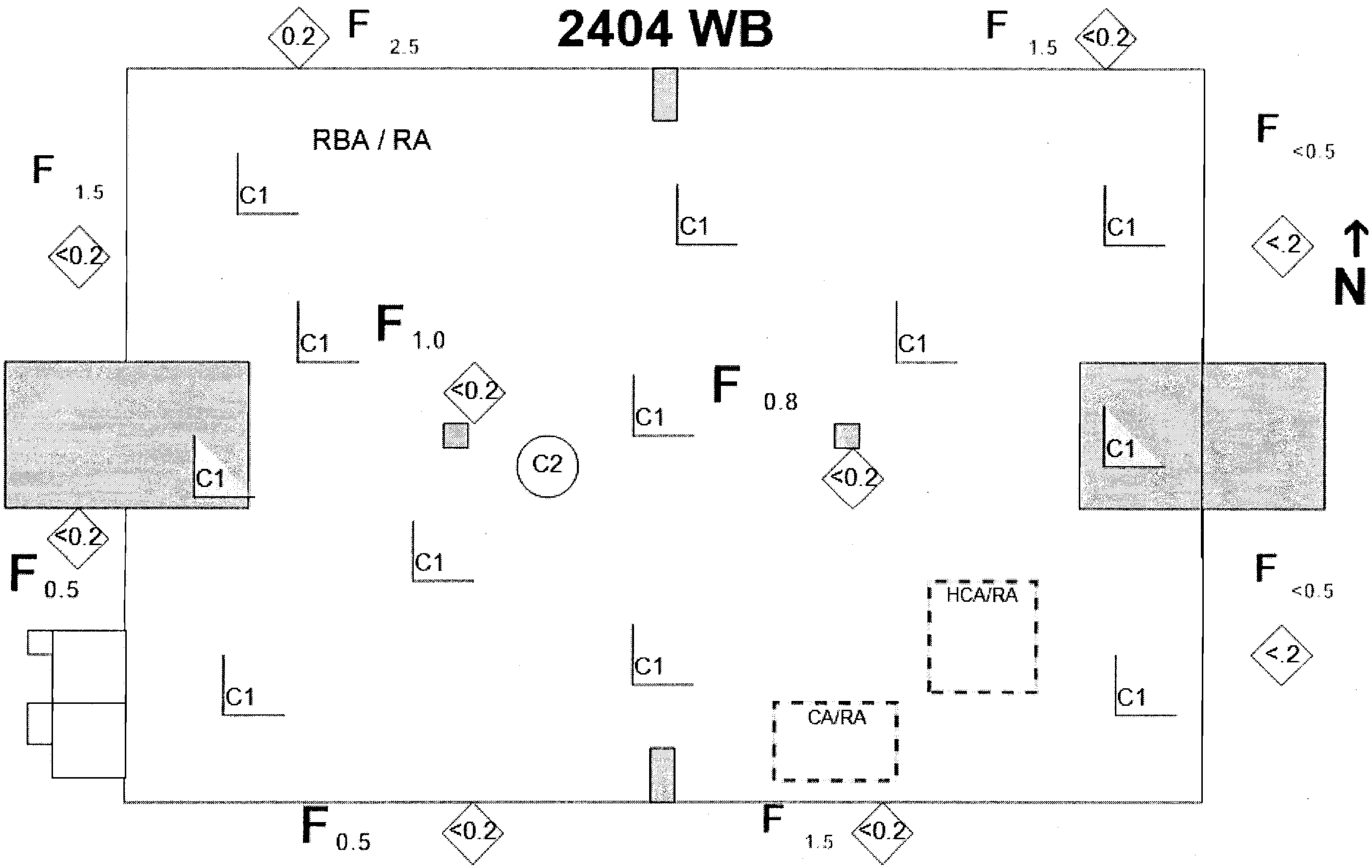
Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAWS OF FLOOR IN 2404 WB ~10%	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C2	TECH SMEAR ON FLOOR(1)	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C3	LAWS OF TARP IN CA COVERING THE HCA~10%	50	0	N/A	N/A	N/A†	N/A†	10	6	LAW	50	0	<D/LAW †	<D/LAW †
C4	LAWS OF FLOOR IN CA ~10%	50	0	N/A	N/A	N/A†	N/A†	10	6	LAW	50	0	<D/LAW †	<D/LAW †
C5	TECH SMEARS OF TARP IN CA COVERING THE HCA (8T/S)	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C6	TECH SMEARS OF FLOOR IN CA (4)	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†

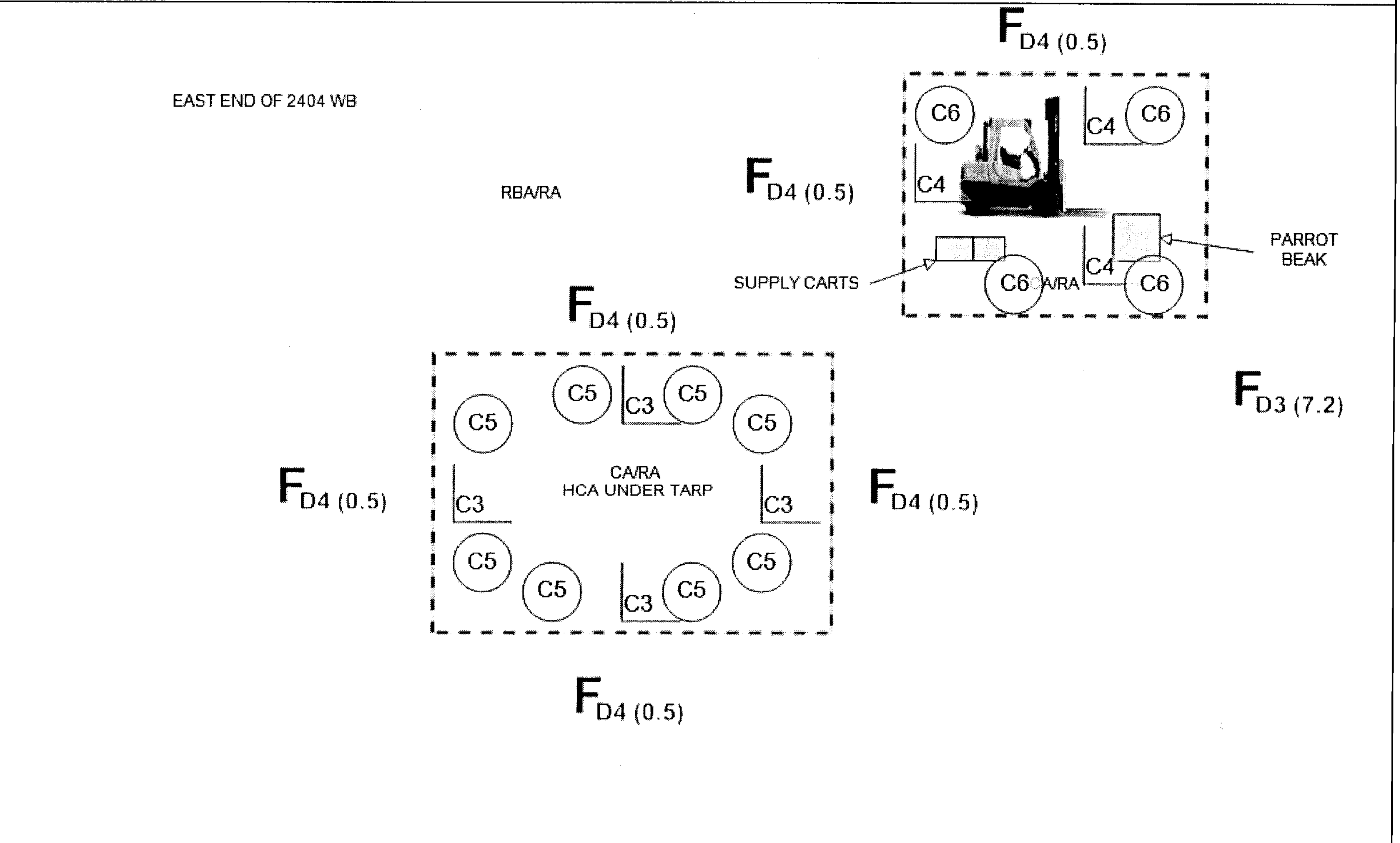
COPY

Map/Sketch



Map Name: 2404 WB			Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations						
Legend	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.			

Map/Sketch



Map Name: 2404 WB EAST END	Map Description: 2404 WB WP-W042

Legend									
# Direct Measurement	# Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.			

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101759	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0431	DTHN3-0165	0.16
GM	CMEBC-0052	DTEB9-0274	0.10
Bumble Bee CP	ICHN2-0003	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942		

Reviewers

Name	HID	Date	Signature

History

2011-06-28 15:06:42 - Submitted

COPY

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101762

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/28/2011	0800 / 1500	200W / 2404 Complex / 2404 WC / 2404 WB	WP-001/ REV 8 & WP-002/REV 24

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [ ] Required Task: N/A
- [x] Job Coverage: DRUM MOVEMENTS
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. | 1/4 Inches Away
  - N/A Count Time (Sec.) | 50 % Surveyed
  - N/A # of Static Counts | see comments Square Feet
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. | 1/4 Inches Away
  - N/A Count Time (Sec.) | 50 % Surveyed
  - N/A # of Static Counts | see comments Square Feet
- [ ] Other: N/A

Description of Work / Comments:

(MOVEMENT 1) SURVEYED 7 DRUMS & 2 PALLETS IN 2404 WB TO BE MOVED TO CWC.
(MOVEMENT 2) SURVEYED 1 DRUM IN 2404 WC TO BE MOVED TO CWC.
(MOVEMENT 3) SURVEYED 3 SWBS & 9 DRUMS IN 2404 WC TO BE MOVED TO 2336W.
(MOVENENT 4) SURVEYED 5 SWBS IN 2404 WC TO BE MOVED TO 2336W.
(MOVEMENT 5) SURVEYED 15 PALLETS IN 2404 WB TO BE MOVED TO CWC. (SEE SURVEY WP-1101755 FOR CONTAMINATION AND DOSE RATE SURVEY OF DRUMS ON PALLETS.
(MOVEMENT 6) RECEIVED 8 SWBS IN TO 2404 WC FROM CWC.

VERIFICATION SURVEY INFO:
DRUMS: ~10 SQUARE FEET PER LAW
SWBS: ~50 SQUARE FEET PER LAW
PALLETS ~25 SQUARE FEET PER LAW

Comments: TECHNICAL SMEARS COUNTED IN ACCORDANCE WITH WRP1-OP-1230.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	MOVEMENT 1	F	3	3	3	1	<0.2	3	3
D2	MOVEMENT 2	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5
D3	MOVEMENT 3	F	1	1	3	1	<0.2	1	1
D4	MOVEMENT 4	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Dose Rate Measurements (Continued)

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D5	MOVEMENT 6	F	<0.5	<0.5	3	1	<0.2	<0.5	<0.5

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAWS OF DRUMS & SWBS IN ALL MOVEMENTS	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C2	MOVEMENT 1 TECH SMEARS (1 EACH DRUM & 1 EACH PALLET)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C3	MOVEMENT 2 TECH SMEAR	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C4	MOVEMENT 3 TECH SMEAR	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C5	MOVEMENT 4 TECH SMEAR	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C6	MOVEMENT 6 TECH SMEARS (1 TOP, I BOTTOM, & 2 SIDES OF EACH SWB)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C7	TECH SMEARS OF PALLETS FOR MOVEMENT 5 (1 EACH)	50	0	N/A	N/A	N/A	N/A	10	6	Smear	50	0	<1000	<20
C8	LAWS OF PALLETS FOR MOVEMENT 5	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
CP	ICHN2-~~003~~ 0003 7-6-11	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.392α0.359

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101762	

Contributors

Name	HID	Date	Signature
Chadderdon, Melissa	H4837929	7-6-11	[signature]
North, Harry	h9427748	7-6-11	[signature]

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	[signature]

History

2011-06-28 15:04:51 - Submitted
2011-06-28 15:36:21 - UnSubmitted correction

2011-06-28 15:37:56 - Submitted
2011-07-06 12:55:59 - UnSubmitted correction
2011-07-06 13:00:57 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101767

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/28/2011	2115 / 2200	200 W / 2404 WB & 2404 WC / N/A / Warehouses	WP-611/3; WP-002/24

Purpose of Survey

- ☐ Material Release
  - Number: N/A
  - Released to: N/A
- ☐ Ram Shipment: N/A
- ☑ Required Task: WP-SH003; WP-SH004
- ☑ Job Coverage: Pre-survey drums/pallets from 2404 WB
- ☐ Other: N/A

Description of Work/Comments:

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Pre-survey of 3 pallets and 9 drums per Survey Plan WRAP-RSP-016, Rev 0, #'s: 0019539, A12665, 0044350, 0035693, 0061519, 9600467, 0057114, 0058075, A13234.

Comments: Tech smears counted per WRP1-OP-1230.

☑ Verification survey α = <D 2 in/s .25 inches away, N/A count time (seconds), 40 % of items surveyed or swiped, N/A # of static counts, 100 sq. feet. Area Swiped. No Audible counts above background.

☑ Verification survey βγ = <D 2 in/s .25 inches away, N/A count time (seconds), 40 % of items surveyed or swiped, N/A # of static counts, 100 sq. feet. Area Swiped. No Audible counts above background.

Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	4	4	2	1	0.3	4.3	4.3
D2	2404 WB highest dose rate of exterior walls	F	2.1	2.1	2	1	<0.2	2.1	2.1
D3	2404 WC highest dose rate of general work area	F	3.6	3.6	2	1	<0.2	3.6	3.6
D4	2404 WC highest dose rate of exterior walls	F	1.5	1.5	2	1	<0.2	1.5	1.5
D5	Highest dose rate of 9 drums	F	4	4	2	1	0.3	4.3	4.3

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWs of general walkways of 2404 WB	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	LAWs of general walkways of 2404 WC	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C3	LAWs of 9 drums and accessible surfaces of 3 pallets	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW

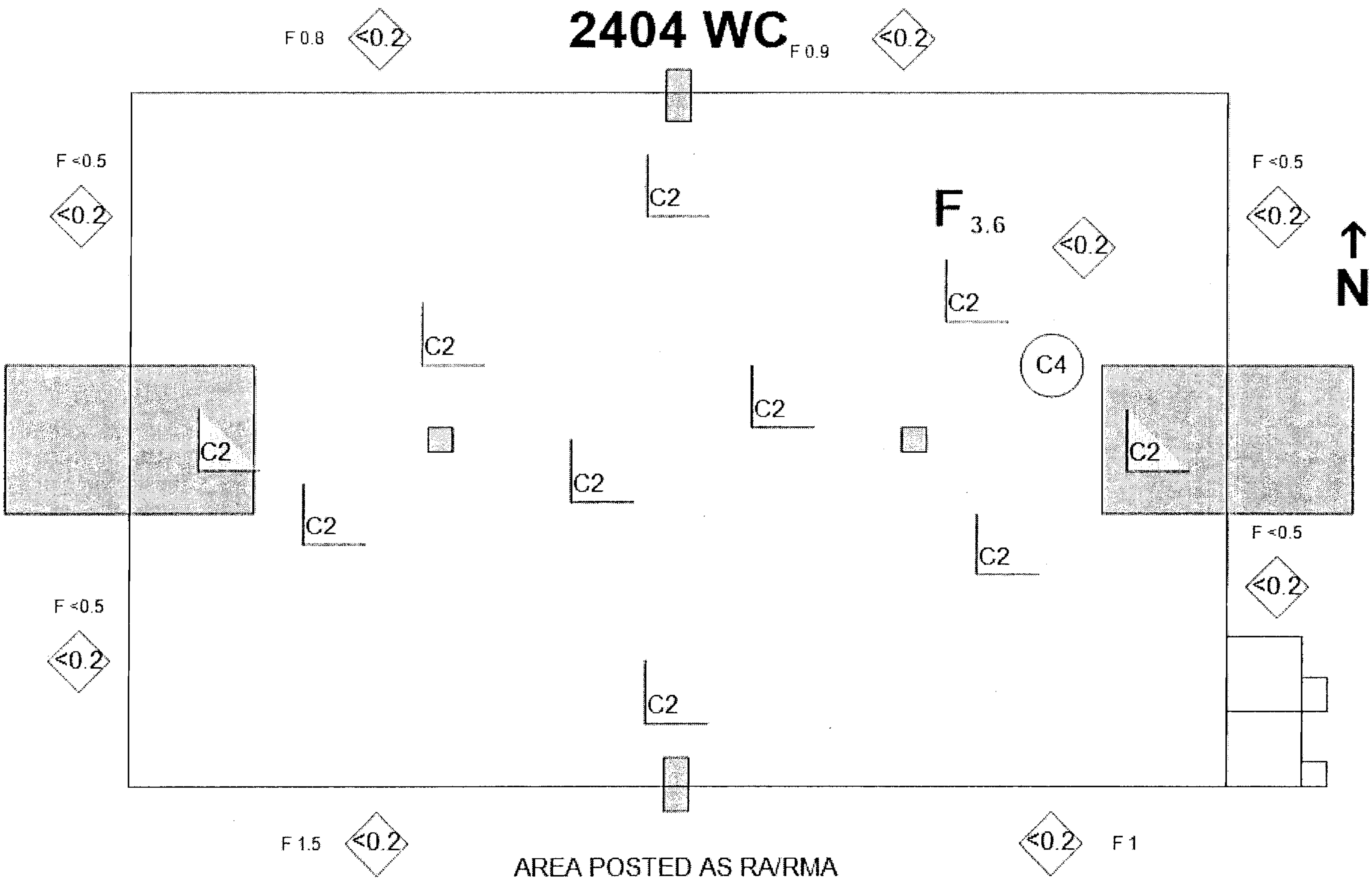
Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C4	Tech smears of 2404 WB and 2404 WC (1 each)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†
C5	Tech smears of 9 drums and 3 pallets (1/drum and 1/pallet)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

COPY

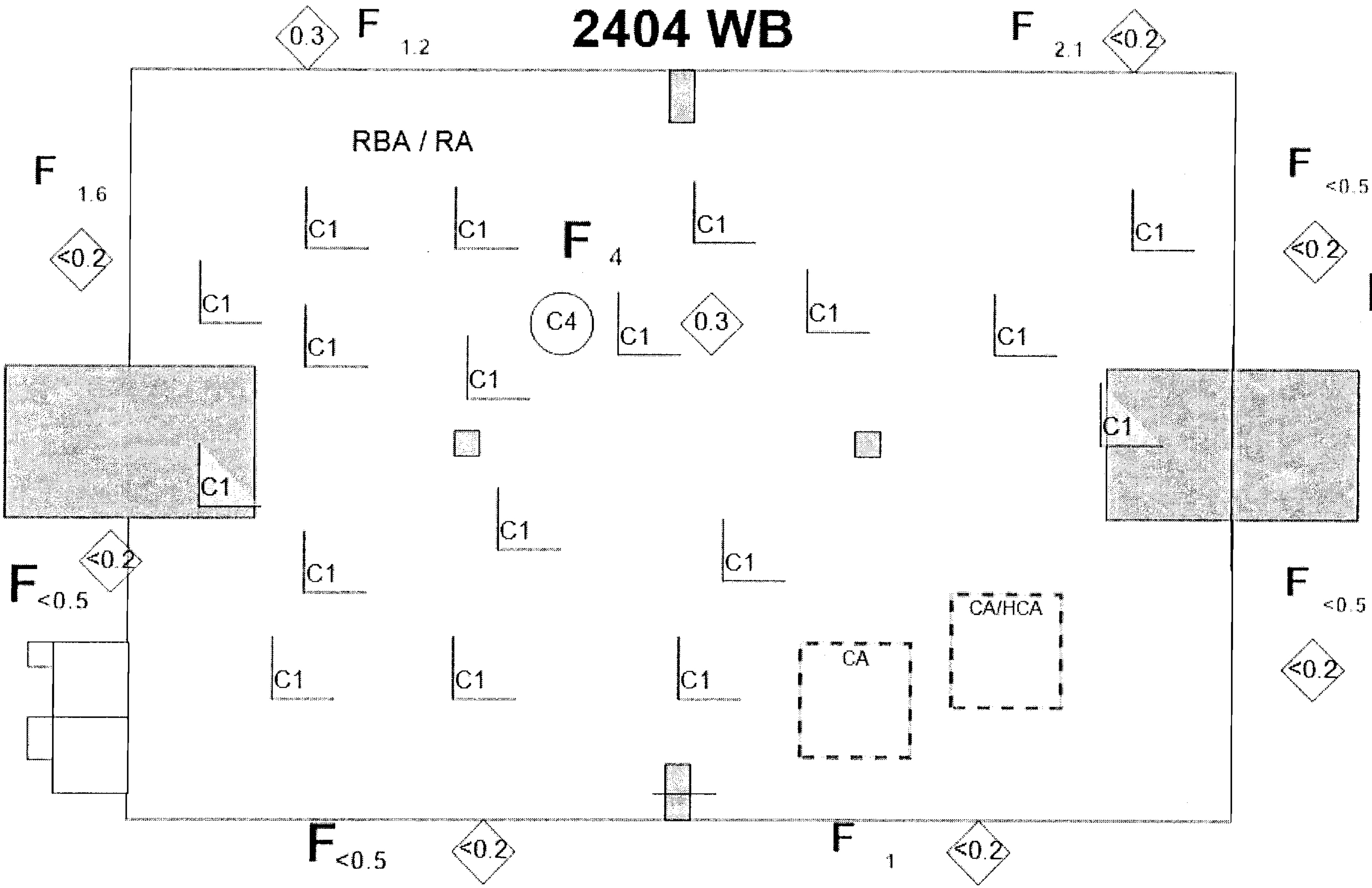
Map/Sketch



Map Name: 2404 WC	Map Description: WP-SH004

Legend	[#] Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	---------- (designation inside) ---------- Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

Map/Sketch



Map Name: 2404 WB		Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations						
Legend	# Direct Measurement	Air Sample	(#) Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance
	- - - - - - - - - - (designation inside) - - - - - - - - - - Radiological Area Boundary						Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101767

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0682	DTHN3-0948	0.16
GM	CMEB3-0068	DTHNC-0670	0.10
RO-20	ICEB4-1447	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0053	DTLLC-0067	β0.40α0.35

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	h5717168	6-28-11	B. Stancil

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-6-11	T. Terry

History

2011-06-29 12:10:12 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101770

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/29/2011	0830 / 1030	200 WEST / 2404 WB / N/A / Warehouses	WP-001/REV.8

Purpose of Survey

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [ ] Other: N/A

Description of Work/Comments:
WP-SH003 SHIFTLY SURVEY OF 2404 WB.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.

- [x] Verification survey α = <D — 2 in/s .25 inches away, N/A count time (seconds), 10 % of items surveyed or swiped, N/A # of static counts, 30 sq. feet. Area Swiped. No Audible counts above background.
- [x] Verification survey βγ = <D — 2 in/s .25 inches away, N/A count time (seconds), 10 % of items surveyed or swiped, N/A # of static counts, 30 sq. feet. Area Swiped. No Audible counts above background.

Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF β	CF γ	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB HIGHEST DOSE RATE OF EXTERIOR WALLS	F	1.8	1.8	2	1	0.3	2.1	2.1
D2	2404 WB GENERAL WORKING AREA DOSE RATE	F	1.5	1.5	2	1	<0.2	1.5	1.5

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background cpm		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WB ~10%	50	0	N/A	N/A	N/A	N/A	10	6	<D/LAW	<D/LAW
C2	TECH SMEAR ON FLOOR(1)	50	0	N/A	N/A	N/A†	N/A†	10	6	<1000†	<20†

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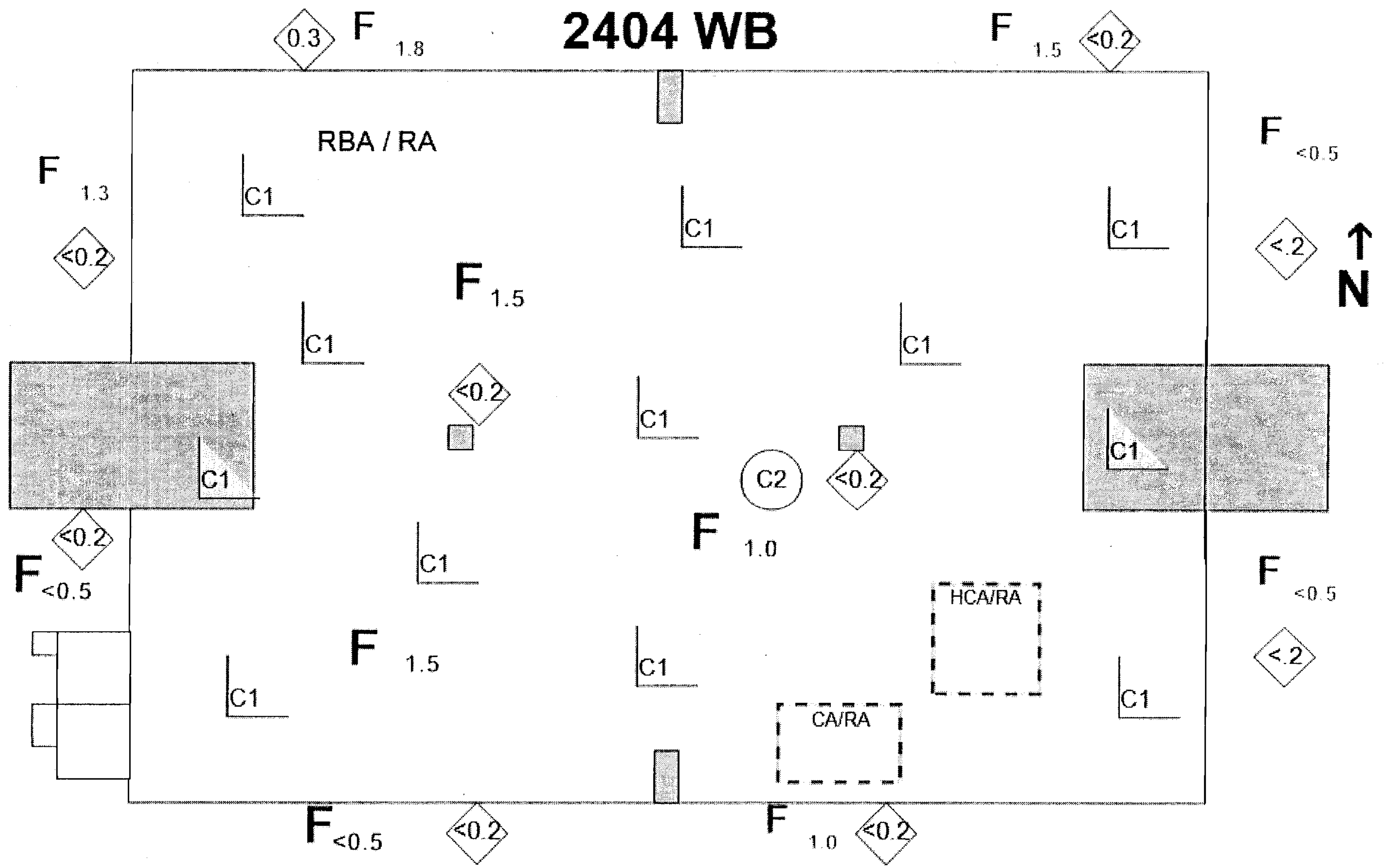
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101770

Map/Sketch



Map Name: 2404 WB

Map Description: 2404 WB Shiftly

Legend								
# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 06/29/2011 10:56:13

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CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101770	Page 3 of 3

Air Sample Measurements

Smear Sample Measurements

Instruments

Instrument/Probe Model	Serial No.	Probe Serial No.	Efficiency (Used)
PAM	ACHN2-0431	DTHN3-0165	0.16
GM	CMEB3-0033	DTEB9-0219	0.10
RO-20	ICEB4-1449	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
2929	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Dinger, Rebecca	h6393942	6-29-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
CWieland	6197614	JUL 08 2011	CW

History

2011-06-29 10:56:13 - Submitted

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RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101785

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/30/2011	0800 / 1030	200 WEST / 2404 WB / N/A / Warehouses	WP-001/REV.8

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. | .25 Inches Away
  - N/A Count Time (Sec.) | 10 % Surveyed
  - N/A # of Static Counts | 30 Square Feet
- [x] Verification survey βγ = <D
  - <D=No increase in audible count rate
  - 2 Inches/Sec. | .25 Inches Away
  - N/A Count Time (Sec.) | 10 % Surveyed
  - N/A # of Static Counts | 30 Square Feet
- [ ] Other:
  N/A

Description of Work / Comments:

WP-SH003 SHIFTLY SURVEY OF 2404 WB.

Comments: TECH SMEARS COUNTED PER WRP1-OP-1230.

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Dose Rate Measurements

Note¹: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note¹	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB HIGHEST DOSE RATE OF EXTERIOR WALLS	F	2.0	2.0	2	1	<0.2	2	2
D2	2404 WB GENERAL WORKING AREA DOSE RATE	F	1.5	1.5	2	1	<0.2	1.5	1.5

Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAWS OF FLOOR IN 2404 WB ~10%	50	0	N/A	N/A	N/A	N/A	10	10	LAW	50	0	<D/LAW	<D/LAW

Contamination Measurements (Continued)

† Manually Calculated by RCT

No.	Description	Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
		βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C2	TECH SMEAR ON FLOOR(1)	50	0	N/A	N/A	N/A†	N/A†	10	10	Smear	50	0	<1000†	<20†

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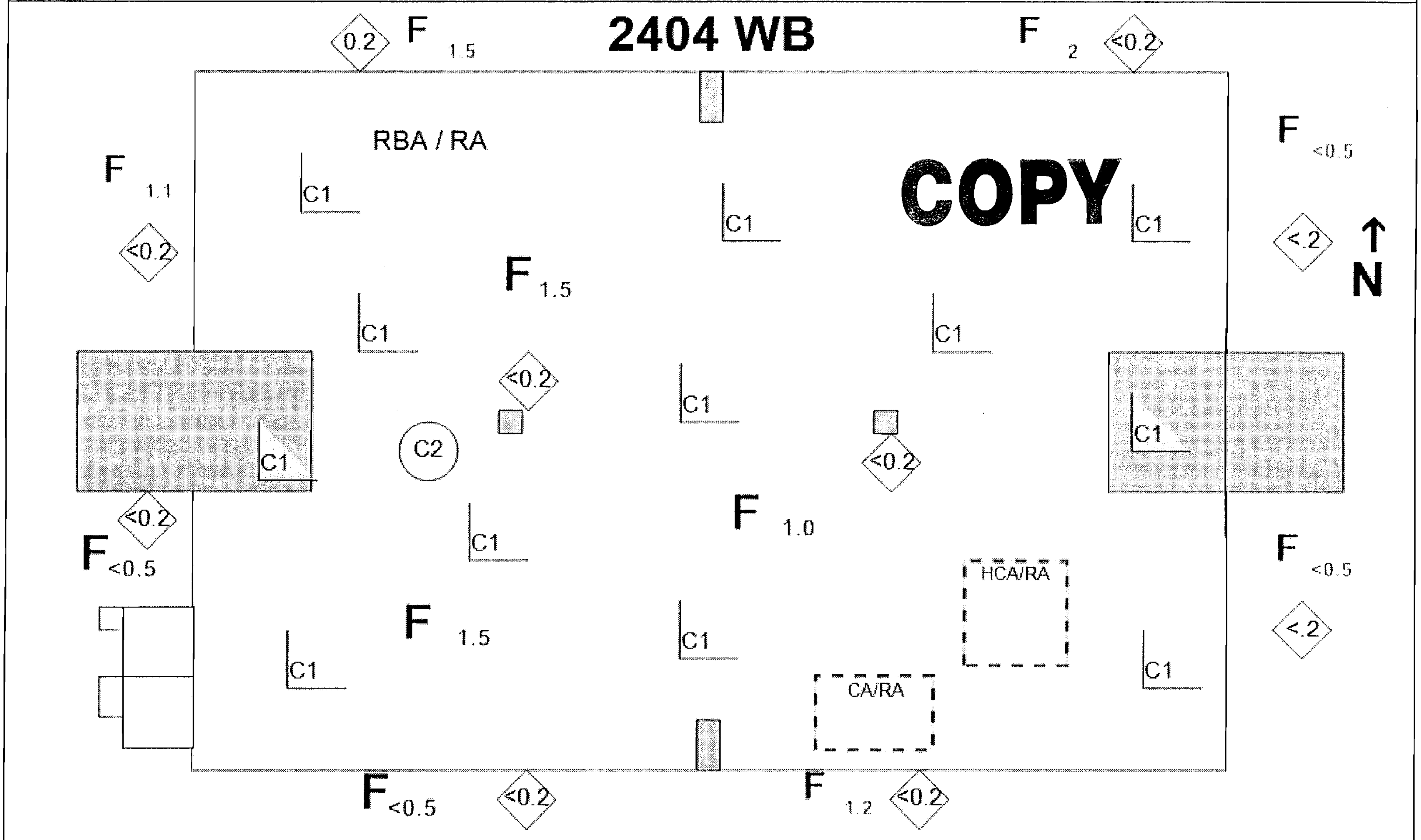
CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101785	

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly

Legend: # Direct Measurement; Air Sample; Smear; LAW; Neutron Dose Rate; T# Transferability; F# Field; C# Contact; D# Other Distance; O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101785	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
GM	CMEB3-0068	DTHNC-0670	0.10
RO-20	ICEB4-1448	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0030	N/A	N/A
2929	SCLL4-0066	DTLLC-0076	β0.392α0.359
2360	SCLL8-0473	DTLLP-0580	0.10

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	7-11-11	Bryson Pomeroy

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	7-11-11	T. Terry

History

2011-06-30 14:41:24 - Submitted
2011-07-11 10:56:07 - UnSubmitted correction
2011-07-11 10:56:30 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101787

Date	Start/Stop Time	Area/Location	RWP/Rev.
6/30/2011	1630 / 1930	200 W / 2404 WB & 2404 WC / N/A / Warehouses	WP-611/~~3~~ 4; WP-002/24

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003; WP-SH004
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  <D=No increase in audible count rate
  - 2 Inches/Sec. — .25 Inches Away
  - N/A Count Time (Sec.) — 40 % Surveyed
  - N/A # of Static Counts — 100 Square Feet
- [x] Verification survey βγ = <D
  <D=No increase in audible count rate
  - 2 Inches/Sec. — .25 Inches Away
  - N/A Count Time (Sec.) — 40 % Surveyed
  - N/A # of Static Counts — 100 Square Feet
- [ ] Other: N/A

Description of Work / Comments:

TT 7-7-11

WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

Comments: Tech smears counted per WRP1-OP-1230.

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Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	2404 WB highest dose rate of general work area	F	1	1	2	1	<0.2	1	1
D2	2404 WB highest dose rate of exterior walls	F	2.3	2.3	2	1	0.2	2.5	2.5
D3	2404 WC highest dose rate of general work area	F	1	1	2	1	<0.2	1	1
D4	2404 WC highest dose rate of exterior walls	F	1	1	2	1	<0.2	1	1

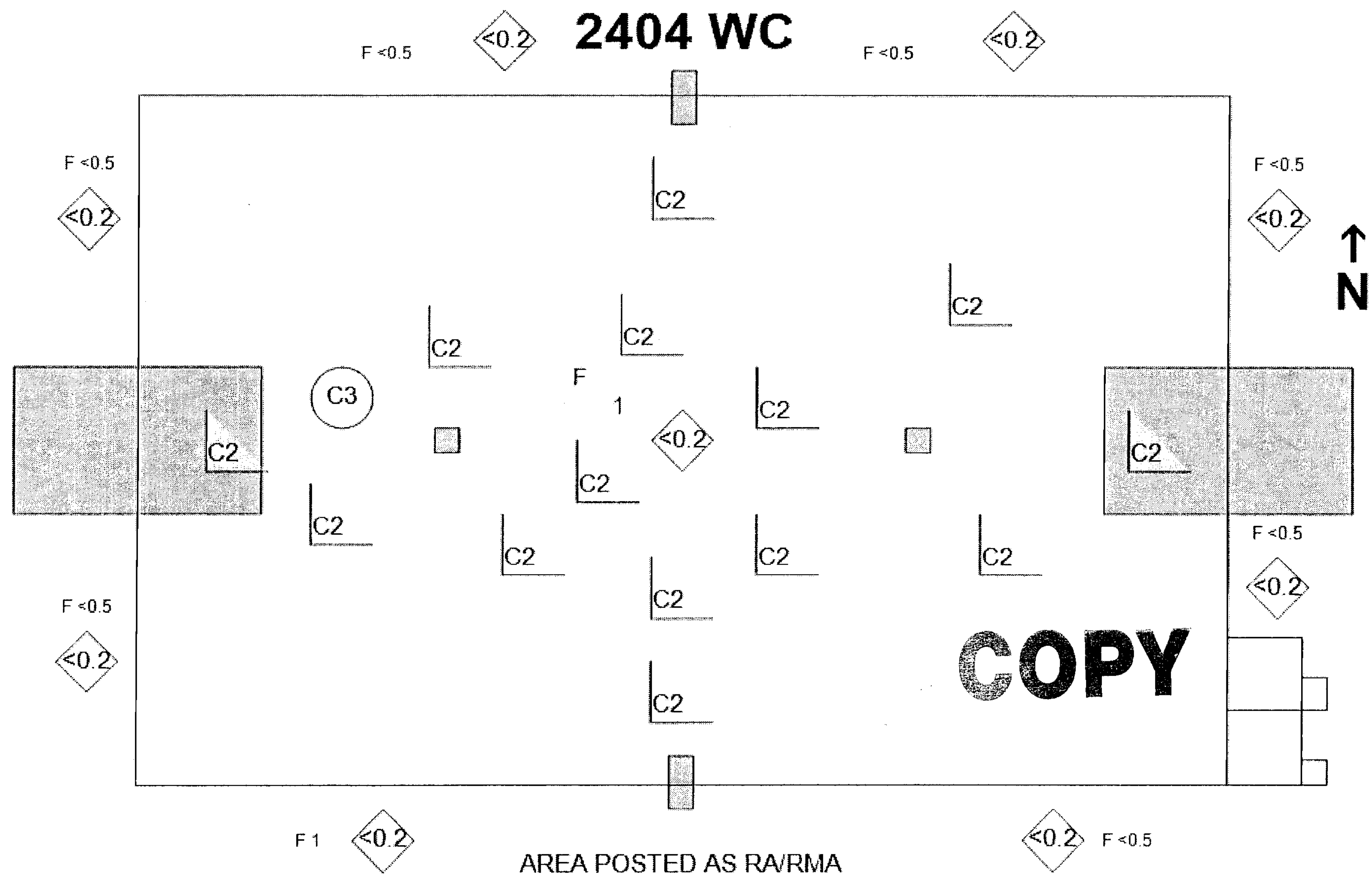
Contamination Measurements

† Manually Calculated by RCT

		Background		Direct Gross cpm/PA		Total dpm/100 cm²		Correction Factor		Removable				
											Gross (cpm)		dpm/100 cm²	
No.	Description	βγ	α	βγ	α	βγ	α	βγ	α	Type	βγ	α	βγ	α
C1	LAWs of general walkways of 2404 WB	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C2	LAWs of general walkways of 2404 WC	50	0	N/A	N/A	N/A	N/A	10	6	LAW	50	0	<D/LAW	<D/LAW
C3	Tech smears of 2404 WB and 2404 WC (1 each)	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†
C4	Tech smears of 2404 WB CA outside boundaries - 4/CA	50	0	N/A	N/A	N/A†	N/A†	10	6	Smear	50	0	<1000†	<20†

COPY

Map/Sketch



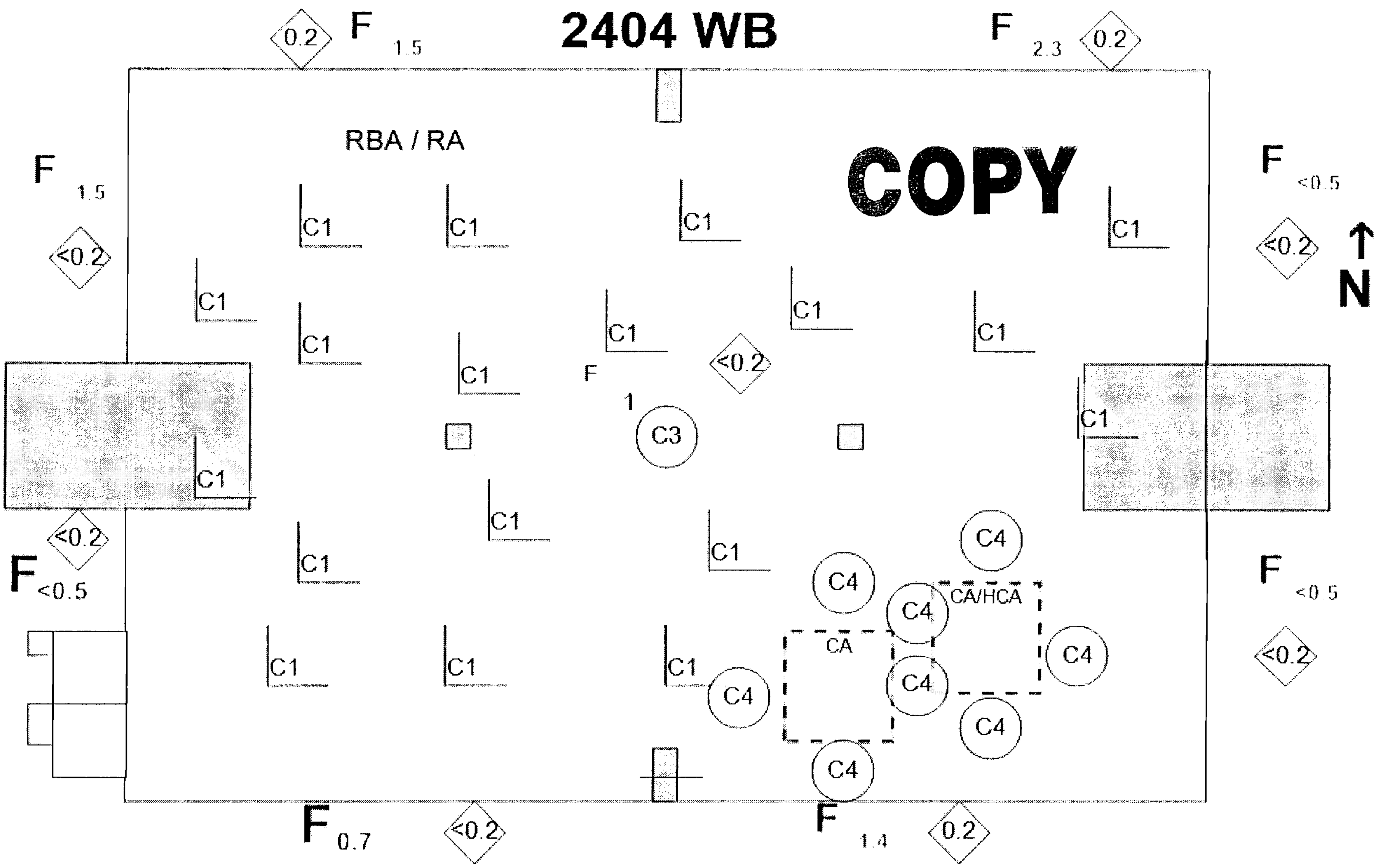
Map Name: 2404 WC	Map Description: WP-SH004

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly and SOP/Egress Survey Locations

Legend										
	# Direct Measurement	Air Sample	# Smear	# LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement
	---------- (designation inside) ---------- Radiological Area Boundary							Note: Dose Rates in mrem/hr unless otherwise noted.		

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101787

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
PAM	ACHN2-0411	DTHN3-0862	0.16
PAM	ACHN2-0378	DTHN3-0800	0.16
GM	CMEBC-0052	DTEB9-0274	0.1
GM	CMEB3-0277	DTHNC-0320	0.1
RO-20	ICEB4-1449	N/A	N/A
RO-20	ICEB4-1557	N/A	N/A
AN/PDR-70 Snoopy	NMN41-0030	N/A	N/A
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
Ludlum 2929	SCLL4-0066	DTLLC-0076	β0.39α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Stancil, Barbara	**h5717168**	6-30-11	B. Stan
Wampole, Michelle	h0009131	6-30-11	M Wampole

Reviewers

Name	HID	Date	Signature
T. Terry	H0759605	~~6~~ 7-7-11 TT 7-7-11	T. Terry

History

2011-06-30 20:28:02 - Submitted

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CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101824

Date	Start/Stop Time	Area/Location	RWP/Rev.
7/8/2011	0730 / 0900	200 West / WRAP / 2404 WB & 2404 WC / N/A / Various	WP-001/8; WP-002/24

Purpose of Survey:

- [ ] Material Release
  - Number: N/A
  - Released to: N/A
- [ ] Ram Shipment: N/A
- [x] Required Task: WP-SH003, WP-SH004
- [ ] Job Coverage: N/A
- [x] Verification survey α = <D
  <D=No increase in audible count rate

2	Inches/Sec.	.25	Inches Away
N/A	Count Time (Sec.)	25	% Surveyed
N/A	# of Static Counts	100	Square Feet

- [x] Verification survey $\beta\gamma$ = <D
  <D=No increase in audible count rate

2	Inches/Sec.	.25	Inches Away
N/A	Count Time (Sec.)	25	% Surveyed
N/A	# of Static Counts	100	Square Feet

- [ ] Other:
  N/A

Description of Work / Comments:

*WP-SH003; Shiftly surveys at 2404 WB
*WP-SH004; Shiftly surveys at 2404 WC
*RWP VERIFICATION

Comments: Tech smears counted in accordance with WRP1-OP-1230.
Movement of 17 drums on 5 pallets from 2404WB to 2336W surveyed on 7-8-11.

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Dose Rate Measurements

Note[1]: F = Field (≥30cm) C = Contact(≤1 cm)

No.	Description	Dist. (cm) Note[1]	WO mR/hr	WC mR/hr	CF Non-Penetrating	CF Penetrating	Neutron Dose mrem/hr	Shallow Dose mrem/hr	Deep Dose mrem/hr
D1	Highest outside dose rate 2404WB.	F	1.5	1.5	2	1	0.2	1.7	1.7
D2	Highest dose rate inside 2404WB (work area). RWP VERIFICATION	F	1	1	2	1	<0.2	1	1
D3	Highest outside dose rate 2404WC.	F	0.7	0.7	2	1	<0.2	0.7	0.7
D4	Highest dose rate inside 2404WC (work area). RWP VERIFICATION	F	<0.5	<0.5	2	1	<0.2	<0.5	<0.5

CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101824

Contamination Measurements

† Manually Calculated by RCT

No.	Description	Background βγ	Background α	Direct Gross cpm/PA βγ	Direct Gross cpm/PA α	Total dpm/100 cm² βγ	Total dpm/100 cm² α	Correction Factor βγ	Correction Factor α	Removable Type	Removable Gross (cpm) βγ	Removable Gross (cpm) α	Removable dpm/100 cm² βγ	Removable dpm/100 cm² α
C1	LAW's in 2404WB on floor.	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C2	LAW's in 2404WC on floor.	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW
C3	RWP VERIFICATION FOR 2404WB	100	0	N/A	N/A	N/A	N/A	10	6	Smear	100	0	<1000	<20
C4	RWP VERIFICATION FOR 2404WC	100	0	N/A	N/A	N/A	N/A	10	6	Smear	100	0	<1000	<20
C5	LAW's of bottom of 5 pallets	100	0	N/A	N/A	N/A	N/A	10	6	LAW	100	0	<D/LAW	<D/LAW

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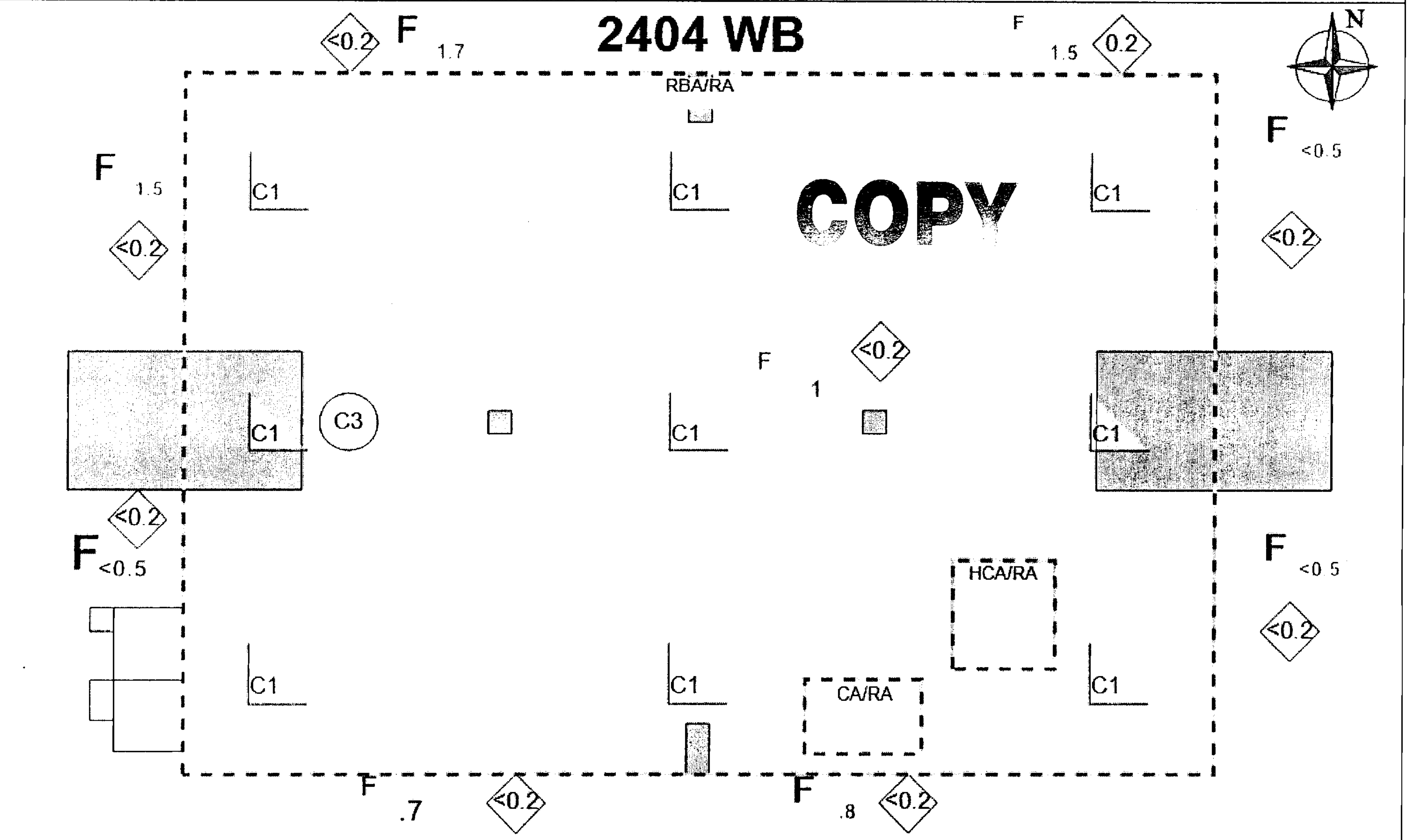
CH2M HILL PLATEAU REMEDIATION COMPANY
RADIOLOGICAL SURVEY REPORT (Submitted)

RSR No. WP-1101824

Map/Sketch



Map Name: 2404 WB	Map Description: 2404 WB Shiftly

Legend

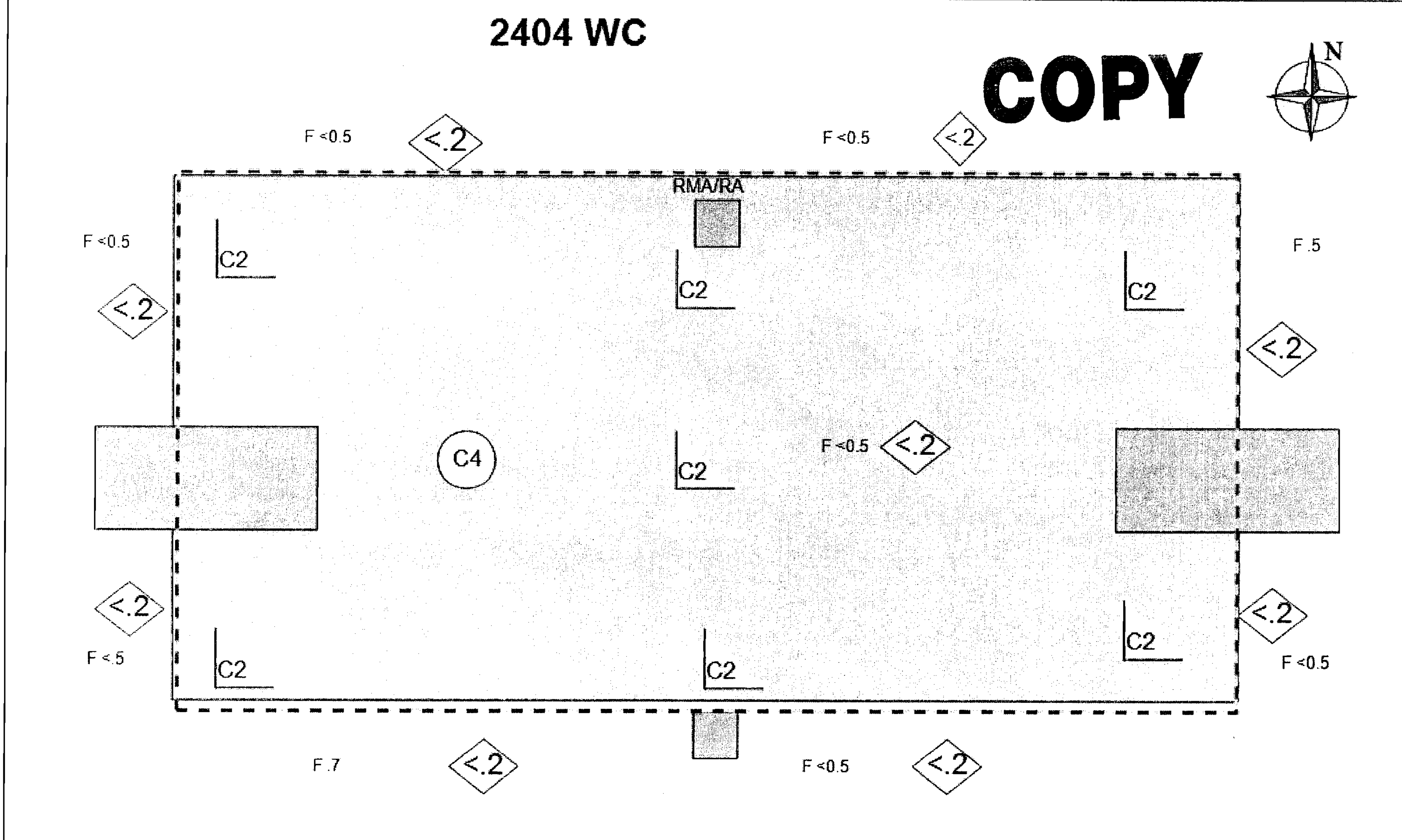
[#] Direct Measurement	Air Sample	(#) Smear	LAW	Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	O# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

Date Submitted: 07/08/2011 14:24:32

Map/Sketch



Map Name: 404 WC | Map Description: WP-SH004

Legend									
# Direct Measurement	Air Sample	# Smear	# LAW	# Neutron Dose Rate	T# Transferability	F# Field	C# Contact	D# Other Distance	0# Other Measurement

---------- (designation inside) ---------- Radiological Area Boundary

Note: Dose Rates in mrem/hr unless otherwise noted.

CH2M HILL PLATEAU REMEDIATION COMPANY RADIOLOGICAL SURVEY REPORT (Submitted)	RSR No. WP-1101824	

Instruments

Instrument Type	Bar Code No.	Probe Bar Code No.	Efficiency (Used)
AN/PDR-70 Snoopy	NMNR1-0041	N/A	N/A
RO-20	ICEB4-1449	N/A	N/A
PAM	ACHN2-0166	DTHN3-0037	0.16
GM	CMEBC-0052	DTEB9-0274	0.10
SCLL4-0067	SCLL4-0067	DTLLC-0077	β0.38 α0.36

Unless stated otherwise in the "Comments" section, contamination levels for C-14, Fe-55, Ni-59, Ni-63, Se-79, Tc-99, Pd-107, and Eu-155 are ≤ 10 times the b-g contamination levels shown above (see CHPRC-00073, Table 2-2).

Contributors

Name	HID	Date	Signature
Pomeroy, Bryson	H9792336	7-8-11	Bryson Pomeroy
Chadderdon, Melissa	H4837929	7-8-11	[illegible]
Dinger, Rebecca	h6393942	7-8-11	Rebecca Dinger

Reviewers

Name	HID	Date	Signature
C Wielang	6197614	JUL 11 2011	[illegible]

History

2011-07-08 13:23:30 - Submitted
2011-07-08 14:22:23 - UnSubmitted add scaler
2011-07-08 14:24:32 - Submitted

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Attachment V

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101182	05/01/11	N/A WB Recovery 1st Entry. ENTRY MADE USING SCBA's
WP-1101183	05/01/11	Outside East door of 2404WB Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Downpost survey of a CA and RBA outside of the east door to 2404WB. Items released listed in the map section. Survey of drum exiting the CA, and 4 laundry bags. All surveys performed in support of recovery plan WRAP-RP-11-03.
WP-1101184	05/01/11	WB recovery 2nd Entry
WP-1101185	05/01/11	Exterior Wall WP-SH003 Shiftly verification of dose rates at exterior walls of 2404 WB. Contamination survey of vents and doors of 2404 WB.
WP-1101187	05/05/11	Inside East door of 2404WB Survey of HCA/ARA/RA decon work in the 2404WB east entryway.
WP-1101189	05/02/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 1 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC.
WP-1101197	05/02/11	N/A WP-SH003, WP-SH004, WP-W035.COMPLETED SHIFTLY AND WEEKLY SURVEYS IN 2404 WC. SHIFTLY SURVEY OF 2404 WB.SURVEYED 56 DRUMS IN 2404 WC TO BE MOVED TO 2336W.
WP-1101199	05/03/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 1 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC.
WP-1101204	05/03/11	Southeast Interior Corner WB recovery 1st Entry of 5/3/11.
WP-1101205	05/03/11	RELEASE OF VARIOUS INSTRUMENTATION, RESPIRATORY EQUIPMENT INCLUDING SCBAs, & LAPEL PUMPS.ITEMS RELEASED FROM CA LISTED IN MAP SECTION.SURVEY OF 2 DRUMS AND 5 LAUNDRY BAGS EXITING THE CA.ALL SURVEYS PERFORMED IN SUPPORT OF RECOVERY PLAN WRAP-RP-11-03.
WP-1101209	05/03/11	N/A WB RECOVERY ENTRY MADE USING SCBA's
WP-1101213	05/03/11	WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Drums intended for movement (42) from WC to 2336. Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB.
WP-1101224	05/04/11	N/A 2404 WB Entry First Team. Surveyed way up to spill, rolled back brown tarp closest to spill, covered spill and mass contamination with soil cement.*Beta surveys not performed due to high background.
WP-1101225	05/04/11	Outside East door of 2404WB Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Survey of CA and RBA outside of the east door to 2404WB. Items released listed in the map section. Survey of 2 drums exting the CA, and 2 laundry bags. All surveys performed in support of recovery plan WRAP-RP-11-03.
WP-1101227	05/04/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 4 SWB to be moved from 2404-WC to MO-610 then returned to 2404-WC. 41 drums from 2424WC

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
		to 2336W43 drums from CWC to 2336W
WP-1101235	05/04/11	WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB.
WP-1101247	05/05/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 6 SWB to be moved from 2404-WC to 3604W then returned to 2404-WC. Received & surveyed 6 SWB from CWC to 2404WB.
WP-1101249	05/05/11	RELEASE OF VARIOUS INSTRUMENTATION, RESPIRATORY EQUIPMENT INCLUDING SCBAs, & LAPEL PUMPS.ITEMS RELEASED FROM HCA&-CA LISTED IN MAP SECTION.SURVEY OF 2 DRUMS AND 5 LAUNDRY BAGS EXITING THE CA.ALL SURVEYS PERFORMED IN SUPPORT OF RECOVERY PLAN WRAP-RP-11-003.
WP-1101250	05/05/11	WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC.SURVEYED 15 DRUMS IN 2404 WC TO BE MOVED TO 2336W.
WP-1101259	05/06/11	Inside east door Survey of the non skid strips directly in the entry of 2404 WB. All contamination was covered with tape in order to prevent cross contamination. 2404WB is posted as RA/HCA/ARA.
WP-1101265	05/06/11	Outside Release of respirators, lapels, and instruments from CA in front of 2404WB.
WP-1101266	05/06/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 7 SWB to be moved from 2404-WC to HERTR then returned to 2404-WC. Surveyed 1 drum from 2404 WC to 2336W.
WP-1101269	05/06/11	WRAP Entry made into 2404 WB to confirm levels of contamination on the floor inside the HCA/ARA.
WP-1101271	05/06/11	WRAP Entry made into 2404 WB to confirm levels of contamination on the floor inside the HCA/ARA.
WP-1101272	05/06/11	Survey of Forklift (ID Number H0-75-4878) used in 2404 WB recovery effort. See RSR WP-1101259 for Air Sample and Lapel Information.
WP-1101275	05/09/11	Outside 2404 WB East Entry Outside support for 2404 WB recovery team including outside air samples for morning and afternoon entries and release of equipment from the HCA/ARA/RA from both entries.
WP-1101276	05/09/11	WRAP First entry into WB on SCBAs. Re-verification and decon of contamination on the floor in the entry way on the ramp inside 2404 WB.
WP-1101277	05/09/11	WB Recovery Entry
WP-1101283	05/09/11	Southeast Interior Corner WB Recovery PM Entry Including: Inside air sample and survey/decontamination of 2 areas inside 2404 WB.
WP-1101284	05/09/11	WRAP Release of various items from contaminated area (CA) from 2404 WB second entry in the afternoon. This tasked carried over into swing shift.

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
		Also performed the survey inside the CA to verify posting.
WP-1101285	05/09/11	WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Drums intended for movement (56): from WC to 2336. Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB. Performed a verification survey of the exterior RBA of WB. Surveyed 2 waste drums and 6 laundry bags from the WB exterior CA.
WP-1101290	05/10/11	N/A WB INSIDE COVERAGE: MOVING FORK LIFT OFF CONTAMINATED PAPER ON TO CLEAN PAPER.
WP-1101294	05/10/11	NA WP-SH003, WP-SH004, WP-W040, AND WP-W041.SURVEYED 42 DRUMS IN 2404 WC TO BE MOVED TO 2336W.SURVEYED 5 SWB'S FOR HERTR.
WP-1101295	05/10/11	N/A 2404 WB AM RECOVERY ENTRY.
WP-1101300	05/10/11	WC WP-SH003, WP-SH004, WP-W035. *1 SWB MOVEMENT FROM 2404WC TO 2336W*28 DRUM MOVEMENT FROM 2404WC TO 2336W
WP-1101302	05/10/11	Outside CA 2404 WB outside CA air sample
WP-1101303	05/09/11	East Entryway Survey of the yellow ramp area in 2404WB east entryway. Decon wet wipes and baby wipes were used to remove contamination.
WP-1101304	05/10/11	East entryway Survey for tuesday in 2404WB. A path to the clean forklift surveyed, and the forks/wheels/seat/pedals/steering wheel was surveyed. Survey up to spill pallet, survey of random areas in the west side of 2404.
WP-1101308	05/10/11	Outside Release of respirators, lapels, and instruments from CA in front of 2404WB.
WP-1101309	05/10/11	Outside ca 2 directs on 2 laundry bags for IH samples.
WP-1101311	05/12/11	East entryway Release of Various items from CA outside the 2404 WB east entryway. 4 laundry bags and 1 waste drum surveyed out of the CA. Identification numbers of all equipment listed in the maps/sketch area.
WP-1101312	05/11/11	Inside HCA Survey of white tarped area inside of 2404 WB. One 55 gallon drum wiped down, surveyed and moved to clean area of tarp. Clean pallet obtained and all (3) 55 gallon drums (2 from morning; 1 from afternoon see WP-1101311) placed onto pallet; pallet moved to WB row 17. 85 gallon overpack drum wiped down in place and labeled by operations. Clean spill pallet moved onto white tarp and staged for 85 gallon overpack drum placement. Area of white tarp North of drum hauler and 85-gallon overpack drum still needs surveyed/deconned(see map).
WP-1101313	05/09/11	CA Performed direct survey on used PC's inside laundry bags per IH direction for the 2404 WB clean up. Five bags where surveyed to satisfy the beryllium control. This task was performed inside the contaminated area (CA) on east end of WB building.

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101314	05/11/11	East entryway Survey of a tarped area in 2404WB. A wrapped pallet was surveyed and no contamination was detected per direct measurements and LAWs. Decon work of the tarp area in order to expand the clean work area on the white tarp. 2 drums were surveyed and wiped down then moved to the clean area of the tarp.
WP-1101316	05/11/11	NA WP-SH003 AND WP-SH004SURVEYED 8 SWB'S FOR HERTR.SURVEYED 2 SWB'S FOR TRANSFER TO CWC.RECIEVED 8 DRUMS FROM CWC.
WP-1101317	05/11/11	HCA/ARA First entry into 2404 WB was made in PAPRs..First entry into 2404 WB perfomed survey of five pallets and drums. These pallets were moved to row 17 & 19 in 2404 WB on a brown tarp.
WP-1101324	05/11/11	East entryway Release of Various items from CA outside the 2404 WB east entryway. Identification numbers of all equipment listed in the maps/sketch area.
WP-1101325	05/11/11	HCA Investigative Survey during clean-up of HCA. Remove 5 pallets of drums from spill area. Move forklift to clean area and move 3 drums from Tarped area and place in clean area.
WP-1101327	05/11/11	Warehouses WP-SH003, WP-SH004 22 drum movement from 2404 WC to 2336 W.
WP-1101328	05/11/11	WRAP Surveys of Equipment, Portable Instruments, Lapels, Masks, Drums, Laundry bags from the 2404 WB exterior CA. RBA and CA survey of the exterior WB posted areas post job.
WP-1101334	05/12/11	N/A Survey to include investigative around tarped areas and to remove brown tarp in front of spill area. Decon performed with wet wipes. Dose rates in area to complete the weekly task.
WP-1101335	05/12/11	NA WP-SH003 AND WP-SH004Surveyed 28 drums from 2404WC to 2336W.Surveyed 15 drums from 2404wc to 2336W.
WP-1101341	05/12/11	Outside Release of respirators, lapels, and instruments from CA in front of 2404WB.
WP-1101342	05/12/11	N/A WB INSIDE COVERAGE
WP-1101343	05/12/11	NA WP-SH003 AND WP-SH004Surveyed 28 drums from 2404WC to 2336W.
WP-1101345	05/12/11	Southern Exclusion Zone 2404 WB Recovery - 2nd and 3rd entries on 5/12/11. The 2nd entry involved survey of West side of exclusion zone (between Exclusion Zone and Row 10) and between rows 10 and 12. The 3rd entry involved survey and movement of pallets of drums in the Exclusion Zone to Row 10.
WP-1101346	05/13/11	NA WP-SH003 AND WP-SH004
WP-1101356	05/12/11	N/A WB INSIDE COVERAGE: MOVING DRUM MOVER TO NW CORNER OF WHITE TARP

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101360	05/11/11	N/A WB INSIDE COVERAGE: DECON FLOOR BEHIND FORK LIFT IN TAPED OFF AREA MARKED CONTAMINATED
WP-1101361	05/16/11	NA Completion of 2404 WB/WC Shiftly Tasks. Completed Weekly in HERTR. WB doors and vents were surveyed due to restricted access and HCA/ARA posting. Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown. 4 SWBs moved from WC to HERTR Received 95 drums from CWC to WC.
WP-1101364	05/16/11	CA/RBA on East end of 2404WB Survey of miscellaneous supplies, tables, laundry bag racks, etc. and down post the CA & RBA outside the East end of 2404 WB.
WP-1101365	05/16/11	N/A Perform surveys to allow Industrial Hygenists to take beryllium samples at specified locations. Beryllium boundary set up at Row 18. DIRECT SURVEY AND TECHNICAL SMEAR OF AREA TAKEN AS REPRESENTATIVE DATA FOR BERYLLIUM TECHNICAL SMEARS.
WP-1101366	05/16/11	Outside East door of 2404WB Release of various instrumentation, respiratory equipment including PAPRs, and lapel pumps. Down post survey of CA per WRAP-RSP-002 Rev 5. outside of the east door to 2404WB. Items released listed in the map section. Survey of 1 drum and 1 laundry bag exiting the CA. All surveys performed in support of recovery plan WRAP-RP-11-03.
WP-1101368	05/16/11	N/A *WP-SH004* WB doors and vents were surveyed due to restricted access and HCA/ARA posting.*57 DRUM TRANSFER FROM 2404 WC TO 2336W
WP-1101370	05/17/11	Outside East door of 2404WB Release of PAPRs, and lapel pumps.Items released listed in the map section. All surveys performed in support of recovery plan WRAP-RP-11-03.
WP-1101372	05/17/11	N/A WB INSIDE COVERAGE:
WP-1101373	05/17/11	NA Completion of 2404 WB/WC Shiftly Tasks. WB doors and vents were surveyed due to restricted access and HCA/ARA posting. Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown. WP-W035, WP-W040, WP-W041 WERE COMPLETED PER THEIR TASK. 10 SWBs moved from WC to HERTR Received 40 drums from CWC to WC.8 drums from WC to 2336.
WP-1101378	05/17/11	WB RECOVERY 2ND ENTRY DAYS
WP-1101379	05/17/11	Outside East door of 2404WB Release of various instrumentation, respiratory equipment including SCBAs, and lapel pumps. Down post survey of CA per WRAP-RSP-002 Rev 5. Outside of the east door to 2404WB. Items released listed in the map section. Survey of 3 drums and 6 laundry bags exiting the CA. All surveys performed in support of recovery plan WRAP-RP-11-03.
WP-1101380	05/17/11	INSIDE First entry into 2404 WB on swing shift. Two parts to the entry.

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101383	05/17/11	WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC. Surveyed drums intended for movement (1) from WC to 2336 and SWBs (2) for movement from WC to SUPERHENC. Surveyed the exterior doors and vents of 2404 WB due to postings of HCA, ARA, BCA. No general access at this time into WB. Performed a verification survey of the exterior RBA of WB.
WP-1101384	05/17/11	N/A SURVEY OF AREAS FOR IH Be SMEARS. Be AIR SAMPLES
WP-1101386	05/18/11	NA Completion of 2404 WB/WC Shiftly Tasks. WB doors and vents were surveyed due to restricted access and HCA/ARA posting.2 SWBs moved from WC to HERTR
WP-1101394	05/18/11	Warehouses WP-SH003 & WP-SH004 Shiftly tasks in 2404 WB & WC.
WP-1101397	05/19/11	WB RECOVERY ENTRY TO DOWNPOST THE AREA.
WP-1101403	05/19/11	VARIOUS WP-SH003 & WP-SH004.Surveyed 11 SWB to be moved from 2404-WC to MO-610 & 2406W then returned to 2404WC. 42 drums transfered from CWC to 2404WC14 drum transfered from 2404WC to 2336W
WP-1101406	05/19/11	East entryway Release of Various items from CA outside the 2404 WB east entryway. Identification numbers of all equipment listed in the maps/sketch area. released 2 drums and 2 laundry bags.
WP-1101410	05/19/11	Warehouses WP-SH003 & WP-SH004 Shiftly tasks in 2404 WB & WC.LAWs and dose rates taken of 12 drum transfer from 2404 WC to 2336 W.
WP-1101411	05/19/11	WEST END Performed survey inside 2404 WB west end only for down post to a radiological buffer area (RBA) for contamination control from a contamination area (CA) up to the beryllium boundry.
WP-1101412	05/20/11	NA Completion of 2404 WB/WC Shiftly Tasks. No LAWs were completed in WB due to restricted access.
WP-1101422	05/22/11	West End of Building Surveys of drums, associated pallets, forklift and parrot beak drum mover during movement of TRUPACT drums between 2404 WB and 2336 W & 2404 WB and 2404 WC.
WP-1101423	05/22/11	NA Completion of 2404 WB/WC Shiftly Tasks. No LAWs were completed in WB East end due to restricted access.
WP-1101425	05/23/11	NA Completion of 2404 WB/WC Shiftly Tasks. Contamination and Dose Rate Survey performed on all Drum movements. Highest Field Dose of each drum movement is shown. WP-W035 AND WP-WO44 WERE COMPLETED PER TASK. 3 SWBs moved from WC to HERTR and back to 2404 WC.NOTE ONLY OUTSIDE DOSE RATES AND POSTINGS ON 2404WB
WP-1101427	05/23/11	West End WP-SH003 - Shiftly LAWs of floor and outside wall dose rate verification on 2404 WB.Note: LAWs were only taken on the west half of 2404 WB floors due to CA/RA posting on East half. Movement of 2 drums

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
		within 2404 WB from regular pallets to spill pallets.Survey forklift from 2404 WB prior to leaving RBA/RA/RMA on west end of 2404 WB.
WP-1101428	05/23/11	East entryway Down post survey of the CA/RBA area outside the 2404WB east entryway. Release of portable instruments from CA, survey of two 55 gallon drums (0082614, 0082494), and one laundry bag. This survey also meets the requirements for weekly task WP-W042
WP-1101435	05/23/11	N/A Performed weekly in 2404 WB and shiftly.
WP-1101443	05/24/11	2404 WB RECOVERY ENTRY TO DOWNPOST AREA.
WP-1101445	05/24/11	N/A WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB. (LAWs were only taken on the west half of 2404 WB floors due to CA/RA posting on East half.) Down posting of NE portion of 2404 WB from CA/RA to RBA/RA occured during this shift. Shiftly survey of egress and SOP in 2404 WB between the CA/RA on the east end and RBA/RA on the west end.
WP-1101457	05/24/11	N/A SHIFTLY SURVEY OF 2404WB. SURVEY OF DRUMS FROM 2404 WB. SURVEY OF ROOM WASTE DRUMS.
WP-1101472	05/25/11	N/A WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB.
WP-1101473	05/25/11	N/A WP-SH003 in 2404WB.
WP-1101475	05/26/11	N/A WP-SH003 Shiftly LAWs of floors and exterior wall dose rate verifications of 2404 WB.
WP-1101478	05/26/11	East side of 2404WB Survey of job location in 2404WB, release of a drum sling from the ca (sling number 4883), and a release of a PAM from the CA.
WP-1101480	06/01/11	N/A WP-SH003 in 2404WB. Survey of 27 TRUPACT drums and associated pallets that were in 2404 WB. Drums located in RBA/RA. Survey based on WRAP-RSP-016/0.
WP-1101485	05/26/11	N/A SHIFTLY SURVEY OF 2404WB. SURVEY OF DRUMS FROM 2404 WB FOR MOVEMENT TO 2336W.
WP-1101486	05/27/11	WRAP Performed shiftly in 2404 WC/2404WB
WP-1101487	05/27/11	2404 WB RECOVERY ENTRY TO DOWNPOST CA/RA TO RA/RBA IN ROWS 10-18.
WP-1101494	05/31/11	N/A WP-SH003 in 2404WB.
WP-1101495	05/31/11	N/A OVER PACK 6 DRUMS AS PART OF 2404WB RECOVERY
WP-1101501	05/31/11	N/A WP-SH003 in 2404WB.
WP-1101517	06/01/11	NA Completion of 2404 WB/WC Shiftly Tasks.
WP-1101518	06/01/11	N/A SURVEY OF DRUMS FROM 2404 WB.

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101526	06/02/11	RBA WP-SH003 & WP-W037 - shiftly and weekly contamination and dose rate verification of 2404 WB.Shiftly contamination survey of egress/SOP area in 2404 WB.Release survey of battery powered, riding floor sweeper in the west end of 2404 WB during the time it was posted HCA/ARA based on WRAP-RSP-015 Rev. 0.
WP-1101537	06/02/11	N/A WP-SH003 in 2404WB. surveyed drums for pay loads DM0566/DM0567 IN ROW 27
WP-1101542	06/03/11	West side Transfered 78 drums on 21 pallets from 2404WB to 2336W and 28 drums on 8 pallets from 2404WB to 2404WC.
WP-1101543	06/03/11	NA WP-SH003, AND WP-W041.RECEIVED 23 SWB TRANSFER FROM CWC.SURVEY 5 SWB'S FOR HERTR.SURVEY OF 3 SWB'S FR SUPERHENC
WP-1101548	06/03/11	N/A Shiftly survey of 2404 WB
WP-1101553	06/06/11	West side Transfered 74 drums on 19 pallets from 2404WB to CWC.RECEIVED 6 DRUM TRANSFER FROM CWC.SHIFTLY SURVEY OF 2404 WB.
WP-1101554	06/03/11	N/A Downpost of part of CA to allow removal of drums in rows 2 and 4 of 2404WB. Survey plans WRAP-RSP-015, rev 1; RSP-WP-10-001-01.
WP-1101558	06/06/11	N/A Surveyed for down post of CA in WB, and surveyed 38 drums from row 6.
WP-1101562	06/06/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Survey of 7 drum transfer from 2404 WC to 2336 W.Survey of 2 SWB transfer from 2404 WC to SuperHENC.
WP-1101563	06/06/11	Survey of 25 Drums and 7 pallets in WB per WRAP-RSP-016 . Drums to be moved to 2336W on 6-7-2011. See pg 2 for list of drums surveyed.
WP-1101574	06/07/11	2404WB East End Survey of drums in row 6 being moved out of the CA to the RBA per survey plan WRAP-RSP-015 Rev 1.
WP-1101576	06/07/11	N/A WP-SH003 Completed.
WP-1101577	06/01/11	N/A WP-SH003 in 2404WB. Survey of 27 TRUPACT drums and associated pallets that were in 2404 WB. Drums located in RBA/RA. Survey based on WRAP-RSP-016/0.
WP-1101581	06/07/11	CA on SE Corner of Building Decon of non-slip patches from east man-door westward down ramp and downpost SE corner of 2404 WB to smaller CA/RA surrounding inner HCA. Performed according to Recovery Plan WRAP-RP-11-03.Weekly survey of drums # 0053165 and 0053739 in row 4 of 2404 WB.Surveys of miscellaneous items used in CA/RA during work.
WP-1101583	06/07/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Survey of 28 drums transferring from 2404 WC to 2336 W.
WP-1101591	06/08/11	N/A Investigative survey of the area under the tarp covering the spill in the

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
		2404WB building in order to shrink the HCA area. Survey of areas prior to IH beryllium surveys. Downpost of HCA areas under the tarp to CA, in order to shrink the HCA area.
WP-1101594	06/08/11	N/A Release of items from WB HCA. WP-SH003 Completed.
WP-1101599	06/08/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Survey of 11 drum movement from 2404WC to 2336 W.
WP-1101601	06/08/11	Surveyed 35 Drums & 9 Pallets for movement from WB to 2336W (See page 2 for list of drum numbers). Surveyed bottom of 7 Pallets of drums previously surveyed for movement to 2336 (See RSR WP-1101563 from survey results & drum numbers). Surveyed 72 Drums & 18 Pallets for shipments MWTP11012, MWTP11015, MWTP11016, and MTW11017 MWTP11018 & MWTP11019 to be moved to CWC on 6-8-2011 (See Page 4 for list of drum numbers).
WP-1101611	06/09/11	N/A Row 10 down posted to RBA to remove drums, half of row was reposted as CA due to craft paper covering floor. Twelve pallets removed from row. One pallet found with 480 dpm fixed; bagged and placed with other bagged pallets on west side of WB. 3 PAM's released from CA. Survey plan WRAP-RSP-015, rev 1.
WP-1101614	06/09/11	N/A Survey contaminated forklift out of CA/RA in 2404 WB for movement within the building to battery charging area established as a CA.
WP-1101615	06/09/11	Various Surveyed 8 Drums & 3 Pallets for movement from WB to 2336W (See page 2 for list of drum numbers). Surveyed bottom of 20 Pallets of drums previously surveyed for movement to CWC (See RSR WP-1101601 for survey results & drum numbers). Surveyed 1 drum (007129) which was included on movement to CWC.
WP-1101616	06/09/11	Warehouses WP-SH003 Shiftly surveys of 2404 WB.
WP-1101619	06/09/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Survey of 2 SWBs transferring from 2404 WC to SuperHENC.Survey of 1 drum transferring from 2404 WC to 2336 W.
WP-1101620	06/09/11	N/A WP-W037 Weekly dose rate and contamination of 2404 WB.
WP-1101623	06/10/11	Shiftly routines of the 2404WB, 2404WC,S&R and NDE/NDA area. Release of the end of a forklift charging cable out of a CA in 2404WB to be used to charge a forklift outside the CA.
WP-1101636	06/13/11	N/A WP-W037 & WP-SH003 Weekly dose rate and contamination of 2404 WB. Along with the shiftly.
WP-1101638	06/13/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Survey of 6 drums transferred from 2404 WC to 2336 W.Survey of 12 empty drums transferred from 2404 WC to 2336 W.Survey of 15 drums transferred from 2404 WB to 2336 W per Survey Plan #WRAP-RSP- 016, Rev 0: 0002224, 0020319, 0022494, 0035207, 0039901, 0042862, 0049616, 0049769, Z72-7-29, Z72-7-50, Z72-7-9, Z72-8-90, Z72-9-4, Z72-9-91, Z72-9-6.Survey of 16 drums per Survey Plan #WRAP-

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
		RSP-016, Rev 0, staged and ready for transfer in 2404 WB-27: 0067051, 0069221, 0053223, 0056213, 0067444, 0069104, 0069220, 0069954, 0070028, 0070593, 0072280, 0072318, 0073316, 0074706, 0069158, 0077345.
WP-1101640	06/13/11	N/A Survey of waste drums out of the 2404WB RBA per WRAP-RSP-016. All portions of the survey were complete except for the LAWs of the bottom of the pallets, those are to be performed prior to the drums physcially leaving the building.
WP-1101652	06/14/11	Contamintation area Performed survey of drums located in the contaminated area inside 2404 WB. This activity was in support of the WB Recovery. Air sample taken on this entry in the CA
WP-1101653	06/14/11	Warehouses WP-SH003 Shiftly surveys of 2404 WB.
WP-1101656	06/14/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.
WP-1101665	06/15/11	N/A Survey and decon CA/RA (HCA is within the CA under tarps) in 2404 WB.This entry entailed removal of tarps and kraft paper up to, but not including, the HCA (under a separate tarp). Survey the CA/RA using LAWs, tech smears and directs to downpost the CA/RA area around the HCA, release the rolling ladder, and leave the HCA (under the tarp) with a CA/RA above.Tarps and kraft paper, removed from north and south sides of HCA. Decon of small areas of fixed and low level removable contamination necessary on the floor area north of the HCA.Although the area south of the HCA was cleared for downpost, decon was in process in the area north of the HCA at the end of the entry. Therefore, downposting of this area will continue when decon of the north side of the area is resolved.
WP-1101667	06/15/11	Warehouses WP-SH003 Shiftly surveys of 2404 WB.
WP-1101670	06/15/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.
WP-1101673	06/16/11	N/A WP-SH003 in 2404 WB and weekly survey of drums 0053165 and 0053739
WP-1101676	06/16/11	Various Shifty surveys at 2404WC.3 SWB'S to HERTR from WC.12 SWB'S FROM CWC TO 2404WC. (CCP-FD-SWB-O7)19 DRUMS AND 5 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2404 WC.PER SURVEY PLAN WRAP-RSP-016 REV. 0.4 DRUMS AND ONE PALLET SURVEYED FOR TRANSFER FROM 2404 WB TO 2336 /R.PER SURVEY PLAN WRAP-RSP-016 REV. 0.
WP-1101682	07/08/11	2404 WB/200W Decon the north side of CA/RA in 2404 WB.
WP-1101686	06/16/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101693	06/17/11	N/A WP-SH003 and instrument release from CA of two PAM's and one laundry bag.
WP-1101695	06/17/11	Contamination area. Performed survey of floor inside 2404 WB contamination area. Removal of the tarp covering the CA was completed on this entry.
WP-1101697	06/20/11	Various Shiftly surveys at 2404 WC & 2404 WB.15 SWB'S FROM CWC TO 2404WC. 129 DRUMS AND 32 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO CWC PER SURVEY PLAN WRAP-RSP-016 REV. 0.59 DRUMS AND 16 PALLET SURVEYED FOR TRANSFER FROM 2404 WB TO 2404 WC.PER SURVEY PLAN WRAP-RSP-016 REV. 0.
WP-1101700	06/20/11	N/A *WP-SH003*WP-SH004*WP-W035*WP-W037*WP-W040*14 DRUMS AND 4 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2336W PER SURVEY PLAN WRAP-RSP-016 REV. 0. and done under RWP-WP-611 REV. 3Drum surveyed: #0034328, #0057531, #0025093, #0044949, #0045135, #0045092, #0044926, #0045138, #0045140, #0047848, #0044944, #0033943, #0061143, #0057137
WP-1101703	06/20/11	N/A SURVEY AND REMOVEAL OF TARPS IN THE CA/RA IN 2404 WB. SURVEY OF FLOOR IN CA.
WP-1101706	06/21/11	N/A WP-W037, WP-SH003, & WP-W042.Weekly dose rate and contamination of 2404 WB. Shiftly of 2404 WB. Weekly survey of drums 0053165 and 0053739.Release of Parrot Beak from RBA. Survey of step off pad from CA to RBA.CA was not entered.Verification Survey info:Drums surveyed at ~5 square feet per law.Floors surveyed at ~100 square feet per law.
WP-1101712	06/21/11	Various Shiftly surveys at 2404 WC & 2404 WB.5 SWB'S2404WC TO HERTR14 DRUMS AND 4 PALLETS FROM 2404WB TO 2336.
WP-1101713	06/21/11	TOOK TECH SMEARS AND LAWS IN SUPPORT OF THE DOWNPOST AROUND THE SPILL IN 2404WB.
WP-1101714	06/21/11	Various *WP-SH003; Shiftly surveys at 2404 WB*WP-SH004; Shiftly surveys at 2404 WC*9 DRUM MOVEMENT FROM 2404WC TO 2336W
WP-1101718	06/22/11	Various Shiftly surveys at 2404 WC & 2404 WB.5 SWB'S2404WC TO HERTR3 DRUMS AND 1 PALLET FROM 2404WB TO CWC.14 DRUMS AND 4 PALLETS FROM 2404WB TO 2336W.
WP-1101720	06/22/11	CA Down post survey of area around the tarp(HCA) with LAW'S and DIRECTS. survey out of various items.
WP-1101727	06/22/11	N/A *WP-SH003; Shiftly surveys at 2404 WB*WP-SH004; Shiftly surveys at 2404 WC*4 DRUMS AND 1 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2404WC PER SURVEY PLAN WRAP-RSP-016 REV. 0. and done under RWP-WP-611 REV.3:Drum surveyed; #0065492, #0077679, #0074665, #0063673

CH2M HILL Plateau Remediation Company Radiological Survey Log Report
(from 5/1/2011 to 6/30/2011 for WP Facility)

Survey Number	Date	Location and Description of Work
WP-1101731	06/23/11	Various Shiftly surveys at 2404 WC & 2404 WB.5 SWB's trasfered to 2406W and returned to 2404WC.6 DRUMS AND 2 PALLETS SURVEYED FOR TRANSFER FROM 2404 WB TO 2336W PER SURVEY PLAN WRAP-RSP-016 REV. 0.
WP-1101734	06/23/11	N/A release of respirators and surveying out lapels.
WP-1101744	06/24/11	N/A WP-SH003 & WP-SH004.COMPLETED SHIFTLY TASKS IN 2404 WB & WC.SURVEYED 55 DRUMS FROM WB TO WC.
WP-1101751	06/27/11	RBA WP-SH003 & WP-W037 - shiftly, weekly contamination & dose rate verification IN 2404 WB
WP-1101755	06/27/11	2404 WB Shiftly survey WP-SH003 and survey of drums to leave the RBA the following day.
WP-1101759	06/28/11	Warehouses WP-SH003 SHIFTLY SURVEY OF 2404 WB.WEEKLY VERIFICATION SURVEY OF 2 DRUMS IN 2404 WB. DRUM # 0053739 & 0053165.WP-W042.
WP-1101762	06/28/11	2404 WB (MOVEMENT 1) SURVEYED 7 DRUMS & 2 PALLETS IN 2404 WB TO BE MOVED TO CWC.(MOVEMENT 2) SURVEYED 1 DRUM IN 2404 WC TO BE MOVED TO CWC.(MOVEMENT 3) SURVEYED 3 SWBS & 9 DRUMS IN 2404 WC TO BE MOVED TO 2336W.(MOVENENT 4) SURVEYED 5 SWBS IN 2404 WC TO BE MOVED TO 2336W.(MOVEMENT 5) SURVEYED 15 PALLETS IN 2404 WB TO BE MOVED TO CWC. (SEE SURVEY WP-1101755 FOR CONTAMINATION AND DOSE RATE SURVEY OF DRUMS ON PALLETS. (MOVEMENT 6) RECEIVED 8 SWBS IN TO 2404 WC FROM CWC.VERIFICATION SURVEY INFO:DRUMS: ~10 SQUARE FEET PER LAWSWBS: ~50 SQUARE FEET PER LAWPALLETS ~25 SQUARE FEET PER LAW
WP-1101767	06/28/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.Pre-survey of 3 pallets and 9 drums per Survey Plan WRAP-RSP-016, Rev 0, #'s: 0019539, A12665, 0044350, 0035693, 0061519, 9600467, 0057114, 0058075, A13234.
WP-1101770	06/29/11	Warehouses WP-SH003 SHIFTLY SURVEY OF 2404 WB.
WP-1101775	06/29/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.WP-W041 Weekly survey of SuperHENC.
WP-1101785	06/30/11	Warehouses WP-SH003 SHIFTLY SURVEY OF 2404 WB.
WP-1101787	06/30/11	Warehouses WP-SH003 & WP-SH004. Shiftly surveys of 2404 WB and 2404 WC.
WP-1101824	07/08/11	2404 WB, 2404 WC WP-SH003 - Shiftly surveys at 2404 WB WP-SH004, Shiftly surveys at 2404 WC RWP Verification Movement of 17 drums on 5 pallets from 2404 WB to 2336W surveyed on 7-8-11.

Attachment VI

Williams, Joel F Jr

From: Conaway, Kathy (ECY) [KCON461@ecy.wa.gov]
Sent: Monday, May 09, 2011 5:13 PM
To: Williams, Joel F Jr
Cc: Biebesheimer, Joanette (ECY); Singleton, Deborah; Skinnarland, E R (Ron); Price, John (ECY); Mortensen, Seana (ECY); Conaway, Kathleen (ECY)
Subject: FW: WRAP Occurrance Report # EM-RL-CPRC-WRAP-2011-0002

Good Afternoon Joel, Thanks for the WRAP photos.

Here is a follow up from Ecology requesting more information on the WRAP drum and leak at 2404WB Bldg.

1. Ecology wants to see a complete management history of this drum so we can understand what the waste is. This should also verify the AK package of the drum. Ecology needs to evaluate the original designation, what the basis for the designation was, any container-specific verification of waste designation, documentation of what treatment was applied to the container's contents, and any post-treatment sampling or verification demonstrating the effectiveness of treatment.
2. This package request should include the original designation and characterization of the drum. For this drum, we don't know whether the issue is inadequacy of the AK package with regard to either designation or characterization, or a failure of treatment/treatment verification. With a pH of 2 (identified from the spilled liquid), this waste was incompatible for a steel container.
3. What is the total amount of the leaked fluid? Report initially estimated 20 ml.

Tri-Party Agreement Section (TPA)
Nuclear Waste Program (NWP)
Compliance Specialist
Washington Department of Ecology
Phone: (509) 372-7890
Email: kcon461@ecy.wa.gov
FAX: (509) 372-7971

Williams, Joel F Jr

From: Conaway, Kathy (ECY) [KCON461@ecy.wa.gov]
Sent: Wednesday, May 11, 2011 3:59 PM
To: Williams, Joel F Jr
Cc: Biebesheimer, Joanette (ECY)
Subject: Quantity of WRAP Drum Leak

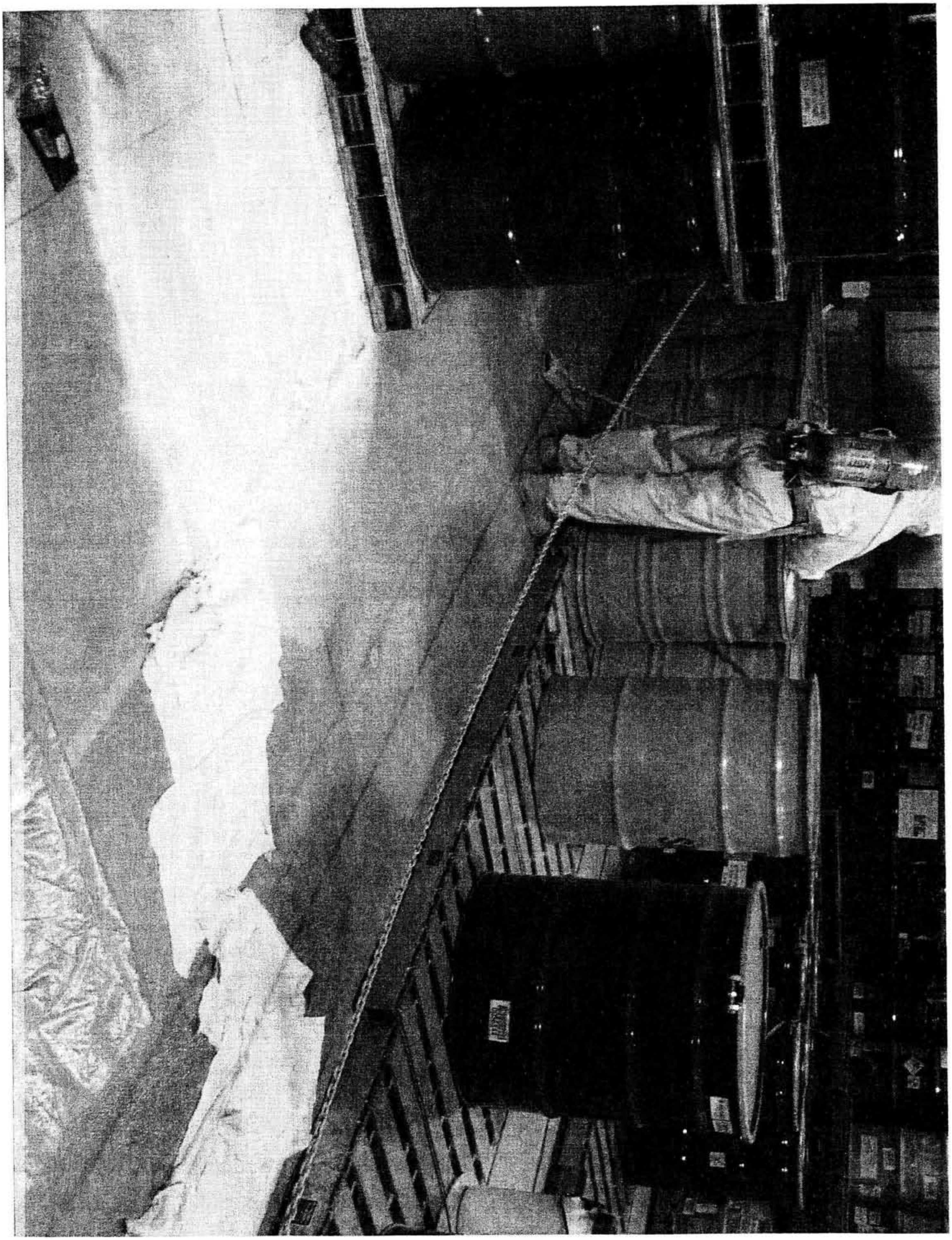
Hi Joel. Looking at the photos and sharing them internally and discussing them internally, it just seems there could be more than 300 ml. Given the quantity and surface area of absorbents (rags and powdered absorbent), please verify that the 300 ml quantity is defensible, or what range of volume could actually have leaked. You can add this to the pkg info to be provided to Ecology next week.

Tri-Party Agreement Section (TPA)
Nuclear Waste Program (NWP)
Compliance Specialist
Washington Department of Ecology
Phone: (509) 372-7890
Email: kcon461@ecy.wa.gov
FAX: (509) 372-7971

Williams, Joel F Jr

From: Conaway, Kathy (ECY) [KCON461@ecy.wa.gov]
Sent: Wednesday, May 11, 2011 5:09 PM
To: Williams, Joel F Jr
Subject: Fabric Material
Attachments: drum leak 35.JPG

Joel, what are the pads on floor composed of?



Williams, Joel F Jr

From: Conaway, Kathy (ECY) [KCON461@ecy.wa.gov]
Sent: Thursday, May 12, 2011 12:02 PM
To: Williams, Joel F Jr
Cc: Biebesheimer, Joanette (ECY)
Subject: Occurrence Report Question

On # 3 of the report: Significance Category: 2. What does "2" mean? How is "2" defined? Who was the Building Emergency Director (BED) for this WRAP event?

Tri-Party Agreement Section (TPA)
Nuclear Waste Program (NWP)
Compliance Specialist
Washington Department of Ecology
Phone: (509) 372-7890
Email: kcon461@ecy.wa.gov
FAX: (509) 372-7971

Attachment VII

From: McGrath, Markus H
Sent: Thursday, July 07, 2011 8:44 AM
To: Tuott, Lee C
Cc: Prignano, Andrea L
Subject: FW: HEDL drums requiring updates.

Lee,

The infamous leaking drum 0062288 is a daughter drum of disposal overpack 0031161 and 0059303 is
the overpack of the infamous leaking drum (0062288). Essentially, in SWITS the 325-DES-01
designation carries on with both containers 0062288 and 0059303 with the addition of the D002 waste
code per the management guidance email below and an additional email from Rick Austin that I will
forward to you.

Markus McGrath
WRAP WMR
SWOC Waste
372-1642
From: Strickling, Lana R
Sent: Monday, May 16, 2011 2:24 PM
To: McGrath, Markus H; Crowley, Paul J
Cc: Prignano, Andrea L; Conley, Jeffrey A; Willis, Norman P; Gordon, Todd; Ware, Nancy W; Tuott, Lee C;
Bannister, Roland J; Austin, Richard L; Ramirez, Amanda J; Kisielnicki, Jeanne M
Subject: HEDL drums requiring updates.

Based on my discussion with Triner, Austin and the processing and AK information provided, all of the containers below should be labeled as "corrosive", have the D002
applied in SWITS, the pH should be changed to pH<2, the storage category should be updated to "A" for Acids, and the physical type should be changed to L/S (liquid/solid).

Also, please add the following comment: "D002 applied due to suspect corrosive liquids identified during processing and a subsequent review of AK information provided
on the wastestream."

Label changes should be done in accordance with WMP-370, Section 2.36.

Paul - Jeff Conley is your CWC facility contact (he may delegate to Todd). You are responsible for ensuring the containers at CWC are updated.

Markus/Andrea - You have WRAP. Please make sure the storage categories are updated in SWITS for the containers located at WRAP (in case they get moved back to CWC at some point). You may need to work with Nancy Weston to get this completed.

I believe that both WRAP/CWC intend to put all of these containers on spill pallets.

Please let me know if there is something I missed that should be updated for interim

storage. Notify Roland when items are complete.

Lana Strickling
Waste Support Services
PFP/SWOC/WRP Waste Manager
Materials & Energy Corporation
Office: (509) 376-3583

From: Kisielnicki, Jeanne M
Sent: Wednesday, May 11, 2011 3:54 PM
To: Strickling, Lana R; McGrath, Markus H; Prignano, Andrea L
Subject: Drum list

Here is the list of 15 drums identified that require labeling and waste code changes. Thanks

Drum
Number
Retrieved drum
(inner drum)
Repack daughter drum
Location
0025025
HEDL-155

2403WA-Q3
0025090
HEDL-342

2404WB
0028846
HEDL-148

2404WB-Z1
0028928
HEDL-73

2403WA-Q3
0029796
HEDL-169

2336W
0029841
HEDL-262
0062289, 0081216
2404WB22,
2404WB22
0030841
HEDL-108

WB-Z1
0030851
HEDL-182

2403WA-Q3
0031159
HEDL-111

2403-WA-Q3
0031161
HEDL-63
0062288,0061308
2404WB08,
2404WB08
0031164
HEDL-273

2403WA-Q3
0031165

HEDL-254

2403WA-Q3
0034390
HEDL-77

2336W
0034274
H365

2403WA
0034364
H366

2403WA

Thanks
Jeanne Kisielnicki
Tru Repackaging Project
376-7761

Kisielnicki, Jeanne M

From: Strickling, Lana R
Sent: Monday, May 16, 2011 2:24 PM
To: McGrath, Markus H; Crowley, Paul J
Cc: Prignano, Andrea L; Conley, Jeffrey A; Willis, Norman P; Gordon, Todd; Ware, Nancy W; Tuott, Lee C; Bannister, Roland J; Austin, Richard L; Ramirez, Amanda J; Kisielnicki, Jeanne M
Subject: HEDL drums requiring updates.

Based on my discussion with Triner, Austin and the processing and AK information provided, all of the containers below should be labeled as "corrosive", have the D002 applied in SWITS, the pH should be changed to pH<2, the storage category should be updated to "A" for Acids, and the physical type should be changed to L/S (liquid/solid).

Also, please add the following comment: *"D002 applied due to suspect corrosive liquids identified during processing and a subsequent review of AK information provided on the wastestream."*

Label changes should be done in accordance with WMP-370, Section 2.36.

Paul – Jeff Conley is your CWC facility contact (he may delegate to Todd). You are responsible for ensuring the containers at CWC are updated.

Markus/Andrea – You have WRAP. Please make sure the storage categories are updated in SWITS for the containers located at WRAP (in case they get moved back to CWC at some point). You may eed to work with Nancy Weston to get this completed.

I believe that both WRAP/CWC intend to put all of these containers on spill pallets.

Please let me know if there is something I missed that should be updated for interim storage. Notify Roland when items are complete.

Lana Strickling
Waste Support Services
PFP/SWOC/WRP Waste Manager
Materials & Energy Corporation
Office: (509) 376-3583

From: Kisielnicki, Jeanne M
Sent: Wednesday, May 11, 2011 3:54 PM
To: Strickling, Lana R; McGrath, Markus H; Prignano, Andrea L
Subject: Drum list

Here is the list of 15 drums identified that require labeling and waste code changes. Thanks

Drum Number	Retrieved drum (inner drum)	Repack daughter drum	Location
0025025	HEDL-155		2403WA-Q3
0025090	HEDL-342		2404WB

0028846	HEDL-148		2404WB-Z1
0028928	HEDL-73		2403WA-Q3
0029796	HEDL-169		2336W
0029841	HEDL-262	0062289, 0081216	2404WB22, 2404WB22
0030841	HEDL-108		WB-Z1
0030851	HEDL-182		2403WA-Q3
0031159	HEDL-111		2403-WA-Q3
0031161	HEDL-63	0062288,0061308	2404WB08, 2404WB08
0031164	HEDL-273		2403WA-Q3
0031165	HEDL-254		2403WA-Q3
0034390	HEDL-77		2336W
0034274	H365		2403WA
0034364	H366		2403WA

Thanks
Jeanne Kisielnicki
Tru Repackaging Project
76-7761

Package ID:	0059303	Accumulation Date:	02/10/11	Orig Rad Code:	
DNGR Flag	Y	Location Date:	05/04/11	Rad Code:	TRU
TSCA Flag:	N	Location:	WB_08	Use Code:	PD
Drum Code	UN1A2/X435/S	Phys. State Code:	S	Route Code:	101
DE Ci Factor:		Inventory TMU:	8.11E+00	Status Code:	N

Container Descr:	85 GALLON		
Radmat Code:	WB1	Volutil Pct:	
Room Waste Flag:		Wgt Date:	03/14/11
WIPP Flag:		Survey Num:	1100381
Labpack Flag:	N	Outer Package ID:	
Inner Package ID:	0062288		
Asssay of Record:	44583		

Weights (Kg):	**SWITS**	**DMS**
Gross:	178.8	178.8
Waste:	134.6	134.6
Packaging:	8.8	8.8
Tare:	35.4	35.4

Waste Description: WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11. INNER DRUM WAS PLACED IN 85 GALLON OVERPACK WITH 2 PLASTIC BAGS, 10 POUNDS OF BAKING SODA AND 3 BATT MAT PADS.

Generator Comments: ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE. PER GUIDANCE FROM R AUSTIN AND A PH TEST RESULT OF THE SPILLED MATERIAL, THE CONTAINER IS BEING MANAGED AS CONTAINING AN UNDETERMINED ACID.

Hazardous Package Detail:

PH Value: <2 Flash Point: N/A

DW Waste #: D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Radioactive Package Detail:

Rad Calc Decay Date:	03/14/11	Total PU-FGE:	3.55E+01	Contact B/G Dose Rate:	6E+00
Neutron Dose Rate:	2E-01	Port Code:	NF019D	Shielding:	N
Total DE Curies:	5.07E+00	Transp. Index:			
30 cm Dose Rate:	3.4E+00				

SWITS Isotope Information:

Isotope Name	Ci Qty	GM Qty	Unit
NP-237	2.55E-05	3.58E-02	GM
AM-241	1.69E+00	4.86E-01	GM
PU-238	2.45E-01	1.42E-02	GM
PU-240	1.12E+00	4.86E+00	GM
PU-241	1.08E+01	1.04E-01	GM
PU-242	1.61E-04	4.04E-02	GM
PU-239	2.18E+00	3.47E+01	GM
U-234	9.74E-05	1.54E-02	GM
U-235	1.72E-06	7.85E-01	GM
U-238	5.2E-05	1.53E+02	GM

Waste Components:

Component ID	Description	Weight (Kg)	Weight %	PPM
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	56.84	42.243	
65997-15-1	PORTLAND CEMENT	17.89	13.295	
7732-18-5	WATER	8.05	5.984	
1318-00-9	VERMICULITE, EXFOLIATED	6.71	4.987	
7782-42-5	GRAPHITE	.89	.658	
13746-66-2	POTASSIUM FERROCYANIDE	.89	.658	
1336-21-6	AMMONIUM HYDROXIDE	.89	.658	
1317-65-3	CALCIUM CARBONATE	.89	.658	
1306-38-3	CERIC OXIDE	.89	.658	
1332-21-4	ASBESTOS	.67	.499	
7722-84-1	HYDROGEN PEROXIDE	.50	.369	
13106-76-8	AMMONIUM MOLYBDATE	.50	.369	
17194-00-2	BARIUM HYDROXIDE	.50	.369	
14258-49-2	AMMONIUM OXALATE	.50	.369	
7440-66-6	ZINC	.46	.339	
7758-05-6	POTASSIUM IODATE	.44	.329	
1310-58-3	POTASSIUM HYDROXIDE	.44	.329	
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE	.44	.329	
95-45-4	DIMETHYLGLYOXIME	.44	.329	
143-19-1	SODIUM OLEATE	.44	.329	
144-33-2	SODIUM CITRATE	.44	.329	
64742-38-7	NORMAL PARAFFINS	.44	.329	
7440-50-8	COPPER	.44	.329	
7447-40-7	POTASSIUM CHLORIDE	.44	.329	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7664-41-7	AMMONIA	.44	.329	
7681-11-0	POTASSIUM IODIDE	.44	.329	
10045-89-3	FERROUS AMMONIUM SULFATE	.44	.329	
10138-04-2	FERRIC AMMONIUM SULFATE	.44	.329	
12125-01-8	AMMONIUM FLUORIDE	.44	.329	
12428-46-5	ALUMINUM HYDROXIDE SILICATE	.44	.329	
1303-96-4	SODIUM BORATE, DECAHYDRATE	.44	.329	
1305-62-0	CALCIUM HYDROXIDE	.44	.329	
7772-99-8	STANNOUS CHLORIDE	.44	.329	
1310-73-2	SODIUM HYDROXIDE	.43	.319	
7429-90-5	ALUMINUM	.42	.309	
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)	.35	.259	
13463-67-7	TITANIUM OXIDE	.35	.259	
1309-60-0	LEAD DIOXIDE	.35	.259	
11138-49-1	SODIUM ALUMINATE	.35	.259	
301-04-2	LEAD ACETATE	.35	.259	
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN	.31	.229	
7681-49-4	SODIUM FLUORIDE	.27	.199	
7720-78-7	FERROUS SULFATE	.27	.199	
7722-64-7	POTASSIUM PERMANGANATE	.27	.199	
7790-62-7	POTASSIUM PYROSULFATE	.27	.199	
7783-28-0	AMMONIUM PHOSPHATE DIBASIC	.27	.199	
7632-00-0	SODIUM NITRITE	.27	.199	
79-11-8	CHLOROACETIC ACID	.27	.199	
13478-10-9	FERROUS CHLORIDE	.27	.199	
1762-95-4	AMMONIUM THIOCYANATE	.27	.199	
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIU	.27	.199	
7631-99-4	SODIUM NITRATE	.27	.199	
7757-82-6	SODIUM SULFATE	.26	.196	
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYL	.25	.189	
7681-82-5	SODIUM IODIDE	.23	.170	
108-95-2	PHENOL	.23	.170	
7782-91-4	MOLYBDIC ACID	.23	.170	
7705-07-9	TITANIUM TRICHLORIDE	.23	.170	
7718-54-9	NICKEL (II) CHLORIDE (1:2)	.21	.160	
1314-35-8	TUNGSTEN TRIOXIDE	.21	.160	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7784-27-2	ALUMINUM NITRATE	.21	.160	
13778-30-8	ZINC NITRATE	.21	.160	
13826-66-9	ZIRCONYL NITRATE	.21	.160	
19004-19-4	COPPER (II) NITRATE	.21	.160	
57-50-1	SUCROSE	.21	.160	
7439-89-6	IRON	.21	.160	
7439-95-4	MAGNESIUM	.21	.160	
7439-98-7	MOLYBDENUM	.21	.160	
7440-62-2	VANADIUM	.21	.160	
7440-67-7	ZIRCONIUM	.21	.160	
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN	.21	.160	
10043-52-4	CALCIUM CHLORIDE	.21	.160	
10108-73-3	CEROUS NITRATE	.21	.160	
10377-48-7	LITHIUM SULFATE	.21	.160	
10377-60-3	MAGNESIUM NITRATE	.21	.160	
10377-66-9	MANGANESE NITRATE	.21	.160	
1313-97-9	NEODYMIUM OXIDE	.21	.160	
7761-88-8	SILVER NITRATE	.21	.160	
7681-38-1	SODIUM BISULFATE	.17	.130	
7681-52-9	SODIUM HYPOCHLORITE	.17	.130	
7704-34-9	SULFUR	.17	.130	
7705-08-0	FERRIC CHLORIDE	.17	.130	
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT	.17	.130	
7774-29-0	MERCURIC IODIDE	.17	.130	
7778-18-9	CALCIUM SALT SULFURIC ACID	.17	.130	
7778-53-2	POTASSIUM PHOSPHATE	.17	.130	
7783-36-0	MERCUROUS SULFATE	.17	.130	
7784-46-5	SODIUM ARSENITE	.17	.130	
7785-87-7	MANGANOUS SULFATE	.17	.130	
7789-00-6	POTASSIUM CHROMATE	.17	.130	
7803-55-6	AMMONIUM VANADATE	.17	.130	
87-69-4	TARTARIC ACID	.17	.130	
91-20-3	NAPHTHALENE	.17	.130	
1344-28-1	ALUMINUM OXIDE	.17	.130	
1344-64-5	VANADYL SULFATE	.17	.130	
13590-82-4	CERIUM SULFATE	.17	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
13708-85-5	SODIUM PHOSPHITE	.17	.130	
13823-29-5	THORIUM NITRATE	.17	.130	
13870-30-9	SODIUM SILICATE	.17	.130	
143-66-8	SODIUM TETRAPHENYL BORON POWDER	.17	.130	
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE	.17	.130	
20667-12-3	SILVER (1+) OXIDE	.17	.130	
21908-53-2	MERCURIC OXIDE	.17	.130	
25155-30-0	SODIUM DODECYLBENZENESULFONATE	.17	.130	
304-59-6	POTASSIUM SODIUM TARTRATE	.17	.130	
3811-04-9	CHLORIC ACID, POTASSIUM SALT	.17	.130	
496-74-2	TOLUENE-3,4-DITHIOL	.17	.130	
497-19-8	SODIUM CARBONATE	.17	.130	
506-64-9	SILVER CYANIDE	.17	.130	
584-08-7	POTASSIUM CARBONATE	.17	.130	
592-85-8	MERCURIC THIOCYANATE	.17	.130	
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)	.17	.130	
63231-67-4	SILICA GEL	.17	.130	
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE	.17	.130	
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)	.17	.130	
7440-06-4	PLATINUM	.17	.130	
75-09-2	DICHLOROMETHANE	.17	.130	
7553-56-2	IODINE	.17	.130	
7558-79-4	SODIUM PHOSPHATE DIBASIC	.17	.130	
7646-78-8	STANNIC CHLORIDE	.17	.130	
7647-14-5	SODIUM CHLORIDE	.17	.130	
10022-31-8	BARIUM NITRATE	.17	.130	
10025-73-7	CHROMIC CHLORIDE	.17	.130	
10028-22-5	FERRIC SULFATE	.17	.130	
10034-81-8	MAGNESIUM PERCHLORATE	.17	.130	
10042-76-9	STRONTIUM NITRATE	.17	.130	
10045-94-0	MERCURIC NITRATE	.17	.130	
10045-95-1	NEODYMIUM NITRATE	.17	.130	
10099-59-9	LANTHANUM NITRATE	.17	.130	
10099-74-8	LEAD NITRATE	.17	.130	
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)	.17	.130	
10124-37-5	CALCIUM NITRATE	.17	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
10213-10-2	SODIUM TUNGSTATE	.17	.130	
10294-26-5	SILVER SULFATE	.17	.130	
10294-41-4	CERIUM NITRATE	.17	.130	
10325-94-7	CADMIUM NITRATE	.17	.130	
10361-03-2	SODIUM METAPHOSPHATE	.17	.130	
10361-37-2	BARIUM CHLORIDE	.17	.130	
10361-93-0	YTTRIUM NITRATE	.17	.130	
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)	.17	.130	
10450-60-9	PERIODIC ACID	.17	.130	
10588-01-9	SODIUM DICHROMATE	.17	.130	
107-66-4	DIBUTYL PHOSPHATE	.17	.130	
12024-21-4	GALLIUM OXIDE	.17	.130	
12044-50-7	ARSENIC (V) OXIDE, HYDRATE	.17	.130	
12069-32-8	BORON CARBIDE	.17	.130	
1309-37-1	FERRIC OXIDE	.17	.130	
1309-48-4	MAGNESIUM OXIDE	.17	.130	
1313-13-9	MANGANESE DIOXIDE	.17	.130	
13138-45-9	NICKEL (II) NITRATE (1:2)	.17	.130	
1314-13-2	ZINC OXIDE	.17	.130	
1314-56-3	PHOSPHORUS PENTOXIDE	.17	.130	
1317-99-3	URANIUM OCTAOXIDE	.17	.130	
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID	.17	.130	
1333-82-0	CHROMIUM TRIOXIDE	.17	.130	
1335-30-4	ALUMINUM SILICATE	.17	.130	
13410-01-0	SODIUM SELENATE	.17	.130	
GCN049	ABSORBENTS (NON-SPECIFIED)	.16	.120	
21041-95-2	CADMIUM HYDROXIDE	.15	.110	
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)	.13	.100	
7440-02-0	NICKEL	.09	.070	
868-18-8	SODIUM TARTRATE	.08	.060	
57-13-6	UREA	.08	.060	
1317-38-0	COPPER OXIDE	.08	.060	
7446-70-0	ALUMINUM CHLORIDE	.08	.060	
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-	.08	.060	
10102-06-4	URANYL NITRATE	.08	.060	
7788-98-9	AMMONIUM CHROMATE	.08	.060	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)	.08	.060	
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC	.08	.060	
12054-48-7	NICKEL HYDROXIDE	.06	.048	
10043-01-3	ALUMINUM SULFATE	.05	.040	
110-54-3	N-HEXANE	.05	.040	
110-82-7	CYCLOHEXANE	.05	.040	
111-69-3	ADIPONITRILE	.05	.040	
1116-76-3	TRIOCTYLAMINEINE	.05	.040	
112-80-1	OLEIC ACID	.05	.040	
126-73-8	TRIBUTYL PHOSPHATE (TBP)	.05	.040	
1330-20-7	XYLENE (MIXED ISOMERS)	.05	.040	
13464-37-4	ARSENOUS ACID, TRISODIUM SALT	.05	.040	
13465-08-2	HYDROXYLAMINE NITRATE	.05	.040	
139-13-9	NITRILOTRIACETIC ACID	.05	.040	
140-01-2	PENTASODIUM PENTETATE (DTPA)	.05	.040	
144-62-7	OXALIC ACID	.05	.040	
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-	.05	.040	
2466-09-3	DIPHOSPHORIC ACID	.05	.040	
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-	.05	.040	
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE	.05	.040	
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-	.05	.040	
50-81-7	ASCORBIC ACID	.05	.040	
526-95-4	GLUCONICACID 50% IN WATER	.05	.040	
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL	.05	.040	
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	.05	.040	
64-17-5	ETHANOL	.05	.040	
64-18-6	FORMIC ACID	.05	.040	
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)	.05	.040	
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-	.05	.040	
67-63-0	ISOPROPYL ALCOHOL	.05	.040	
69-65-8	D-MANNITOL	.05	.040	
71-55-6	1,1,1-TRICHLOROETHANE	.05	.040	
7440-31-5	TIN	.05	.040	
7601-90-3	PERCHLORIC ACID	.05	.040	
7647-01-0	HYDROCHLORIC ACID	.05	.040	
7664-39-3	HYDROFLUORIC ACID	.05	.040	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7664-93-9	SULFURIC ACID	.05	.040	
7697-37-2	NITRIC ACID	.05	.040	
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL	.05	.040	
77-92-9	CITRIC ACID	.05	.040	
7778-50-9	DIPOTASSIUM DICHROMATE	.05	.040	
7782-77-6	NITROUS ACID	.05	.040	
78-38-6	DIETHYL ETHYLPHOSPHONATE	.05	.040	
80-55-7	METHYL LACTIC ACID (ETHYLESTER)	.05	.040	
8008-20-6	KEROSENE	.05	.040	
GCN126	ETHERS (NON-SPECIFIED)	.05	.040	
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER	.05	.039	
50-00-0	FORMALDEHYDE	.05	.037	
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	.04	.033	
7727-43-7	BARIUM SULFATE	.04	.032	
7789-23-3	POTASSIUM FLUORIDE	.04	.030	
6131-90-4	SODIUM ACETATE	.03	.020	
67-64-1	ACETONE	.02	.016	
7440-41-7	BERYLLIUM	.02	.016	
7773-01-5	MANGANESE CHLORIDE	.02	.013	
513-77-9	BARIUM CARBONATE	.02	.013	
57-55-6	1,2-PROPANEDIOL	.02	.012	
87-86-5	PENTACHLOROPHENOL	.01	.010	
12125-02-9	AMMONIUM CHLORIDE	.01	.010	
7440-39-3	BARIUM	.01	.010	
GCN113	ACRYLIC EMULSION/POLYMER	.01	.008	
64-19-7	ACETIC ACID	.01	.007	
75-77-4	TRIMETHYL CHLOROSILANE	.01	.005	
7440-44-0	CARBON	.01	.005	
78-51-3	2-BUTOXYETHANOL, PHOSPHATE	.01	.005	
117-10-2	1,8-DIHYDROXYANTHRAQUINONE	.01	.005	
8001-30-7	CORN OIL	.01	.005	
7738-94-5	CHROMIC (VI) ACID	.01	.005	
51-28-5	DINITROPHENOL, 2,4-	.01	.005	
326-91-0	THENOYLTRIFLUOROACETONE	.01	.005	
1331-17-5	PROPYLENE GLYCOL	.01	.005	
10043-35-3	BORIC ACID	.01	.005	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	.01	.005	
9002-93-1	TRITON X-100	.01	.004	
7757-83-7	SODIUM SULFITE	.01	.004	
7783-18-8	AMMONIUM THIOSULFATE	.01	.004	
144-55-8	SODIUM BICARBONATE	.01	.004	
78-93-3	METHYL ETHYL KETONE	.00	.004	
108-10-1	4-METHYL-2-PENTANONE	.00	.003	
7647-15-6	SODIUM BROMIDE	.00	.003	
631-61-8	AMMONIUM ACETATE	.00	.002	
110-86-1	PYRIDINE	.00	.002	
1310-65-2	LITHIUM HYDROXIDE	.00	.002	
98-95-3	NITROBENZENE	.00	.001	
56-40-6	GLYCINE	.00	.001	
115-40-2	BROMOCRESOL PURPLE	.00	.001	
25322-68-3	POLYETHYLENE GLYCOL	.00	.001	
108-88-3	TOLUENE	.00	.001	
71-43-2	BENZENE	.00	.001	
106-46-7	P-DICHLOROBENZENE	.00	.001	
95-48-7	O-CRESOL	.00	.001	
67-66-3	CHLOROFORM	.00	.001	
106-44-5	P-CRESOL	.00	.001	
56-23-5	CARBON TETRACHLORIDE	.00	.001	
108-39-4	M-CRESOL	.00	.001	
79-01-6	TRICHLOROETHYLENE	.00	.001	
127-18-4	TETRACHLOROETHYLENE	.00	.001	
7439-92-1	LEAD	.00	.001	
7440-47-3	CHROMIUM	.00	.001	
7440-22-4	SILVER	.00	.001	
7440-38-2	ARSENIC	.00	.001	
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE	.00	.000	
55-55-0	P-METHYLAMINOPHENOL SULFATE	.00	.000	
123-31-9	HYDROQUINONE	.00	.000	
10192-30-0	AMMONIUM BISULFITE, SOLID	.00	.000	
7758-02-3	POTASSIUM BROMIDE	.00	.000	
71-36-3	BUTYL ALCOHOL	.00	.000	
67-72-1	HEXACHLOROETHANE	.00	.000	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE	.00	.000	
107-21-1	ETHYLENE GLYCOL	.00	.000	
GCNPCBOIL	PCB OIL	.00	.000	
7440-43-9	CADMIUM	.00	.000	
7782-49-2	SELENIUM	.00	.000	
107-06-2	1,2-DICHLOROETHANE	.00	.000	
75-35-4	1,1-DICHLOROETHYLENE	.00	.000	
67-56-1	METHANOL	.00	.000	
121-14-2	2,4-DINITROTOLUENE	.00	.000	
298-14-6	POTASSIUM BICARBONATE	.00	.000	
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)	.00	.000	
7440-57-5	GOLD	.00	.000	
7439-97-6	MERCURY	.00	.000	

Packaging:

Component Description	Weight (Kg)
10 MIL LINER	.80
ABSORBENT, MINERAL	8.00

Container Relationships:

From Pkg ID	To Pkg ID	Conr Date	Rel Code
HEDL-63	0059303	02/09/11	C

NDA:

NDA Assay #	NDA Batch #	NDA Date	GEA Vault	IPAN Vaul	Waste Code	Thermal Power	Tot Alpha Ci	Tot PE-Ci	Tot PU-FGE
44583		03/14/11	B			8.04E-01	5.23E+00	5.42E+00	3.55E+01
CALC44001		09/04/08			6	4.53E-01	4.56E+00	4.74E+00	3.23E+01

WRAP ISOTOPE INFORMATION (NDAISO):

Assay #	Isotope	Quantity(ci)	TMU (ci)	Quantity(gm)	TMU (gm)	Units
44583	U-233					GM
	NP-237	2.55E-05	5.81E-06	3.58E-02	5.81E-06	GM
	U-235	1.72E-06	3.92E-07	7.85E-01	3.92E-07	GM
	PU-239	2.18E+00	4.97E-01	3.47E+01	4.97E-01	GM
	PU-241	1.08E+01	2.47E+00	1.04E-01	2.47E+00	GM
	SR-90					CI
	PU-240	1.12E+00	2.55E-01	4.86E+00	2.55E-01	GM
	PU-242	1.61E-04	3.66E-05	4.04E-02	3.66E-05	GM
	U-238	5.2E-05	1.19E-05	1.53E+02	1.19E-05	GM
	CS-137					CI
	U-234	9.74E-05	2.22E-05	1.54E-02	2.22E-05	GM
	PU-238	2.45E-01	5.59E-02	1.42E-02	5.59E-02	GM
	AM-241	1.69E+00	3.85E-01	4.86E-01	3.85E-01	GM
CALC44001	U-235	3.71E-06	8.33E-07	1.69E+00	8.33E-07	GM
	PU-241	1.03E+01	2.32E+00	9.92E-02	2.32E+00	GM
	AM-241	1.41E+00	3.17E-01	4.07E-01	3.17E-01	GM
	U-238	5.56E-05	1.25E-05	1.64E+02	1.25E-05	GM
	U-234	1.11E-04	2.5E-05	1.76E-02	2.5E-05	GM
	PU-238	2.52E-01	5.67E-02	1.46E-02	5.67E-02	GM
	PU-239	1.94E+00	4.36E-01	3.08E+01	4.36E-01	GM
	PU-242	1.46E-04	3.27E-05	3.67E-02	3.27E-05	GM
	PU-240	9.58E-01	2.15E-01	4.16E+00	2.15E-01	GM
	CS-137	5.9E-06	1.33E-06	6.7E-08	1.33E-06	CI
	U-233					GM
	SR-90	5.36E-06	1.21E-06	3.89E-08	1.21E-06	CI

NDE:

NDE Batch #	NDE Date	NDE Vault

Print Date: *12/07/2005*

Procurement Initial and Date ______
M&TE Initial and Date ______
Training Initial and Date n/a
Procedure Initial and Date ______

Records Transmittal Sheet - Project - TRU Waste Certification Program

If sent from facility please check one: ☐ SPO ☐ PFP ☐ WRAP ☐ WSCF ☒ WST

Accession Number: TRU-WST-11.4.4-1206200539702

Initiator/Transmitter:
Print Name: R J Swan
Signature: [signature] Date: 1/31/06

Initial Page Count: ~~51~~ 50 nw 2/8/06
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Date: 12/06/2005

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This document is: ☒ New Document ☐ Addition - Add to Previous Submittal ☑ Final Closure Document

Document Title: Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site 325 Radiochemistry Building Transuranic Debris

Index Category:	Reference/Key Words used for Customer Document Retrieval:
☐ 10 Site Certification	~~WST~~ CCP, AK, 325 Building, 300 Area, ~~AK~~ TRU debris, KM
☑ 11 Waste Characterization and Certification	Radiochemistry 3/6/08
☐ 12 Transportation and Packaging	
☐ 13 Procurement	
☐ 14 Quality Assurance	
☐ 15 Personnel Qualification and Training	
☐ 16 Policies Plans and Procedures	
☐ 17 Calibration/M&TE	
☐ 18 Records Management (Records use only)	
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ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT SUMMARY

Site: Hanford	Source Document Tracking Number: TRU-WST-11.4.4-1206200539702
Acceptable Knowledge Documentation Type: ☒ TRU Waste Management Program Information ☒ Waste Stream Specific Information ☐ Supplemental Information	Category: ☐ Published Document or Controlled Database ☒ Unpublished Data ☐ Internal Procedure or Note ☐ Correspondence

→ Title of Source Document: Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site, 325 Radiochemistry Building Transuranic Debris

Description of Source Document: Describes the 325 Radiochemistry Building, Transuranic Debris

Source Document Reference Information (author(s), document and revision number, date, publisher):
Author(s): D.H. Haar; Document #: CCP-AK-RL-003, Rev. 0; Date: November 26, 2003, Publisher: Not Published

AK # [a]	Source Doc. Page #	Source Document Summary
PR2	7-14	Discusses the site mission, waste generation, and management.
PR3	13-24	Provides an overview of the site and waste management.
PR4	13-24	Describes historical waste operations.
WS2	22	Discusses areas where waste was generated.
WS7	24-25	Indicates waste material parameters present in the waste stream.
WS9	25-26	Identifies radionuclides in the waste stream.
WS10	26-37	Discusses hazardous constituents in the waste stream.

Source Document Data Limitations (if any):
Document does not include a map or layout of the facility

Data Collector: R. J. Swan / [signature] Date: 1/12/06
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Site Project Manager K. M. McDONALD / Karl McDonald Date: 3/6/08
(or designee) Print/Sign

[a]Obtain from Acceptable Knowledge Documentation Checklist

2

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CCP-AK-RL-003

Central Characterization Project
Acceptable Knowledge Summary Report
For

HANFORD SITE
325 RADIOCHEMISTRY BUILDING TRANSURANIC DEBRIS
REVISION 0
November 26, 2003

David H. Haar

Printed Name

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	11/26/2003	Initial issue.

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LIST OF ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
Am	Americium
CCP	Central Characterization Project
CFR	Code of Federal Regulations
CH	contact-handled
Cm	Curium
Cs	Cesium
CWC	Central Waste Complex
DOE	United States Department of Energy
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FFTF	Fast Flux Test Facility
HEPA	High Efficiency Particulate Air
HWFP	Hazardous Waste Facility Permit
HWTU	Hazardous Waste Treatment Unit
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
m^3	cubic meters
MAS-NMR	Magnetic Angle Spinning Nuclear Magnetic Resonance Spectrometry
MBA	Material Balance Area
MSDSs	Materials Safety Data Sheets
Np	neptunium
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PFP	Plutonium Finishing Plant
PRF	Plutonium Recovery Facility
Pu	plutonium
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RTR	Real-Time Radiography
SAL	Shielded Analytical Laboratory
SEM	Scanning Electron Microscopy
Sr	strontium
TIMS	Thermal Ionization Mass Spectrometry
TRU	Transuranic
TRUSAF	Transuranic Storage and Assay Facility
TWBIR	Transuranic Waste Baseline Inventory Report
U	Uranium
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant
WIPP-WAC	Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant
WIPP-WAP	WIPP Hazardous Waste Facility Permit Waste Analysis Plan

1.0 Executive Summary

This document has been prepared for the Central Characterization Project (CCP) for contact-handled (CH) transuranic (TRU) waste generated at the 325 Radiochemistry Building located in the 300 Area at the Hanford Site. This report presents the required characterization information for the mixed debris waste stream (RLM325D.001) associated with process operations and building deactivation activities.

The CCP is tasked with certification of CH-TRU waste for transportation to and disposal at the Waste Isolation Pilot Plant (WIPP). The procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), describes how acceptable knowledge (AK) is compiled and confirmed by the CCP. The CCP is responsible for AK development in accordance with CCP procedures and will review and approve this Acceptable Knowledge Summary Report and maintain this document and supporting AK source documentation as CCP quality assurance records. The CCP maintains responsibility for all referenced documentation, which will be stored at the CCP Records Center, Carlsbad, New Mexico.

This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for the characterization of waste generated by the 325 Radiochemistry Building operations. The references and AK sources used to prepare this report are listed in Attachment 1. The AK sources referenced within this report by alphanumeric designations (i.e., C001, P001, D001, and U001), correspond to the Source Document Tracking Number using the following convention:

- C – Correspondence
- P – Published Documents and Procedures
- U – Unpublished Documentation and Data
- D – Discrepancy Resolution Reports

This AK report includes information relating to the facility's history, process operations, and waste management practices. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, RCRA permit applications, facility procedures, generator and storage facility waste records, and interviews with cognizant personnel.

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the "*Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant*" (HWFP) (Reference 2). This document and supporting references provide the mandatory waste program management and waste stream-specific AK information for the 325 Radiochemistry Building TRU waste generated between 1970 and 2002. This AK document contains a description of the TRU waste generating facilities and the waste management practices at the time of waste generation.

2.0 Waste Stream Identification Summary

Site Where TRU Waste Was Generated:

Generation Location:
Hanford Site
P.O. Box 1000
Richland, Washington 99352-1000

Facility Where TRU Waste Was Generated:

325 Building – Radiochemistry Building and High-Level Radiochemistry Annex

Facility Mission:

The 325 Radiochemistry Building was built in 1953 to safely house and handle mutli-curie or high activity chemical development work. The High-Level Radiochemistry Annex was added to the facility in 1959 and 1960. Combined these two analytical operations were the largest among Hanford's laboratories. Section 4.4.3 provides a discussion of the missions associated with this facility.

Waste Stream RLM325D.001 (Mixed Debris)

Summary Category Group:	S5000
Waste Matrix Code Group:	Heterogeneous Debris
Waste Matrix Code:	S5400 (Heterogeneous Debris)
TRUPACT-II Content Code (TRUCON):	RH225A - AM
Waste Type Code:	MTRU
Waste Stream TWBIR Identification:	RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398
Layers of Confinement:	Maximum of four layers

Waste Stream Description: This debris waste stream was generated during laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium (Reference C001, P012, P016, P027, and P041). These analyses, performed in gloveboxes, fume hoods and hot cells, used a wide variety of electrochemical, spectrophotometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Specific waste items may include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, aerosol cans, High Efficiency Particulate Air (HEPA) filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids have been placed in some drums. Also included are sample residues from fuel pellets, tank wastes, ceramics and grouted plutonium in cans (Reference 10, C001, C003, P050, and U001).

Waste stream RLM325D.001 was determined to contain RCRA regulated constituents and is assigned the following EPA Hazardous Waste Codes: F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D033, D034, D037, D041, and D043. See Section 5.4 for the rationale for assignment of these codes.

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D.001. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment (Reference C001, C002, P002, P003, P031, P037, and U001).

TRUCON Code RH225 is assigned to waste stream RLM325D.001 assuming that organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The SPM will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate.

3.0 Acceptable Knowledge Data and Information

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. The *WIPP HWFP Waste Analysis Plan* (WIPP-WAP) (Reference 2) permits use of knowledge of the materials and processes that generate and control the waste, provided a clear and convincing argument about the characteristics of the waste is achieved. The AK characterization documented herein complies with the requirements of the WIPP-WAP and was developed in accordance with Section B4 of CCP-PO-001, *CCP TRU Waste Characterization Quality Assurance Project Plan* (Reference 3), CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 4), and CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1).

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets (MSDSs), and interviews with facility personnel.

The primary sources of AK used for determining the physical and chemical characterization for the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared by the Hanford site for each container. The documentation for each container included the following information:

- Estimated Plastic and Metals content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- A Hanford WIPP Certification Checklist for each Waste Acceptance Criteria (WAC) requirement
- A Contents Inventory Sheet identifying the composition of each package placed into the drum

4.0 Required Program Information

This section presents the waste management program information required by Section B4 of the HWFP (Reference 2). Included is a brief history of this facility, summaries of the missions, discussions of operations associated with the generation of TRU waste, and descriptions of the TRU waste management program. Attachment 1 of procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1) provides a list of TRU waste management program information required to be developed as part of the AK record.

4.1 Facility Location

The Hanford Site is located in southeastern Washington State near the Tri Cities area of Richland, Kennewick, and Pasco as shown in Figure 1 in Attachment 2. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemistry Building is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figure 2 and Figure 3 in Attachment 2 (Reference P041, P043, and P052).

4.2 Facility Description and Site Operations

4.2.1 Hanford Site

The Hanford Site is divided into several areas where defense and nuclear weapons production took place. Operations generating TRU waste were conducted primarily at the 100, 200, and 300 areas at the site (Reference P041, P042, and P052).

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were all light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production and reactor operations research and experimentation). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water. It was a dual-purpose reactor that was capable of making electrical power and weapon-grade plutonium, or electric power and fuel-grade plutonium. It was used for domestic power production from 1966 until 1986 (References P041 and P052).

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building. Both facilities contained a Bulk Reduction Building. These facilities performed chemical dissolution of irradiated fuel from the 100 Area reactors and plutonium recovery using the bismuth phosphate separation process.

The final step of plutonium recovery operations was housed in the Plutonium Finishing Plant (PFP) at 200 West. Ancillary buildings that existed to support the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T (Reference P041 and P052).

In 200 West, the REDOX Plant began operations in 1951, using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium. In 1953, the 224-U Building was converted from a training facility to the UO3 Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the PFP was converted to a research and development facility for plutonium processes and nuclear device development for testing at the Nevada Test Site (Reference P041 and P052).

Also located in 200 West, the PFP began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal in the remote mechanical lines; performed casting and machining operations for weapons components; and operated to recover plutonium from waste and scrap generated at other Hanford facilities. The PFP remote mechanical lines processed oxides in the early 1960's and in 1968, switched to produce plutonium oxide. Wastes such as incinerator ash, scrap and crucible, and dissolver heels, were run through the solvent extraction process at the Plutonium Reclamation Facility (Reference P041 and P052).

Facilities in the 300 Area of the Hanford Site have been diverse in their missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. These facilities were not designed for handling TRU materials therefore, were not generators of TRU waste. Other facilities, such as Building 308, were designed for the manufacture of plutonium oxide and/or mixed oxide fuels for the research reactors in the 300 and 400 Areas of the Hanford Site. Some facility missions such as Buildings 324 and 325 hot cells were the focus of research and development (R&D) for fuel element performance evaluation and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. The TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. Twenty-three 300 Area facilities were generators of, or had the potential for generating, TRU waste (Reference P041 and P052).

Since the 1960's, the Hanford Site has accepted waste generated from numerous offsite United States Department of Energy (DOE) facilities. It is estimated, that 20 volume percent of the defense TRU waste generated in the United States is stored at the Hanford Site. Approximately half of the retrievably stored CH-TRU waste was stacked in modules on asphalt pads or aboveground buildings in the 200 East and 200 West areas and the other half was placed in gravel earthen trenches. TRU waste unsuitable for asphalt pad storage because of size, chemical composition, security requirements, or surface radiation was packaged in reinforced wood, concrete, or metal boxes and stored in dry waste trenches. The trenches were covered with plywood and plastic-reinforced nylon sheeting and backfilled with dirt (Reference P041 and P052).

Initially, waste drums were placed horizontally in trenches with direct soil cover. Then, for a brief period of time (1972-1973), they were stacked on an angle in an engineered storage configuration known as trench V-7. This storage methodology proved to be too expensive to implement, hence the concept for storage on asphalt pads was adopted in 1972. Storage in gravel trenches continued after 1972, however, the drums were then stacked vertically. The earthen trenches during this later period were used primarily for biological, classified, and other special-case CH-TRU waste. After 1974, drums and boxes of CH-TRU waste were stored upright in trenches with asphalt or plywood bottoms, plywood and plastic tarps covering the containers, and 4 ft of earth over the tarp cover. TRU waste continued to be placed in trenches until 1989 (Reference P041 and P052).

In 1985, an aboveground building, the Transuranic Storage and Assay Facility (TRUSAF), was opened for storage of TRU waste until its inactivation in 1996. The Central Waste Complex (CWC), which consists of 20 storage buildings, currently stores TRU waste. In May 1987, the DOE issued an interpretive rule under the Atomic Energy Act of 1954 clarifying DOE obligations under Resource Conservation and Recovery Act (RCRA), which is promulgated in Washington State by the *Dangerous Waste Regulations* (Reference 9). This rule created categories of waste that required separate waste management disposition and segregation. In 1987, the Hanford Site stopped disposing of mixed waste in unlined trenches and began to store these wastes in aboveground facilities at the CWC exclusively (Reference P041, P048, and P052).

4.2.2 325 Radiochemistry Building

The 325 Radiochemistry Building contains approximately 140,000 square feet of laboratory space. In 1960s, the building operated as many as 50 laboratories and 11 hot cells. The laboratories were furnished with hoods and gloveboxes designed handing radioactive materials (Reference P041). The 325 Building was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four- foot concrete walls with steel liners surrounded these larger cells. All eleven cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank (Reference P041). Section 4.5 provides a summary of the operations associated with TRU waste generation.

4.3 Mission

4.3.1 Hanford Site Mission

Generation of radioactive solid waste at Hanford was coincident with nuclear weapons production that first began in 1944. The Hanford Site was constructed to produce plutonium for the weapons program during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. The primary mission of the 300 Area of the Hanford Site was reactor fuels development and fabrication. (Reference P041, P042, and P052).

The *Hanford Mission Plan*, Volume 1, "Site Guidance," states, "The primary Hanford mission is to clean up the Hanford Site, eliminate potential risks to the public and our workers, and serve as the DOE model in environmental restoration." To meet this need the Solid Waste Program mission is to "receive, store, treat, and dispose of solid radioactive and non-radioactive wastes in a safe and environmentally compliant manner." The Solid Waste Program is responsible for buried waste located in RCRA-regulated burial grounds in the 200 East and 200 West Area. The Solid Waste Program is also responsible for stored solid waste in the CWC in the 200 West areas and receipt of solid waste from on-site and off-site generators (Reference P052).

4.3.2 325 Building Mission

Initial 325 Radiochemistry Building missions included production and process improvement support for the REDOX and Uranium Metal Recovery operations. Actinide separation studies were conducted that focused on the development of techniques to reduce activity in high-level wastes prior to disposal. Other missions included production development of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Radiochemistry Building mission also included development support for the PUREX, RECUPLEX and Plutonium Recovery Facility (PRF) production processes. (Reference P041).

In the 1960's the 325 Radiochemistry Building supported NASA and medical isotope development campaigns. A number of new techniques were developed to involving separation and fractionation technology. Specific isotopes including strontium-90, cesium-137, curium-244, americium-241, and promethium-147 were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell (References P041).

The 325 Radiochemistry Building was involved in FFTF fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory performed analyses on Exxon Enriched Uranium samples. These samples were submitted as sweepings from the process line gloveboxes in the Exxon facility located adjacent to the site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste. 325 personnel in the shielded analytical facility worked on samples from these processes.

After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

Characterization of tank waste started in the late 1980s and continued through the 1990s. Many of the sampling and analytical techniques used during tank waste characterization at the Hanford site were developed by the 325 Radiochemistry Building operations. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and MOX materials using electrochemical, spectrophotometric and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 facility has been operated as a TSD (Treatment Storage and Disposal) facility since 1993 and has operated as part of an overall HWTU (Hazardous Waste Treatment Unit) for the Hanford site since that time. (Reference C001, P004, P006 through P030, P032, P033, P034, P035, P038, P041, and P050).

4.3.3 Defense Waste Assessment

Hanford's solid waste legacy can be traced back to early weapons production activities in 1944. As discussed above, the 325 Building has had an ongoing history of supporting production reactor and reprocessing activities at the Hanford site, including REDOX, PUREX, RECUPLEX, PRF, and N-Reactor operations. In recent years, the facility has continued to support defense activities associated with defense nuclear waste and by-product management (Reference P041, P042, P043, P045, P050, P053, and P054).

The WIPP-WAC (Reference 6) requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU "defense" waste. Based on guidance from DOE, a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the *atomic energy defense activities* listed in section 10101(3) of the *Nuclear Waste Policy Act of 1982*. TRU wastes generated in the 325 Radiochemistry Building are contaminated with radiological isotopes that are part of defense waste clean up activities (i.e., Characterization of tank waste from years of weapons production and waste vitrification) and other activities supporting weapons process development and reactor research (i.e., N-reactor shielding experiments). Based on the review of AK, TRU wastes generated by 325 Radiochemistry Building operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following functions:

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense research and development

This waste stream contains waste that was generated in part from studies that were part of the DOE NWVP program and support to defense nuclear waste management, including characterization of tank sludges resulting from years of processing weapons materials at the Hanford site. In addition, support to processes at N- Reactor such as examination of boron thermal shielding, iodine control and uranium dissolution took place in the hot-cells and additional characterization was performed in support of PUREX reprocessing and waste characterization. Other projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. Due to the nature of the analytical work performed in the laboratory, all defense project work was carried out in conjunction with other projects supporting analytical characterization needs across the Hanford site (Reference C004 and P041).

Due to the waste management practices and analytical nature of the operations conducted in the 325 Building, no attempt was made to segregate the waste originating from non-defense from defense-related campaigns. Since segregation of the wastes is no longer feasible, by definition this waste is eligible for disposal at the WIPP facility (Reference 7 and C001).

4.3.4 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal of spent nuclear fuel and high-level waste, as defined by the Nuclear Waste Policy Act (NWPA), at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation."

The TRU waste that is identified in this waste stream includes debris generated during analysis and study of samples obtained from multiple processes that include transuranic elements. These laboratory operations did not involve separation or reprocessing of constituent elements from reactor fuel. The waste does not contain irradiated fuel elements withdrawn from a reactor. The waste stream is contaminated with samples of waste sludges taken from tanks associated with repossessing, however these waste materials are defined as waste incidental to reprocessing by DOE Order 435.1. Therefore, the waste is not a spent nuclear fuel or high-level waste and is eligible for disposal at WIPP (Reference 8, 10 and 12).

4.4 TRU Waste Management

During laboratory operations, the office of Laboratory Operations was designated as the administrator of Control procedures overseeing nuclear safety specification and was cognizant of control area classifications, and material transfers. The laboratory supervisor was also responsible for maintenance of a written record of the quantity and location of plutonium held in Plutonium control areas based upon data submitted by Chemical Research and Development personnel. Material Balance Points were established through incorporation of Material Balance Areas (MBAs). These MBAs were used to control plutonium materials in the 325 Building. Cans of plutonium were tracked in specific areas by unique identification numbers and quantity of plutonium present. Log sheets were maintained for each of these areas until the material was used or disposed of as waste (Reference C001, P001, and P043).

During operation when spills occurred, liquids present in the room were collected and packaged with vermiculite and cement to absorb free liquids. Additional mop up was completed using terry cloth towels. When there was potential for release of airborne radioactive materials, corn oil mist was used as a dust suppressant (Reference C001, C002, and P051).

After the completion of a given project, liquids were disposed of through sanitary water, the retention process sewer, and the radioactive liquid waste systems (Reference P003, P043, and P045). Radioactive liquid waste was routed to the 340 Building and then transferred by cask to the 200 area tank farms (Reference C001 and P043). Solid and liquid wastes treated at the HWTU in the facility was segregated into low-level, TRU, and mixed waste streams prior to disposition, and solid wastes were packaged, shipped, and stored in accordance with the Hanford specific waste acceptance criteria (Reference C001, P042 through P045, and P051). Free liquids were solidified using cement and vermiculite mixtures in a 1 to 2 ratio prior to disposal. If the liquids were corrosive they were neutralized prior to solidification. In the early 1980s, aerosol cans were required to be punctured and ballasts were segregated from TRU waste prior to disposal (Reference C001, P004, and P047).

In general, waste materials were bagged out of gloveboxes into plastic liners and packed into 55-gallon drums. TRU waste materials were removed from the gloveboxes and hot cells using plastic bag out bags that had 8- and 15-inch openings. These bags were filled with waste and then pig-tailed and placed in 55-gallon drums. None of the bags were heat-sealed before being loading into the drums. Waste cans (4-gallon) were loaded out of hot cells into 5-gallon cans and loaded into lined 55-gallon drums. The drum liners were then horse-tailed once the waste filled the10-mil clear plastic liners. Mixed waste from the hot cells was packaged in sheet metal liners with a Cellutex plug prior to being placed in the drum. All waste packaging was in accordance with the version of HNF-EP-0063 in place at the time (see section 5.5 for additional information regarding waste packaging configuration). Containers were sent to be assayed in the 300 area. TRU containers were sent to the TRUSAF or CWC for Real-time Radiography (RTR) prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the TRUSAF or CWC (Reference C001, C002, P002, P037, and P051).

Prior to 1985, chemists controlled all containers of waste from their own individual projects. The waste was tracked in laboratory notebooks but was disposed according to hazard. In order for drums generated at this time to be stored at the TRUSAF or the CWC, documentation was provided on checklists to document that waste was TRU or mixed TRU as generated from the processes described in these notebooks. Though RCRA-regulated chemicals and metals were identified and documented in the Solid Waste Storage/Disposal Record forms and Contents Inventory Sheets, waste management practices did not require the segregation of these materials (Reference C002, P005, P041, P043, P045, and U001).

4.4.1 Types and Quantity of TRU Waste Generated

The Hanford Site currently manages approximately 4,400 containers (1,150 cubic meters) of TRU waste generated by the Building 325 Radiochemistry Building from May 1970 through May 2002. Approximately 300 containers (100 cubic meters) are currently stored above ground at the CWC in the 200 West Area. The remaining containers are stored at the Hanford 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. The waste stream characterization presented in this document is based on the review of container-specific documentation for those containers listed in the most current AK Waste Containers list.

4.4.2 Correlation of Waste Streams Generated from the Same Building and Process

Solid Waste Disposal Records and Contents Inventory Sheets were reviewed for each container to verify the physical composition and origin of the 325 Radiochemistry Building waste stream (RLM325D.001) inventory. It was determined that every container included in this report was generated from 325 Building operations and meets the definition of waste generated from an activity that is similar in material, physical form, and hazardous constituents as follows (Reference 2 and U003):

- The waste is similar in material in that the drums contain general laboratory, facility maintenance, and waste management organic and inorganic debris.
- The waste is similar in physical form, which meets the regulatory definition of debris and the description of heterogeneous debris as defined by the WIPP-WAP.
- Based on the review of waste management practices in the 325 Radiochemistry Building, all of the waste have been conservatively determined to exhibit toxic characteristics (D codes) per 40 Code of Federal Regulations (CFR) 261.30 and F-listed per 40 CFR 261.31. It is not feasible to segregate containers based on chemical contamination, due to the R&D nature of these operations and waste management practices. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.
- Containers were not packaged with the intent to segregate specific waste materials (i.e., containers with 100% plastic, paper, or metal). Containers in this waste stream are made up of a composite of materials that meet the definition of debris.

4.5 Description of Waste Generating Process

This section provides descriptions for of historical operations conducted in the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex. These descriptions discuss the major activities performed in the laboratory and are representative of the analytical, process development, R&D, and waste management capabilities provided by the facility. Due to the number and R&D nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document. Sections 4.5.1 through 4.5.4 describe the operations being conducted during the time period the waste was generated (Reference P001, P004, P006 through P030, P032 through P035, P038, P040 through P042, P047, P050, and P053 through P057).

4.5.1 Sample Preparation and Analyses

Sample preparation included sample fabrication, sample dissolution, mounting, and cleaning required for studies and analyses. Samples were prepared for analysis by doping chemicals and powders with plutonium, uranium and thorium then making immobilized plutonium forms. Ceramic samples were fabricated in gloveboxes and fume hoods. In order to prepare samples for analysis, they were fused and dissolved in acids and when necessary plutonium containing solutions were purified using ion separation and liquid-liquid extraction methods. Solid samples were mounted after coring for magnetic angle spinning nuclear magnetic resonance (MAS-NMR) spectrometry in gloveboxes and fume hoods (Reference P004, P010, P018, P019, P028, and U003).

Once prepared, the samples were analyzed using a variety of chemical and physical methods. These methods included: MAS-NMR, gamma spectrometry, scanning electron microscopy (SEM), x-ray diffraction, and ion specific electrode methods. In addition spark source emission spectroscopy, potentiometric and amperometric electrochemical analyses, inductively coupled plasma-mass spectrometry (ICP-MS), thermal ionization mass spectrometry (TIMS), inductively coupled plasma-atomic emission spectroscopy (ICP-AES), kinetic phosphorescence, and thermal gravimetric analysis-mass spectrometry were performed on solid and liquid samples. Figure 4 in Attachment 2 provides a typical flow diagram of these analyses performed on plutonium oxide materials (Reference C001, P006, P007, P008, P009, P015, P050, and U003).

4.5.2 Process Development Support, Research and Development

Many of the sampling and analytical methods used for tank waste characterization at the Hanford site were developed at the 325 laboratory. These methods involved extruding and sub-sampling of tank slurries and sludges followed by analysis of these materials for inorganic and organic constituents (Reference C001, P054, and P055).

R&D support was conducted for studies relating to the immobilization of radioactive waste forms. As much as 2.0 kilograms of plutonium was used in these studies that produced vitrified waste materials such as ceramics. These studies included leach testing the immobilized waste forms under differing temperature and pH environments. Other projects included the development of electrochemical methods for the recovery of plutonium (the CEPOD project); evaluation of treatment methods; assessments of the removal of radionuclides from dissolved light water reactor fuels; process improvement support for PUREX processing; evaluation of potential exothermic reactions in tank wastes, testing of ion exchange resins; determination of the feed specifications for West Valley waste vitrification project. Physical examinations performed in support of Hanford process development included leach testing, radiation damage examinations by SEM, determination of specific gravity of solids, and thermogravimetric analysis (Reference P001, P011, P012, P016, P017, P033, P034, P035, P040, P043, and U003).

4.5.3 Hazardous Waste Treatment Unit

Several treatment methods were also developed as part of the HWTU located in the Shielded Analytical Laboratory (SAL) and room 528. Small bench scale treatment methods were used to treat hazardous waste for disposal or disposition to eliminate reactive and corrosive hazards not allowed by Hanford site storage facilities (C001, C002, P046, P051). Examples of the types of treatment methods employed at the HWTU include: molten salt destruction, pyrolysis, wet air oxidation, calcinations, microwave discharge, chemical fixation chlorination, chlorinolysis, cyanide destruction, degradation, detoxification, ion exchange, neutralization, filtration, crystallization, reverse osmosis, and evaporation (Reference C001, C002, C005, P046, P047, P051).

4.5.4 General Laboratory Operations and Spill Cleanup

Laboratory operations involved maintenance to gloveboxes and equipment in gloveboxes and fume hoods as well as disposal and shipment of radioactive materials. Equipment and materials were moved into and out of containment areas using a variety of methods to minimize room contamination (Reference P002, P003, P005, P036, P037, P038, and P039).

The AK identified events that resulted in wide spread laboratory contamination. Glovebox and hot cell floods created ruptures in gloves and seals causing contamination to be spread across laboratory floors. One incident was caused by improper wiring of the laboratory vacuum system caused the hoods and other containment systems to blow contamination across the laboratory. These releases resulted in major cleanup efforts by laboratory personnel involving the decontamination of equipment, flooring, and other surfaces. The spill liquids were collected and packaged with vermiculite and cement. Terry cloth towels were also used to mop up liquids and a corn oil mist was used to control the release of airborne radioactive materials. (Reference C001, C002, P041, P043, and P051).

4.6 Waste Identification and Categorization

Waste materials from operations were not segregated based on the physical form or chemical content at the time of generation. Waste items packaged and bagged out of the gloveboxes and hot cells were recorded on the contents inventory sheet, and were placed into prepared drums. An inventory sheet was maintained for each drum as it was filled. Items were added to lined TRU drums, and the liners and drums closed when full. Hazardous constituents packaged in the waste containers were noted by the waste generators on the Waste Disposal Records and Contents Inventory Sheets or identified during radiography (free liquids or lead). If RTR identified potentially RCRA-regulated items, the characterization was reviewed and

RCRA Hazardous Waste Numbers would be assigned to a container, as appropriate (Reference C001, P041, P047, U002).

4.7 Waste Certification Procedures

The certification of the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex debris waste stream will be certified in accordance with the *CCP TRU Waste Characterization Quality Assurance Project Plan* (Reference 3).

5.0 Required Waste Stream Information

This section presents the mandatory waste stream AK required by Section B4 of the HWFP (Reference 2). Attachment 1 of procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1) provides a list of the TRU waste stream information required to be developed as part of the AK record.

5.1 Area and Building of Generation

All of the TRU debris waste containers included in waste stream RLM325D.001 were generated during process characterization, support and sample analysis in the 325 Radiochemistry Building. Solid Waste Disposal Records and Contents Inventory Sheets were reviewed to verify that each container originated from the 325 Building.

5.2 Waste Stream Volume and Period of Generation

The Hanford Site currently manages approximately 4,400 containers (1,150 cubic meters) of TRU waste generated by the Building 325 Radiochemistry Building from May 1970 through May 2002. The waste drums and boxes are currently stored in the CWC and the 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. Table 1 provides the current location and volumes of Building 325 waste managed at the Hanford facilities (Reference U002).

Table 1. RLM325D.001 Waste Stream Volume and Generation Dates

Storage Location	Containers (Volume)	Package Dates
CWC	285 55-gal. drums (60 m^3) 11 85-gal. drums (3.5 m^3) 13 boxes (40 m^3)	Jan. 1986 – May 2002
218W3A	42 30-gal. drums (5.0 m^3) 308 55-gal. drums (65 m^3) 21 boxes (95 m^3)	May 1970 – Oct. 1978
218W4B	2,566 55-gal. drums (540 m^3) 1 110-gal. drum (0.4 m^3) 49 boxes (100 m^3)	May 1971 – Sept. 1978
218W4C	1,051 55-gal. drums (220 m^3) 2 boxes (19 m^3)	May 1978 – Oct. 1985

5.3 Waste Generating Activities

The waste generating processes associated with waste stream RLM325D.001 are described in Section 4.5. The waste was generated from the multiple operations in the 325 Radiochemistry Building and High-Level Radiochemistry Annex. The 325

Radiochemistry Laboratory remains in operation. Future TRU waste containers may be generated to support Hanford site process operations. This waste will be addressed in future reports, as appropriate (Reference P043 and P047).

5.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for waste stream RLM325D.001. The waste stream is characterized based on knowledge of the materials, knowledge of the processes generating the waste, and physical descriptions of the waste. The Transuranic Waste Baseline Inventory Report (TWBIR) identification numbers associated with this waste stream include: RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398 (Reference 11).

5.4.1 Material Input Related to Physical Form

This debris waste stream was generated during laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium (Reference C001, P012, P016, P027, and P041). These analyses, performed in gloveboxes, fume hoods and hot cells, used a wide variety of electrochemical, spectrophotometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Specific waste items may include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, aerosol cans, HEPA filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids have been placed in some drums. Also included are sample residues from fuel pellets, tank wastes, ceramics and grouted plutonium in cans (Reference C001, C003, P050, and U001).

5.4.1.1 Waste Matrix Code

The waste matrix code was assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, such as packaging procedures, waste generating activities, and the Waste Disposal Records and Contents Inventory Sheets completed by the waste generator for each container. (Reference C003).

The waste material parameters and physical content descriptions for each container were reviewed. The waste material parameters and estimated volume percentages were tabulated in an Excel spreadsheet. When volume percentages of organic materials (i.e., paper, wood, cloth) were listed as a single value, these percentages were evenly distributed in the spreadsheet between each identified waste matrix parameter. This assumption was also applied to the organic materials. Once the material composition was tabulated, the relative volumes for organic debris, inorganic debris, homogenous organic solids, and homogenous inorganic solids were estimated for the waste stream to assign the waste matrix code (Reference C003).

Based on the container specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris such as iron-based alloys, plastics, cellulosics, concrete, lead, glass, ceramics, diatomaceous earth, and asbestos. With the balance of the waste stream consisting of homogenous inorganic and organic solids such as absorbed liquids and cemented materials. Therefore Waste Matrix Code S5400, Heterogeneous Debris is assigned to the Building 325 RPL mixed debris, waste stream RLM325D.001. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories, including absorbed and solidified liquids (Reference 5, C001, C003, U001, P041).

5.4.1.2 Waste Material Parameters

Waste material parameters were identified and assessed as described in Section 5.4.1.1. Based on the information was obtained from the Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 contains the following waste material parameters (Reference 2, C003, and U001):

- Iron-based metals
- Aluminum-based metals
- Other metals
- Other inorganic materials
- Cellulosics
- Rubber
- Plastics (waste materials)
- Inorganic matrix
- Steel (packaging materials)
- Plastic (packaging materials)

The AK Containers list includes the most recent evaluation of the relative composition of the waste material parameters for waste stream RLM325D.001, based on the assessment of the containers determined to be eligible for confirmation in this stream.

5.4.2 Radiological Characterization

Isotopic data was derived from Hanford's Solid Waste Information Tracking System and exported to a Microsoft Excel spreadsheet for analysis. This data consists of results from nondestructive assay (NDA) performed on 325 Building containers by gamma spectroscopy and neutron coincidence counting. Of the drums initially assessed more than 90 percent were estimated to exceed 100 nCi/g of TRU isotopes (Reference C004 and U002). As additional containers are assessed for this waste stream, the isotopic distributions will be evaluated and included in the most current AK Containers list for waste stream RLM325.001.

Uranium and plutonium content in the waste originated from fuel and weapons production with various isotopic compositions possible. Major sources of isotopic contamination were the FFTF, tank waste characterization, and facility support activities. Based on the NDA container data, the estimated uranium and plutonium isotopic distributions are summarized in Table 2 (Reference C004 and U002).

Table 2 – Plutonium and Uranium Isotopic Distributions

Uranium Wt%		Plutonium Wt%	
U-234	0.02%	Pu-236	0.1%
U-235	3.0%	Pu-239	88%
U-236	0.02%	Pu-240	10%
U-238	97%	Pu-241	1.0%
		Pu-242	0.1%

Based on the mass analysis performed for the initial containers assigned to this waste stream, U-238 and Pu-239 are the two prevalent isotopes in the waste stream estimated at 59 and 26 weight percent, respectively. Other WIPP tracked isotopes include: Am-241 (0.4%), Pu- 238 (0.04%), Pu-240 (3%), and Pu-242 (0.04%). Other isotopes include: Am-243 (0.01%), Np-237 (0.2%), Pu-241 (0.3%), Th-232 (9%), U-235 (2%), and U-236 (0.01%). Trace amounts Cs-137 and Sr-90 were reported with a mean ratio of 1.1:1 (Reference C004).

Isotopic analysis will be attempted on every drum in this waste stream and those results will be used to determine the activity in each drum. In the event that the waste matrix does not allow NDA to obtain acceptable results, the relative isotopic ratios above may be used to support assay determinations, as appropriate. The values obtained will be compared to assay results on a lot basis as waste containers undergo data reconciliation prior to certification for disposal.

The isotopic weight percent ranges for the 10 WIPP-tracked radionuclides and Np-237, U-235, and Pu-241 reported for containers in the waste stream RLM325D.001 are provided in Table 3 below. The estimated ranges were determined from radionuclide inventories obtained from gloveboxes, fume hoods and hot cells and an evaluation of the containers that were identified for this waste stream (Reference C004).

Table 3. Isotopic Weight Percent Ranges for Individual RLM325D.001 Containers

Weight Percent	^{241}Am	^{237}Np	^{238}Pu	^{239}Pu	^{240}Pu	^{241}Pu	^{242}Pu	^{233}U	^{234}U	^{235}U	^{238}U	^{90}Sr	^{137}Cs
(Min – Max)	0	0	0	0	0	0	0	0	0	0	0	0	0
	12	100	90	86	12	1.2	0.2	5	.006	100	59	Trace	Trace

5.4.3 Chemical Content Identification – Hazardous Constituents

The following sections describe the characterization rationale for the assignment of EPA Hazardous Waste Codes and Washington State dangerous waste codes to waste streamRLM325D.001. Table 4 summarizes the waste codes assigned to this waste stream.

Table 4. Waste Stream RLM325D.001 Hazardous Waste Characterization Summary

Waste Stream	EPA Hazardous Waste Codes	Washington State Dangerous Waste Codes
RLM325D.001	F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D033, D034, D037, D041, D043	WT01, WT02, WP01, WP02, WSC2

To assign EPA Hazardous Waste Codes the available AK documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. AK was collected from analytical procedures, chemical inventories, interviews, and process studies. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below, several of the Hazardous Waste Codes were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from any container in the waste stream. Table 5 summarizes the chemicals, compounds, and commercial products identified during the AK process (Reference C001, C002, D001, P006, P008, P010, P011, P014, P016, P023, P035, P041, P043, P045, P046, P049, P050 and U001).

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Table 5. Chemical and Commercial Product Usage

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Acetic acid (L)	Coulometry Solution, Sample Preparation	NA*
Acetone (L)	Rinsing Electrodes, cleaning filaments and glassware	F003*
Adiponitrile (L)	Organic synthesis	NA
AG MP-1 (trimethylamine)	Ion Exchange Resin	NA
Aluminum (S)	Heating blocks, capsules and standard solutions	NA
Aluminum Chloride (S)	Electrolytic solutions	NA*
Aluminum Nitrate Nonahydrate (S)	Standard solutions	NA*
Aluminum Oxide (S)	Laboratory Reagent (refractory)	NA
Aluminum Sulfate (S, L)	Electrochemical solutions	NA
Alundum (S, aluminum oxide)	Chromatography columns	NA
Ammonia (S, anhydrous)	Commonly ammonium hydroxide in water (pH adjustment)	NA*
Ammonium Acetate (L, S)	Analytical reagent	NA
Ammonium Chloride (S)	Kjeldahl Ammonia methods	NA
Ammonium Dichromate (S)	Electrochemical solution	NA*
Ammonium Fluoride (L, S)	Fluoride ion standard	NA
Ammonium Hydroxide (L, S)	Liquid pH adjustment	NA*
Ammonium Molybdate (L, S)	Oxidizing acid, may be disposed in liquid waste stream	NA*
Ammonium Oxalate (L, S)	Chelating agent	NA
Ammonium Phosphate, dibasic (S)	Process chemical	NA
Ammonium Thiocyanate (S)	Process chemical possibly used in Cs scavenging not from electroplating	NA
Ammonium Vanadate (S)	Used as reagent in potentiometric methods.	NA
Arsenic Oxide (S)	Laboratory reagent	D004
Arsenious Acid (L)	Electrochemical methods.	D004
Asbestos (S)	Flame protection for glove box floors, and lab ware	NA
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in Gas Chromatography	NA
Ascorbic Acid (L)	Electrolytic solutions	NA*
Barium Carbonate (S)	Laboratory reagent	D005
Barium Chloride (L)	Precipitating reagent.	D005*
Barium Hydroxide (L, S)	PH adjustments in solutions.	D005*
Barium Nitrate (S)	Laboratory reagent	D005*
Benzene (L)	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium (S)	Standard materials	NA
Black Sealing Wax (S)	Sealant for gas line testing	NA
Boric Acid (L, pH=5)	Sample preparation	NA
Boron Carbide (S)	Laboratory reagent	NA
Bromocresol purple (S)	Titrations	NA
Butyl Alcohol, n- (L)	Solvent and used in microscopy with paraffin	F003*
Cadmium (S)	Emission spectrometric standard	D006*

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
	material, neutron sheilding	
Cadmium Nitrate (S)	Emission spectrometric standard material	D006*
Calcium Carbonate (S)	Buffering agent	NA
Calcium Chloride (S)	Chloride standard material (solution)	NA
Calcium Hydroxide (S, pH=11.4)	PH adjustment in solution	NA
Calcium Nitrate (S)	Spectrometric standard material	NA*
Calcium Sulfate (S)	Laboratory reagent	NA
Calcium Tartrate (S)	Laboratory Reagent	NA
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	NA
Carbon Tetrachloride (L)	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine (S)	Complexing Agent	NA
Carboxymethylimine-bis-Ethylenenitrile-tetraacetic acid (L)	Complexing Agent	NA
Ceric Ammonium Nitrate (S)	Process chemical	NA
Ceric Nitrate (S)	Spectrometric standard material	NA
Ceric Sulfate (S)	Laboratory Reagent	NA
Ceric Oxide (S)	Work with metals and glass	NA
Cerous Nitrate/Cesium Nitrate (S)	Spectrometric standard material	NA*
Chromic Acid (L)	Used in Chrome plating.	D007*
Chromium Chloride (S)	Spectrometris standard material	D007
Chromium Trioxide (L)	Oxidant and hardening agent	D007*
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	NA*
Chloroform/trichloromethane (L)	Used as cleaning agent, and as an organic solvent.	D022
Citric Acid (L, S)	PH adjustment and chelating agent	NA*
Corn Oil Mist (G)	Used in radiological clean up	NA
Copper (S)	Tubing and used in sulfur combustion methods.	NA
Copper Nitrate (S)	Spectrometric standard material	NA*
Copper Oxide (S)	Combustion Gas Chromatography	NA
Cresols (L)	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine -N,N,N',N'-tetraacetic acid, monohydrate	Chelating agent	NA
Cyclohexane (L)	Extractant	NA*
Devarda's Alloy (Al, Cu, Zn)	Metal work	NA
D-19 [Kodak] Developer (L)	Photographic work (emission spectrometry)	NA
Diatomateous Earth (S)	Absorbent material	NA
Dibutyl butyl phosphonate	Reagent	NA*
1,2-dichloroethane, ethylene dichloride (L)	Reagent, metal cleaning	D028*
Diethylhexylorthophosphoric Acid (L)	Chelating and pH adjustment	NA*
Dimethyldichlorosilane (L)	Gas chromatography agent	NA*
Dimethylglyoxime (S)	Chelating agent	NA
2,4-dinitrophenol (S)	Reagent	NA*

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Dithiol (3,4-dimercaptotoluene) (S)	Tungsten extractant	NA
Dithiol-Amyl Acetate (L)	Tungsten extractant	NA*
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) Resin	Anion exchange chromatography	NA
Dowex 50 (IX Resin) (Sulfonate Polystyrene Divinyl Benzene)	Ion Exchange Resin	NA
Drierite (S, Calcium sulfate)	Combustion gas chromatography	NA
Ethanol (L)	Cleaning filaments and glassware	NA*
Ether (G, L, S)	Laboratory reagent	NA*
Ethylenedinitridotetraacetic acid (L)	Chelating agent	NA*
Ethyleneoxyethylenenitrilotetraacetic Acid (L)	Complexing agent	NA*
Ferric Ammonium Sulfate (S)	Ion Specific Electrode methods for Chloride	NA
Ferric Chloride (S)	Laboratory Regent	NA
Ferric Nitrate (S)	Spectrometric standard material	NA*
Ferric Oxide (S)	Laboratory reagent	NA
Ferric Sulfate (S)	Laboratory reagent	NA
Ferrous Ammonium Sulfate (S)	Determination of Pu by potentiometry and sample preparation	NA
Ferrous Chloride (S)	Electrolytic solution	NA
Ferrous Sulfate (S)	U by Potentiometry	NA
Formic Acid (L)	Reagent	NA*
Gallium oxide (S)	Impurities by Emission spectrometry	NA
Gluconic Acid (L)	Metal cleaning, bottle washing	NA*
Glycerin (L)	Used in particle size determinations	NA
Gold (S)	Microelectrodes	NA
Graphite (S)	Crucibles, electrodes	NA
Hexane (L)	Liquid extraction and solvent	NA*
Hydrazine (L)	Process chemical (PUREX)	NA*
Hydrochloric Acid (L)	Electrochemical solution and sample preparation	NA*
Hydrofluoric Acid (L)	Oxidizing reactions, sample preparation	NA*
Hydrogen Peroxide (L, S)	Oxidizing agent	NA*
Hydroiodic Acid (G)		NA*
Hydroxylamine Hydrochloride (S)	Organic synthesis, photographic developer	NA*
Hydroxylamine Nitrate (L)	Laboratory reagent	NA
Iodine (S)	Laboratory reagent	NA
Iron (S)	Standard material	NA*
Kerosene (L)	Process Chemical (PUREX)	NA*
Kodak Developer D-1 (L)	Photographic plate development	NA
Kodak Photoflo propylene gloycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcolhol (L)	Dispersant and wetting agent	NA
Kodak Solubilizing Agent SA-2 (L)	Solubilizing Agent	NA
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Isopropyl Alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	NA*
Lanthanum Nitrate (S)	Laboratory Reagent	NA*
Lanthanum-Neodymium Nitrate	Laboratory Reagent	NA*
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead Acetate (S)	Laboratory Reagent	D008
Lead Chloride (S)	Laboratory Reagent	D008
Lead Nitrate (S)	Spectrometric standard material	D008
Lead Oxide (S)	Laboratory reagent	D008
Linde AW-500 Resin (S, Aluminum Silicate)	Ion Exchange Resin	NA
Lithium Sulfate (S)	Spectrometric standard material	NA
Magnesium (S)	Spectrometric standard material	NA*
Magnesium Nitrate (S)	Spectrometric standard material	NA*
Magnesium Oxide (S)	Laboratory reagent	NA
Magnesium Perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	NA*
Manganese Dioxide (S)	Laboratory reagent	NA*
Manganous Chloride (S)	Laboratory reagent	NA
Manganous Nitrate (S)	Spectrometric standard material	NA*
Manganous Sulfate (S)	Reagent	NA
Mannitol (L)	Reagent	NA*
Mercury (L)	Electrodes, thermometers, batteries	D009
Mercuric Iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric Nitrate (S)	Laboratory reagent	D009*
Mercuric Oxide (S)	Laboratory reagent	D009*
Mercuric Thiocyanate (S)	Ion Selective Electrode reagent.	D009
Mercurous Sulfate (S)	Reference Electrodes	D009
Metaldi Fluid (L, propylene glycol)	Dispersing agent	NA
Methanol (L)	Cleaning and drying glassware	F003*
Methylene Chloride (L)	Reagent, solvent	F001/F002
Methyl Ethyl Ketone (L)	Reagent, solvent	F005
Methyl Isobutyl Ketone (L)	Reagent, solvent	F003*
Methyl Lactic Acid (L)	Laboratory reagent	NA*
Mineral Oil (L)	Reagent	NA
Molybdenum (S)	Spectrometric standard material	NA*
Molybdic Acid (L, S)	Laboratory reagent	NA*
Naphthalene (S)	Laboratory reagent	NA
Natrasorb, clay	Container material, dessicant, used in oil absorption	NA
Neodymium Nitrate (S)	Spectrometric standard material	NA*
Neodymium Oxide (S)	Spectrometric standard material	NA
Nickel Bromide (S)	Reagent	NA
Nickelous Chloride (S)	Spectrometric standard material	NA
Nickelous Nitrate (S)	Laboratory reagent	NA*
Nitric Acid (L)	Sample dissolution, eluant for ion exchange	NA*

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Nitrous Acid (L)	Eluant for ion exchange	NA*
Nitrilotriacetic Acid (L, NTA)	Chelating acid	NA*
Normal Paraffin Hydrocarbon (S)	PUREX Process chemical used for liquid-liquid extraction	NA
Oleic Acid (L)	Lubricant	NA
Oxalic Acid (L)	Chelating acid	NA*
Pentachlorophenol (S)	Herbicide, wood preservative	D037
Pentasodium Diethylene Triamine Pentaactate (DPTA)	Chelating acid	NA
Perchloric Acid (L)	Sample preparation for emission spectrometry	NA*
Periodic Acid (S)	Laboratory reagent	NA*
Phenol (L, S)	Reagent	NA*
Phosphoric Acid (L)	Used in potentiometric methods	NA*
Phosphorous Pentoxide (S)	Used in sample preparation and for gas chromatography	NA*
Platinum (S)	Crucibles, sample boats	NA
Portland Cement (S, pH=11.4)	Solidifying agent for liquid wastes	NA
Potassium Acetate (S)	Buffer solution, dehydration	NA
Potassium Bicarbonate (S)	Neutralization, reagent	NA
Potassium Carbonate (S)	Dehydrating agent	NA
Potassium Chlorate (S)	Laboratory reagent	NA
Potassium Chloride (S)	Used as a control standard for Ion Selective Electrode methods.	NA
Potassium Dichromate (S)	Used in potentiometric methods, photochemical processing.	D007
Potassium Ferrocyanide (S)	Fixative in photography, metal cleaner.	NA
Potassium Fluoride (S)	Organic Synthesis	NA
Potassium Hydroxide (S)	Electrolyte fuel cells	NA
Potassium Iodate (S)	Used in Iodometry	NA
Potassium Iodide (S)	Used in Iodometry	NA
Potassium Permanganate (S)	Lab reagent, decontamination agent	NA
Potassium Phosphate, tribasic (S)	Process Chemical, lab reagent	NA
Potassium pyrosulfate (S)	Sample preparation flux	NA
Potassium Sodium Tartrate (S)	Laboratory reagent	NA
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory reagent	NA
Silica Gel (S)	Chromatographic separations, dehydrating agent.	NA
Silver Cleaning Paste (S)	Cleaning electrodes	D011
Silver Cyanide (S)	Plating	D011
Silver Nitrate (S)	Spectrometric standard material	D011
Silver Oxide (S)	Reagent for amperometric Pu determination	D011
Silver Sulfate (S)	Laboratory reagent	D011
Sodium Acetate (S)	Laboratory reagent	NA
Sodium Aluminate (S)	Cleaning compound	NA
Sodium Arsenite (S)	Dying reagent	NA
Sodium Bicarbonate (S)	Buffer solutions	NA
Sodium Bisulfate (S)	Dying agent	NA

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Sodium Bisulfite (S)	Reducing agent	NA
Sodium Borate (S)	Flame retardant	NA
Sodium Carbonate (S)	Cleaning prep	NA
Sodium Chloride (S)	Precipitation agent	NA
Sodium Citrate (S)	Chelating agent	NA
Sodium Dichromate (S)	Electrochemical reagent	D007
Sodium Fluoride (S)	Standard material for Ion Selective Electrode methods and carrier for emission spectrometry	NA
Sodium Formaldehydesulfoxylate (S)	Laboratory reagent	NA
Sodium Hydroxide (S)	Solution preparation and pH adjustments	NA*
Sodium Hypochlorite (L)	Laboratory reagent	NA*
Sodium Iodide (S, L)	Laboratory reagent	NA
Sodium Nitrate (S)	Process chemical	NA*
Sodium Nitrite (S)	Process chemical	NA*
Sodium Oxalate (S)	Chelating agent, lab reagent	NA
Sodium Phosphate (S)	Reagent, metal cleaner	NA
Sodium Phosphite (S)	Laboratory reagent	NA
Sodium Pyrophosphate (S)	Reagent, metal cleaner	NA
Sodium Selenate (S)	Laboratory reagent	D010
Sodium Silicate (S)	Laboratory reagent	NA
Sodium Sulfate (S)	Calibration standard material	NA
Sodium Tartrate (S)	Water determination by coulometry	NA
Sodium Tungstate (S)	Reagent	NA
Stainless Steel (S)	Tubing ,standard materials, and alpha spectrometry sample disks	NA
Stannic Chloride (S)	Reagent	NA
Stannous Chloride (S)	Spectrometric standard material	NA
Strontium Nitrate (S)	Laboratory reagent	NA*
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	NA
Sulfur (S)	Mercury clean up reagent	NA
Sulfuric Acid (L)	Sample preparation	NA*
Sulfur Dioxide (G)	Laboratory reagent	NA
Tetrasodium Ethylene Diaminetetraacetate (EDTA)	Chelating agent	NA
Tetraphenyl Boron (S(	Laboratory reagent	NA
Thenoyltrifluoroacetone (L)	Laboratory reagent	
Thorium Nitrate (S)	Laboratory reagent	NA*
Tin (S)	Capsules, spectrometric standard material	NA
Tide Detergent (S)	Cleansing solution	NA
TISAB III	Buffer solution	NA
Titanium Chloride (S, L)	Spectrometric standard material	NA*
Titanium (di)oxide (S)	Standard, ceramics, decontamination	NA
Toluene (L)	Extractant and cleaning for mass spectrometer filaments.	F005
Tributyl Phosphate (L)	Liquid-liquid extraction and studies of	NA

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
	PUREX processes.	
Trichloroethane,-1-1-1 (L)	Reagent, solvent	F001,F002
1,1,2-trichloro-1,2,2-trifluoroethane (L)	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	NA
Tri-n-octylamine	Liquid-liquid extraction	NA
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	NA
Trisodium Hydroxyethyl Ethylene-Diamine Triacetate (HEDTA)	Chelating agent	NA
Turco Alkaline (Rust Remover) (NaOH and Kerosene)	Rust remover	NA*
Tungstun Oxide	Spectrometric standard material	NA
Turco Deseal Zit 2 (Methylene Chloride and Acetic Acid)	Decontamination	F001/F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)	Decontamination paint	F005, F003*
Turco Plaudit (No hazardous compounds)	Decontamination	NA
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	NA*
Turco 4518 (Sodium Dodecyl Benzene Sulfonate)	Decontamination paint	NA
Uranyl Nitrate (S)	Extractant	NA*
Uranium Oxide (S)	Accelerator for pyrohydrolysis	NA
Urea (S)	Electrolytic solution	NA
Vanadium (S)	Spectrometric standard material	NA
Vanadium Pentoxide (S)	Sample preparation flux	NA
Vanadyl Sulfate (S)	U by potentiometric titration	NA
Vinyl Chloride (L)	Sludge contaminant	D043
Xylene (L)	Liquid-Liquid extraction, solvent	F003*
Yttrium Nitrate(S)	Laboratory reagent	NA
Zeolon 900 Resin (Aluminum Silicate)	Ion Exchange Resin	NA
Zinc Chloride (S)	Spectrometric standard material	NA
Zinc Nitrate (S)	Spectrometric standard material	NA
Zinc Oxide (S)	Laboratory reagent	NA
Zirconium	Cladding material	NA
Zirconyl Nitrate	Spectrometric standard material	NA*

* These chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure, liquid, solid, or powder form. Based on the Hanford waste management practices no pure or unused chemicals would have been introduced into the waste stream. In addition, all liquids and reactive materials would have been solidified, evaporated, neutralized, and/or deactivated prior to disposal (Reference C002 and P043). Radiography and/or visual examination will verify the absence of free liquids and reagents during confirmation and will segregate containers with materials for further characterization and/or processing as appropriate.

In addition to the chemicals used by 325 Building process, EPA hazardous waste codes were assigned to the containers based on the characterization of the samples received by the laboratory (i.e., tank sludge) and chemicals treated in the HWTU. Table 6 lists the codes identified in the Hanford's Solid Waste Information Tracking System and on the Waste Disposal Records and Contents Inventory Sheets (Reference C001, U001, and U002).

Table 6. Hanford Hazardous Waste Code Assignments

EPA Hazardous Waste Codes	Characteristic/Compounds
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
D018	benzene (F005 solvent)*
D019	carbon tetrachloride (F001 solvent)*
D022	Chloroform
D027	1,4-dichlorobenzene
D028	1,2-dichlorobenzene
D029	1,1-dichloroethlylene
D030	2,4-dinitrotoluene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D035	methyl ethyl ketone (F005 solvent)*
D036	nitrobenzene (F004 solvent)*
D038	pyridine (F005 solvent)*
D039	tetrachloroethylene (F002 solvent)*
D040	trichloroethylene (F002 solvent)*
D041	2,4,5-trichlorophenol
D043	vinyl chloride
F001	Spent halogenated degreasing solvents (specific solvent not identified)
F002	Spent halogenated solvents (specific solvent not identified)
F003	Spent non-halogenated solvents (specific solvent not identified)
F004	Spent non-halogenated solvents (specific solvent not identified)
F005	Spent non-halogenated solvents (specific solvent not identified)

* The more specific F-listed code for hazardous wastes from non-specific sources is assigned to waste stream RLM325D.001.

Hanford waste management operations conservatively assigned D001 and D002 to containers in this waste stream. These codes were associated with the conservative characterization assigned to tank sludge samples and are not applicable to final debris stream in the absence of free liquids. As discussed in Section 5.4.3.3, even though ignitable and corrosive reagents were used in the 325 Building or potentially present in samples, waste management practices required the neutralization, absorption, deactivation, and/or solidification of these compounds prior to packaging, as applicable.

5.4.3.1 RCRA Listed Chemicals

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 may contain or be mixed with hazardous wastes from non-specific sources listed in 40 CFR 261.31. Even though these codes were not assigned historically to all of the containers in the inventory; F001, F002, F003, F004, and F005 (See Tables 5 and 6) will be conservatively assigned based on the interviews, review of procedures, and the waste management practices in use when the waste was generated. F003 was conservatively applied for acetone, n-butly alcohol, methanol, and methyl isobutyl ketone, listed solely because these solvents are ignitable in the liquid form. Even though the waste stream will not exhibit the characteristic of ignitability without the presence of free liquids, F003 solvents may have been commingled with the wastes.

Waste materials from operations performed in the 325 Radiochemistry Laboratory were determined not to be mixed with hazardous waste from specific sources (40 CFR 261.32), a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). P- and U-listed reagents including acetone (U002), benzene (U019), beryllium (P015), chloroform (U044), hydrazine (U134), methanol (U154), toluene (U220), 1,1,1-trichloroethane (U226), and xylene (U239) were managed by the laboratory. However, no pure product or unused chemicals would have been placed into the TRU waste stream (Reference C001, C002, D001, P001, and U001). Therefore, waste stream RLM325D.001 is not a U-, K-, or P-listed waste stream.

5.4.3.2 Toxicity Characteristic Compounds

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

Based on the review of chemical usage in the 325 Building, potential sources for all of the characteristic metals (D004 through D011) were identified. The Waste

Disposal Records identify the presence of lead, fluorescent bulb, circuit boards, alkaline batteries, and mercury items in the waste, and also assign all of the RCRA metals D004 through D011. Table 5 and 6 identify the characteristic organic chemicals identified during the review of chemical usage and the Waste Disposal Records. The following codes will be assigned for these chemicals; D022, D027, D028, D029, D030, D033, D034, D037, D041, and D043.

Waste stream RLM325D.001 may be contaminated with benzene (D018), carbon tetrachloride (D019), cresols (D023, D024, and D025), methyl ethyl ketone (D035), nitrobenzene (D036), pyridine (P038), tetrachloroethylene (D039), and trichloroethylene (D040). It is assumed that these chemicals were used for their solvent properties and therefore the more specific F-listed codes (F001 through F005) are assigned (Reference D001).

5.4.3.3 Ignitables, Reactives, and Corrosives

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed by the laboratory; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. (Reference C001, P004, P047, and P051).

The debris materials in this waste group do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials in this waste stream are therefore not corrosive wastes (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. (Reference C001, P004, P047, and P051).

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain cyanides or sulfides, and are not capable of detonation or explosive reaction. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The materials in this waste group are therefore not reactive (D003) wastes (References C001, P004, and P051).

5.4.3.4 Washington State Dangerous Waste Codes

Based on the review of the Solid Waste Disposal Records and Contents Inventory Sheets, the following Washington State Dangerous Waste Code have been assigned to containers in waste stream RLM325D.001; WT01, WT02, WP01, WP02, WSC2. The waste codes are defined in Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (Reference 9 and U001).

5.4.3.5 Polychlorinated Biphenyls

Based on the review of waste management practices and container documentation, waste containers from 325 Building operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB bearing material such as transformers and light ballasts were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. One container (drum 0000572) identified grouted PCB oil (1 part per million) in 5-quart cans. There were no other PCBs identified within the absorbed organics as indicated by the burial compliance checklist for initial acceptance by the Hanford Site (Reference C001, P004 and U001).

5.4.4 Prohibited Items

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D.001. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment (Reference C001, C002, P002, P003, P031, P037, and U001).

5.5 Waste Packaging

TRU waste materials were removed from the gloveboxes and hot cells using plastic bag-out bags that had 8- and 15-inch diameter openings. These bags were filled with waste and then pig-tailed with white plastic tape and placed in 55-gallon drums. None of the bags were heat-sealed before loading into the drums. The drums met United States Department of Transportation (DOT) 17 C or UN1A2 specifications. If externally contaminated, the bagged out waste would have been placed in an additional plastic bag before being placed in the drum. Each drum was lined with a 0.010-inch or a 0.090-inch thick polyethylene drum liner. When the drums were full, 0.010-inch drum liners were horse-tailed and taped. All waste packaging was in accordance with the version of HNF-EP-0063 for the time. Containers were sent to the TRUSAF or CWC where they went through RTR prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the CWC (Reference C001, C002, P037, and P051).

Aqueous and organic liquids were absorbed in absorbents including Cleanup-IV, vermiculite, kitty litter and diatomaceous earth. Large Items were secured in containers by bracing, blocking or other means to prevent damage to container during handling and transportation. Items with sharp projections or edges were taped and padded, as necessary. Waste cans (4-gallon) were loaded out of hot cells into 5-gallon cans and loaded into 55-gallon drums using transfer casks (Reference C001, C002, P031, P047, P051, and U001).

Following the packaging, RTR, and assay of the waste containers, they were transferred to a storage facility. Prior to this transfer, waste storage/disposal records were generated for each container. These records included packaging information such as date packaged, PIN, container type, gross and tare weight, volume, date packaged; waste information such as generator, origin, waste material, volume, weight, and radionuclides (e.g., fission/activation, TRU/fissile/source material), and storage location. These records included or referenced the RTR and assay information as well. A hazardous waste manifest also had to be filled out for TRU mixed waste (Reference C001, P051, and U001).

TRUCON Code RH225 is assigned to waste stream RLM325D.001 assuming that organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The SPM will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate.

5.5.1 Layers of Confinement

Based on the waste management practices described in the AK documentation, waste drums from operations and maintenance of the 325 Building will have a maximum of four layers of confinement. Radiological wastes were unloaded from hoods into double bags and the materials that were loaded from hoods may have been placed into doubled bags if they contained materials such as asbestos (Reference P039 and P042). The containers have been assigned a TRUCON code of RH225 A through AM.

5.5.2 Filter Vents

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities (Reference P039). By 1980 each container accepted for storage at Hanford was required to be fit for vacuum hoses or a gaseous diffusion vent (Reference P042). Drums were fitted with Nucfil 013 filters if radiolitic decomposition was a possibility (Reference P051).

5.5.3 Waste Identifiers

Refer to Section 4.6 for waste identification and categorization schemes implemented for 325 Radiochemistry Building waste.

6.0 Supplemental Waste Stream Information

Numerous sources of supplemental AK information were collected for 325 Radiochemistry Building waste. These sources are referenced throughout this document and listed in Attachment 1. The types of supplemental information include:

- Standard operating procedures related to packaging of waste items and process operations in the 325 Radiochemistry Laboratory (Reference P001 through P040).
- Waste Disposal Records and Contents Inventory Sheets for each waste container described in this document (Reference U001).
- MSDSs related to products identified (Reference P058).
- Technical reports describing historical operations of the 325 Radiochemistry Laboratory
- AK documents describing Hanford Site TRU Waste operations and management (Reference P041).
- Waste generator interviews (References C001, C002).

7.0 Container Specific Information

Waste Disposal Records and Contents Inventory Sheets have been completed by the 325 Radiochemistry Laboratory waste generators for each waste container in the waste stream described in this AK document. The list of containers included in this stream, including current information relating to the radiological, physical, and chemical characterization of these containers is included in the current Waste Containers list.

Attachment 1
References

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
2. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit,* NM4890139088-TSDF. New Mexico Environment Department, Santa Fe, New Mexico.
3. CCP-PO-001, *CCP TRU Waste Characterization Quality Assurance Project Plan*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
5. DOE/LLW-217, *DOE Waste Treatability Group Guidance,* Idaoh Falls, Idaho, INEL-Lockheed Idaho Techologies.
6. DOE/WIPP-02-3122, *Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. Department of Energy.
7. *Interim Guidance on Ensuring that Waste Qualifies for Disposal at the Waste Isolation Pilot Plant*, U.S. DOE Carlsbad, 1997.
8. *Waste Isolation Pilot Plant Land Withdrawal Act* (as amended), Public Law 102-579.
9. *Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (WAC)*, Olympia, Washington, Washington State Department of Ecology.
10. 42 U.S.C 10141, *Nuclear Waste Policy Act.*
11. DOE/CAO, *Transuranic Waste Baseline Inventory Report*, Revision 2, U.S. DOE Carlsbad, 1995.
12. DOE Order 435.1, *Radioactive Waste Management*, U.S. DOE, 1999.

AK Sourced Documents

Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
C001	Hanford-Building 325 Interview with Wayne Larson	B. Crawford			9/11/03	LANL-CO
C002	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)			10/16/03	LANL-CO
C003	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin			Oct 10/03	LANL-CO
C004	Isotopic Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes Assays	D. Guerin			10/03	LANL-CO
C005	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	James E. Rasmussen to Mr. Moses N. Jaraysi	97-EAP-589		Jul 28 1997	
D001	AK Source Document Discrepancy Resolution-Evaluation of RCRA chemicals	B. Craford and D. Guerin			November 2003	LANL-CO
P001	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	HW 73112		9/15/62	General Electric, Hanford Atomic Products Operation, Richland, WA

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
P002	Removal of High Dose Low Level Waste	R.T. Steele	SAL-325-HDLLW-1		9/30/1994	PNNL
P003	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	SAL-84-5		4/13/1994	PNNL
P004	Routine Research Operations	G.J. Lumetta	RPL-OP-001	0 and 1	March 2000	PNNL
P005	Handling and Opening Radioactive Material Shipments	R.T. Steele	SAL-84-7		4/13/94	PNNL
P006	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	13 644 5			LAZAR Research Laboratories Inc.
P007	Ross pH Electrodes Instruction Manual	Orion Research Inc.	227296-001	C	1999	Orion Research Inc.
P008	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	502700-031	C	1991	Orion Research Inc.
P009	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	502700-078	D	1999	Orion Research, Inc.
P010	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	325-PU-Purify-1	0	6/12/98	PNNL
P011	Leaching Tests using the PCT Method	K.H. Olson	MCC-TP-19		April 1993	PNNL
P012	Evaluation of Monolithic Radioactive Material Immobilization Form behavior in Fume Hoods	R. D. Scheele	RPL-PIP-Ceramic Test-1	0	May 2001	PNNL
P013	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	RPL-EMSP-1	0	Nov. 2000	PNNL
P014	Standard Test Method for Fluoride Ion in Water		D 1179-99		Feb. 1999	ASTM
P015	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL-RPG-268	1	Feb. 2000	PNNL
P016	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	ASTM C1220-98		Nov. 2000	PNNL
P017	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermogravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R. D. Scheele	ICN-PNL-ALO-508R0.2	0	Jan 1998	PNNL
P018	Preparation, Processing and Testing of Radioactive Glass and Ceramics	R.D. Scheele	RPL-PIP-1	2	July 2001	PNNL
P019	Fabrication of Ceramic Samples	W.C. Buchmiller	RPL-PIP-2	0	April 1998	PNNL
P020	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	RPL-PIP-3	0	June 2001	Procedure used by PIP to measure ion concentrations with a specific ion electrode.
P021	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	RPL-PIP-4	2 and 3	Aug. 2002	PNNL
P022	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	RPL-PIP-5	0	June 2001	PNNL
P023	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	APEL-PIP-1	1	Jan. 1999	PNNL
P024	Geometric Density Determination of Consolidated Solids	R. D. Scheele	APEL-PIP-2	3	May 2001	PNNL
P025	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	APEL-PIP-5	2	Jan. 2000	PNNL
P026	Profiling Ovens and Furnaces	W.C. Buchmiller	APEL-PIP-6	0	June 2000	PNNL
P027	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	Virginia L. LeGore	RPL-PIP-SPFT-1	0	May 8.	PNNL

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
					2000	
P028	Preparation of Nondispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	RPL-MAS-NMR	0	August 2003	PNNL
P029	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	RPL-XRD-PIP	2	02/01/2003	PNNL
P030	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	Edgar Buck	GDSP-01-BET	0	1/272003	PNNL
P031	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	SAL-84-8		4/13/94	PNNL
P032	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	511-4	0	Jan 1996	PNNL
P033	Operation of Single Pass Flow Through Experiment	D.M. Wellman	RPL-PIP-SPFT	1	May 2003	PNNL
P034	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W. C. Buchmiller	APEL-PIP-3	1	Jan 1999	PNNL
P035	Gas Pycnometry Method for Apparent Specific Grabity Determinations of Consolidated Solids	R.D. Scheele	APEL-PIP-4	2	Aug 2001	PNNL
P036	Response to Vacuum Alarms in RPL Gloveboxes and Use of RPL Glovebox Airlock	R.D. Scheele	RPG-94-1	1	July 16, 1999	PNNL
P037	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	325-A-20	0	Nov. 1995	PNNL
P038	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	RPL-PIP-SPFT-3	0	Dec 2001	PNNL
P039	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste	W.B. Larson	GEN-325-WM1	1	03/27/96	PNNL
P040	Transmittal of Variance RAD-00006	R. D. Scheele	RAD-00006		2/2000	
P041	Past Practices Technical Characterization Study-300 Area- Hanford Site	M. S. Gerber	WHC-MR-0388		Dec. 1992	Westinghouse Hanford Company
P042	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D. I. Weyns-Rollosson, J.A. Pottmeyer, T.J. Stratton	WHC-SA-2772-FP		Feb. 1995	Westinghouse Hanford Company
P043	Safety Analysis Report for 325 Building	Pacifica Northwest Laboratory	PNL-7748		Jan. 1992	Pacific Northwest Laboratory Richland, Washington
P044	TRU Waste Packaging Requirements and Certification	R. C. McDowell	WHC-EP-0063/RHO-MA-222/PNL-MA-70/SD-WM-TI-202			PNNL and Waste Management
P045	Characterization of Past and Present Waste Streams from the 325 Radiochemisty Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	WHC-EP-0696		12/93	Westinghouse Hanford Company, Richland Washington
P046	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	PNL-MA-661		11/94	Battelle Pacific Northwest Laboratories, Richland, WA
P047	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	DOE/RL-92-35	1	07/97	Pacific Northwest National Laboratory, Richland, WA

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
P048	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	HNF-EP-0649		October 1997	Waste Management Federal Services, Inc.
P049	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	PNL-10743 AD-940		September 1995	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington
P050	Analytical Chemistry Labaratory Manual	W.L. Delvin	MG-28	Revision 2	10/78	Hanford Engineering Development Laboratory, Richland WA
P051	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	HNF-EP-0063	8	May 2003	Fluor Hanford
P052	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste		HNF-3461	7		Fluor Hanford
P053	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers.	PNNL-13341		Dec 1999	PNNL
P054	Organic Analysis Progress Report FY 1997	S. A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL-11738		April 1998	PNNL
P055	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas, T.L. Trang-Le, M.W. Urie, J.J. Wagner	PNNL-13364/WTP-RPT-007	0	October 2000	CH2M Hill Hanford Group and PNNL
P056	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL-12157		March 1999	PNNL
P057	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M. W. Urie	CSS 325-1	4	1/5/2000	
P058	MSDS for commercial products	Various				
U001	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel			Various	
U002	Solid Waste Information Tracking System (SWITS)- Container Assay Data Dump for the Building 325 Radiochemisty Labratory					
U003	Notes on Waste Stream Descriptions for Pu oxide characterization studies	Cal Delegard				PNNL-325

Attachment 2
Figures

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Figure 1. Location of the Hanford Site

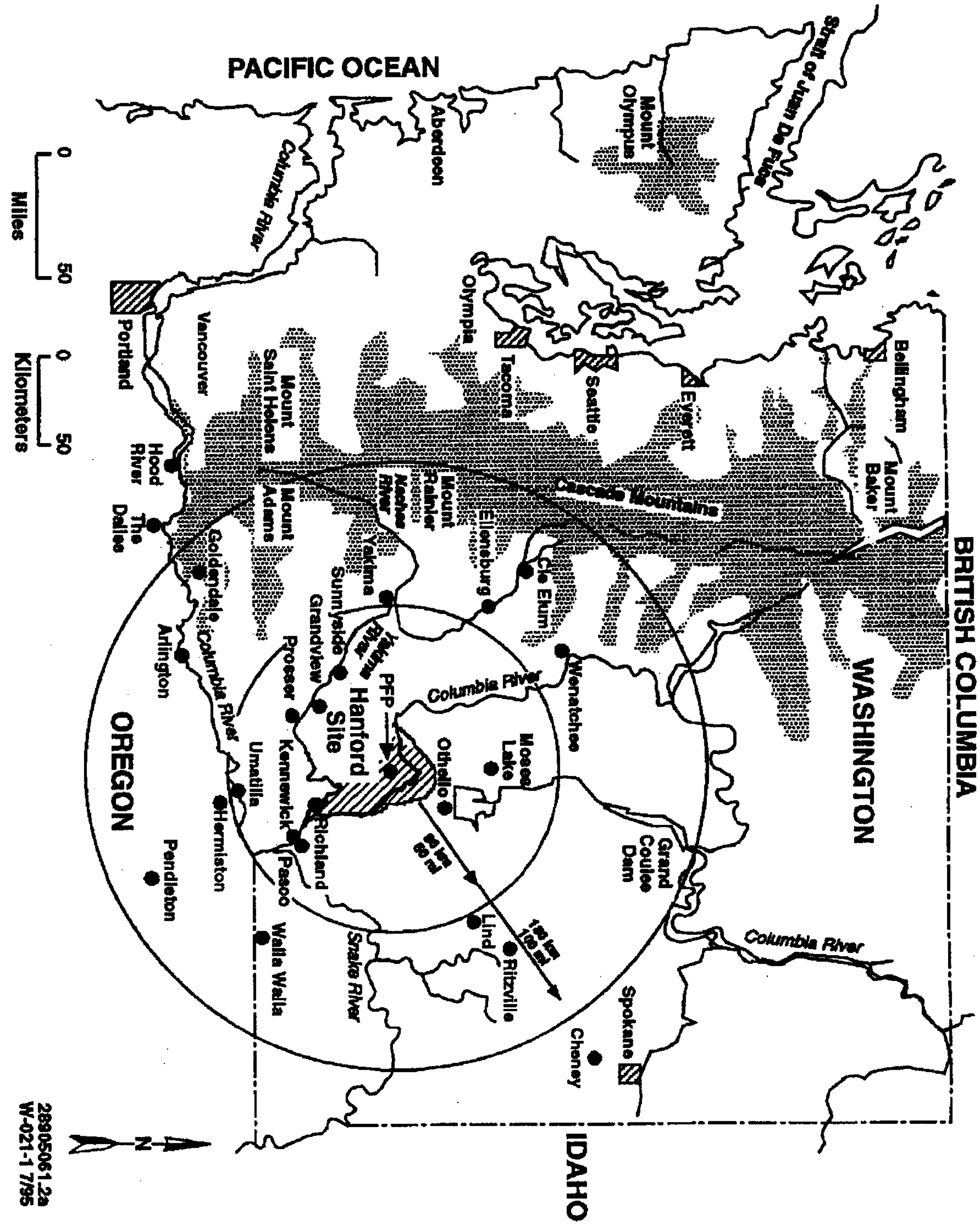

Figure 2. Location of the Major Areas at the Hanford Site

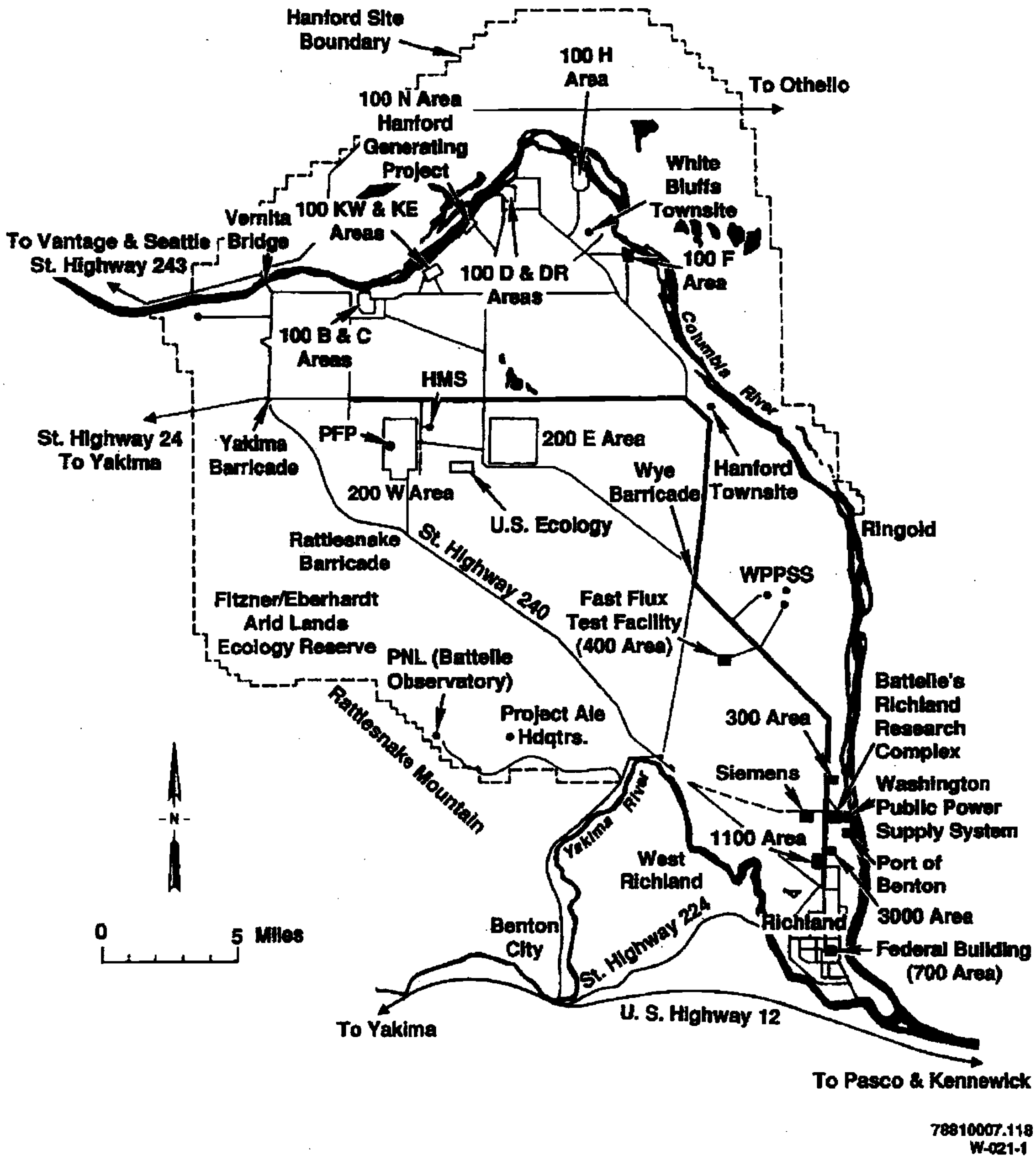

Figure 3. 300 Area Layout

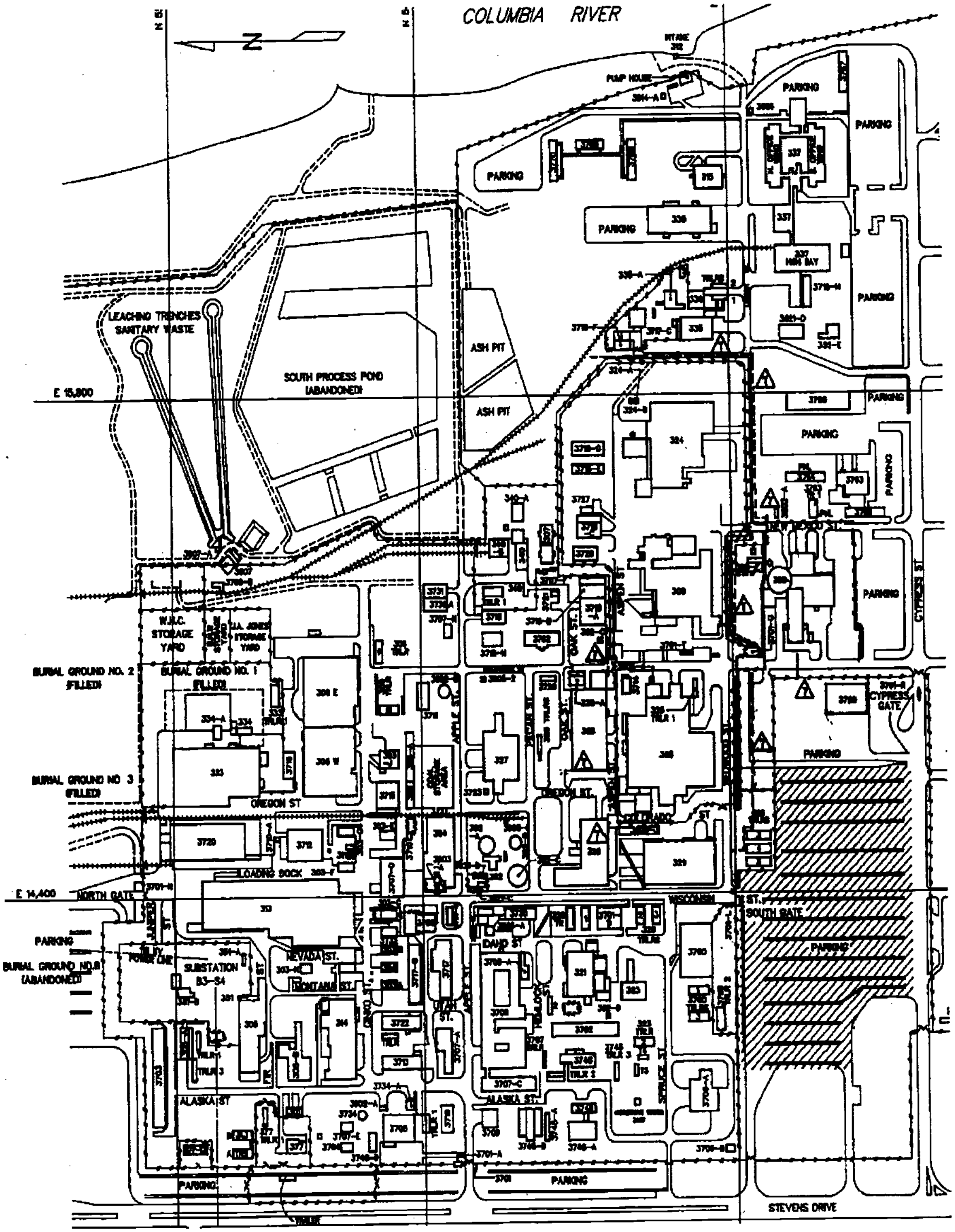

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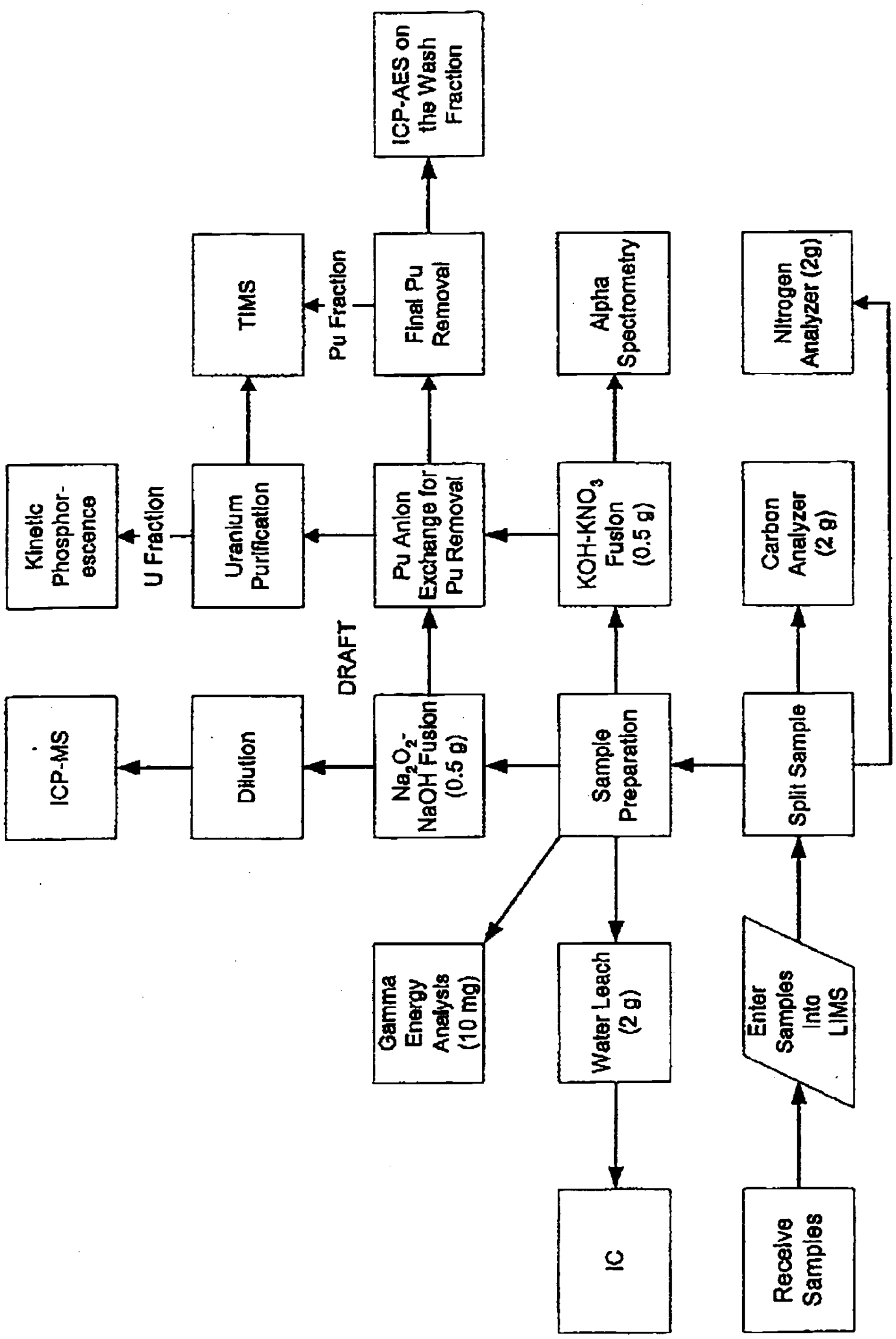
Figure 4. Typical Laboratory Analysis Flow



DON'T SAY IT — *Write It!*

TO: Cynthia Girres

cc:

DATE: July 27, 2004

FROM: Melvin E. Lakes

Telephone: 373-0043

SUBJECT: 325 Facility Debris Waste Stream Designation

This DSI summarizes the Waste Services review of CCP-AK-RL-003 *Document for the Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site 325 Radiochemistry Building Transuranic Debris Rev. 0, dated November 26, 2003* and the subsequent waste designation requirements discussed in the "Draft" M-91-03-01 Hanford Federal Facility Agreement and Consent Order change package, dated October 13, 2003 (Settlement Agreement). A waste designation performed in accordance with WAC 173-303 shall be provided by a Waste Management Representative from within the Waste Services Group (Attachment 1).

Acceptable Knowledge Review

Two questions were posed during the acceptable knowledge review. First, does the acceptable knowledge provide enough chemical characterization information to meet the requirements of the Settlement Agreement? Second, does the acceptable knowledge provide enough chemical characterization information to meet the requirements of HNF-EP-0063, Rev, 10, Sec. 2.4 and treatment, storage, and disposal unit administrative control requirements?

The Settlement Agreement indicates that, "*retrievably stored waste will be managed as mixed waste unless and until it is designated as non-mixed through the designation process (WAC 173-303-070 through 100).*" Further, "designation", as used in the Settlement Agreement, "*is defined as the process for determining: (1) which containers of low-level waste are mixed low-level waste; and (2) which containers of transuranic (TRU) waste are mixed TRU. Designation of waste will be performed pursuant to WAC 173-303-070 through 100. These regulations allow the use of acceptable knowledge, surrogate sampling and other measures for designation to minimize worker radiation exposure and to reduce costs.*"

In accordance with WAC 173-303-070(3)(c), "*For the purposes of determining if a solid waste is a dangerous waste as identified in WAC 173-303-110, a person must either:*

(i) *Test the waste according to the methods, or an approved equivalent method, set forth in WAC 173-303-110; or*

(ii) *Apply knowledge of the waste in light of the materials or the processes used when:*

(A) Such knowledge can be demonstrated to be sufficient for determining whether or not it designated and/or designated properly; and

(B) All data and records supporting this determination in accordance with WAC 173-303-210(3) are retained on-site."

A-3000-723 (01/98)

Characteristic (D001, D002, D003)
The debris materials in the 325 TRU waste stream does not meet the definition of ignitability as defined in 40 CFR 261.21. The materials in this waste stream are not liquid and therefore not ignitable (D001) waste. The debris materials do not meet the definition of corrosivity as defined in 40 CFR 261.22. The debris materials in this waste stream are not liquid and therefore not corrosive (D002) wastes. The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials do not contain cyanides or sulfides in the form which is capable of detonation or explosive reaction. The materials in this waste stream are therefore not reactive (D003) waste.

Toxicity Characteristic Metal (D004-D011)
The TRU debris waste stream may contain debris contaminated with toxicity characteristic compounds defined in 40 CFR 261.24. The waste stream contains potential sources for all of the characteristic metals (D004 – D011). Therefore, the metal waste codes (D004 – D011) were conservatively assigned to this waste stream at the regulatory limits.

Toxicity Characteristic Organics (D012-D043)
The following toxicity characteristic chemical waste codes D022, D027, D028, D029, D030, D034, D037, and D043 were assigned to this waste stream. The burial records for the waste containers (Attachment 2) listed for trench 218-W-4C did not identify the toxicity chemicals or concentrations and therefore the chemicals were assigned to this waste stream at or above the regulatory limits. The chemical 2, 4, 5-Trichlorophenol (DO41) was used to treat raw water at the 325 facility. Also, hydrazine identified in the AK documentation was based on a PUREX process. Hydrazine was not part of the TRU debris was stream for the PUREX TRU debris designation. Based on process knowledge, documentation review and discussion with the TRU organization, hydrazine and 2, 4, 5-Trichlorophenol were not associated with 325 TRU debris processes. The chemicals hydrazine and 2, 4, 5-Trichlorophenol is not part of this designation.

Based on the review of chemical usage in the 325 Facility non-specific sources listed in 40 CFR 261.31were conservatively assigned. The F001, F002, F003, F004 and F005 chemicals were used as solvents and assigned to this waste stream at the regulatory limits.

The waste stream may contain batteries, and lead gloves. A conservative designation was performed for the batteries and lead gloves. The acceptable knowledge documentation identified that the debris waste may contain polychlorinated biphenyl (PCB) contaminated material such as transformers and light ballast. The designation identifies PCB at one part per million based on the acceptable knowledge documentation.

CCP-AK-RL-003, table 5, listed several liquid chemicals and compounds. This waste stream is TRU debris waste and therefore do not contain liquids. If small quantities of liquids were present prior to packaging, they were absorbed. The liquid chemicals and compounds were conservatively designated as residue on the debris materials at 4 grams based on process knowledge and discussions with the TRU program.

Although the term "sufficient" is not defined in WAC 173-303, Webster's Dictionary of Law defines "sufficient" as, *"enough to meet the needs under the law of a situation or a proposed end."* The 325 Facility mixed debris acceptable knowledge meets the requirements of WAC 173-303-070(3)(c)(ii)(A), and thereby the Settlement Agreement, because it is sufficient to determine whether the waste is regulated under the dangerous waste lists, WAC 173-303-080 through 082; or characteristics, WAC 173-303-090; or criteria, WAC 173-303-070.

The AK documentation was reviewed to identify whether or not U.S. Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) and Washington State dangerous waste codes should be assigned. This documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. The following are the assigned HWNs for the waste stream: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043 and WSC2 (Washington State corrosive). Washington State toxicity was not considered, because federal characteristic codes are assigned to the waste. Land disposal will be met for the TRU mixed debris through disposal at the Waste Isolation Pilot Plant (WIPP).

The 325 TRU debris acceptable knowledge provided information for waste code assignment. However, several constituents were not readily apparent from the acceptable knowledge paperwork review. Varies electronic databases, discussions with the TRU program, process knowledge, and MSDSs were the primary sources used for determining waste stream chemical constituent concentrations. A conservative designation was used for several chemical constituent concentrations. This conservative designation was used to generate a "representative" 325 TRU debris designation to characterize the retrievable stored containers buried in the 200 West 218-W-4C trench. This designation does not cover the 325 waste produced by Babcock and Wilcox (B&W). A separate designation will cover the B&W 325 TRU debris waste containers.

Methodology and Chemical Constituent Concentration Determination

The 325 Facility debris container list (Attachment 2), provided in the acceptable knowledge documentation, was used to generate a representative 325 Facility waste designation to characterize the retrievably stored 325 debris containers in Trench 218-W-4C in the 200 West Area. Approximately seven hundred and thirteen containers were chosen for review from the one thousand and fifty-three waste containers in retrievable storage 218-W-4C trench. The waste containers were reviewed as a "representative" sample for this waste stream. The waste containers (Attachment 2) were chosen by their TSD acceptance dates, waste accumulation dates, burial records information, and container package identification numbers.

The 325 Facility debris chemical constituent concentrations were developed from 325 debris acceptable knowledge source documents, discussions with the TRU program , SWITS, burial records, Record Management Information System (RMIS) electronic database searches, material safety data sheets (MSDS), analytical lab procedures, and analytical and scientific information from the internet.

A 75.0 kg waste weight was assumed for designation purposes. This is a very conservative waste weight for the 325 TRU debris waste containers. Assumptions were used for several chemical constituent concentrations. A waste matrix parameter category evaluation table from the 325 debris acceptable knowledge documentation is provided as Attachment 3. The chemical constituent assignment basis and the concentrations used for waste designation are summarized in Attachment 4. MSDSs and several calculations are provided in attachment 5.

Table 1.0 Summary of Product Information for CCP-AK-RL-003, Table 5 for the 325 TRU Debris Waste Stream

Chemical/Compound	Description/Use/Source	Concentration
Acetic acid (L)	Coulometry Solution, Sample Preparation	0.0069
Acetone	Rinsing Electrodes, cleaning filaments and glassware	.016
Adiponitrile	Organic synthesis	0.04
AG MP-1 (trimethylamine)	Ion Exchange Resin	MSDS
Aluminum	Heating blocks, capsules and standard solutions	0.31
Aluminum Chloride (s)	Electrolytic Solutions	0.01
Aluminum Nitrate Nonahydrate (s)	Standard Solutions	0.16
Aluminum Oxide (s)	Laboratory Reagent (refractory)	0.13
Aluminum Sulfate (s, l)	Electrochemical solutions	0.04
Alundum (S, aluiminum oxide)	Chromatography columns	0.13
Ammonia (S, anhydrous)	Commonly ammonia hydroxide in water (pH adjustment)	0.33
Ammonium Acetate (L,S)	Analytical reagent	0.002
Ammonium Chloride (S)	Kjeldahl Ammonia Methods	0.01
Ammonium Dichromate (S)	Electrochemical solutions	0.06
Ammonium Fluoride (L,S)	Fluoride ion standard	0.33
Ammonium Hydroxide (L,S)	Liquid pH adjustment	0.66
Ammonium Molbdate (L,S)	Oxidizing acid, may be disposed in liquid form	0.37
Ammonium Oxalate (L,S)	Chelating Agent	0.37

Ammonium Phosphate, dibasic (S)	Process Chemical	0.2
Ammonium Thiocyanate (S)	Process chemical possibly used in Cs scavenging not form elctroplating	0.2
Ammonium Vanadate (S)	Used as reagent in potentiometirc methods	0.13
Arsenic Oxide (S)	Laboratory Reagent	0.13
Arsenious Acid (L)	Electrochemical solutions	0.04
Asbestos (S)	Flame protection for glove box floors, and lab ware	0.5
Ascarite (sodium hydroxide silica)/Macosorb	Remove of CO2 in gas chromatography	MSDS
Ascorbic Acid (L)	Electrolytic solutions	0.04
Barium Carbonate (S)	Laboratory Reagent	0.013
Barium Chloride (L)	Precipitating reagent	0.13
Barium Hydroxide (L,S)	PH adjustments in solutions	0.37
Barium Nitrate (S)	Laboratory Reagent	0.13
Benzene (L)	Carbonizaton of mass spectrometric filaments, cleaning agent	0.001
Beryllium (S)	Standard material	0.16
Boric Acid (L,pH=5)	Sample preparation	0.0053
Boron Carbide (S)	Laboratory Reagent	0.13
Bromocresol purple (S)	Titrations	0.0013
Butyl Alcohol, n-(L)	Solvent and used in microscopy with parriffin	0.0026
Cadmium (S)	Emission spectrometric standard material, neutron shielding	0.0001
Cadmium Nitrate (S)	Emission spectrometric standard material	0.13

Calcium Carbonate (S)	Buffering agent	0.66
Calcium Chloride (S)	Chloride standard material (solution)	0.16
Calcium Hydroxide (S.pH=11.4)	PH adjustments in solutions	0.33
Calcium Nitrate (S)	Spectrometric standard material	0.13
Calcium Sulfate (S)	Laboratory Reagent	0.13
Calcium Tartrate (S)	Laboratory Reagent	0.13
Calgon (soduim hexametaphosphate)	Used to reduce surface tension for particle size analysis	0.13
Carbon Tetrachloride (L)	Metal and sample cleaning	0.0006
N-Carboxymethyl-N'-(2-hydroxyethly)-N,N'-ethylenediglycine (S)	Complexing agent	0.04
Carboxymethylimine-bis-Ethylenenitrile-tetracetic acid (L)	Complexing agent	0.04
Ceric Ammonium Nitrate (S)	Process Chemical	0.13
Ceric Nitrate (S)	Spectrometric standard material	0.13
Ceric Sulfate (S)	Laboratory Reagent	0.13
Ceric Oxide (s)	Work with metal	0.66
Cerous Nitrate/Cesium Nitrate (S)	Spectrometric standard material	0.16
Chromic Acid (L)	Used in chrome plating	0.053
Chromium Chloride (S)	Spectrometric standard material	0.13
Chromic Trioxide (L)	Oxidant and hardening agent	0.13
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	0.2

Chloroform/trichloromethane	Used as a cleaning agent, and as an organic solvent	0.0006
Citric Acid (L,S)	PH adjustments and cleaning agent	0.04
Corn Oil Mist (G)	Used in radiological clean-up	0.0053
Copper (S)	Tubing and used in sulfur combustion	0.33
Copper Nitrate (S)	Spectrometric standard material	0.16
Copper Oxide (S)	Combustion gas chromatography	0.06
Cresols (L) (o,m,p)	Sludge contaminants	.00056
CyDTA, trans-1.2-Cyclohexanediamine-N,N,N',N'-trtraacetic acid, monohydrate	Chelating Agent	0.04
Cyclohexane (L)	Extractant	0.04
Devarda's Alloy (AL,CU,Zn	Metal work	MSDS
D-19 [Kodak] developer (L)	Photographic work (emission spectrometry)	MSDS
Diatomaceous Earth (S)	Absorbent material	6.66
Dibutyl butyl phosphonate	Reagent	0.13
1,2-dichoroethane, ethylene dichloride (L)	Reagent, metal cleaning	0.00005
Diethylhexylorthorphosphric Acid (L)	Chelating and pH adjustment	0.04
Dimethyldichlorosilane/Trimethylchlorosilane (L)	Gas chromatography agent	0.0053
Dimethylglyoxime (S)	Chelating agent	0.33
2,4-dinitrophenol (S)	Reagent	0.0053
Dithiol (3,4-dimercaptotoluene (S)	Tungsten extractant	No Information Found
Dithiol-Amyl Acetate (L)	Tungsten extractant	No Information Found

Dowex-1X-3,X-4 (Trimethyl ammonium functional grouping chlorid form) Resin	Anion echange chromatography	MSDS
Dowex 50 (IX Resin) (Sulfonate Polystyrene Divinyl Benzene)	Ion Exchange Resin	MSDS
Drierite (S, Calcium sulfate)	Combustion gas chromatography	0.13
Ethanol (L)	Cleaning filaments and glassware	0.04
Ether (G,L,S)	Laboratory Reagent	0.04
Ethylenedinitridotetraacetic acid (L)	Chelating agent	0.04
Ethyleneoxyethlyenenitrilotetraacetic Acid (L)	Complexing agent	0.04
Ferric Ammonium Sulfate (S)	Ion Specific electrode methods for Chloride	0.33
Ferric Chloride	Laboratory Reagent	0.13
Ferric Nitrate (S)	Spectrometric standard material	0.13
Ferric Oxide (S)	Laboratory Reagent	0.13
Ferric sulfate (S)	Laboratory Reagent	0.13
Ferrous Ammonium Sulfate (S)	Determination of PU by potentiometry and sample prep.e	0.33
Ferrous Chloride (S)	Electrolytic solution	0.2
Ferrous Sulfate (S)	U by Potentiometry	0.2
Formic Acid (L)	Reagent	0.04
Gallium oxide (S)	Impurities by emission spectrometry	0.13
Gluconic Acid (L)	Metal cleaning, bottle washing	0.04
Glycerin (L)	Used inparticle size determinations	0.04

Gold (S)	Microelectrodes	0.00001
Graphite (S)	Crucibles, electrodes	0.66
Hexane (L)	Liquid extraction, solvent	0.04
Hydrazine (L)	Process Chemical (PUREX)	0.04
Hydrochloric Acid (L)	Electrochemical solutions and sample preparation	0.04
Hydrofluoric Acid (L)	Oxidizing reactions, sample prep.	0.04
Hydrogen Peroxide (L,S)	Oxidizing agent	0.37
Hydroxylamine Hydrochloride (S)	Organic synthesis, photographic developer	0.033
Hydroxylamine Nitrate (L)	Laboratory Reagent	0.04
Iodine (S)	Laboratory Reagent	0.13
Iron (S)	Standard material	0.16
Kerosene (L)	Process Chemical (PUREX)	0.04
Kodak developer D-1 (L)	Photographic plate development	MSDS
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octyphenoxy polyethoxyethyl alcohol (L)	Dsipersant and wetting agent	MSDS
Kodak Solubilizing Agent SA-2 (L)	Solubilizing agent	MSDS
KP-140 (paint w/ZnO/halogeneated hydrocarbons)	Resin solvent, pain	MSDS
Isopropyl Alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample prep.	0.04
Lanthanum Nitrate/Lanthanum-Neodynium Nitrate (S)	Laboratory Reagent	0.13
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	0.0005

Lead Acetate (S)	Laboratory Reagent	0.26
Lead Chloride (S)	Laboratory Reagent	0.26
Lead Nitrate (S)	Spectrometric standard material	0.13
Lead Oxide (S)	Laboratory Reagent	0.26
Linde AW-500 Resin (S, Aluminum Silicate)	Ion Exchange Resin	0.13
Lithium Sulfate (S)	Spectrometric standard material	0.16
Mangesium (S)	Spectrometric standard material	0.16
Magnesium Nitrate (S))	Spectrometric standard material	0.16
Magnesium Oxide	Laboratory Reagent	0.13
Magnesium Perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	0.13
Manganese Dioxide (S)	Laboratory Reagent	0.13
Manganous Chloride (S)	Laboratory Reagent	0.13
Maganous Nitrate (S)	Spectrometric standard material	0.16
Maganous Sulfate (S)	Reagent	0.13
Mannitol (L)	Reagent	0.04
Mercury (L)	Electrodes, thermometers, batteries	0.00002
Mercuric Iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	0.13
Mercuric Nitrate (S)	Laboratory Reagent	0.13
Mercuric Oxide (S)	Laboratory Reagent	0.13
Mercuric Thiocyanate (S)	Ion Selective Electrode reagent	0.13

Mercuric Sulfate (S)	Reference Electrodes	0.13
Metaldi fulid (L, propylene glycol)	Dispersing agent	MSDS
Methanol (L)	Cleaning and drying glassware	0.000075
Methylene Chloride (L)	Reagent, solvent	0.04
Methyl Ethyl Ketone (L)	Reagent, solvent	0.0036
Methyl Isobutyl Kentone (L)	Reagent, solvent	0.0033
Methyl Lactic Acid (L)	Laboratory Reagent	0.04
Mineral Oil (L)	Reagent	0.04
Molybdenum (S)	Spectrometric standard material	0.16
Molybdic Acid (L,S)	Laboratory Reagent	0.17
Naphthalene (S)	Laboratory Reagent	0.13
Natrasorb, clay	Container material, dessicant, used in oil absorption	.12
Neodymium Nitrate (S)	Spectrometric standard material	0.13
Neodymium Oxide (S)	Spectrometric standard material	0.16
Nickel/Nickel Bromide (S)	Reagent	0.07
Nickelous Chloride (S)	Spectrometric standard material	0.16
Niclelous Nitrate (S)	Laboratory Reagent	0.13
Nitric Acid (L)	Sample dissolution, eluant for ion exchange	0.04
Nitrous Acid (L)	Eluant for ion exchange	0.04
Nitriltracetic Acid (L, NTA)	Chelating acid	0.04

Normal Paraffin Hydrocarbon (S)	PURX Process chemical used for liquid-liquid extraction	0.33
Oleic Acid (L)	Lubricant	0.04
Oxalic Acid (L)	Chelating Acid	0.04
Pentachorophenol (S)	Herbicide, wood preservative	0.01
Pentasodium Diethylene Triamine Pentaactate (DPTA)	Chelating Acid	0.04
Perchloric Acid (L)	Sample prep for emission spectrometry	0.04
Periodic Acid (S)	Laboratory Reagent	0.13
Phenol (L,S)	Reagent	0.17
Phosphoric Acid (L)	Used in potentiometric methods	0.04
Phosphorous Pentoxide (S)	Used in sample prep and for gas chromatography	0.13
Platinum (S)	Crucibles, sample boats	0.13
Portland Cement (S,pH=11.4)	Soldifying agent for liquids	13.33
Potassium Acetate (S)	Buffer solution, dehydration	0.06
Potassium Bicarbonate (S)	Neutralization reagent	0.000013
Potassium Carbonate (S)	Dehydrating agent	0.13
Potassium Chlorate (S)	Laboratory Reagent	0.33
Potassium Chloride (S)	Used as a control standard for Ion Selective Electrode method	0.33
Potassium Dichromate (S)	Used in potentiometric methods, photochemical processing	0.04
Potassium Ferrocyanide(S)	Fixative in photography, metal cleaner	0.66
Potassium Fluoride (S)	Organic systhesis	0.03

Potassium Hydroxide (S)	Electrolyte fuel cells	0.33
Potassium Iodate (S)	Used in Iodometry	0.33
Potassium Iodide (S)	Used in Iodometry	0.33
Potassium Permanganate (S)	Lab reagent, decontamination agent	0.2
Potassium Phosphate, tribasic (S)	Process chemical, lab reagent	0.13
Potassium pyrosulfate (S))	Sample prep flux	0.2
Potassium Sodium Tartrate (S	Laboratory Reagent	0.13
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory Reagent	MSDS
Silica Gel (S)	Chromatographic separations, dehydrating agent.	0.13
Silver Cynide (S)	Plating	0.13
Silver Nitrate (S)	Spectrometric standard material	0.16
Silver Oxide (S)	Reagent for amperometric Pu determination	0.13
Silver Sulfate (S)	Laboratory Reagent	0.13
Sodium Acetate (S)	Laboratory Reagent	0.02
Sodium Aluminate(S)	Cleaning Compound	0.26
Sodium Arsenite (S)	Dying agent	0.13
Sodium Bicarbonate(S)	Suffer solution	0.004
Sodium Bisulfate (S)	Dying agent	0.13
Sodium Bisulfite (S)	Reducing agent	0.1
Sodium Borate(S)	Flame retardant	0.33

Sodium Carbonate (S)	Cleaning prep	0.13
Sodium Chloride (S)	Precipitation agent	0.13
Sodium Citrate(S)	Chelating Agent	0.33
Sodium Dichromate (S)	Electrochemical reagent	0.13
Sodium Fluoride (S)	Standard material for Ion selective Electrode methods and carries for emission spectrometry	0.2
Sodium Hydroxide (S)	Solution preparation and pH adjustment	0.32
Sodium Hypochlorite (L)	Laboratory Reagent	0.13
Sodium Iodide (S,L)	Laboratory Reagent	0.17
Sodium Nitrate (S)	Process Chemical	0.2
Sodium Nitrite (S)	Process Chemical	0.2
Sodium Oxalate (S)	Chelating Agent, Lab Reagent	0.33
Sodium Phosphate (S)	Reagent, metal cleaner	0.13
Sodium Phosphite (S)	Laboratory Reagent	0.13
Sodium Pyrophosphate (S)	Reagent, metal cleaner	0.13
Sodium Selenate (S)	Laboratory Reagent	0.13
Sodium Silicate (S)	Laboratory Reagent	0.13
Sodium Sulfate (S)	Calibration standard materials	0.196
Sodium Tartrate (S)	Water determination by coulometry	0.06
Sodium Tungstate (S)	Reagent	0.13
Stainless Steel (S)	Tubing, standard material, and alpha spectrometry sample disks	1.0

Stannic Chloride (S)	Reagent	0.13
Stannous Chloride (S)	Spectrometric standard material	0.33
Strontium Nitrate (S)	Laboratory Reagent	0.13
Sugar (sucrose, glucose)(S)	Use in mass spec for Pu/U and test of ammonia destruction for the PUREX process	0.16
Sulfur (S)	Mercury clean up reagent	0.13
Sulfuric Acid (L)	Sample preparation	0.04
Tetrasodium Ethylene Diaminetrtraacetate (EDTA)	Chelating Agent	0.13
Tetraphenyl Boron (S)	Laboratory Reagent	0.13
Thenoyltrifluoroacetone (L)Thorium Nitrate (S)	Laboratory Reagent	0.0053
Tin (S)	Capsules, Spectrometric standard material	0.04
Tide Detergent(S)	Cleaning solution	Na2CO3,Na3PO4, Na2OSiO2
TISAB III	Buffering agent	MSDS
Titanium Chloride (S,L)	Spectrometric standard material	0.17
Titanium (di)oxide(S)	Standard, ceramics , decontamination	0.26
Toluene (L)	Extractant and cleaning of mass spectrometer filament	0.001
Tributyl Phosphate (L)	Liquid-Liquid extraction and studies of PUREX process	0.04
Trichloroethane,-1-1-1 (L)	Reagent, solvent	0.04
1,1,2-trichlor-1,2,2-trifluoroethane (L)	Reagent, solvent	0.005
Tri-iso-octylamine	Liquid-Liquid extraction	0.04

Tri-n-octylamine	Liquid-Liquid extraction	0.04
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	0.04
Trisodium Hydroxyethyl Ethylene-Diamine Triacetate (HEDTA)	Chelating Agent	0.33
Turco Alkaline (Rust Remover) (NaOH and Kersene)	Rust remover	Attachment 2
Tungsun Oxide	Spectrometric standard material	0.16
Turco deseal Zit 3 (Methylene Chloride and Acetic Acid)	Decontamination paint	Attachment 2
Turco Plaudit (No hazardous compounds)	Decontamination	0.0
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	Attachment 2
Turco 4518 (Sodium Dodecyl Benzene Sulfonate)	Decontamination paint	Attachment 2
Uranyl Nitrate (S)	Extractant	0.06
Uranium Oxide(S)	Accelerator for pyrochydrolysis	0.13
Urea (S)	Electroylic solution	0.06
Vanadium (S)	Spectrometric standard material	0.16
Vanadium Pentoxide (S)	Sample preparation flux	0.06
Vanadyl Sulfate(S)	U by potentiometric titration	0.13
Vinyl Chloride (L)	Sludge contaminant	0.00002
Xylene (L)	Liquid-Liquid extraction, solvent	0.04
Yttrium Nitrate (S)	Laboratory Reagent	0.13
Zeolon 900 Resin (Aluminum Silicate)	Ion Exchange Resin	0.13

Zinc Chloride (S)	Spectrometric standard material	0.16
Zine Nitrate(S)	Spectrometric standard material	0.16
Zinc Oxide (S)	Laboratory Reagent	0.13
Zirconium	Cladding mateial	0.16
Ziconyl Nitrate	Spectrometric standard material	0.16

WAC 173-460 Small Quantity Emissions Rates

A small quantity emission rate (SQER) review is required as a Central Waste Complex (CWC) administrative control under the State of Washington Department of Ecology, Notice of Construction Approval Order No. DE00NWP-002. SQER thresholds are defined in WAC 173-460. This will be provided by the Waste Services group (Attachment 5).

The SQER air review was performed for the representative 325 TRU designation chemical constituents in accordance with WMP-370, Sec. 2.27, Rev. 1 procedure. The representative debris designation contains chemical constituents below toxic air permitting thresholds. Due to the variability in containers actually waste weights, a SQER review should be performed on containers requiring storage at CWC during the facility transfer process in accordance with WMP-370 level procedures.

Conclusions

In conclusion, the 325 TRU debris waste has been designated with D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043 and WSC2 (solid corrosive caustic) in accordance with WAC 173-303. Acceptable knowledge, MSDS, shipping documentation, and appropriate assumptions were used to complete the designation. Land disposal restrictions will be met through WIPP disposal.

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

Sum of Weight%: 100.1308610

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	N/A
* OXIDIZER	D001 DW	N/A
pH <=2 or >= 12.5 (Liquids)	D002 DW	N/A
(Solids Only)	WSC2 DW	N/A
Reactive	D003 DW	N/A

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .3771122

No data or EC% < .001	Non-Reg	
EC% >=.001 & <1	WT02 DW	✓ 6b
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .3951900 **Total PAH%:** .0000000

No HOC/PAH or below limits Non-Reg		
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	✓ 6d
PAH% > 1%	WP03 EHW	

Toxicity Characteristic WAC 173-303-090-8

TC CODES D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037
D043

MATERIAL USED AS SOLVENTS: F001, F002, F003, F004, F005

APPLICABLE WASTE CODES: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043, F001, F002, F003
F004, F005

APPLICABLE LDR CODES: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043,
F001, F002, F003, F004, F005

WASTE CLASS: DW

COMMENTS:
waste will be treated to meet Alternative Treatment Standard for Debris if not going WIPP

Designation Specialist: M. E. Lakes (Print Name) [signature] (Signature) 9/7/04 (Date)

** Federally Listed waste, WSC2 code will not apply.

PCB -- 1ppm

* Note: Solid Debris Waste, pH do not apply

DA
11-15-04

Designation # 325 TRU Debris

Designation Codes

(1) Not a discarded chemical product (old/unused or sole active ingredient) (WAC 173-303-9903) ML 9/7/04
(2) Not a dangerous waste source (used/spent) (WAC 173-303-9904)
(3) Does not exhibit dangerous waste characteristic / criteria per:
- a) MSDS
- b) Lab analysis
- c) Generator knowledge ML 9/7/04
- d) Insufficient concentration 9/7/04
- e) Not in this waste form ML 9/7/04

(4) Federal listed waste code takes precedence (40 CFR 268.9) ML 9/7/04
(5) Underlying Hazardous Constituent(s) not applicable per:
- a) Alternative treatment standard - hazardous debris (40 CFR 268.45)
- b) Transuranic waste
- c) Federal waste code assigned that does not specify meeting 40 CFR 268.48 universal treatment standards
- d) Federal listed waste code assigned ML 9/7/04
- e) Federal characteristic waste code assigned ML 9/7/04
- f) Federal characteristic waste code not assigned
- g) Insufficient concentration (40 CFR 268.48) ML 9/7/04
- h) Not an UHC in characteristic wastes, according to the definition at 40 CFR 268.2(i)

(6) **Exclude:
- a) WT01 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) ML 9/7/04
- b) WT02 DW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) ML 9/7/04
- c) WP01 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) ML 9/7/04
- d) WP02 DW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5)
- e) WP03 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5)
- f) Exclude Washington State waste code, waste regulated under CERCLA and/or TSCA, not RCRA or WAC 173-303

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

Description: ACCEPTABLE KNOWLEDGE BASIS: CCP-AAK-RL-003 CENTRAL CHARACTERIZATION PROJECT ACCEPTANCE KNOWLEDGE SUMMARY REPORT FOR HANFOD SITE 325 RADIOCHEMISTRY BUILDING TRANSURANIC DEBRIS RE. 0 NOVEMBER 26, 2003

Entry Date: 07/09/04 **Physical State:** Solid **pH:** ~~2-12~~ >2-<12.5 M 1/7/04 **Flashpoint:** N/A C

Designator: ME LAKES **Old/Spill/Used:** Used

Comments:

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10022-31-8	BARIUM NITRATE	~~Y~~ 3e	NA	NA	~~Y~~ 5e	1.2 mg/l	21 mg/l TCLP	~~D001~~ 3e; D005 (100.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10022-31-8	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10025-73-7	CHROMIC CHLORIDE	NA	NA	NA	~~Y~~ 5e	2.77 mg/l	.6 mg/l TCLP	D007 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10025-73-7	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10028-22-5	FERRIC SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10028-22-5	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10034-81-8	MAGNESIUM PERCHLORATE	~~Y~~ 3e,C	NA	NA	N			~~D001~~ 3e,C

Source	ID#	Weight %	EC %	TOX
WC	10034-81-8	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10042-76-9	STRONTIUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	
WC	10042-76-9	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10043-01-3	ALUMINUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	10043-01-3	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10043-35-3	BORIC ACID	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10043-35-3	.0053000	.0000005	TOX: D
Totals per CAS #:		.0053000	.0000005	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10043-52-4	CALCIUM CHLORIDE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10043-52-4	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10045-89-3	FERROUS AMMONIUM SULFATE	NA	NA	NA	N			~~WT02~~ 4b

Source	ID#	Weight %	EC %	
WC	10045-89-3	.3300000	.0000330	TOX: D
Totals per CAS #:		.3300000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10045-94-0	MERCURIC NITRATE	~~D~~ 3e	NA	NA	~~Y~~ 5e	.15 mg/1	.025 mg/1 TCLP	~~D001~~; D009 (2000); ~~WT01~~ 3e 6a

Source	ID#	Weight %	EC %	TOX: B
WC	10045-94-0	.1300000	.0013000	
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10045-95-1	NEODYMIUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3 c, e

Source	ID#	Weight %	EC %	TOX: D
WC	10045-95-1	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10099-59-9	LANTHANUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~; ~~WT02~~ 3e 6b

Source	ID#	Weight %	EC %	TOX: D
WC	10099-59-9	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10099-74-8	LEAD NITRATE	~~D~~ 3e	NA	NA	~~Y~~ 5e [illegible]	.69 mg/1	.75 mg/1 TCLP	~~D001~~; D008 (5.0000) 3e

Source	ID#	Weight %	EC %	TOX: N
WC	10099-74-8	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10101-41-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10102-06-4	URANYL NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	10102-06-4	.0600000	.0000000	TOX: N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10108-73-3	CEROUS NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	10108-73-3	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10124-37-5	CALCIUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	10124-37-5	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10138-04-2	FERRIC AMMONIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10138-04-2	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10192-30-0	AMMONIUM BISULFITE, SOLID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10192-30-0	.0004000	.0000000	TOX: N
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10213-10-2	SODIUM TUNGSTATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10213-10-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10294-26-5	SILVER SULFATE	NA	NA	NA	~~Y~~ 5e	.43 mg/1	.14 mg/1 TCLP	D011 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	10294-26-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10294-41-4	CERIUM NITRATE	~~Ø~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	10294-41-4	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10325-94-7	CADMIUM NITRATE	~~Ø~~ 3c,e	NA	NA	~~Y~~ 5e	.69 mg/1	.11 mg/1 TCLP	~~D001~~ 3c,e D006 (1.0000); ~~WT02~~ 66

Source	ID#	Weight %	EC %	TOX: C
WC	10325-94-7	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10361-03-2	SODIUM METAPHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10361-03-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10361-37-2	BARIUM CHLORIDE	NA	NA	NA	~~Y~~ 5e	1.2 mg/1	21 mg/1 TCLP	D005 (100.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10361-37-2	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10361-93-0	YTTRIUM NITRATE	~~O~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10361-93-0	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10377-48-7	LITHIUM SULFATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10377-48-7	.1600000	.0000160	D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10377-60-3	MAGNESIUM NITRATE	~~O~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10377-60-3	.1600000	.0000000	N
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10377-66-9	MANGANESE NITRATE	~~O~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10377-66-9	.1600000	.0000000	N
Totals per CAS #:		.1600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)	~~D~~ 3e	NA	NA	N			~~D001~~; ~~WT02~~ 3e 6b

Source	ID#	Weight %	EC %	
WC	10421-48-4	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10450-60-9	PERIODIC ACID	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	
WC	10450-60-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10588-01-9	SODIUM DICHROMATE	~~D~~ 3e	NA	NA	~~Y~~ 5e	2.77 mg/1	.6 mg/1 TCLP	~~D001~~ 3e; D007 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10588-01-9	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
106-44-5	P-CRESOL	NA	NA	NA	~~Y~~ 5d	.77 mg/1	5.6 mg/kg	~~D025~~ 4 (200.0000); F004; ~~U052~~ 1; ~~WT01~~ 6A

Source	ID#	Weight %	EC %	
WC	106-44-5	.0005600	.0000056	TOX: B
Totals per CAS #:		.0005600	.0000056	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
106-46-7	P-DICHLOROBENZENE	NA	NA	HOC	~~Y~~ 5e	.09 mg/1	6 mg/kg	D027 (7.5000); ~~U072~~ 1; ~~WP01~~ 6c; ~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	106-46-7	.0007500	.0000008	TOX: C
Totals per CAS #:		.0007500	.0000008	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
107-06-2	1,2-DICHLOROETHANE	~~FL~~ 3c,e	NA	HOC	~~Y~~ 3e	.21 mg/kg	6 mg/kg	3c,e ~~D001~~; D028 (.5000); ~~U077~~; ~~WP01~~; ~~WT02~~ 6c 6b

Source	ID#	Weight %	EC %	TOX
WC	107-06-2	.0000500	.0000000	TOX: D
Totals per CAS #:		.0000500	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
107-21-1	ETHYLENE GLYCOL	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	107-21-1	.0002000	.0000000	TOX: D
Totals per CAS #:		.0002000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
107-66-4	DIBUTYL PHOSPHATE	NA	~~X~~ 3c,d,e	NA	N			~~D002~~ 3c,e,d

Source	ID#	Weight %	EC %	TOX
WC	107-66-4	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
108-10-1	4-METHYL-2-PENTANONE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.14 mg/kg	33 mg/kg	~~D001~~; F003; ~~U161~~; ~~WT02~~ 3c,E 1 6b

Source	ID#	Weight %	EC %	TOX
WC	108-10-1	.0033000	.0000003	TOX: D
Totals per CAS #:		.0033000	.0000003	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
108-39-4	M-CRESOL	NA	NA	NA	~~Y~~ 5d	.77 mg/kg	5.6 mg/kg	4 ~~D024~~ (200.0000); F004; ~~U052~~; ~~WT02~~ 6b 1

Source	ID#	Weight %	EC %	TOX
WC	108-39-4	.0005600	.0000006	TOX: C
Totals per CAS #:		.0005600	.0000006	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-88-3	TOLUENE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.08 mg/kg	10 mg/kg	~~D001~~; F005; ~~U220~~; ~~WT02~~ 3c,e 1 6b

Source	ID#	Weight %	EC %	TOX
WC	108-88-3	.0010000	.0000001	D
Totals per CAS #:		.0010000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-95-2	PHENOL	NA	NA	NA	Y	.039 mg/1	6.2 mg/kg	~~U188~~; ~~WT01~~ 1 6a

Source	ID#	Weight %	EC %	TOX
WC	108-95-2	.1700000	.0017000	B
Totals per CAS #:		.1700000	.0017000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-54-3	N-HEXANE	~~FL~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	110-54-3	.0400000	.0000040	D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-82-7	CYCLOHEXANE	~~FL~~ 3e	NA	NA	N			~~D001~~; ~~U056~~ 3e 1

Source	ID#	Weight %	EC %	TOX
WC	110-82-7	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-86-1	PYRIDINE	~~FL~~ 3e	NA	NA	~~Y~~ 5d	.014 mg/kg	16 mg/kg	3e 4 ~~D001~~; ~~D038~~ (5.0000); F005; ~~U196~~; ~~WT02~~ 1 6b

Source	ID#	Weight %	EC %	TOX
WC	110-86-1	.0016000	.0000016	C
Totals per CAS #:		.0016000	.0000016	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
111-69-3	ADIPONITRILE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	111-69-3	.0400000	.0004000	TOX: B
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
11138-49-1	SODIUM ALUMINATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	11138-49-1	.2600000	.0000000	TOX: N
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1116-76-3	TRIOCTYLAMINEINE	NA	B	NA	N			~~D002~~ 3c, d, e

Source	ID#	Weight %	EC %	
WC	1116-76-3	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
112-80-1	OLEIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	112-80-1	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
115-40-2	BROMOCRESOL PURPLE	NA	NA	HOC	N			~~WP01~~ 6c

Source	ID#	Weight %	EC %	
WC	115-40-2	.0013000	.0000000	TOX: N
Totals per CAS #:		.0013000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
117-10-2	1,8-DIHYDROXYANTHRAQUINONE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	117-10-2	.0053000	.0000000	N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12024-21-4	GALLIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	12024-21-4	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12044-50-7	ARSENIC (V) OXIDE, HYDRATE	NA	NA	NA	se	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); P011; WT01 1, 69

Source	ID#	Weight %	EC %	TOX
WC	12044-50-7	.1300000	.0013000	B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12054-48-7	NICKEL HYDROXIDE	NA	NA	NA	Y	3.98 mg/l	11 mg/l TCLP	

Source	ID#	Weight %	EC %	TOX
WC	12054-48-7	.0480000	.0004800	B
Totals per CAS #:		.0480000	.0004800	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12069-32-8	BORON CARBIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	12069-32-8	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
121-14-2	2,4-DINITROTOLUENE	NA	NA	NA	~~Y~~ 5e	.32 mg/kg	140 mg/kg	D030 (.1300); ~~U105~~; ~~WT02~~ 1 6b

Source	ID#	Weight %	EC %	TOX: C
WC	121-14-2	.0000130	.0000000	
Totals per CAS #:		.0000130	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12125-01-8	AMMONIUM FLUORIDE	NA	~~X~~ 3e	NA	N			~~D002~~ 3c

Source	ID#	Weight %	EC %	TOX: N
WC	12125-01-8	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12125-02-9	AMMONIUM CHLORIDE	NA	NA	NA	N			WT02

Source	ID#	Weight %	EC %	TOX: D
WC	12125-02-9	.0100000	.0000010	
Totals per CAS #:		.0100000	.0000010	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	12179-04-3	.0003000	.0000000	
Totals per CAS #:		.0003000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
123-31-9	HYDROQUINONE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: C
WC	123-31-9	.0004000	.0000004	
Totals per CAS #:		.0004000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
12428-46-5	ALUMINUM HYDROXIDE SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	12428-46-5	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
126-73-8	TRIBUTYL PHOSPHATE (TBP)	NA	NA	NA	N			WT02 6b

Source	ID#	Weight %	EC %	TOX: D
WC	126-73-8	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	127-08-2	.0600000	.0000060	
Totals per CAS #:		.0600000	.0000060	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
127-18-4	TETRACHLOROETHYLENE	NA	NA	HOC	5d	.056 mg/kg	6 mg/kg	4 D039 (.7000); F001; F002; U210; WP01; WT02 1 6c 6b

Source	ID#	Weight %	EC %	TOX: D
WC	127-18-4	.0006000	.0000001	
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1303-96-4	SODIUM BORATE, DECAHYDRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	1303-96-4	.3300000	.0000330	
Totals per CAS #:		.3300000	.0000330	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1305-62-0	CALCIUM HYDROXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1305-62-0	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1306-38-3	CERIC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1306-38-3	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1309-37-1	FERRIC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1309-37-1	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1309-48-4	MAGNESIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1309-48-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1309-60-0	LEAD DIOXIDE	ø 3c,e	NA	NA	Y 5e	.69 mg/l	.75 mg/l TCLP	~~D001~~ D008 (5.0000) 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	1309-60-0	.2600000	.0000000	
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-58-3	POTASSIUM HYDROXIDE	NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	1310-58-3	.3300000	.0003300	TOX: C
Totals per CAS #:		.3300000	.0003300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-65-2	LITHIUM HYDROXIDE	NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	1310-65-2	.0016000	.0000160	TOX: B
Totals per CAS #:		.0016000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-73-2	SODIUM HYDROXIDE	NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	1310-73-2	.3200000	.0000000	TOX: N
Totals per CAS #:		.3200000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13106-76-8	AMMONIUM MOLYBDATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	13106-76-8	.3700000	.0000000	TOX: N
Totals per CAS #:		.3700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1313-13-9	MANGANESE DIOXIDE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	1313-13-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1313-97-9	NEODYMIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1313-97-9	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13138-45-9	NICKEL (II) NITRATE (1:2)	~~O~~ 3c,e	NA	NA	Y	3.98 mg/l	11 mg/l TCLP	~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	13138-45-9	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-13-2	ZINC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1314-13-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-35-8	TUNGSTEN TRIOXIDE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	1314-35-8	.1600000	.0000160	
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-56-3	PHOSPHORUS PENTOXIDE	NA	~~A~~ 3c,e	NA	N			~~D003~~ 3c,e; ~~WSC2~~ 3c,e; ~~WT01~~ 6a

Compatibility

Reactivity

WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: B
WC	1314-56-3	.1300000	.0013000	
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC	NA	NA	NA	N			~~P120~~; ~~WT01~~ 1 6 9

Source	ID#	Weight %	EC %	TOX
WC	1314-62-1	.0600000	.0006000	B
Totals per CAS #:		.0600000	.0006000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-38-0	COPPER OXIDE	NA	NA	NA	N			~~WT02~~ 6 b

Source	ID#	Weight %	EC %	TOX
WC	1317-38-0	.0600000	.0000600	C
Totals per CAS #:		.0600000	.0000600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-65-3	CALCIUM CARBONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1317-65-3	.6600000	.0000000	N
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-99-3	URANIUM OCTAOXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1317-99-3	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1318-00-9	VERMICULITE, EXFOLIATED	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1318-00-9	5.0000000	.0000000	N
Totals per CAS #:		5.0000000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	13291-61-7	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1330-20-7	XYLENE (MIXED ISOMERS)	~~FL~~	NA	NA	~~Y~~ 5d	.32 mg/l	30 mg/kg	~~D001~~; F003; ~~U239~~; ~~WT02~~ 1 1 6b

Source	ID#	Weight %	EC %	TOX
WC	1330-20-7	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1331-17-5	PROPYLENE GLYCOL	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1331-17-5	.0053000	.0000053	TOX: C
Totals per CAS #:		.0053000	.0000053	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1332-21-4	ASBESTOS	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1332-21-4	.5000000	.0000000	TOX: N
Totals per CAS #:		.5000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1333-82-0	CHROMIUM TRIOXIDE	3c1e ~~O~~	~~X~~	NA	~~X~~ 5e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; ~~D002~~; D007 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1333-82-0	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1335-30-4	ALUMINUM SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1335-30-4	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1336-21-6	AMMONIUM HYDROXIDE	NA	B	NA	N			~~D002~~ 3 ore

Source	ID#	Weight %	EC %	TOX
WC	1336-21-6	.6600000	.0006600	TOX: C
Totals per CAS #:		.6600000	.0006600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
13410-01-0	SODIUM SELENATE	NA	NA	NA	N			D010 (1.0000)

Source	ID#	Weight %	EC %	TOX
WC	13410-01-0	.1300000	.0130000	TOX: A
Totals per CAS #:		.1300000	.0130000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1344-28-1	ALUMINUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1344-28-1	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1344-64-5	VANADYL SULFATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1344-64-5	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13463-67-7	TITANIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	13463-67-7	.2600000	.0000000	N
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13464-37-4	ARSENOUS ACID, TRISODIUM SALT	NA	NA	NA	~~Y~~ 5e	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); ~~WT01~~ 6a

Source	ID#	Weight %	EC %	TOX
WC	13464-37-4	.0400000	.0004000	B
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13465-08-2	HYDROXYLAMINE NITRATE	NA	~~A~~ 3c,e	NA	N			~~D002~~ 3e,c

Source	ID#	Weight %	EC %	TOX
WC	13465-08-2	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13478-10-9	FERROUS CHLORIDE	NA	~~A~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	13478-10-9	.2000000	.0000000	N
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13590-82-4	CERIUM SULFATE	~~O~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	13590-82-4	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13708-85-5	SODIUM PHOSPHITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	13708-85-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13746-66-2	POTASSIUM FERROCYANIDE	NA	NA	NA	Y	.86 mg/l	30 mg/kg	

Source	ID#	Weight %	EC %	TOX: N
WC	13746-66-2	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13778-30-8	ZINC NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	13778-30-8	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13823-29-5	THORIUM NITRATE (RADIOACTIVE)	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	13823-29-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13826-66-9	ZIRCONYL NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: D
WC	13826-66-9	.1600000	.0000160	
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13870-30-9	SODIUM SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	13870-30-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
139-13-9	NITRILOTRIACETIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	139-13-9	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
140-01-2	PENTASODIUM PENTETATE (DTPA)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	140-01-2	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
14258-49-2	AMMONIUM OXALATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	14258-49-2	.3700000	.0000000	TOX: N
Totals per CAS #:		.3700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
143-19-1	SODIUM OLEATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	143-19-1	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
143-66-8	SODIUM TETRAPHENYL BORON POWDER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	143-66-8	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-33-2	SODIUM CITRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	144-33-2	.3300000	.0000000	N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-55-8	SODIUM BICARBONATE	NA	B	NA	N			~~D002~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	144-55-8	.0040000	.0000000	N
Totals per CAS #:		.0040000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-62-7	OXALIC ACID	NA	~~A~~ 34e	NA	N			~~D002~~ 34e

Source	ID#	Weight %	EC %	TOX
WC	144-62-7	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	149-44-0	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	150-39-0	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
17194-00-2	BARIUM HYDROXIDE	~~NA~~	B	NA	~~Y~~ 5e	1.2 mg/l	21 mg/kg	~~D002~~; D005 (100.0000); ~~WT02~~ 3e,e 6b

Source	ID#	Weight %	EC %	TOX: C
WC	17194-00-2	.3700000	.0003700	
Totals per CAS #:		.3700000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1762-95-4	AMMONIUM THIOCYANATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	1762-95-4	.2000000	.0000200	
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
19004-19-4	COPPER (II) NITRATE	~~O~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	19004-19-4	.1600000	.0000160	
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
20667-12-3	SILVER (1+) OXIDE	~~O~~ 3c,e	NA	NA	~~Y~~ 5e	.43 mg/l	.14 mg/l TCLP	~~D001~~; D011 (5.0000); ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX: D
WC	20667-12-3	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
21041-95-2	CADMIUM HYDROXIDE	NA	B	NA	Y 5e	.69 mg/l	.11 mg/l TCLP	~~D002~~; D006 (1.0000) 3ce

Source	ID#	Weight %	EC %	TOX
WC	21041-95-2	.1100000	.0000000	TOX: N
Totals per CAS #:		.1100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
21908-53-2	MERCURIC OXIDE	NA	NA	NA	~~Y~~ 5e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX
WC	21908-53-2	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
2466-09-3	DIPHOSPHORIC ACID	NA	~~A~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	2466-09-3	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
25155-30-0	SODIUM DODECYLBENZENESULFONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	25155-30-0	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
25322-68-3	POLYETHYLENE GLYCOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	25322-68-3	.0012000	.0000000	TOX: N
Totals per CAS #:		.0012000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	2757-28-0	.0400000	.0000040	D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE	NA	~~X~~ 3c(i)e	NA	N			~~D002~~; ~~WT02~~ 3c(i)e 6b

Source	ID#	Weight %	EC %	TOX
WC	298-07-7	.0400000	.0000400	C
Totals per CAS #:		.0400000	.0000400	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
298-14-6	POTASSIUM BICARBONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	298-14-6	.0000130	.0000000	N
Totals per CAS #:		.0000130	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
301-04-2	LEAD ACETATE	NA	NA	NA	X 5e	.69 mg/l	.75 mg/l TCLP	D008 (5.0000); ~~U144~~

Source	ID#	Weight %	EC %	TOX
WC	301-04-2	.2600000	.0000000	N
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
304-59-6	POTASSIUM SODIUM TARTRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	304-59-6	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
326-91-0	THENOYLTRIFLUOROACETONE	NA	NA	HOC	N			

Source	ID#	Weight %	EC %	TOX
WC	326-91-0	.0053000	.0000000	N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
3811-04-9	CHLORIC ACID, POTASSIUM SALT	O 3e	NA	NA	N			D001: D003
			Compatibility				Reactivity 3e	3c,e
							OTHER	

Source	ID#	Weight %	EC %	TOX
WC	3811-04-9	.1300000	.0000130	D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	482-54-2	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
496-74-2	TOLUENE-3,4-DITHIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	496-74-2	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
497-19-8	SODIUM CARBONATE	~~NA~~	B	NA	N			D002 3c,e

Source	ID#	Weight %	EC %	TOX
WC	497-19-8	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
50-00-0	FORMALDEHYDE	FL	Y	NA	N			D001; D002; U122; WT02
		3c,e	3c,e					3c,e 3c,e 1 6b

Source	ID#	Weight %	EC %	TOX: B
WC	50-00-0	.0370000	.0003700	
Totals per CAS #:		.0370000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
50-81-7	ASCORBIC ACID	NA	X	NA	N			D002
			3e					3e

Source	ID#	Weight %	EC %	TOX: N
WC	50-81-7	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
506-64-9	SILVER CYANIDE	NA	NA	NA	Y 5e	.43 mg/l	.14 mg/l TCLP	3c,e D003; D011 (5.0000); P104; WT02
		Compatibility					Reactivity	1 1 6b
							CYANIDE BEARING WASTE	

Source	ID#	Weight %	EC %	TOX: C
WC	506-64-9	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
51-28-5	DINITROPHENOL, 2,4-	FS	NA	NA	Y 5g	.12 mg/l	160 mg/kg	D001; D003; P048; WT01
		3c,e Compatibility					Reactivity	3c,e 3c,e 1 6a
							EXPLOSIVE	

Source	ID#	Weight %	EC %	TOX: B
WC	51-28-5	.0053000	.0000530	
Totals per CAS #:		.0053000	.0000530	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
513-77-9	BARIUM CARBONATE	NA	NA	NA	~~Y~~ 3e	1.2 mg/1	21 mg/1 TCLP	D005 (100.0000)

Source	ID#	Weight %	EC %	TOX
WC	513-77-9	.0130000	.0000130	TOX: C
Totals per CAS #:		.0130000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
526-95-4	GLUCONICACID 50% IN WATER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	526-95-4	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	NA	~~A~~ 3c,d,e	NA	N			~~D002~~ 3c,d,e

Source	ID#	Weight %	EC %	TOX
WC	5470-11-1	.0330000	.0000330	TOX: C
Totals per CAS #:		.0330000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
55-55-0	P-METHYLAMINOPHENOL SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	55-55-0	.0004000	.0000000	TOX: N
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
56-23-5	CARBON TETRACHLORIDE	NA	NA	HOC	~~Y~~ 5d	.057 mg/1	6 mg/kg	~~D019~~ 4 (.5000); F001; ~~D011~~; ~~WP01~~; ~~WP02~~ 6c 6b

Source	ID#	Weight %	EC %	TOX
WC	56-23-5	.0006000	.0000001	TOX: D
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
56-40-6	GLYCINE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	56-40-6	.0013000	.0000000	
Totals per CAS #:		.0013000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	56-81-5	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
5646-85-7	ZINC CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	5646-85-7	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
57-13-6	UREA	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	57-13-6	.0600000	.0000000	
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
57-50-1	SUCROSE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	57-50-1	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
57-55-6	1,2-PROPANEDIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	57-55-6	.0120000	.0000000	
Totals per CAS #:		.0120000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
584-08-7	POTASSIUM CARBONATE	NA 4	B	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX: D
WC	584-08-7	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
592-85-8	MERCURIC THIOCYANATE	NA	NA	NA	5e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX: B
WC	592-85-8	.1300000	.0013000	
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	60-00-4	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
6131-90-4	SODIUM ACETATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	6131-90-4	.0200000	.0000020	
Totals per CAS #:		.0200000	.0000020	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	62-76-0	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
62625-29-0	CERSOL RED, WATER SOLUBLE, INDICATOR GRADE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	62625-29-0	.0004000	.0000000	
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
631-61-8	AMMONIUM ACETATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	631-61-8	.0020000	.0000000	
Totals per CAS #:		.0020000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
63231-67-4	SILICA GEL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	63231-67-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE	NA *	B	NA	N			~~D002~~ 3 c, e

Source	ID#	Weight %	EC %	TOX: N
WC	64-02-8	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-17-5	ETHANOL	FL	NA	NA	N			D001
	3c,e							3c,e
Source	**ID#**	**Weight %**		**EC %**		**TOX:** D		
WC	64-17-5	.0400000		.0000040				
Totals per CAS #:		.0400000		.0000040				

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-18-6	FORMIC ACID	NA	A	NA	N			D002; U123; WT02
	3c,e							3c,e / 6b
Source	**ID#**	**Weight %**		**EC %**		**TOX:** C		
WC	64-18-6	.0400000		.0000400				
Totals per CAS #:		.0400000		.0000400				

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-19-7	ACETIC ACID	FL	N	NA	N			~~D001; D002~~
		3e,e	3c,e					3c,e
Source	**ID#**	**Weight %**		**EC %**		**TOX:** C		
WC	64-19-7	.0069000		.0000069				
Totals per CAS #:		.0069000		.0000069				

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-38-7	NORMAL PARAFFINS	NA	NA	NA	N			
Source	**ID#**	**Weight %**		**EC %**		**TOX:** N		
WC	64742-38-7	.3300000		.0000000				
Totals per CAS #:		.3300000		.0000000				

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-41-2	MINERAL OIL	NA	NA	NA	N			
Source	**ID#**	**Weight %**		**EC %**		**TOX:** N		
WC	64742-41-2	.0400000		.0000000				
Totals per CAS #:		.0400000		.0000000				

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-81-0	HYDRODESULFERIZED KEROSENE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	64742-81-0	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
65997-15-1	PORTLAND CEMENT	NA	~~B~~ 3e, de	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	65997-15-1	13.3300000	.0000000	
Totals per CAS #:		13.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	67-43-6	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-56-1	METHANOL	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	5.6 mg/l	.75 mg/l TCLP	~~D001~~; F003; ~~U154~~; ~~WT02~~ 3c,e , 6b

Source	ID#	Weight %	EC %	TOX: D
WC	67-56-1	.0000750	.0000000	
Totals per CAS #:		.0000750	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-63-0	ISOPROPYL ALCOHOL	~~FL~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	67-63-0	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
67-64-1	ACETONE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.28 mg/kg	160 mg/kg	~~D001~~; F003; ~~U002~~ 3c,e 1

Source	ID#	Weight %	EC %	TOX
WC	67-64-1	.0160000	.0000000	N
Totals per CAS #:		.0160000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
67-66-3	CHLOROFORM	NA	NA	HOC	~~Y~~ 5e	.046 mg/l	6 mg/kg	D022 (6.0000); ~~U044~~; ~~WP01~~; ~~WT02~~ 6b 1 6c

Source	ID#	Weight %	EC %	TOX
WC	67-66-3	.0006000	.0000001	D
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
67-72-1	HEXACHLOROETHANE	NA	NA	HOC	~~Y~~ 5e	.055 mg/l	30 mg/kg	D034 (3.0000); ~~U131~~; ~~WP01~~; ~~WT02~~ 6b 1 6c

Source	ID#	Weight %	EC %	TOX
WC	67-72-1	.0003000	.0000000	D
Totals per CAS #:		.0003000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
69-65-8	D-MANNITOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	69-65-8	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	69011-19-4	.2300000	.0000000	N
Totals per CAS #:		.2300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	69011-20-7	.1900000	.0000000	
Totals per CAS #:		.1900000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	69011-22-9	.2000000	.0000000	
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-36-3	BUTYL ALCOHOL	~~FL~~ 3cf	NA	NA	~~Y~~ 5d	5.6 mg/kg	2.6 mg/kg	~~D001~~; F003; ~~U031~~; ~~WT02~~ 3c / 1 / 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-36-3	.0002600	.0000000	
Totals per CAS #:		.0002600	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-43-2	BENZENE	~~FL~~ 3ce	NA	NA	~~Y~~ 5d	.14 mg/l	10 mg/kg	~~D001~~; ~~D018~~ (.5000); F005; ~~U019~~; ~~WT02~~ 3ce / 4 / 1 / 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-43-2	.0010000	.0000001	
Totals per CAS #:		.0010000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-55-6	1,1,1-TRICHLOROETHANE	NA	NA	HOC	~~Y~~ 5d	.054 mg/l	6 mg/kg	F001; F002; ~~U226~~; ~~WP01~~; ~~WT02~~ 1 / 6C / 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-55-6	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7429-90-5	ALUMINUM	~~FS~~ 3 e,C	NA	NA	N			~~D001~~; ~~D003~~ 3c,e 3c,e
		Compatibility					Reactivity	WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: N
WC	7429-90-5	.3100000	.0000000	
Totals per CAS #:		.3100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7439-89-6	IRON	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7439-89-6	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7439-92-1	LEAD	NA	NA	NA	~~Y~~ 5e	.69 mg/l	.75 mg/l TCLP	D008 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7439-92-1	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7439-95-4	MAGNESIUM	~~FS~~ 3c,e	NA	NA	N			~~D001; D003~~ 3c,e
		Compatibility					Reactivity	WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: N
WC	7439-95-4	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7439-97-6	MERCURY	NA	NA	NA	Se	.15 mg/l	.025 mg/l TCLP	D009 (.2000); U151

Source	ID#	Weight %	EC %	TOX: N
WC	7439-97-6	.0000200	.0000000	
Totals per CAS #:		.0000200	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7439-98-7	MOLYBDENUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7439-98-7	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-02-0	NICKEL	NA	NA	NA	Y	3.98 mg/l	11 mg/l TCLP	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-02-0	.0700000	.0000000	
Totals per CAS #:		.0700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-06-4	PLATINUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-06-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-22-4	SILVER	NA	NA	NA	Se	.43 mg/l	.14 mg/l TCLP	D011 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7440-22-4	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-31-5	TIN	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-31-5	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-38-2	ARSENIC	NA	NA	NA	~~Y~~ 5e	1.4 mg/1	5 mg/1 TCLP	D004 (5.0000); ~~WT02~~ 66

Source	ID#	Weight %	EC %	TOX: D
WC	7440-38-2	.0005000	.0000001	
Totals per CAS #:		.0005000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-39-3	BARIUM	~~YS~~ 3ce	NA	NA	Y/5e	1.2 mg/1	21 mg/1 TCLP	~~D001; D003~~; D005 (100.0000) 3ce
			Compatibility				Reactivity	
							WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-39-3	.0100000	.0000000	
Totals per CAS #:		.0100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-41-7	BERYLLIUM	~~YS~~ 3ce	NA	NA	Y B	.82 mg/1	1.22 mg/1 TCLP	~~D001~~; ~~P015~~ 3ce 1

Source	ID#	Weight %	EC %	TOX: N
WC	7440-41-7	.0160000	.0000000	
Totals per CAS #:		.0160000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-43-9	CADMIUM	NA	NA	NA	~~Y~~ 5e	.69 mg/1	.11 mg/1 TCLP	D006 (1.0000); ~~WT01~~ 69

Source	ID#	Weight %	EC %	TOX: A
WC	7440-43-9	.0001000	.0000100	
Totals per CAS #:		.0001000	.0000100	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-44-0	CARBON	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-44-0	.0053000	.0000000	
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-47-3	CHROMIUM	NA	NA	NA	N Yse	2.77 mg/l	.6 mg/l TCLP	D007 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7440-47-3	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-50-8	COPPER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-50-8	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-57-5	GOLD	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-57-5	.0000100	.0000000	
Totals per CAS #:		.0000100	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-62-2	VANADIUM	NA	NA	NA	Y	4.3 mg/l	1.6 mg/l TCLP	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-62-2	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-66-6	ZINC	~~FS~~ 3 c,e	NA	NA	Y	2.61 mg/l	4.3 mg/l TCLP	~~D001, D003~~ 3 c,e
		Compatibility					Reactivity	PYROPHORIC, WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: N
WC	7440-66-6	.3400000	.0000000	
Totals per CAS #:		.3400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-67-7	ZIRCONIUM	~~FS~~ 3 c,e	NA	NA	N			~~D001~~ 3 c,e

Source	ID#	Weight %	EC %	TOX: N
WC	7440-67-7	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7446-70-0	ALUMINUM CHLORIDE	NA	~~X~~ 3 c,e	NA	N			~~D003~~; ~~WSC2~~ 3c,e 3c,e
		Compatibility					Reactivity	WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: D
WC	7446-70-0	.0600000	.0000060	
Totals per CAS #:		.0600000	.0000060	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7447-40-7	POTASSIUM CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	7447-40-7	.3300000	.0000330	
Totals per CAS #:		.3300000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)	FL	NA	HOC	Y 5e	.27 mg/kg	6 mg/kg	3ce D001; D043(.2000); U043; WP01; WP02 6c 6b

3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	75-01-4	.0000200	.0000000	
Totals per CAS #:		.0000200	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
75-09-2	DICHLOROMETHANE	NA	NA	HOC	Y 5d	.089 mg/l	30 mg/kg	F001; F002; U080; WP01; WP02 1 6c 6b

Source	ID#	Weight %	EC %	TOX: D
WC	75-09-2	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
75-35-4	1,1-DICHLOROETHYLENE	FL	NA	HOC	Y 5e	.025 mg/l	6 mg/kg	3 ce ~~D001; D003;~~ D029(.7000); U078; WP01; WP02

5c,e Compatibility
Reactivity PEROXIDIZABLE 6c 6b

Source	ID#	Weight %	EC %	TOX: C
WC	75-35-4	.0000700	.0000001	
Totals per CAS #:		.0000700	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
75-77-4	TRIMETHYL CHLOROSILANE	FL	X	NA	N			~~D001; D002; D003;~~ WP02 6b

3c,e 3c,e Compatibility
Reactivity 3c,e WATER REACTIVE

Source	ID#	Weight %	EC %	TOX: C
WC	75-77-4	.0053000	.0000053	
Totals per CAS #:		.0053000	.0000053	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7553-56-2	IODINE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7553-56-2	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7558-79-4	SODIUM PHOSPHATE DIBASIC	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7558-79-4	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	HOC	Y 5d	.057 mg/l	30 mg/kg	~~F001~~; F002; ~~WP01~~; ~~WT01~~ 5d 6c 6g

Source	ID#	Weight %	EC %	TOX
WC	76-13-1	.0050000	.0000500	TOX: B
Totals per CAS #:		.0050000	.0000500	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7601-90-3	PERCHLORIC ACID	~~O~~	~~A~~	NA	N			~~D001; D002; D003~~
		3 c, e	Compatibility				Reactivity	3 c, d, e
							UNSTABLE	

Source	ID#	Weight %	EC %	TOX
WC	7601-90-3	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7631-90-5	.1000000	.0000100	D
Totals per CAS #:		.1000000	.0000100	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7631-99-4	SODIUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7631-99-4	.2000000	.0000200	D
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7632-00-0	SODIUM NITRITE	~~D~~ 3,c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7632-00-0	.2000000	.2000000	X
Totals per CAS #:		.2000000	.2000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7646-78-8	STANNIC CHLORIDE	NA	~~D~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7646-78-8	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-01-0	HYDROCHLORIC ACID	NA	~~D~~ 3c,e	NA	N			~~D002~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	7647-01-0	.0400000	.0000400	C
Totals per CAS #:		.0400000	.0000400	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-14-5	SODIUM CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7647-14-5	.1300000	.0000130	D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-15-6	SODIUM BROMIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7647-15-6	.0026000	.0000003	D
Totals per CAS #:		.0026000	.0000003	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-39-3	HYDROFLUORIC ACID	NA	~~X~~ 3c,e	NA	N			~~D002~~; ~~U134~~; ~~WT01~~ 3c,e 1 69

Source	ID#	Weight %	EC %	TOX
WC	7664-39-3	.0400000	.0004000	B
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-41-7	AMMONIA	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7664-41-7	.3300000	.0033000	B
Totals per CAS #:		.3300000	.0033000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-93-9	SULFURIC ACID	NA	~~X~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7664-93-9	.0400000	.0004000	B
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7681-11-0	POTASSIUM IODIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7681-11-0	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7681-38-1	SODIUM BISULFATE	NA	~~Y~~ 3,C,e	NA	N			~~D002~~ 3C,e

Source	ID#	Weight %	EC %	TOX: N
WC	7681-38-1	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7681-49-4	SODIUM FLUORIDE	NA	NA	NA	N			~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX: B
WC	7681-49-4	.2000000	.0020000	
Totals per CAS #:		.2000000	.0020000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7681-52-9	SODIUM HYPOCHLORITE	NA	~~Y~~ 3,C,e	NA	N			~~D002~~ 3C,e

Source	ID#	Weight %	EC %	TOX: N
WC	7681-52-9	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7681-82-5	SODIUM IODIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	7681-82-5	.1700000	.0000170	
Totals per CAS #:		.1700000	.0000170	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7697-37-2	NITRIC ACID	~~D~~	~~A~~ 3c,d,e	NA	N			~~D001; D002; WT01~~ 3c,d,e 6 ?

Source	ID#	Weight %	EC %	TOX
WC	7697-37-2	.0400000	.0040000	A

Totals per CAS #: .0400000 .0040000

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	77-86-1	.0400000	.0000000	N

Totals per CAS #: .0400000 .0000000

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
77-92-9	CITRIC ACID	NA	~~A~~ 3c,e	NA	N			~~D002; WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	77-92-9	.0400000	.0000040	D

Totals per CAS #: .0400000 .0000040

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7704-34-9	SULFUR	~~ES~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7704-34-9	.1300000	.0000000	N

Totals per CAS #: .1300000 .0000000

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7705-07-9	TITANIUM TRICHLORIDE	~~FL~~ 3c,e	~~0~~	NA	N			~~D001; D002; D003~~ 3c,e

Compatibility

Reactivity
WATER REACTIVE

Source	ID#	Weight %	EC %	TOX
WC	7705-07-9	.1700000	.0000000	N

Totals per CAS #: .1700000 .0000000

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7705-08-0	FERRIC CHLORIDE	NA	~~X~~ 3 c, e	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX
WC	7705-08-0	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7718-54-9	NICKEL (II) CHLORIDE (1:2)	NA	NA	NA	Y	3.98 mg/l	11 mg/kg	~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7718-54-9	.1600000	.0001600	C
Totals per CAS #:		.1600000	.0001600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7720-78-7	FERROUS SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7720-78-7	.2000000	.0002000	C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7722-64-7	POTASSIUM PERMANGANATE	~~O~~ 3c, e	NA	NA	N			~~D001~~ 3c, e

Source	ID#	Weight %	EC %	TOX
WC	7722-64-7	.2000000	.0000200	D
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7722-84-1	HYDROGEN PEROXIDE	~~O~~ 3c, e	~~O~~	NA	N			~~D001, D002, WT02~~ 3c, e 6b

Source	ID#	Weight %	EC %	TOX
WC	7722-84-1	.3700000	.0003700	C
Totals per CAS #:		.3700000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7727-43-7	BARIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7727-43-7	.0320000	.0000000	
Totals per CAS #:		.0320000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7732-18-5	WATER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7732-18-5	6.0000000	.0000000	
Totals per CAS #:		6.0000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7738-94-5	CHROMIC (VI) ACID	~~O~~	~~X~~ 3c,e	NA	~~Y~~ 3e	2.77 mg/l	.6 mg/l TCLP	~~D001; D002~~; D007 (5.0000) 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	7738-94-5	.0053000	.0000000	
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7757-82-6	SODIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7757-82-6	.1960000	.0000000	
Totals per CAS #:		.1960000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7757-83-7	SODIUM SULFITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	7757-83-7	.0040000	.0000004	
Totals per CAS #:		.0040000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7758-02-3	POTASSIUM BROMIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7758-02-3	.0004000	.0000000	TOX: D
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7758-05-6	POTASSIUM IODATE	~~O~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7758-05-6	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT	NA	~~X~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7758-16-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)	NA	NA	NA	~~Y~~ 5e	.69 mg/1	.75 mg/1 TCLP	D008 (5.0000)

Source	ID#	Weight %	EC %	TOX
WC	7758-95-4	.2600000	.0000000	TOX: N
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7761-88-8	SILVER NITRATE	~~O~~ 3c,e,	NA	NA	~~Y~~ 5e	.43 mg/1	.14 mg/1 TCLP	~~D001~~ 3c,e D011 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7761-88-8	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7772-99-8	STANNOUS CHLORIDE	NA	~~Y~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7772-99-8	.3300000	.0000330	D
Totals per CAS #:		.3300000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7773-01-5	MANGANESE CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7773-01-5	.0130000	.0000130	C
Totals per CAS #:		.0130000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7774-29-0	MERCURIC IODIDE	NA	NA	NA	~~Y~~ 5e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX
WC	7774-29-0	.1300000	.0013000	B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7778-18-9	CALCIUM SALT SULFURIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7778-18-9	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7778-50-9	DIPOTASSIUM DICHROMATE	~~Y~~ 3c,e	NA	NA	~~Y~~ 5e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; D007 (5.0000); ~~WT01~~ 3c,e 6q

Source	ID#	Weight %	EC %	TOX
WC	7778-50-9	.0400000	.0040000	A
Totals per CAS #:		.0400000	.0040000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7778-53-2	POTASSIUM PHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7778-53-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7782-42-5	GRAPHITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7782-42-5	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7782-49-2	SELENIUM	NA	NA	NA	~~N~~ 5e	.82 mg/1	5.7 mg/1 TCLP	D010 (1.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7782-49-2	.0001000	.0000000	
Totals per CAS #:		.0001000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7782-77-6	NITROUS ACID	NA	~~NA~~ 3c,e	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX: N
WC	7782-77-6	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7782-91-4	MOLYBDIC ACID (NO RTECS INFO)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7782-91-4	.1700000	.0000000	
Totals per CAS #:		.1700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7783-18-8	AMMONIUM THIOSULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7783-18-8	.0040000	.0000004	D
Totals per CAS #:		.0040000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7783-28-0	AMMONIUM PHOSPHATE DIBASIC	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7783-28-0	.2000000	.0002000	C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7783-36-0	MERCUROUS SULFATE	NA	NA	NA	~~Y~~ 5e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7783-36-0	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7784-27-2	ALUMINUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7784-27-2	.1600000	.0000160	D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7784-46-5	SODIUM ARSENITE	NA	NA	NA	~~Y~~ 5e	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); ~~WT01~~ 6a

Source	ID#	Weight %	EC %	TOX
WC	7784-46-5	.1300000	.0013000	B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/1)
7785-87-7	MANGANOUS SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7785-87-7	.1300000	.0000130	D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/1)
7788-98-9	AMMONIUM CHROMATE	~~O~~ 3c,e	NA	NA	~~Y~~ 5e	2.77 mg/1	.6 mg/1 TCLP	~~D001~~; D007 (5.0000) 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7788-98-9	.0600000	.0000000	N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/1)
7789-00-6	POTASSIUM CHROMATE	~~O~~ 3c,e	NA	NA	~~Y~~ 3c,e	2.77 mg/1	.6 mg/1 TCLP	~~D001~~; D007 (5.0000); ~~WT02~~ 3c,e 6 b

Source	ID#	Weight %	EC %	TOX
WC	7789-00-6	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/1)
7789-23-3	POTASSIUM FLUORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7789-23-3	.0300000	.0000300	C
Totals per CAS #:		.0300000	.0000300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/1)
7790-62-7	POTASSIUM PYROSULFATE	NA	~~X~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7790-62-7	.2000000	.0000000	N
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-38-6	DIETHYL ETHYLPHOSPHONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	78-38-6	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-51-3	2-BUTOXYETHANOL, PHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	78-51-3	.0053000	.0000085	TOX: D
Totals per CAS #:		.0053000	.0000085	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-93-3	METHYL ETHYL KETONE	FL 3c,e	NA	NA	Y 5d	.28 mg/l	36 mg/kg	3c,e 4 D001; D035 (200.0000); F005; U159; WT02 1 6b

Source	ID#	Weight %	EC %	TOX
WC	78-93-3	.0036000	.0000004	TOX: D
Totals per CAS #:		.0036000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7803-55-6	AMMONIUM VANADATE	NA	NA	NA	N			P119; WT01 1 6q

Source	ID#	Weight %	EC %	TOX
WC	7803-55-6	.1300000	.1300000	TOX: X
Totals per CAS #:		.1300000	.1300000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
79-01-6	TRICHLOROETHYLENE	NA	NA	HOC	Y 5d	.054 mg/l	6 mg/kg	4 D040 (.5000); F001; F002; U228; WP01; WT02 1 6q 6b

Source	ID#	Weight %	EC %	TOX
WC	79-01-6	.0006000	.0000001	TOX: D
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
79-11-8	CHLOROACETIC ACID	NA	~~A~~ 3c,e	HOC	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	79-11-8	.2000000	.0002000	C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
80-55-7	METHYL LACTIC ACID (ETHYLESTER)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	80-55-7	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
8001-30-7	CORN OIL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	8001-30-7	.0053000	.0000000	N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
8008-20-6	KEROSENE	~~EL~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	8008-20-6	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
868-18-8	SODIUM TARTRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	868-18-8	.0600000	.0000000	N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
87-69-4	TARTARIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	87-69-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
87-86-5	PENTACHLOROPHENOL	NA	NA	HOC	~~Y~~ 5e	.089 mg/l	7.4 mg/kg	D037 (100.0000); ~~F027~~; ~~WP01~~; ~~WT02~~ 6b 6c

Source	ID#	Weight %	EC %	TOX: B
WC	87-86-5	.0100000	.0001000	
Totals per CAS #:		.0100000	.0001000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	90-80-2	.0600000	.0000000	
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9002-93-1	TRITON X-100	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	9002-93-1	.0040000	.0000004	
Totals per CAS #:		.0040000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	9036-19-5	.0390000	.0000039	
Totals per CAS #:		.0390000	.0000039	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	9052-95-3	.3300000	.0000000	N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
91-20-3	NAPHTHALENE	ES	NA	NA	Y	.059 mg/l	5.6 mg/kg	D001; U165; WT02

3c,e 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	91-20-3	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
95-45-4	DIMETHYLGLYOXIME	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	95-45-4	.3300000	.0000000	N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
95-48-7	O-CRESOL	NA	NA	NA	Y 5d	.11 mg/l	5.6 mg/kg	D023 (200.0000); F004; U052; WT02

6b

Source	ID#	Weight %	EC %	TOX
WC	95-48-7	.0005600	.0000006	C
Totals per CAS #:		.0005600	.0000006	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
98-95-3	NITROBENZENE	NA	NA	NA	Y 5d	.068 mg/l	14 mg/kg	D036 (2.0000); F004; U169; WT02

6b

Source	ID#	Weight %	EC %	TOX
WC	98-95-3	.0014000	.0000014	C
Totals per CAS #:		.0014000	.0000014	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN049	ABSORBENTS (NON-SPECIFIED)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN049	.1200000	.0000000	
Totals per CAS #:		.1200000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, RAD ONLY)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN055	42.3550000	.0000000	
Totals per CAS #:		42.3550000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN113	ACRYLIC EMULSION/POLYMER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN113	.0076000	.0000000	
Totals per CAS #:		.0076000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN126	ETHERS (NON-SPECIFIED)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN126	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCNPCBOIL	PCB OIL							

Source	ID#	Weight %	EC %	TOX:
WC	GCNPCBOIL	.0001000		
Totals per CAS #:		.0001000		

U381 TRU Retrieval Project

Package ID 0031161 | U310

NDA Required: N

NDA Complete Dt:

- [ ] Available to Ship

RAD: TRU

Seal #:

Special Handling:

Removed Date: 03/30/2006 | Facility: 218W4C | Unit: T04 | Module: 4

Purpose:

Comments: corrosion\hole >3/8"

Repack:

Vent Tracking Grp:

Treatment Path:

Assay Upload

- [ ] Complete

File Name:

Notes:

Reviews

- [ ] Additional Isotopes
- [ ] Completed
- [ ] U235 FGE
- [ ] Completed
- [ ] FGE
- [ ] Completed

Other Globals

Global Description	Rev#	Date

Designation Globals

- [x] Designation Complete

Designation#	Rev#	Date
325-DES-01	00	05/23/2006
325-DES-01	01	11/13/2008

Date Received for Clearance Process (MM/DD/YYYY)

11/13/2006

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Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

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Kurt McDonald
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A-6001-401 (02/06)

HNF-30810
Revision 0

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management
Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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P.O. Box 1000
Richland, Washington

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Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

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Fluor Hanford, Inc.

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Acceptable Knowledge

(Sign Name) (Date) 11/9/06
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R. P. Dunn
Site Project Manager

EXECUTIVE SUMMARY

This report provides the acceptable knowledge (AK) information required by the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit and the *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* to support the characterization and disposition of transuranic (TRU) waste at the WIPP in Carlsbad, New Mexico. The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the Bldg 325 Radiochemistry Building and currently consists of approximately 4,455 containers for a total waste stream volume of approximately 1197 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWB's) 4305 55-gallon drums, and 129 wood or metal crates of various sizes. These containers are currently stored in the Central Waste Project (CWC) and the 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. The waste stream characterization presented in this document is based on the review of container-specific documentation for those containers listed in the most current AK Waste Containers list. This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for the characterization of waste generated by the 325 Radiochemistry Building operations. The AK source documents used to prepare this report are listed in Section 5.0. Each waste container in the RLM325D waste stream will contain greater than 100 nCi/g of TRU nuclides before being certified for disposal. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0706200426745]

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets (MSDSs), and interviews with facility personnel.

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ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
Am	Americium
BBI	Best Basis Inventory
CCP	Central Characterization Project
CEPOD	Catalyzed Electrochemical Plutonium Oxide Dissolver
CFR	Code of Federal Regulations
CH	Contact-handled
Cm	Curium
Cs	Cesium
CWC	Central Waste Complex
DOE	United States Department of Energy
EPA	United States Environmental Protection Agency
FFTF	Fast Flux Test Facility
HEPA	High Efficiency Particulate Air
HWFP	Hazardous Waste Facility Permit
HWTU	Hazardous Waste Treatment Unit
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
m^3	cubic meters
MAS-NMR	Magnetic Angle Spinning Nuclear Magnetic Resonance Spectrometry
MBA	Material Balance Area
MSDSs	Materials Safety Data Sheets
Np	Neptunium
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PFP	Plutonium Finishing Plant
PRF	Plutonium Recovery Facility
Pu	Plutonium
R&D	Research and Development
RH	Remote Handled
RCRA	Resource Conservation and Recovery Act
RMS	Records Management System
RTR	Real-Time Radiography
SAL	Shielded Analytical Laboratory
SEM	Scanning Electron Microscopy
SWB	Standard Waste Box
Sr	Strontium
TIMS	Thermal Ionization Mass Spectrometry
TRU	Transuranic
TRUSAF	Transuranic Storage and Assay Facility
TWBIR	Transuranic Waste Baseline Inventory Report
TWINS	Tank Waste Inventory Network System
U	Uranium
WAC	Waste Acceptance Criteria

WIPP	Waste Isolation Pilot Plant
WIPP-WAC	Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant

1.0 INTRODUCTION

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the "*Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant*" (HWFP). This document and supporting references provide the mandatory waste program management and waste stream-specific Acceptable Knowledge (AK) information for the 325 Radiochemistry Building TRU waste generated from 1970 to present. This AK document contains a description of the TRU waste generating facilities and the waste management practices at the time of waste generation.

The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the Bldg 325 Radiochemistry Building and currently consists of approximately 4,455 containers for a total waste stream volume of approximately 1197 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWBs) 4305 fifty-five-gallon drums, and 129 wood or metal crates of various sizes. The wood or metal crates will be repacked resulting in an additional 1270 55-gallon drums. The repackaging effort will result in an approximate 35 percent increase in volume of the waste stream (e.g., due to splitting of drums based on fissile gram equivalent loading, addition of absorbents). Thus the total RLM325D waste stream consists of 21 SWBs and 7526 fifty-five gallon drums. TRU-SPO-11.9-0706200426745

A tracking number is assigned to each AK document through the Records Management System (RMS) database. Tracking numbers issued to documents originating under the Hanford TRU Waste Program will be identified with an "SPO" (i.e., Site Project Office) modifier. Documents are also entered into the RMS by the Hanford Waste Services organization and are identified by the "WST" OR "TS" modifiers. Tracking number prefixes identify the type of document entered into the database, as follows:

- TRU-SPO-11.4.1 designates correspondence
- TRU-SPO-11.4.2 designates internal procedures
- TRU-SPO-11.4.3 designates published documents
- TRU-SPO-11.4.4 designates unpublished documents
- TRU-SPO-19 or TRU-SPO-11.9 designate Project Office memos

Other tracking numbers may be assigned as needed. The documents used to characterize a waste stream will be scanned into the Integrated Document Management System (IDMS) when characterization is complete. These documents, and documents submitted by other organizations or for other waste streams, will be accessible by IDMS or the Records Management Information System (RMIS). The waste in this waste stream will be characterized in accordance with the *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan (HNF-2599)* and certified in accordance with the *Hanford Site Transuranic Waste Certification Plan (HNF-2600)*. TRU-SPO-11.4.3-0606200628302, TRU-SPO-11.4.3-0606200628721

The primary sources of AK used for determining the physical and chemical characterization for the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared by the Hanford site for each container. The documentation for each container includes all or part of the following information:

- Estimated plastic and metal content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- A Hanford WIPP Certification Checklist for each Waste Acceptance Criteria (WAC) requirement
- A Contents Inventory Sheet identifying the composition of each package placed into the drum

2.0 BACKGROUND AND PROCESS DESCRIPTION

This debris waste stream was generated in support of a wide variety of Hanford site operations including 100 West, 200 West, and 300 West Areas, including laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200450893, TRU-SPO-11.9-0708200431216]

The Hanford Site is divided into several areas where defense and nuclear weapons production took place. Operations generating TRU waste were conducted primarily at the 100, 200, and 300 areas at the site. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184]

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were all light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water. N Reactor was also a dual-purpose reactor that was capable of making electrical power and weapon-grade plutonium, or electric power and fuel-grade plutonium and was used for domestic power production from 1966 until 1986. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building and a Bulk Reduction Building. These facilities performed chemical dissolution of irradiated fuel from the 100 Area reactors and plutonium recovery using the bismuth phosphate separation process. The final step of plutonium recovery operations was housed in the Plutonium Finishing Plant (PFP) at 200 West. Ancillary buildings that existed to support the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

In 200 West, the Reduction and Oxidation (REDOX) Plant began operations in 1951, using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium. In

1953, the 224-U Building was converted from a training facility to the Uranium Oxide (UO_3) Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the Plutonium Finishing Plant (PFP) was converted to a research and development facility for plutonium processes and nuclear device development for testing at the Nevada Test Site. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

Also located in 200 West, the PFP began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal in the remote mechanical lines, performed casting and machining operations for weapons components, and recovered plutonium from waste and scrap generated at other Hanford facilities. The PFP remote mechanical lines began processing Pu nitrate to create buttons in 1952, and in the late 1960's participated in extended programs that prepared plutonium oxides for commercial nuclear experiments and development. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

Waste such as incinerator ash, scrap and crucible, and dissolver heels, were run through the solvent extraction process at the Plutonium Reclamation Facility (PRF) a larger, safer and more flexible version of the Recovery of Uranium and Plutonium by Extraction (RECUPLEX) Facility.

Facilities in the 300 Area of the Hanford Site have been diverse in their missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. These facilities were not designed for handling TRU materials therefore, were not generators of TRU waste. Other facilities, such as Building 308, were designed to manufacture plutonium oxide and/or mixed oxide fuels for the research reactors in the 300 and 400 Areas of the Hanford Site. Some facility missions such as Buildings 324 and 325 hot cells were the focus of research and development (R&D) for fuel element performance evaluation and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. The TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. Twenty-three 300 Area facilities were generators of, or had the potential for generating, TRU waste. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

Since the 1960s, the Hanford Site has accepted waste generated from numerous offsite facilities. It is estimated that 20 volume percent of the defense TRU waste generated in the United States is stored at the Hanford Site. Approximately half of the retrievably stored Contact Handled (CH)-TRU waste was stacked in modules on asphalt pads or aboveground buildings in the 200 East and 200 West areas and the other half was placed in gravel earthen trenches. TRU waste unsuitable for asphalt pad storage because of size, chemical composition, security requirements, or surface radiation was packaged in reinforced wood, concrete, or metal boxes and stored in dry waste trenches. The trenches were covered with plywood and plastic-reinforced nylon sheeting and backfilled with dirt. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

2.1 Facility Description:

The Hanford Site is located in southeastern Washington State near the Tri Cities area of Richland, Kennewick, and Pasco as shown in Figure 1. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemistry Building is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figure 2 and Figure 3. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0622200241184

The 325 Radiochemistry Building was built in 1953 to safely house and handle multi-curie and high activity chemical development work. The High-Level Radiochemistry Annex was added to the facility in 1959 and 1960. Combined these two analytical operations were the largest among Hanford's laboratories. Analyses were performed in glove boxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests. The 325 Facility has had a transient operating history, first operated by General Electric from 1953 until 1965 when operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970 operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire laboratory was transferred to the current contractor Pacific Northwest National Laboratories (PNNL) in1987. TRU-SPO-11.9-0708200436028

The 325 Facility contains approximately 140,000 square feet of laboratory space. In the 1960s, the building operated as many as 50 laboratories and 11 hot cells. The laboratories were furnished with hoods and glove boxes designed for handling radioactive materials. The 325 Facility was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four-foot thick concrete walls with steel liners surrounded these larger cells. All eleven hot cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank. Section 4.0 provides a summary of the operations associated with TRU waste generation. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431216

Generation of radioactive solid waste at Hanford was coincident with nuclear weapons production that first began in 1944. The Hanford Site was constructed to produce plutonium for the weapons program during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. The primary mission of the 300 Area of the Hanford Site was reactor fuels development and fabrication. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184

Initial 325 Facility missions included production and process improvement support for the REDOX and Uranium Metal Recovery operations. Actinide separation studies that were conducted focused on development techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Facility mission also included support to the Plutonium – Uranium Extraction (PUREX) plant, the RECUPLEX Facility and Plutonium Recovery Facility production processes. TRU-SPO-11.9-0708200431216

In the 1960s the 325 Facility supported NASA and medical isotope development campaigns. A number of new techniques were developed involving separation and fractionation technology. Specific isotopes, including strontium-90, cesium-137, curium-244, americium-241 (Am-241), and promethium-147, were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During these years, Hanford was the only supplier in the world of promethium-147, which was used in the development of the artificial heart. Also, during the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell. TRU-SPO-11.9-0708200431216

The 325 Facility was involved in Fast-Flux Test Facility (FFTF) fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory performed analyses on Exxon Enriched Uranium samples. These samples were submitted as sweepings from the process line glove boxes in the Exxon facility located adjacent to the site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste. 325 Facility personnel in the shielded analytical facility worked on samples from these processes.

After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

Characterization of tank waste started in the late 1980s and continued through the 1990s. Many of the sampling and analytical techniques used during tank waste characterization at the Hanford site were developed by the 325 Facility operations. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and mixed oxide (MOX) materials using electrochemical, spectrophotometric and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 Facility has been operated as a Treatment Storage and Disposal (TSD) facility since 1993 and has operated as part of an overall Hazardous Waste Treatment Unit (HWTU) for the Hanford site since that time TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200440020

3.0 WASTE STREAM DISCRIPTION

Analyses performed in glove boxes, fume hoods, and hot cells included a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30% of waste in drums is non-combustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils, sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans, have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters, while others contain these filters and other waste forms. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200430656, TRU-SPO-16-0630200149652]

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents, however, liquids were neutralized, absorbed, and cemented and may be present in residual quantities due to dewatering or condensation. The AK documents identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. These containers will be evaluated for TRU Remote-Handled (RH) designation and removed from the RLM325D container list. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated, treated, and/or repackaged to remove the prohibited items or conditions prior to certification and shipment. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656]

3.1 Defense Determination

Hanford's solid waste legacy can be traced back to early weapons production activities in 1944. As discussed above, the 325 Facility has had an ongoing history of supporting production reactor and reprocessing activities at the Hanford site, including the following processes:

REDOX, - Plutonium nitrate solution processed in 233-S Facility was derived from defense-related plutonium activities; specifically, defense nuclear materials production. Plutonium originating from Hanford production reactors was recovered (as nitrate solutions) from irradiated fuel in separation facilities such as REDOX. The nitrate solutions from REDOX were further concentrated at the 233-S Facility and transferred to the Plutonium Finishing Plant, where the plutonium nitrates were purified and converted to plutonium metal or oxide. [TRU-WST-11.4.3-0306200647097]

PUREX - The PUREX product stream was used to produce plutonium metal and plutonium oxides to support national defense activities. The plutonium nitrate and plutonium oxide materials produced were used for weapons production and mixed-oxide reactor fuel production. The PUREX received aluminum-clad uranium metal fuel and zirconium alloy clad fuel from Hanford production reactors to reprocess and to recover weapons-grade and fuels-grade plutonium. TRU-TS-11.4.30423199953594, TRU-TS-11.4.3-0427199915823

PRF- Pu was received from DOE (e.g. Hanford, Rocky Flats, and Savannah River) and other (i.e., West Valley) sources under the Pu Recycling Program, conducted by DOE's predecessor organization, the AEC, to reclaim economically valuable Pu for use in research or for fueling Pu breeder reactors, such as FFTF and EBR-II. Oxides that were blended to develop the MOX used in the fuels were processed in the PRF and PFP using the same process lines and equipment used for processing of Pu generated from defense-related activities and the materials were not segregated. The Pu in the MOX fuel fabricated at the commercial facilities was supplied by and had been produced in reactors at Hanford and Savannah River operated by the U. S. Government for defense-related purposes (i.e., production of Pu for weapons production). The U. S. Government produced and acquired approximately 93% of its inventory from government defense reactors located at Hanford and Savannah River. TRU-SPO-11.4.3-1127200254744, TRU-SPO-11.9-1112200350054

N-Reactor - Designed to be a dual purpose reactor (i.e. producing both plutonium and steam to be used to generate power), N-Reactor started producing plutonium in March of 1964 and electrical power sometime later. From 1965 to 1967, tritium was produced at N-Reactor using fuel elements manufactured in the 333 facility. This Reactor was shut down in 1987. TRU-SPO-11.4.3-0314200658459

In recent years, the 325 facility has continued to support defense activities associated with defense nuclear waste and by-product management. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649, TRU-SPO-11.9-0708200441084

The Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WIPP-WAC) requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU "defense" waste. Based on guidance from Department of Energy (DOE), a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the *atomic energy defense activities* listed in section 10101(3) of the *Nuclear Waste Policy Act of 1982*. TRU waste generated in the 325 Facility are contaminated with radiological isotopes that are part of defense waste clean up and other activities supporting weapons process development and reactor research. Based on the review of AK, TRU waste generated by 325 Facility operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following functions: TRU-SPO-11.9-0630200449685

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management

- Defense research and development
- Weapons activities, including defense inertial confinement fusion

This waste stream contains waste that was generated in part from studies that were part of the DOE Nuclear Waste Vitrification Project (NWVP) program and support to defense nuclear waste management, including characterization of tank sludges resulting from years of processing weapons materials at the Hanford site. In addition, support to processes at N-Reactor such as examination of boron thermal shielding, iodine control and uranium dissolution took place in the hot-cells and additional characterization was performed in support of PUREX reprocessing and waste characterization. Other projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. Due to the nature of the analytical work performed in the laboratory, all defense project work was carried out in conjunction with other projects supporting analytical characterization needs across the Hanford site. [TRU-SPO-11.9-0701200437194 TRU-SPO-11.9-0708200431216]

Due to the waste management practices and analytical nature of the operations conducted in the 325 Building, no attempt was made to segregate the waste originating from non-defense (e.g. promethium-147 used in the artificial heart) from defense-related campaigns. Since segregation of the waste is no longer feasible, by definition this waste is eligible for disposal at the WIPP facility. [TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0708200431216]

3.2 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal of spent nuclear fuel and high-level waste, as defined by the Nuclear Waste Policy Act (NWPA), at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." [TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0919200631754]

Pursuant to this definition the DOE has identified waste resulting from reprocessing spent nuclear fuel, that is determined to be incidental to reprocessing, is not high-level waste. The determination of waste incidental to reprocessing shall be made using a citation process or evaluation process as explained in DOE Manual 435.1-1: [TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0906200639182]

The citation process refers to those reprocessing waste items of the type that were discussed in the Statement of Proposed Policy for Appendix D, 10 Code of Federal Regulations (CFR) Part 50, as not being high level waste. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to contaminated job wastes including laboratory items such as clothing, tools and equipment. Examples include:

- Contaminated job wastes, a general category of wastes that are generated during high-level waste transfer, pretreatment, treatment, storage and disposal activities. Included is protective clothing, personal protective equipment (PPEs), work tools, ventilation filter media and other job-related materials necessary to complete high-level waste management activities;

- Sample media (eg. Sampling vials, crucibles, other hardware);
- Decontamination media and decontamination solutions (eg. Swabs, other decon work-related materials);
- Laboratory clothing, tools and equipment

The RLM325D waste stream, as described in Sections 3.0 and 4.0, contains laboratory wastes, including diaper paper, wipes, towels, protective clothing, cardboard, metal cans, High Efficiency Particulate Air (HEPA) filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber, and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps, and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids include sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans. Also included are wastes resulting from spill clean-up and decontamination activities.

It is apparent that the RLM325D waste stream contains the types of waste items that are described in the Statement of Proposed Policy for Appendix D, 10 CFR Part 50, as not being high level waste. Therefore a waste incidental to reprocessing determination can be made for this waste stream using the citation process, as described in DOE M 435.1-1.

3.3 Waste Matrix Code

The Summary Category Group is S5000 and the Waste Matrix Code Group is *Heterogeneous Debris.*

The waste matrix code of S5490 is assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, packaging procedures, waste generating activities, and the Waste Disposal Records and Contents Inventory Sheets completed by the waste generator for each container. [TRU-SPO-11.9-0701200437024]

The waste material parameters and physical content descriptions for 211 containers were reviewed. The waste material parameters and estimated volume percentages were tabulated in an Excel spreadsheet. When volume percentages of organic materials (i.e., paper, wood, cloth) were listed as a single value, these percentages were evenly distributed in the spreadsheet between each identified waste matrix parameter. This assumption was also applied to the inorganic materials. Once the material composition was tabulated, the relative volumes for organic debris, inorganic debris, homogenous organic solids, and homogenous inorganic solids were estimated for the waste stream to assign the waste matrix code. [TRU-SPO-11.9-0701200437024]
Based on the container-specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris such as iron-based alloys, plastics, cellulosics, concrete, lead, glass, ceramics, diatomaceous earth, and asbestos. The balance of the

waste stream consists of homogenous inorganic and organic solids such as absorbed liquids and cemented materials. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories, including absorbed and solidified liquids. Therefore, Waste Matrix Code S5490, Unknown / Other Heterogeneous Debris is assigned to waste stream RLM325D. The Summary Category Group, Waste Matrix Code Group and Waste Matrix Code are based upon process knowledge of the waste. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0708200431216

3.4 Waste Material Parameters

Waste material parameters were identified and assessed as described in Section 3.3. Based on the information obtained from the Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D contains the waste material parameters identified in Table 1. TRU-SPO-11.9-0701200437024 TRU-SPO-11.9-0706200430656

Table 1 – Waste Material Parameters Found in RLM325D Waste Stream

Waste Material Parameter	Description	Present?	Estimated percent
Iron-based Metals/Alloys	Iron and steel alloys in the waste (does not include the waste container materials)	Y	40.53
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials	Y	0.091[a]
Other Metals	All other metals found in the waste materials	Y	1.32
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbent	Y	11.63
Cellulosics	Materials generally derived from high-polymer plant carbohydrates (e.g., paper, cardboard, wood, and cloth)	Y	6.68
Rubber	Natural or man-made elastic latex materials (e.g., surgeons' gloves, and leaded rubber gloves)	Y	3.37
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene and polyvinylchloride)	Y	27.67
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges	Y	0.92
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents (e.g., wastewater treatment sludge, cemented	Y	7.79

Waste Material Parameter	Description	Present?	Estimated percent
	aqueous liquids, and inorganic particulates)		
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials	N	
Steel (packaging materials)	55-gallon drums	Y	
Plastics (packaging materials)	12-mil and 90-mil polyethylene drum liners and plastic bags	Y	

[a] This figure was arrived at by adding together all other percentages and subtracting from one hundred. The source documents did not contain a percentage for aluminum-based metals / alloys.

3.5 Prohibited Items

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656

Waste containers in this waste stream will be certified in accordance with the *Hanford Site Transuranic Waste Certification Plan.* TRU-SPO-11.4.3-0606200628721

4.0 DESCRIPTION OF WASTE GENERATING PROCESS

This section provides descriptions of historical operations conducted in the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex. These descriptions discuss the major activities performed in the laboratory and are representative of the analytical, process development, R&D, and waste management capabilities provided by the facility. Due to the number and R&D nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document.

The 325 Radiochemistry Laboratory remains in operation. On-going research and development of defense related activities and facility operations will typically generate waste from fume hoods, glove box and hot cell operations, at bench tops, and at step off pads. Processes generating waste include, but are not limited to: TRU-SPO-11.4.3-1013200649581

- Treatability Studies
- Sample separation or dilution
- Analytical measurements
- Tank waste pilot scale testing

In addition, Milestone M-094-00 of the *Hanford Federal Facility Agreement and Consent Order* requires completion of all 300 Area facilities D&D activities by September of 2015. Newly generated waste containers supporting Hanford site process operations will be characterized and packaged appropriately TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200430731 TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050 TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431008 TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649 TRU-SPO-11.9-0708200448468 TRU-WST-11.4.3-1017200543795

During laboratory operations, the office of Laboratory Operations was designated as the administrator of control procedures overseeing nuclear safety specification and was cognizant of control area classifications and material transfers. The laboratory supervisor was also responsible for maintenance of a written record of the quantity and location of plutonium held in Plutonium control areas based upon data submitted by chemical research and development personnel. Material Balance Points were established through incorporation of Material Balance Areas (MBAs). These MBAs were used to control plutonium materials in the 325 Building. Cans of plutonium were tracked in specific areas by unique identification numbers and quantity of plutonium present. Log sheets were maintained for each of these areas until the material was used or disposed of as waste. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0708200435233

After the completion of a given project, contaminated liquids were disposed of through the retention process sewer and the radioactive liquid waste systems. Radioactive liquid waste was routed to the 340 Building and then transferred by cask to the 200 area tank farms. Solid and liquid waste treated at the HWTU in the facility were segregated into low-level, TRU, and mixed waste streams prior to disposition, and solid waste was packaged, shipped, and stored in accordance with the Hanford specific waste acceptance criteria Free liquids were solidified using cement and vermiculite mixtures in a 1 to 2 ratio prior to disposal. If the liquids were corrosive they were neutralized prior to solidification. In the early 1980s, aerosol cans were required to be punctured and ballasts were segregated from TRU waste prior to disposal. TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440354

Waste materials from operations were not segregated based on the physical form or chemical content at the time of generation. Containers were sent to be assayed in the 300 area. TRU containers were sent to the Transuranic Storage and Assay Facility (TRUSAF) or CWC for Real-time Radiography (RTR) prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the TRUSAF or CWC.

In general, waste materials were bagged out of glove boxes and placed in 55 gallon containers and Standard Waste Boxes (SWBs) that were lined with 10-mil plastic liners. TRU waste materials were removed from the glove boxes and hot cells using plastic bag out bags that had 8- and 15-inch openings. These bags were filled with waste and then horse-tailed and placed in the appropriate container. If externally contaminated, the bagged out waste would have been placed in an additional plastic bag before being placed in the drum. If the waste was packaged between 1983 and 1987 a single heat-sealed bag may have been used to bag out some glove box waste prior to insertion of the waste item into the lined 55-gallon container. Heat sealed bags were a minimum of five feet in length, which easily complies with the surface area requirement contained in Appendix 6.13 of the CH-TRAMPAC Document. Waste Services profiles generated after 6/5/02 allowed for the use of up to five inner bags and one 10-mil liner bag and a 90-mil liner. Four gallon slip-lid cans were loaded out of hot cells into 5-gallon cans and loaded into lined 55-gallon drums. Four and five quart paint cans were also used in hot cell waste load out operations. Lids on the 4-gallon cans were held in place with tape in both an "X" taping configuration and / or a circumferential configuration. Five gallon can designs were typical of those found in any commercial paint supply store. Bend type tabs ran around the circumference of the lid and a rubber gasket seal was in place on the underside. 5-gallon lids were attached using either a screw driver or a crimper to bend the tabs down around the lid. Four and five quart paint can lids were hammered in place. Circumferentially taped four gallon slip-lid cans, 5-gallon paint cans, and 5-quart paint cans (with hammered lids) will be remediated prior to shipment to WIPP. When the drums were full the 10-mil plastic liners were horse tailed. Mixed waste from the hot cells was packaged in sheet metal liners with a Cellutex plug prior to being placed in the drum. All waste packaging was in accordance with the version of HNF-EP-0063 in place at the time. The bounding condition for waste generated post-1987 will be five inner bags and one liner bag. Maximum six layers of confinement. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640, TRU-SPO-11.4.3-1013200649581, TRU-SPO-11.4.3-1013200649840, TRU-SPO-11.4.3-1013200650165, TRU-SPO-11.4.1-1025200656684, TRU-SPO-11.4.1-1026200645819

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities. By 1980 each container accepted for storage at Hanford was required to be capable of being fitted with an air or vacuum hose or a gaseous diffusion vent. Drums were fitted with Nucfil 013 filters if radiolitic decomposition was a possibility. TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0708200430448, TRU-SPO-11.9-0708200431435

Following the packaging, RTR, and assay of the waste containers, they were transferred to a storage facility. Prior to this transfer, waste storage/disposal records were generated for each container. These records included packaging information such as date packaged, Package Identification Number (PIN), container type, gross and tare weight, volume, date packaged; waste information such as generator, origin, waste material, volume, weight, and radionuclides (e.g., fission/activation, TRU/fissile/source material), and storage location. These records included or referenced the RTR and assay information as well. A hazardous waste manifest also was prepared for TRU mixed waste. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0706200430656

Prior to 1985, chemists controlled all containers of waste from their own individual projects. The waste was tracked in laboratory notebooks but was disposed according to hazard. For drums generated at this time to be stored at the TRUSAF or the CWC, documentation was provided on checklists to document that waste was TRU or TRU mixed as generated from the processes described in these notebooks. Though Resource Conservation Recovery Act (RCRA)-regulated chemicals and metals were identified and documented in the Solid Waste Storage/Disposal Record forms and Contents Inventory Sheets, waste management practices did not require the segregation of these materials. TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200430521, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0706200430656

TRUCON Code RH125/225 is assigned to waste stream RLM325D. All organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III.I). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The Site Project Manager (SPM) will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate. Content Code(s) assigned to the waste are indicated in Table 2. TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640

Table 2 – Content Code Assignments

Packaging Variations		
Date/Container Type	**Typical Packaging Configuration**	**Default assignment Bounding Case without container specific information**
Waste packaged pre1983	RH125F/RH225F	Two inner bags packaged inside one unvented liner bag
Waste packaged 1983- 1987	RH125BE/RH225BE	Maximum of 3 plastic bag layers, one of which is a heat-sealed bag and one of which is a liner bag. Rigid drum liner is not present.
Waste packaged post 1987	RH125I/RH225I	Five inner bags and one liner bag
Waste re-packaged at T-Plant	RH125B/RH225B	One inner bag and one 90-mil liner
Waste re-packaged at WRAP	RH125J/RH225J	Zero layers of confinement
This table is not all inclusive of acceptable content codes that may be assigned to containers in this waste stream. In the event additional information is obtained for another packaging configuration, the content code will be assigned by a TRU program WCO or TCO using approved Richland Hanford content codes in DOE/WIPP 01-3194, CH-TRU Waste Content Codes Document		

Beryllium was present in standards used at the 325 Building; however, in this form it would be present in trace amounts (i.e., < 1 weight percent) and in forms other than as a pure metal or oxide. Therefore, it is considered to be present in trace amounts in this waste stream. TRU-SPO-11.9-0828200638735

4.1 Sample Preparation and Analyses

Sample preparation included sample fabrication, sample dissolution, mounting, and cleaning required for studies and analyses. Samples were prepared for analysis by doping chemicals and powders with plutonium, uranium and thorium then making immobilized plutonium forms. Ceramic samples were fabricated in glove boxes and fume hoods. In order to prepare samples for analysis, they were fused and dissolved in acids and when necessary plutonium containing solutions were purified using ion separation and liquid-liquid extraction methods. Solid samples were mounted after coring for magnetic angle spinning nuclear magnetic resonance spectrometry (MAS-NMR) in glove boxes and fume hoods. [TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200431874, TRU-SPO-11.9-0707200438443, TRU-SPO-11.9-0707200438660, TRU-SPO-11.9-0708200426725, TRU-SPO-11.9-0706200427171]

Once prepared, the samples were analyzed using a variety of chemical and physical methods. These methods included: MAS-NMR, gamma spectrometry, scanning electron microscopy (SEM), x-ray diffraction, and ion specific electrode methods. In addition spark source emission spectroscopy, potentiometric and amperometric electrochemical analyses, inductively coupled plasma-mass spectrometry (ICP-MS), thermal ionization mass spectrometry (TIMS), inductively coupled plasma-atomic emission spectroscopy (ICP-AES), kinetic phosphorescence, and thermogravimetric analysis-mass spectrometry were performed on solid and liquid samples. Figure 4 provides a typical flow diagram of these analyses performed on plutonium oxide materials. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431037, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431579, TRU-SPO-11.9-0707200437469, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200427171]

4.2 Process Development Support, Research and Development

Many of the sampling and analytical methods used for tank waste characterization at the Hanford site were developed at the 325 Facility. These methods involved extruding and sub-sampling of tank slurries and sludges followed by analysis of these materials for inorganic and organic constituents. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-0708200441405]

R&D support was conducted for studies relating to the immobilization of radioactive waste forms. The studies produced vitrified waste materials such as ceramics. These studies included leach testing the immobilized waste forms under differing temperature and pH environments. Other projects included the Catalyzed Electrochemical Plutonium Oxide Dissolver (the CEPOD project), evaluation of treatment methods, assessments of the removal of radionuclides from dissolved light water reactor fuels, process improvement support for PUREX processing, evaluation of potential exothermic reactions in tank waste, testing of ion exchange resins, and determination of the feed specifications for West Valley waste vitrification project. Physical examinations performed in support of Hanford process development included leach testing, radiation damage examinations by SEM, determination of specific gravity of solids, and thermogravimetric analysis. [TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0707200432171, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200438233, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431008, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0706200427171]

4.3 Hazardous Waste Treatment Unit

Several treatment methods were also developed as part of the HWTU located in the Shielded Analytical Laboratory (SAL) and room 528. Small bench scale treatment methods were used to treat hazardous waste for disposal or disposition to eliminate reactive and corrosive hazards not allowed by Hanford site storage facilities. Examples of the types of treatment methods employed at the HWTU include: molten salt destruction, pyrolysis, wet air oxidation, calcinations, microwave discharge, chemical fixation chlorination, chlorinolysis, cyanide destruction, degradation, detoxification, ion exchange, neutralization, filtration, crystallization, reverse osmosis, and evaporation. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0701200437361, TRU-SPO-11.9-0708200438206, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.4 General Laboratory Operations and Spill Cleanup

Laboratory operations involved maintenance to glove boxes and equipment in glove boxes and fume hoods as well as disposal and shipment of radioactive materials. Equipment and materials were moved into and out of containment areas using a variety of methods to minimize room contamination. TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0707200430521, TRU-SPO-11.9-0708200429446, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200430448

The AK documents identified events that resulted in wide spread laboratory contamination. Glove box and hot cell floods created ruptures in gloves and seals causing contamination to be spread across laboratory floors. One incident was due to improper wiring of the laboratory vacuum system which caused the hoods and other containment systems to blow contamination across the laboratory. These releases resulted in major cleanup efforts by laboratory personnel involving the decontamination of equipment, flooring, and other surfaces. The spill liquids were collected and packaged with vermiculite and cement. Terry cloth towels were also used to mop up liquids and a corn oil mist was used to control the release of airborne radioactive materials. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200440354

4.5 Chemical Content Identification / Waste Regulatory Characterization

The following sections describe the characterization rationale for the assignment of Environmental Protection Agency (EPA) Hazardous Waste Numbers to waste stream RLM325D. Table 3 summarizes the waste codes assigned to this waste stream. To assign EPA HWNs and Washington Dangerous Waste Codes the available AK documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. AK was collected from analytical procedures, chemical inventories, interviews, SWITS, Waste Disposal Records, Contents Inventory Sheets, and process studies. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below, several of the Hazardous Waste Numbers were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from any container in the waste stream. No Washington State Dangerous Waste Codes have been assigned to waste stream RLM325D. These waste codes are defined in Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code. TRU-SPO-11.9-0828200638735

Table 3 - Waste Stream Hazardous Waste Characterization summary

Waste Stream	EPA Hazardous Waste Numbers
RLM325D	F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043

Table 4 summarizes the chemicals, compounds, and commercial products identified during the AK process. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, , TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431874, SPO-11.9-0707200432171, TRU-SPO-11.9-0707200433058, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200439643, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200438206, TRU-SPO-11.4.3-0414200630007, TRU-SPO-11.9-0708200440020 TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0706200430656 TRU-SPO-11.9-0706200426745

Table 4 - Chemical and Commercial Product Usage

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Acetic acid (L)	Coulometry solution, sample preparation	NA*
Acetone (L)	Rinsing electrodes, cleaning filaments and glassware	F003*
Adiponitrile (L)	Organic synthesis	NA
AG MP-1 (trimethylamine)	Ion exchange resin	NA
Aluminum (S)	Heating blocks, capsules and standard solutions	NA
Aluminum chloride (S)	Electrolytic solutions	NA*
Aluminum nitrate nonahydrate (S)	Standard solutions	NA*
Aluminum oxide (S)	Laboratory reagent (refractory)	NA
Aluminum sulfate (S, L)	Electrochemical solutions	NA
Alundum (S, aluminum oxide)	Chromatography columns	NA
Ammonia (S, anhydrous)	Commonly ammonium hydroxide in water (pH adjustment)	NA*
Ammonium acetate (L, S)	Analytical reagent	NA
Ammonium chloride (S)	Kjeldahl Ammonia methods	NA
Ammonium dichromate (S)	Electrochemical solution	NA*
Ammonium fluoride (L, S)	Fluoride ion standard	NA
Ammonium hydroxide (L, S)	Liquid pH adjustment	NA*
Ammoniummolybdate (L, S)	Oxidizing acid, may be disposed in liquid waste stream	NA*
Ammonium oxalate (L, S)	Chelating agent	NA
Ammonium phosphate, dibasic (S)	Process chemical	NA
Ammoniumthiocyanate (S)	Process chemical possibly used in Cs scavenging not from electroplating	NA
Ammoniumvanadate (S)	Used as reagent in potentiometric methods.	NA
Arsenic oxide (S)	Laboratory reagent	D004
Arsenious acid (L)	Electrochemical methods.	D004
Asbestos (S)	Flame protection for glove box floors,	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
	and lab ware	
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in gas chromatography	NA
Ascorbic acid (L)	Electrolytic solutions	NA*
Barium carbonate (S)	Laboratory reagent	D005
Barium chloride (L)	Precipitating reagent.	D005*
Barium hydroxide (L, S)	PH adjustments in solutions.	D005*
Barium nitrate (S)	Laboratory reagent	D005*
Benzene (L)	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium (S)	Standard materials	NA
Black sealing wax (S)	Sealant for gas line testing	NA
Boric acid (L, pH=5)	Sample preparation	NA
Boron carbide (S)	Laboratory reagent	NA
Bromocresol purple (S)	Titrations	NA
Butyl alcohol, n- (L)	Solvent and used in microscopy with paraffin	F003*
Cadmium (S)	Emission spectrometric standard material, neutron shielding	D006*
Cadmium nitrate (S)	Emission spectrometric standard material	D006*
Calcium carbonate (S)	Buffering agent	NA
Calcium chloride (S)	Chloride standard material (solution)	NA
Calcium hydroxide (S, pH=11.4)	PH adjustment in solution	NA
Calcium nitrate (S)	Spectrometric standard material	NA*
Calcium sulfate (S)	Laboratory reagent	NA
Calcium tartrate (S)	Laboratory Reagent	NA
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	NA
Carbon tetrachloride (L)	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine (S)	Complexing agent	NA
Carboxymethylimine-bis-ethylenenitrile-tetraacetic acid (L)	Complexing agent	NA
Ceric ammonium nitrate (S)	Process chemical	NA
Cericnitrate (S)	Spectrometric standard material	NA
Cericsulfate (S)	Laboratory Reagent	NA
Ceric oxide (S)	Work with metals and glass	NA
Cerous nitrate/Cesium Nitrate (S)	Spectrometric standard material	NA*
Chromic acid (L)	Used in chrome plating.	D007*
Chromium chloride (S)	Spectrometris standard material	D007
Chromium trioxide (L)	Oxidant and hardening agent	D007*
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	NA*
Chloroform/trichloromethane (L)	Used as cleaning agent, and as an organic solvent.	D022
Citric Acid (L, S)	PH adjustment and chelating agent	NA*
Corn Oil Mist (G)	Used in radiological clean up	NA
Copper (S)	Tubing and used in sulfur combustion methods.	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Copper Nitrate (S)	Spectrometric standard material	NA*
Copper Oxide (S)	Combustion gas chromatography	NA
Cresols (L)	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine -N,N,N',N'-tetra acetic acid, monohydrate	Chelating agent	NA
Cyclohexane (L)	Extractant	NA*
Devarda's Alloy (Al, Cu, Zn)	Metal work	NA
D-19 [Kodak] Developer (L)	Photographic work (emission spectrometry)	NA
Diatomaceous earth (S)	Absorbent material	NA
Dibutyl butyl phosphonate	Reagent	NA*
1,2-dichloroethane, ethylene dichloride (L)	Reagent, metal cleaning	D028*
Diethylhexylorthophosphoric acid (L)	Chelating and pH adjustment	NA*
Dimethyldichlorosilane (L)	Gas chromatography agent	NA*
Dimethylglyoxime (S)	Chelating agent	NA
2,4-dinitrophenol (S)	Reagent	NA*
Dithiol (3,4-dimercaptotoluene) (S)	Tungsten extractant	NA
Dithiol-amyl acetate (L)	Tungsten extractant	NA*
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) resin	Anion exchange chromatography	NA
Dowex 50 (IX Resin) (Sulfonate polystyrene divinyl benzene)	Ion Exchange Resin	NA
Drierite (S, Calcium sulfate)	Combustion gas chromatography	NA
Ethanol (L)	Cleaning filaments and glassware	NA*
Ether (G, L, S)	Laboratory reagent	NA*
Ethylenedinitridotetraacetic acid (L)	Chelating agent	NA*
Ethyleneoxyethylenenitrilotetraacetic acid (L)	Complexing agent	NA*
Ferric ammonium sulfate (S)	Ion specific electrode methods for chloride	NA
Ferric chloride (S)	Laboratory Regent	NA
Ferric nitrate (S)	Spectrometric standard material	NA*
Ferric oxide (S)	Laboratory reagent	NA
Ferric sulfate (S)	Laboratory reagent	NA
Ferrous ammonium sulfate (S)	Determination of Pu by potentiometry and sample preparation	NA
Ferrous chloride (S)	Electrolytic solution	NA
Ferrous sulfate (S)	U by potentiometry	NA
Formic acid (L)	Reagent	NA*
Gallium oxide (S)	Impurities by Emission spectrometry	NA
Gluconic acid (L)	Metal cleaning, bottle washing	NA*
Glycerin (L)	Used in particle size determinations	NA
Gold (S)	Microelectrodes	NA
Graphite (S)	Crucibles, electrodes	NA
Hexane (L)	Liquid extraction and solvent	NA*
Hydrazine (L)	Process chemical (PUREX)	NA*
Hydrochloric acid (L)	Electrochemical solution and sample preparation	NA*
Hydrofluoric acid (L)	Oxidizing reactions, sample	NA*

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
	preparation	
Hydrogen peroxide (L, S)	Oxidizing agent	NA*
Hydroiodic acid (G)		NA*
Hydroxylamine hydrochloride (S)	Organic synthesis, photographic developer	NA*
Hydroxylamine nitrate (L)	Laboratory reagent	NA
Iodine (S)	Laboratory reagent	NA
Iron (S)	Standard material	NA*
Kerosene (L)	Process chemical (PUREX)	NA*
Kodak Developer D-1 (L)	Photographic plate development	NA
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcohol (L)	Dispersant and wetting agent	NA
Kodaksolubilizingagent SA-2 (L)	Solubilizing agent	NA
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	NA
Isopropyl alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	NA*
Lanthanum nitrate (S)	Laboratory reagent	NA*
Lanthanum-neodymium nitrate	Laboratory reagent	NA*
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead acetate (S)	Laboratory reagent	D008
Lead chloride (S)	Laboratory reagent	D008
Lead nitrate (S)	Spectrometric standard material	D008
Lead oxide (S)	Laboratory reagent	D008
Linde AW-500 resin (S, Aluminum silicate)	Ion exchange resin	NA
Lithium sulfate (S)	Spectrometric standard material	NA
Magnesium (S)	Spectrometric standard material	NA*
Magnesium nitrate (S)	Spectrometric standard material	NA*
Magnesium oxide (S)	Laboratory reagent	NA
Magnesium perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	NA*
Manganese dioxide (S)	Laboratory reagent	NA*
Manganous chloride (S)	Laboratory reagent	NA
Manganous nitrate (S)	Spectrometric standard material	NA*
Manganous sulfate (S)	Reagent	NA
Mannitol (L)	Reagent	NA*
Mercury (L)	Electrodes, thermometers, batteries	D009
Mercuric iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric nitrate (S)	Laboratory reagent	D009*
Mercuric oxide (S)	Laboratory reagent	D009*
Mercuricthiocyanate (S)	Ion Selective Electrode reagent.	D009
Mercurous sulfate (S)	Reference Electrodes	D009
Metaldi fluid (L, propylene glycol)	Dispersing agent	NA
Methanol (L)	Cleaning and drying glassware	F003*

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Methylene chloride (L)	Reagent, solvent	F001/F002
Methyl ethyl ketone (L)	Reagent, solvent	F005
Methyl isobutyl ketone (L)	Reagent, solvent	F003*
Methyl lactic acid (L)	Laboratory reagent	NA*
Mineral Oil (L)	Reagent	NA
Molybdenum (S)	Spectrometric standard material	NA*
Molybdic acid (L, S)	Laboratory reagent	NA*
Naphthalene (S)	Laboratory reagent	NA
Natrasorb, clay	Container material, desiccant, used in oil absorption	NA
Neodymium nitrate (S)	Spectrometric standard material	NA*
Neodymium oxide (S)	Spectrometric standard material	NA
Nickel bromide (S)	Reagent	NA
Nickelous chloride (S)	Spectrometric standard material	NA
Nickelous nitrate (S)	Laboratory reagent	NA*
Nitricacid (L)	Sample dissolution, eluant for ion exchange	NA*
Nitrous acid (L)	Eluant for ion exchange	NA*
Nitrilotriaceticacid (L, NTA)	Chelating acid	NA*
Normal paraffin hydrocarbon (S)	PUREX process chemical used for liquid-liquid extraction	NA
Oleic acid (L)	Lubricant	NA
Oxalic acid (L)	Chelating acid	NA*
Pentachlorophenol (S)	Herbicide, wood preservative	D037
Pentasodium diethylene triamine pentaactate (DPTA)	Chelating acid	NA
Perchloric acid (L)	Sample preparation for emission spectrometry	NA*
Periodic acid (S)	Laboratory reagent	NA*
Phenol (L, S)	Reagent	NA*
Phosphoric acid (L)	Used in potentiometric methods	NA*
Phosphorous pentoxide (S)	Used in sample preparation and for gas chromatography	NA*
Platinum (S)	Crucibles, sample boats	NA
Portland cement (S, pH=11.4)	Solidifying agent for liquid wastes	NA
Potassium acetate (S)	Buffer solution, dehydration	NA
Potassium bicarbonate (S)	Neutralization, reagent	NA
Potassium carbonate (S)	Dehydrating agent	NA
Potassium chlorate (S)	Laboratory reagent	NA
Potassium chloride (S)	Used as a control standard for Ion Selective Electrode methods.	NA
Potassium dichromate (S)	Used in potentiometric methods, photochemical processing.	D007
Potassium ferrocyanide (S)	Fixative in photography, metal cleaner.	NA
Potassium fluoride (S)	Organic Synthesis	NA
Potassium hydroxide (S)	Electrolyte fuel cells	NA
Potassiumiodate (S)	Used in Iodometry	NA
Potassium iodide (S)	Used in Iodometry	NA
Potassium permanganate (S)	Lab reagent, decontamination agent	NA
Potassium phosphate, tribasic (S)	Process chemical, lab reagent	NA
Potassium pyrosulfate (S)	Sample preparation flux	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Potassium sodium Tartrate (S)	Laboratory reagent	NA
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory reagent	NA
Silica gel (S)	Chromatographic separations, dehydrating agent.	NA
Silver cleaning Paste (S)	Cleaning electrodes	D011
Silver cyanide (S)	Plating	D011
Silver nitrate (S)	Spectrometric standard material	D011
Silver oxide (S)	Reagent for amperometric Pu determination	D011
Silver sulfate (S)	Laboratory reagent	D011
Sodium acetate (S)	Laboratory reagent	NA
Sodium aluminate (S)	Cleaning compound	NA
Sodium arsenite (S)	Dying reagent	NA
Sodium bicarbonate (S)	Buffer solutions	NA
Sodium bisulfate (S)	Dying agent	NA
Sodium bisulfite (S)	Reducing agent	NA
Sodium borate (S)	Flame retardant	NA
Sodium carbonate (S)	Cleaning prep	NA
Sodium chloride (S)	Precipitation agent	NA
Sodium citrate (S)	Chelating agent	NA
Sodium dichromate (S)	Electrochemical reagent	D007
Sodium fluoride (S)	Standard material for Ion Selective Electrode methods and carrier for emission spectrometry	NA
Sodium formaldehyde sulfoxylate (S)	Laboratory reagent	NA
Sodium hydroxide (S)	Solution preparation and pH adjustments	NA*
Sodium hypochlorite (L)	Laboratory reagent	NA*
Sodium iodide (S, L)	Laboratory reagent	NA
Sodium nitrate (S)	Process chemical	NA*
Sodium nitrite (S)	Process chemical	NA*
Sodiumoxalate (S)	Chelating agent, lab reagent	NA
Sodium phosphate (S)	Reagent, metal cleaner	NA
Sodium phosphite (S)	Laboratory reagent	NA
Sodiumpyrophosphate (S)	Reagent, metal cleaner	NA
Sodium selenate (S)	Laboratory reagent	D010
Sodiumsilicate (S)	Laboratory reagent	NA
Sodiumsulfate (S)	Calibration standard material	NA
Sodium tartrate (S)	Water determination by coulometry	NA
Sodium tungstate (S)	Reagent	NA
Stainless steel (S)	Tubing ,standard materials, and alpha spectrometry sample disks	NA
Stannic chloride (S)	Reagent	NA
Stannous chloride (S)	Spectrometric standard material	NA
Strontium nitrate (S)	Laboratory reagent	NA*
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	NA
Sulfur (S)	Mercury clean up reagent	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Sulfuric acid (L)	Sample preparation	NA*
Sulfur dioxide (G)	Laboratory reagent	NA
Tetrasodium ethylene diaminetetraacetate (EDTA)	Chelating agent	NA
Tetraphenyl boron (S(	Laboratory reagent	NA
Thenoyltrifluoroacetone (L)	Laboratory reagent	
Thorium nitrate (S)	Laboratory reagent	NA*
Tin (S)	Capsules, spectrometric standard material	NA
Tide detergent (S)	Cleansing solution	NA
TISAB III	Buffer solution	NA
Titaniumchloride (S, L)	Spectrometric standard material	NA*
Titanium (di)oxide (S)	Standard, ceramics, decontamination	NA
Toluene (L)	Extractant and cleaning for mass spectrometer filaments.	F005
Tributylphosphate (L)	Liquid-liquid extraction and studies of PUREX processes.	NA
Trichloroethane,-1-1-1 (L)	Reagent, solvent	F001,F002
1,1,2-trichloro-1,2,2-trifluoroethane (L)	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	NA
Tri-n-octylamine	Liquid-liquid extraction	NA
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	NA
Trisodium hydroxyethyl ethylene-diamine triacetate (HEDTA)	Chelating agent	NA
Turco alkaline (rust remover) (NaOH and kerosene)	Rust remover	NA*
Tungstun oxide	Spectrometric standard material	NA
Turco Deseal Zit 2 (methylene chloride and aceticacid)	Decontamination	F001/F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)	Decontamination paint	F005, F003*
Turco Plaudit (No hazardous compounds)	Decontamination	NA
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	NA*
Turco 4518 (Sodiumdodecyl benzene sulfonate)	Decontamination paint	NA
Uranyl nitrate (S)	Extractant	NA*
Uranium oxide (S)	Accelerator for pyrohydrolysis	NA
Urea (S)	Electrolytic solution	NA
Vanadium (S)	Spectrometric standard material	NA
Vanadium pentoxide (S)	Sample preparation flux	NA
Vanadyl sulfate (S)	U by potentiometric titration	NA
Vinyl chloride (L)	Sludge contaminant	D043
Xylene (L)	Liquid-liquid extraction, solvent	F003*
Yttrium nitrate(S)	Laboratory reagent	NA
Zeolon 900 Resin (Aluminum silicate)	Ion exchangeresin	NA
Zinc chloride (S)	Spectrometric standard material	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Zinc nitrate (S)	Spectrometric standard material	NA
Zincoxide (S)	Laboratory reagent	NA
Zirconium	Cladding material	NA
Zirconyl nitrate	Spectrometric standard material	NA*

Kodak™ is a registered trademark of the Eastman Kodak Company

Tide® is a registered trademark of the Proctor & Gamble Company

®Turco is a registered trademark of the Purex Corporation

*These chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure, liquid, solid, or powder form. Based on the Hanford waste management practices no pure or unused chemicals would have been introduced into the waste stream.

In addition, all liquids and reactive materials would have been solidified, evaporated, neutralized, and/or deactivated prior to disposal. Radiography and/or visual examination will verify the absence of free liquids and reagents during confirmation and will segregate containers with materials for further characterization and/or processing as appropriate. TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0828200638735

In addition to the chemicals used by 325 Facility process, EPA hazardous waste numbers for 1,4-dichlorobenzene (D027), 1,1-dichloroethlylene (D029), 2,4-dinitrotoluene (D030), and hexachloroethane (D034) were assigned to the containers based on the characterization of the samples received by the facility (i.e., tank sludge) and chemicals treated in the HWTU.

Based on the review of waste management practices in the 325 Facility, all waste has been conservatively determined to exhibit toxic characteristics (D codes) per 40 CFR 261.30 and F-listed per 40 CFR 261.31. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.

4.5.1 Listed Hazardous Waste Numbers

Based on the review of chemical usage in the 325 Facility and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain or be mixed with hazardous waste from non-specific sources listed in 40 CFR 261.31. Non-specific hazardous constituents include: benzene, carbon tetrachloride, cresols, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, and trichloroethylene. Even though HWN's from non-specific sources were not assigned historically to all of the containers in the inventory; F001, F002, F003, F004, and F005 are conservatively assigned based on the interviews, review of procedures, and the waste management practices in use when the waste was generated. F003 was conservatively applied for acetone, n-butyl alcohol, methanol, and methyl isobutyl ketone, listed solely because these solvents are ignitable in the liquid form. Even though the waste stream will not exhibit the characteristic of ignitability without the presence of free liquids, F003 solvents may have been commingled with the wastes.

Waste materials from operations performed in the 325 Facility were determined not to be mixed with hazardous waste from specific sources (40 CFR 261.32), a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). P- and U-listed reagents including acetone (U002), benzene (U019), beryllium (P015), chloroform (U044), hydrogen fluoride (U134), methanol (U154), toluene (U220), 1,1,1-trichloroethane (U226), and xylene (U239) were managed by the laboratory. However, no pure product or unused chemicals would have been placed into the TRU waste stream. Therefore, U-, K-, and P- listed are not applied to waste stream RLM325D. TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0701200436839 TRU-SPO-11.9-0707200428969 TRU-SPO-11.9-0706200430656

4.5.2 Toxicity Characteristic

Based on the review of chemical usage in the 325 Facility and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

Based on the review of chemical usage in the 325 Facility, potential sources for all of the characteristic metals (D004 through D011) were identified. The Waste Disposal Records identify the presence of lead, fluorescent bulbs, circuit boards, alkaline batteries, and mercury items in the waste, and also assign all of the RCRA metals D004 through D011.

Table 5 identifies the characteristic organic chemicals identified during the review of chemical usage and the Waste Disposal Records. The following codes will be assigned for these chemicals: D022, D027, D028, D029, D030, D034, D037, and D043. TRU-SPO-11.9-0828200638735

4.5.3 Characteristic of Ignitability

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40CFR261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed by the Facility; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.5.4 Characteristic of Corrosivity

The debris materials in this waste group do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials in this waste stream are therefore not corrosive wastes (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.5.5 Characteristic of Reactivity

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. Debris materials in this waste stream which came in contact with cyanide materials are not capable of detonation or explosive reaction. Sulfides were not used in the 325 Facility. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The materials in this waste group are therefore not reactive (D003) wastes. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200440354

4.5.6 Toxic Substances Control Act

Based on the review of waste management practices and container documentation, waste containers from 325 Facility operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB bearing material such as transformers and light ballasts were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0706200430656

4.6 RADIONUCLIDES

Weight percentages listed in Table 5 are the result of Tank Waste Inventory Network System (TWINS) Best Basis Inventory (BBI). data from PUREX facility tanks. Virtually all uranium processing / plutonium recovery at the Hanford Site occurred at the PUREX facility. Additionally, the Building 325 Facility provided radiochemistry support to the entire Hanford site. Thus, samples from the PUREX facility tanks would have been analyzed in Building 325, and waste from the 325 Building would be contaminated with radionuclides arising from the PUREX tanks. A query was pulled consisting of radionuclides analyzed at the Building 325 Facility based upon AK source documents. Weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes (as well as Am243, Pu241, U232, U235, and U236) were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope family to obtain the weight percent. TRU-SPO-11.9-1010200634280, , TRU-SPO-11.4.1-1010200654350, TRU-TS-11.4.3-0422199949473

Table 5 - Plutonium and Uranium Isotopic Distributions

Plutonium and Associated Distributions		Uranium Distributions	
Isotope	Wt % Distribution	Isotope	Wt % Distribution
^{238}Pu	0.024	^{232}U	Trace
^{239}Pu	93.2	^{233}U	0.004
^{240}Pu	6.46	^{234}U	0.007
^{241}Pu	0.21	^{235}U	0.80
^{242}Pu	0.036	^{236}U	0.05
^{241}Am	99.16	^{238}U	99.10

Pu-239 and Pu-240 are the two most prevalent TRU isotopes in the waste stream. Trace amounts Cesium (Cs)-137 and Sr-90 were reported with a mean ratio of 1.1 TRU-SPO-11.9-0622200456967

Acceptable knowledge was needed to quantify the amount of U-234 expected in individual containers to comply with CH-WAC reporting requirements. Scaling factors were determined or developed using historical data. The scaling factors for these activity relationships are as follows: TRU-SPO-11.9-0429200249094

- U-234/U-235 ~ 30
- U-234/U-238 ~ 2

Isotopic analysis will be attempted on every drum in this waste stream and those results will be used to determine the activity in each drum. In the event that the waste matrix does not allow NDA to obtain acceptable results, the relative isotopic ratios above may be used to support assay determinations, as appropriate. The values obtained will be compared to assay results on a lot basis as waste containers undergo data reconciliation prior to certification for disposal.

In addition, because of the nature of the processes conducted and analysis performed in the 325 Facility, a range of other radionuclides may also be present in trace amounts. These radionuclides may be measured in future characterization testing. These radionuclides are present in trace amounts and do not contribute significantly to the radiological hazard. Other radionuclides that may be present include:

- I-131/132
- Ru-103/106
- Y-90
- Pm-137
- Radioactive lanthanum
- Radioactive mercury
- Ce-144
- Mn-54
- Co-60

- Sb-125
- Cs-134
- K-40
- Am-243
- Ba-137m
- Np-237
- Na-22

4.7 TRANSURANIC BASELINE INVENTORY REPORT

The RLM325D waste stream is identified in Revision 2 of the Transuranic Waste Baseline Inventory Report (TWBIR) under code numbers RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398 TRU-SPO-16-0630200149652

As described in the TWBIR, the waste source consists of contact-handled TRU waste from the Chemicals Engineering Laboratory and Post Irradiation Test Laboratory.

5.0 ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT REFERENCE LIST

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0701200436625	Hanford-Building 325 Interview with Wayne Larson	B. Crawford	LANL-CO	N/A	PR4, PR6, WS9, WS12	All	Describes mission, waste packaging and waste streams.
TRU-SPO-11.9-0701200436839	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)	LANL-CO	N/A	PR7, WS2, WS4, WS12, WS6,	All	Describes waste packaging, waste management and waste characterization.
TRU-SPO-11.9-0701200437024	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin	LANL-CO	N/A	WS1, WS6, WS7	All	Provides weight percent / volume percent values of iron based metals/alloys, other inorganic materials, inorganic matrix, cellulosics, plastic rubber, and organic matrix. Describes waste material parameters including paper, rubber, plastic, metal, lead, etc. etc.
TRU-SPO-11.9-1010200634280	Excerpt from Tank Waste Information Network system Best Basis Inventory	M. H. Conilogue	Fluor Hanford	N/A	WS9	All	The BBI contains tank-by-tank waste inventories which are the chemical and radiochemical component inventories by tank for each of the 177 single- and double-shell tanks on the Hanford Site. Of the 177 tanks, a query of radionuclide

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Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							concentrations was pulled from the 35 tanks which support the PUREX facility. Weight percentages of WIPP tracked radionuclides were calculated using Ci/gm data taken from the TWINS.
TRU-TS-11.4.3-0422199949473	A Brief History of the PUREX and UO3 Facilities	M. S. Gerber	Westinghouse-Hanford Company	WHC-MR-0437	WS2, WS9	All	Gives a general history of the PUREX and UO_3 facilities. Provides some information on production.
TRU-SPO-11.4.5-1011200647978	AK Source Document Deficiency	M. H. Conilogue	Fluor Hanford	N/A	WS9	All	This document describes the discrepancy between Central Characterization Project (CCP) isotopic analysis memos: TRU-SPO-11.9-0701200437194 & TRU-SPO-11.4.1-1011200635570 As a resolution an Isotopic Analysis White Paper was generated by Hanford TRU Programs AK using the Tank Waste Inventory Network System (TWINS).
TRU-SPO-11.4.1-1010200648961	Record of Communication regarding Isotopic Analysis RLM325D	M. H. Conilogue	Flour Hanford	N/A	WS9	All	Record of Communication between AK Engineer and Central Characterization Program contact involving discrepancy in weight percentages listed in TRU-SPO-11.9-0701200437194. Information in record copy of

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							CCP memo does not match that supplied by CCP on 9/27/06
TRU-SPO-11.4.3-0314200658459	ORAU Team, NIOSH Dose Reconstruction Project, Technical Basis Document for the Hanford Site – Site Description	J. Selby	Oak Ridge Associated Universities	ORAUT-TKBS-006-2, Rev. 00 PC-1	PR2	7-9	Document provides timeframe for plutonium and tritium generation at N Reactor and gives a general description of the design of the reactor.
TRU-WST-11.4.3-0306200647097	Historic American Engineering Record Reduction-Oxidation Complex Plutonium Concentration Facility (Building 233-S)	M.S. Gerber D.W. Harvey	U. S. DOE	DOE/RL-96-29	PR2, PR3, PR4, WS2, WS9, WS10	All	Discusses Historical Timeline and processes used in the production of plutonium at 233-S.
TRU-TS-11.4.3-0427199945823	Characterization of Past and Present Solid Waste Streams from the Plutonium-Uranium Extraction Plant	J.A. PottmeyerD. R. Duncan	Westinghouse Hanford Company	WHC-EP-0646, Rev. 0	WS2, WS12	3-4, 3-4,5	Describes the past and current solid waste streams from the PUREX Plant.
TRU-TS-11.4.3-0423199953594	Characterization of Past and Present Waste Streams from the Plutonium Finishing Plant	D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0621	WS4	2-1	Characterization of PFP waste since 1947, including PFP history, waste stream, maintenance, housekeeping, waste handling and packaging, and actual waste container characterization data.
TRU-SPO-11.4.3-1127200254744	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items	Lini, D. C. and Rodgers, L. H	Science Applications International Corp.	HNF-10919 Rev. 0, Oct. 8, 2002	PR2, PR4, PR5,	All	Document provides a discussion of PFP plutonium oxide material. Information

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
	with <30 Weight Percent Plutonium				PR7, WS1, WS2, WS6, WS9, WS10, WS12		includes process history, history of material origins, potential contaminants, material specifications and waste designation rationale, and process flow diagrams, building diagrams. Details of RCRA characteristic and listed constituents present, Washington state toxic waste designation and radionuclide information.
TRU-SPO-11.9-1112200350054	Origin of Plutonium	D.C. Lini	Fluor Hanford		WS9	1 - 8	Document excerpt provides estimate of the amounts of Pu received from various sources as compared to the entire estimated U.S. inventory of Pu. Provides justification for assuming a defense origin for the Pu in MOX waste.
TRU-SPO-11.4.1-1010200654350	White Paper: Calculation of Isotopic Weight Percentages Using Tank Waste Information Network System data for the PUREX Facility	M. H. Conilogue	Fluor - Hanford	N/A	WS9	All	This white paper provides weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes using TWINS data from PUREX tanks.
TRU-SPO-11.9-0701200437194	Isotopic Analysis for Containers Generated from	D. Guerin	LANL-CO	N/A	WS9	All	Container specific assay results fo2 211 Building 325

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
	the Building 325 Radiochemistry Lab and HLW Annexes Assays						containers. Provides weight % for U and Pu
TRU-SPO-11.9-0429200249094	U-234 To U-235 and U-238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	M4T00-PJC-02-077	WS11	All	This letter documents an uranium 234 to uranium 235 and uranium 238 ratio based on an analysis of historical concentration data from Hanford wastes and theoretical information. Uranium 234 concentrations can be derived from a NDA measured uranium 235 and/or uranium 238 concentration using the scaling factor based on the documented relationship.
TRU-SPO-11.9-0622200456967	Sr-90 to Cs-137 Ratio For Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	N/A	WS9	All	Ltr from R. Clinton to P. Crane to document analysis of historical data of Hanford Site Tank Waste. The purpose was to find a correlation between Cs-137 and Sr-90 using data from the Tank Waste information Network System (TWINS). A Sr-90 value can be derived from a concentration of Cs-137 using a scaling factor or ratio based on known, documented relationships or correlations. Since a

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							consistent ratio could not be established, a default ratio of 1.1:1 was used. This is because there is a 1.1:1 ratio of Cs-137 to Sr-90 after the fission process.
TRU-SPO-11.9-0701200437361	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	James E. Rasmussen to Mr. Moses N. Jaraysi	Pacific Northwest National Laboratories	97-EAP-589	PR2	3	Identifies specific locations which define the HWTU and describes small bench treatment operations: molten salt destruction, pyrolysis, wet air oxidation, etc. etc.
TRU-SPO-11.9-0707200428969	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	General Electric, Hanford Atomic Products Operation, Richland, WA	HW 73112	WS12	5-8, 14, 25-28	Describes minimum critical concentrations for Pu solutions; minimum planer array: etc. and various other controls dealing with criticality safety. Describes packaging procedures, precautions for acid – soaked waste, collection of radioactive liquid waste and restrictions on the use of lab sinks.
TRU-SPO-11.9-0707200429376	Removal of High Dose Low Level Waste	R.T. Steele	PNNL	SAL-325-HDLLW-1	PR8, WS5, WS6	3, 4	Describes use of 4 and 5 quart cans during hot cell waste packaging and load out of TRU waste.
TRU-SPO-11.9-0707200429979	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	PNNL	SAL-84-5	PR4	All	Describes steps for the removal of low level dry waste, glove box waste, high level dry waste and alpha

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							radiation free liquid waste.
TRU-SPO-11.9-0707200430240	Routine Research Operations	G.J. Lumetta	PNNL	RPL-OP-001 / Rev 0 and 1	PR3, PR4, PR5,	All	Procedure provides direction for routine chemical research operations in laboratories within the Bldg 325 Radiochemical Processing Laboratory
TRU-SPO-11.9-0707200430521	Handling and Opening Radioactive Material Shipments	R.T. Steele	PNNL	SAL-84-7	PR4	All	Provides instructions for the safe handling and opening of radioactive material shipments.
TRU-SPO-11.9-0707200430731	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	LAZAR Research Laboratories Inc.	13 644 5	WS12	5	Describes the proper use of the PHR-146 Micro Combination pH Electrode. States to use acetone to clean the connector.
TRU-SPO-11.9-0707200431037	Ross pH Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc	227296-00 / Rev C	WS12	All	Instructions for the ROSS series of pH electrodes.
TRU-SPO-11.9-0707200431225	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc.	502700-031 / Rev C	WS12	All	Describes Standard and Electrode filling solutions: glacial acetic acid, sodium hydroxide, TRIS (hydroxymethyl) aminmethane, etc. etc.
TRU-SPO-11.9-0707200431579	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	Orion Research, Inc.	502700-078 / Rev D	WS12	2	Describes Standard and Electrode filling solutions
TRU-SPO-11.9-0707200431874	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	PNNL	325-PU-Purify-1 / Rev 0	WS12	All	Procedure provides a method to chemically purify plutonium by ion exchange. Lists chemicals used:

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							Reagent Grade NH4F, HNO3, Al(NO3)3, H202, La(NO3)3, 85% Hydrazine, Ascorbic acid, Oxalic acid
TRU-SPO-11.9-0707200432171	Leaching Tests using the PCT Method	K.H. Olson	PNNL	MCC-TP-19	WS12	All	Procedure describes the techniques and methods for performing static leaching tests of crushed glass specimens. Describes various chemicals used to clean vessels and gaskets: HNO3, acetone and ethanol
TRU-SPO-11.9-0707200432378	Evaluation of Monolithic Radioactive Material Immobilization Form behavior in Fume Hoods	R. D. Scheele	PNNL	RPL-PIP-Ceramic Test-1 / Rev 0	WS6	All	Test Plan details the activities that will be performed to determine the behavior of radioactive material immobilized in a monolithic matrix form during routine operations. Describes various waste forms discarded after use during cleaning.
TRU-SPO-11.9-0707200432862	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	PNNL	RPL-EMSP-1 / Rev 0	WS12	7	Procedure supplements Procedure RPL-PIP-1 and is used for mounting and viewing samples. Describes chemicals used: ethanol, acetone
TRU-SPO-11.9-0707200433058	Standard Test Method for Fluoride Ion in Water		ASTM	D 1179-99	WS12	All	Test methods for the determination of fluoride in water. Describes chemicals used: silver sulfate, sodium arsenate, sodium fluoride,

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							sulfuric acid, etc. etc.
TRU-SPO-11.9-0707200437469	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL	PNNL-RPG-268 / Rev 1	WS6, WS12	All	Procedure applies to operation of the Scintag PAD V X-ray diffractometer located in Room 409 of Building 325. Metals that may be examined include (but not limited to): metals, non-metals, powders, sludge or paste, wires, etc. etc.
TRU-SPO-11.9-0707200437869	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	PNNL	ASTM C1220-98	WS12	All	Test method evaluates the relative chemical durability of simulated and radioactive monolithic waste forms in various test solutions at < 100C under low surface-to-area-to-volume radio conditions. Prior to 10/12/00 specimens were cleaned using an ultrasonic cleaner and ethanol. After 10/12/00 specimens were cleaned using dionized water.
TRU-SPO-11.9-0707200438233	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermo gravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R. D. Scheele	PNNL	ICN-PNL-ALO-508R0.2 / Rev 0	WS6	All	Procedure is applicable to compounds and mixtures which undergo changes due to reaction, thermal decomposition or phase changes. Procedure describes various waste forms that are generated and how they the waste is managed.
TRU-SPO-11.9-	Preparation, Processing and	R.D. Scheele	PNNL	RPL-PIP-1 /	WS9	6	Procedure provides general

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0707200438443	Testing of Radioactive Glass and Ceramics			Rev 2			approaches and requirements for preparing, processing, testing, and characterizing radioactive calcines, glasses, and ceramics – which may contain plutonium, uranium, thorium, or any other radionuclides.
TRU-SPO-11.9-0707200438660	Fabrication of Ceramic Samples	W.C. Buchmiller	PNNL	RPL-PIP-2 / Rev 0	WS4, WS9, WS12	All	Procedure provides direction for the production of radioactive and non-radioactive ceramic pellets for the Plutonium Immobilization Project. Procedure provides chemicals used (oleic acid) specific processes and specific radioisotopes used during hot ceramic slurry spiking.
TRU-SPO-11.9-0707200438880	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	Procedure used by PIP to measure ion concentrations with a specific ion electrode.	RPL-PIP-3 / Rev 0	WS6, WS12, WS10,	All	Procedure describes methods to measure pH, fluoride, and chloride of radioactive samples with ion-specific electrodes. Procedure describes waste materials and chemicals that may be in the waste: KCl, NaCl, Kim Wipes, squirt bottles, acetic acid, etc. etc.
TRU-SPO-11.9-0707200439209	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	PNNL	RPL-PIP-4 / Rev 2 and 3	WS6, WS10, WS12	2-11	PNNL operating procedure which describes the process for mounting radioactive and non-radioactive solid and

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							powdered samples form the Pu Immobilization Project and other Projects. Describes chemicals used and waste form: ethanol, propanol, tape, rags, etc. etc.
TRU-SPO-11.9-0707200439457	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	PNNL	RPL-PIP-5 / Rev 0	WS6, WS10, WS12	All	Procedure provides direction in how to measure release rates from radioactive materials into aqueous systems. Describes chemicals used and waste form: pipettes, thermometers, ultra high purity nitric acid, acetone. Directs user to discard rinsate, sodium hydroxide solution and used solvent.
TRU-SPO-11.9-0707200439643	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-1 / Rev 1	WS6, WS10, WS12	2-4	Procedure provides instructions for density, porosity, and specific gravity using gas pycnometery and geometric measurements. Describes potential waste materials and waste forms: approved solvent, moistened towels, Kodak Photoflo, etc. etc.
TRU-SPO-11.9-0707200446123	Geometric Density Determination of Consolidated Solids	R. D. Scheele	PNNL	APEL-PIP-2 / Rev 3	WS6, WS10, WS12	2-5	Procedure provides direction in the measurement of the dimensions and geometric densities of candidate

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							plutonium immobilization forms prepared for the Plutonium Immobilization Project. Procedure describes potential waste forms and chemicals used / discarded.
TRU-SPO-11.6-0707200446381	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	PNNL	APEL-PIP-5 / Rev 2	WS4, WS6, WS10, WS12	2, 3, 4,	Procedure provides direction for polishing or size reducing radioactive or non-radioactive materials for the Plutonium Immobilization Project as well as other programs. Procedure describes potential waste forms and chemicals to be used a discarded.
TRU-SPO-11.9-0707200450552	Profiling Ovens and Furnaces	W.C. Buchmiller	PNNL	APEL-PIP-6 / Rev 0	WS6	2,3	Procedure provides direction in the determination of the temperature profile in ovens and furnaces used by the Plutonium Immobilization Project. Procedure describes potential waste forms that may be generated.
TRU-SPO-11.9-0707200450893	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	Virginia L. LeGore	PNNL	RPL-PIP-SPFT-1 / Rev 0	WS6, WS12	All	Procedure used for packaging and transfer of Single Pass Flow leach Test and Pressurized Unsaturated Flow Leach Test vessels containing Pu- or Pu-238 between labs in the Bldg 325 Radiochemical Processing Laboratory. Procedure describes possible

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							waste form and chemicals to be discarded.
TRU-SPO-11.9-0708200426725	Preparation of No dispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	PNNL	RPL-MAS-NMR / Rev 0	WS12	All	Procedure provides direction in preparing non-dispersible solid monolith samples for Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy experiments. Describes chemicals and materials used in preparation and cleansing.
TRU-SPO-11.9-0708200426986	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	PNNL	RPL-XRD-PIP / 2	WS6, WS12	1.2, 1.3, 1.5, 1.6	PNNL operating procedure for the Scintag Pad-V X-Ray Diffractometer. Describes potential waste item generation points: water form cooling water system; spent x-ray tubes; shielding
TRU-SPO-11.9-0708200427207	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	Edgar Buck	PNNL	GDSP-01-BET / Rev 0	WS4, WS6, WS12	1-5, 7	Bldg 325 operating procedure for the determination of surface area for calcination of release rates for spent fuel flow. Procedure identifies potential waste forms such as: tygon tubing, gas syringes, etc. etc.
TRU-SPO-11.9-0708200427461	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	PNNL	SAL-84-8	WS6	1	Procedure provides direction and safe handling during bag in / bag out operations in a shielded analytical laboratory glove box. Describes potential physical waste

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							forms.
TRU-SPO-11.9-0708200428050	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	PNNL	511-4 / 0	WS2, WS9	2, 3, 14	Procedure used for handling radioactive samples in Room 511 of Bldg 325. Procedure states instrument may be calibrated using Cs-137, Am-241 or Co-60.
TRU-SPO-11.9-0708200428240	Operation of Single Pass Flow Through Experiment	D.M. Wellman	PNNL	RPL-PIP-SPFT / Rev 1	PR4, WS4, WS6, WS9	2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14	Procedure describes the operation of the Single Pass flow Through experiment used to test radioactive and non-radioactive glass and ceramic materials under pH and temperature specific conditions. Procedure described specific radionuclides contained in materials tested, equipment and materials used, and waste forms and chemicals that have the potential to be discarded as waste.
TRU-SPO-11.9-0708200428483	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W. C. Buchmiller	PNNL	APEL-PIP-3 / Rev 1	PR3, WS10, WS12	2, 3, 4	Procedure used for density, porosity, and specific gravity measurements of structural properties or ceramic samples. Provides examples of materials used and potential waste forms / chemicals to be discarded: ultrasonic cleaners and water baths, desiccant, Kodak Photoflo

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TRU-SPO-11.9-0708200429257	Gas Pycnometry Method for Apparent Specific Gravity Determinations of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-4 / Rev 2	WS6, WS10, WS12	2, 3, 4	Procedure used for density and specific gravity determination in a fume hood. Describes potential waste forms and chemicals used.
TRU-SPO-11.9-0708200429446	Response to Vacuum Alarms in RPL Glove boxes and Use of RPL Glove box Airlock	R.D. Scheele	PNNL	RPG-94-1 / Rev 1	WS2	2	Procedure describes responses to vacuum alarms in RPL glove boxes and the use of the RPL glove box airlock. Describes specific area where waste mat be generated.
TRU-SPO-11.9-0708200429642	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	PNNL	325-A-20 / Rev 0	WS11	6, 7, 8, 9	Describes the use of 4-gallon and 5-gallon cans. Waste packaged in inner can was covered with lid and placed in outer can. Cans may have been packed with lead shielding.
TRU-SPO-11.9-0708200429856	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	PNNL	RPL-PIP-SPFT-3 / Rev 0	WS5	3, 4, 5, 6	Procedure describes direction in the installation of in-line back flow preventors and/or in-line isolation valves on the Single Pass Flow Through systems and the performance of minor syringe pump maintenance.
TRU-SPO-11.9-0708200430448	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste			WM1	PR5, WS6, WS12	1.3-1.7	Describes hazards associated with radiological exposure, contamination and chemical contact. Describes packaging procedure in which waste bagged out of hoods were

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							double bagged
TRU-SPO-11.9-0708200431008	Transmittal of Variance RAD-00006	R. D. Scheele	Battelle	RAD-00006	WS4, WS5, WS9	All	Provides description of needed variance allowing radionuclide limits to be exceeded in order to perform bench top experiments on ceramic Pu and U immobilization forms.
TRU-WST-11.4.3-1017200543795	Data Quality Objectives Summary Report for D&D Waste Characterization of the 300 Area Buildings	R. A. Thoren	CH2M Hill Hanford, Inc	BHI-01750 Rev. 0	PR3, WS9, WS10	All	Provides site background. Indicates radionuclides in the waste stream. Discusses hazardous constituents.
TRU-SPO-11.9-0708200431216	Past Practices Technical Characterization Study-300 Area- Hanford Site	M. S. Gerber	Westinghouse Hanford Company	WHC-MR-0388	PR2, PR3, WS2, WS9, WS12	137, 138, 140, 141	Describes facility history and configuration of high-level radiochemistry annex, original mission to support REDOX, and subsequent missions including bismuth phosphate process, radioactive lanthanum development, tritium production and plutonium chemistry. Describes particulate radionuclides that may be present in waste including I-131 and 132, Curium (Cm)-144, ruthenium-103 and 106, Sr-90 and Y-90
TRU-SPO-11.9-0708200431435	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D. I. Weyns-Rollosson,	Westinghouse Hanford Company	WHC-SA-2772-FP	PR3, PR4, PR5,	4, 5, 6, 7, 8, 9, 10	Provides defense link by stating solid radioactive waste generation at Hanford was

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		J.A. Pottmeyer, T.J. Stratton			WS6, WS10, WS8, WS12		coincident with defense materials production initiated in 1944. Provides date (1974) as to when waste was separated per waste type. Describes design of steel and reinforced concrete burial containers. Color coding of drums to separate waste type. Hood wastes considered highly contaminated with Pu. Solid wastes segregated by color, combustible/non-combustible and hood/room waste. Describes when multiple containment layers (1978) and two containment layers for asbestos (1980) contaminated waste requirements were instituted. 1981 horse tailing of liners was instituted. 1978 to 1984 fill volume was not to exceed 80%. In 1987 exemption for packaging of HEPA filters was granted Documents the use of filler such as diatomaceous earth, soil, sand lava, etc. States wastes containing Class B poisons such as mercury, etc. were packed in double

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							containment. In 1992 PNNL packaged metallic mercury in poly or glass bottles with screw type lids. Restriction on unreacted alkali metals. Restriction on packaging corrosives with combustibles after the 1960's. In 1984 neutralization of corrosive waste was instituted. Tritiated waste was absorbed on silica gel and packaged ion to leak-tight metal cans.
TRU-SPO-11.9-0708200435233	Safety Analysis Report for 325 Building	Pacific Northwest Laboratory	Pacific Northwest Laboratory Richland, Washington	PNL-7748	PR1, PR2, PR4, PR7, WS4, WS5, WS9, WS10, WS12	1.1, 2.1, 3.1, 3.2-3.4, 4.4, 4.6-4.19, 4.19-4.23, 4.33-4.35, 7.3, 7.8, 7.9, A.5, A.11, A.14, B.6, B.15-B.18, B.33, B.89, D.5-D.26, F.3-F.5	Document gives facility description and purpose, location, specific processes by location within the facility, maximum container volume and radionuclide limit of Pu-239, flammable and toxic materials storage locations, relative amounts of At Risk inventory, 10/1989 Chemical Inventory, Expected Radionuclide source terms for resins in ion-exchange columns, Radionulides identified for dose determinations
TRU-SPO-11.4.3-0809200628265	TRU Waste Packaging Requirements and Certification	L.D. Schwartz	PNNL and Waste Management	WHC-EP-0063/RHO-MA-	PR4	All	Document provides an overview of WIPP requirements and how these

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				222/PNL-MA-70/SD-WM-TI-202			requirements are applicable to and are satisfied by the Hanford TRU Waste Certification Program
TRU-SPO-11.9-0708200436028	Characterization of Past and Present Waste Streams from the 325 Radiochemistry Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	Westinghouse Hanford Company, Richland Washington	WHC-EP-0696	PR1, PR2, PR4, PR6, PR7, WS2, WS3, WS5, WS9, WS12	All	Document provides a location of the Bldg 325 Radiochemistry Lab, descriptions of historical and current TRU waste generating operations, map of the Hanford site, types and quantities of TRU waste generated including historical and future projections, correlation of waste streams generated and description of time generated, etc. etc.
TRU-SPO-11.9-0708200438206	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	Battelle Pacific Northwest Laboratories, Richland, WA	PNL-MA-661	PR2, WS2, WS4, WS5, WS9, WS12	Iii, B.1, C.1, 2.5, 4.5, Appendix A	Document lists specific process locations, chemical inventories, and specific waste generating processes
TRU-SPO-11.9-0708200438712	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	Pacific Northwest National Laboratory, Richland, WA	DOE/RL-92-35 / Rev 1	PR1, PR2, PR3, PR4, PR5, PR7, PR8, WS2, WS4,	All	Contains treatment options (i.e. molten salt destruction, chlorination, etc.), liquid waste management, Hazardous Waste Treatment Unit description, EPA codes, hazardous material release scenarios and emergency response, facility mission and

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					WS5, WS9, WS10, WS12		location, HWTU waste analysis plan , and facility hazard characterization
TRU-SPO-11.9-0708200439517	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	Waste Management Federal Services, Inc.	HNF-EP-0649	PR1, PR2, PR3, PR4, WS6	2-2, 3-2, 3-10, 3-14, 3-19, 6-2	Document provides maps of the Hanford Site. Document characterizes the 618-11 solid waste burial ground, the wastes generated at Hanford, and describes the facilities and activities that generated the wastes.
TRU-SPO-11.4.3-0414200630007	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington	PNL-10743 AD-940	PR3, WS5, WS6, WS10, WS12	1.1, Chapters 2, 3, 7 Pg 7.3	Document provides a detailed description of Hanford's solid waste system including treatment, storage and disposal strategy for managing Hanford's solid low-level waste, low-level mixed waste, TRU and TRU mixed waste and greater than Class III waste.
TRU-SPO-11.9-0708200440020	Analytical Chemistry Laboratory Manual	W.L. Delvin	Hanford Engineering Development Laboratory, Richland WA	MG-28 / Rev 2	WS5	30.0.1-30.8.12, 40.0.1-40.19.9, and 50.0.1-50.3.16	Compendium of Hanford Engineering Development Laboratory analytical methods. These analytical methods were used for analysis of mixed oxide Uranium-Plutonium fuels. They were grouped into three categories: 1) analytical methods to detect the

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							composition of the U/Pu MOX fuels; 2) analytical methods to detect the impurities in the U/Pu MOX fuels; 3) analytical methods to determine the physical characteristics of the MOX fuels.
TRU-SPO-11.9-0708200440354	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	Fluor Hanford	HNF-EP-0063 / Rev 8	PR3, PR4, PR5, PR8	All	Describes solid waste acceptance criteria for the: Central Waste Complex; T Plant Complex; Waste Receiving and Processing Facility
TRU-SPO-11.4.3-080920627933	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	R. Clinton	Fluor Hanford	HNF-3461 / Rev 7	PR1, PR2, PR4, PR6, PR7, PR8, WS2, WS3, WS4, WS9	All	Contains waste management program information for defense-related, retrievably stored, contact-handled TRU and TRU mixed wastes at the Hanford Site. Historical and current Site information is presented relative to Site location, description, mission, and waste certification procedures.
TRU-SPO-11.9-0708200440649	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers.	PNNL	PNNL-13341	WS4, WS6, WS12	1-32	This report describes the testing performed on KE Basin consolidated sludge samples by PNNL in May through November, 1999. Report provides potential waste forms and chemicals

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							used and also describes waste generating processes.
TRU-SPO-11.9-0708200441084	Organic Analysis Progress Report FY 1997	S. A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL	PNNL-11738	WS4, WS6, WS10, WS12	All	Report describes work performed on the optimization of analysis techniques for identifying organic components in Hanford waste tank samples by PNNL during FY 1997. Document provides potential waste forms to be discarded as well as chemicals used during the analytical process.
TRU-SPO-11.9-0708200441405	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas,	CH2M Hill Hanford Group and PNNL	PNNL-13364/WTP-RPT-007 / Rev 0	WS4, WS9, WS10, WS12	All	Document provides analytical results of C-104 Tank waste which included cadmium, chromium mercury and lead in amounts greater than regulatory limits.

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		T.L. Trang-Le, M.W. Urie, J.J. Wagner					
TRU-SPO-11.9-0708200447679	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL	PNNL-12157	WS2, WS4, WS9, WS10, WS12	All	Document was prepared to meet DOE Order 5400.i and other Environmental Protection Agency programs. Document provides chemical usage, areas in which chemicals will be used and waste generating processes.
TRU-SPO-11.9-0708200448468	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M. W. Urie	Bldg 325 Operations / Criticality Safety Organization	CSS 325-1 / Rev 4	WS9	1, 2	Document provides a variance to existing Criticality controls in Bldg 325 glove box 283. Also provides a description of what radionuclides are allowed in a specific area.
TRU-SPO-11.9-0708200448678	MSDS for commercial products	Various	N/A	N/A	WS12	All	Material Data Safety Sheets form various manufacturers of various commercial chemicals products used in Bldg 325.
TRU-SPO-11.9-0706200430656	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel	N/A	N/A	PR2, PR5, PR4, PR7 WS1, WS6, WS8, WS9, WS10, WS12	All	Includes individual Solid Waste Disposal Records, Contents Inventory Sheets, and Waste Acceptance Criteria checklists for the TRU debris generated from Bldg 325

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0706200426745	Solid Waste Information Tracking System (SWITS)-Container Assay Data Dump for the Building 325 Radiochemistry Laboratory	N/A	N/A	N/A	PR7, WS3, WS9	All	Radionuclide data dump from Hanford's Solid Waste information System for Building 325 containers stored at the Central Waste complex.
TRU-SPO-11.9-0706200427171	Notes on Waste Stream Descriptions for Pu oxide characterization studies	Cal Delegard	PNNL	PNNL-325	PR2, WS4, WS5, WS9, WS10, WS12	1, 2, 4, 5	Describes analytical methods used for characterization of Pu oxide in MOX. Identified chemical content of oxidized samples – includes 0.5% hexavalent chromium. Describes expected amount of Pu oxide generated after leaching. Describes expected waste form output. Provides flow diagram of analytical process.
TRU-SPO-11.9-0818200640189	AK Summary -Record of Communication Interview with Gary Lanham and Stan Bos	Mike Conilogue / Molly Anderson	AK	N/A	WS4	All	Documents Record of Communication between AK Engineer and Bldg 325 operators which involves the use of heat sealed bags in bldg 325 during a time frame between 1983-1987.
TRU-SPO-11.9-0818200639640	AK Summary – AK Source Document Deficiency / Use of Heat Sealed Bags	M. Conilogue	AK	N/A	WS4	All	Documents and resolves deficiency between Record of Communication of Wayne Larsen (TRU-SPO-11.4.3-0701200463325) and Record Of Communication of Gary Lanham (TRU-WST-11.4.3-

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							1219200555145) regarding the use of single heat sealed bags in Bldg 325. Deficiency resolved by re-interviewing Gary Lanham (TRU-SPO-11.4.1-0816200647976) on 8/3/06 and also Stan Bos (TRU-SPO-11.4.1-0816200648116) on 8/15/06, both of which confirmed the use of single heat sealed bags in Bldg 325 for a time period of 1983-1987.
TRU-SPO-11.4.3-0606200628721	Hanford Site Transuranic Waste Certification Plan		Fluor Hanford	HNF-2600	PR8	All	Document controls certification activities for TRU waste at the Hanford Site that will be sent to the WIPP for disposal.
TRU-SPO-11.4.1-1026200645819	Record of Communication	M. Conilogue	AK	N/A	WS4	All	Heat-sealed bags used in the 325 Facility were five feet in length and typically 8" in diameter.
TRU-SPO-11.9-0828200638735	325 Facility Debris Waste Stream Designation	M. E. Lakes	Waste Services/ Hanford	N/A	WS1	All	Provides hazardous waste characterization rationale and designation based upon chemical inventory in the Building 325 Facility. Attachments such as MSDS's, etc. provide supporting documentation.

Site: Hanford
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris
Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.3-0423199947115	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	M.S. Gerber	Fluor Daniel Hanford	HNF-EP-0924	WS2, WS3	9-7	PFP project and process descriptions including photographs
TRU-SPO-11.4.3-0606200628302	Hanford Site Transuranic Waste Quality Assurance Project Plan		Fluor Hanford	HNF-2599	PR5	All	Document controls transuranic waste characterization activities at the Hanford Site for waste that will be sent to WIPP for disposal.
TRU-SPO-11.9-0919200631754	35 FR 17530-17533, 52 FR 5992-6001, 53 FR 17709, 58 FR 12342-12347, 58 FR 64783, 59 FR 10439	United States Government	United States Government		WS4	All	Provides history of the decision making process by which waste incidental to the reprocessing of spent nuclear fuel can be designated as TRU / LLW using the Citation process and/or the Evaluation process as explained in Notice of Proposed Rulemaking 34 FR 8712
TRU-SPO-11.9-0906200639182	Low Level or Transuranic Waste Classification of Hanford Tank Waste Sample Test Residues	T.L. Moore		99-WPD-219, Rev 0	PR5	All	Documents the classification of Hanford tank sample residues as not high-level waste by listing / satisfying the three requirements of the Evaluation process.
TRU-SPO-11.4.5-	AK Source Document	M. Anderson	Fluor Hanford	Document Deficiency	WS4	All	Document presents the resolution to CCP issued

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
0914200649458	Deficiency			# 009			NCRs resulting from Central characterization Program (CCP) characterization of Hanford waste containers.
TRU-SPO-11.4.1-1025200656684	Record of Communication	M. H. Conilogue	N/A	N/A	WS4	All	5-gallon paint cans are typical of those found in any paint supply store. Lids were fastened using either a screwdriver or crimper. Four-gallon slip lid cans were fastened with no tape; cross taped; or cylindrically taped
TRU-SPO-16-0630200149652	Transuranic Waste Baseline Inventory Report	DOE	DOE	DOE/CAO-95-1121, Rev. 2, Dec 1995		All	Establishes the methodology of grouping wastes of similar physical and chemical properties into waste profiles. Provides currently stored and projected contact handled and remote handled TRU mixed and non-mixed waste volumes throughout the DOE complex.
TRU-SPO-11.4.3-1013200649581	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-220-0001-00, -01, -02, -03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200649840	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-01, PNNL-230-0001-02	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-1013200650165	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0002-03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.10-1030200634971	Acceptable Knowledge Reevaluation Checklist RLM325D	TRU AK Program	Fluor Hanford	N/A	WS10	All	PNL-186034 [D7203158] & BP-188024 [D7197756] have been assigned EPA Hazardous Waste Number's (HWN's) D001 & D002. Container # BP-191004 [D198014006] has been assigned HWN D002 and Washington State Waste Toxicity Number WT02. The Waste Stream Designation and Acceptable Knowledge does not agree with nor attach these Waste Numbers. This reevaluation provides rationale removing these HWN's, direction to repack PNL-186034 to facilitate removal of the D002 HWN and the rationale to remove Washington State Toxicity Waste Number from Container # BP-191004

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0906200638861	DOE Manual 435.1, Radioactive Waste Management	Office of Environmenta l Management	Department of Energy	DOE M 435.1-1	PR5		Describes both the Evaluation Process and Citation Process which waste incidental to reprocessing may be classified as non-high level waste.
TRU-SPO-11.9-0630200449685	Nuclear Waste Policy Act	DOE	Department of Energy	42 U.S.C 10141	N/A	N/A	Act provides for the development of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, including establishing a program of research, development, and demonstration regarding the disposal of high-level radioactive waste and spent nuclear fuel.

Figure 1 – Location of Hanford Site

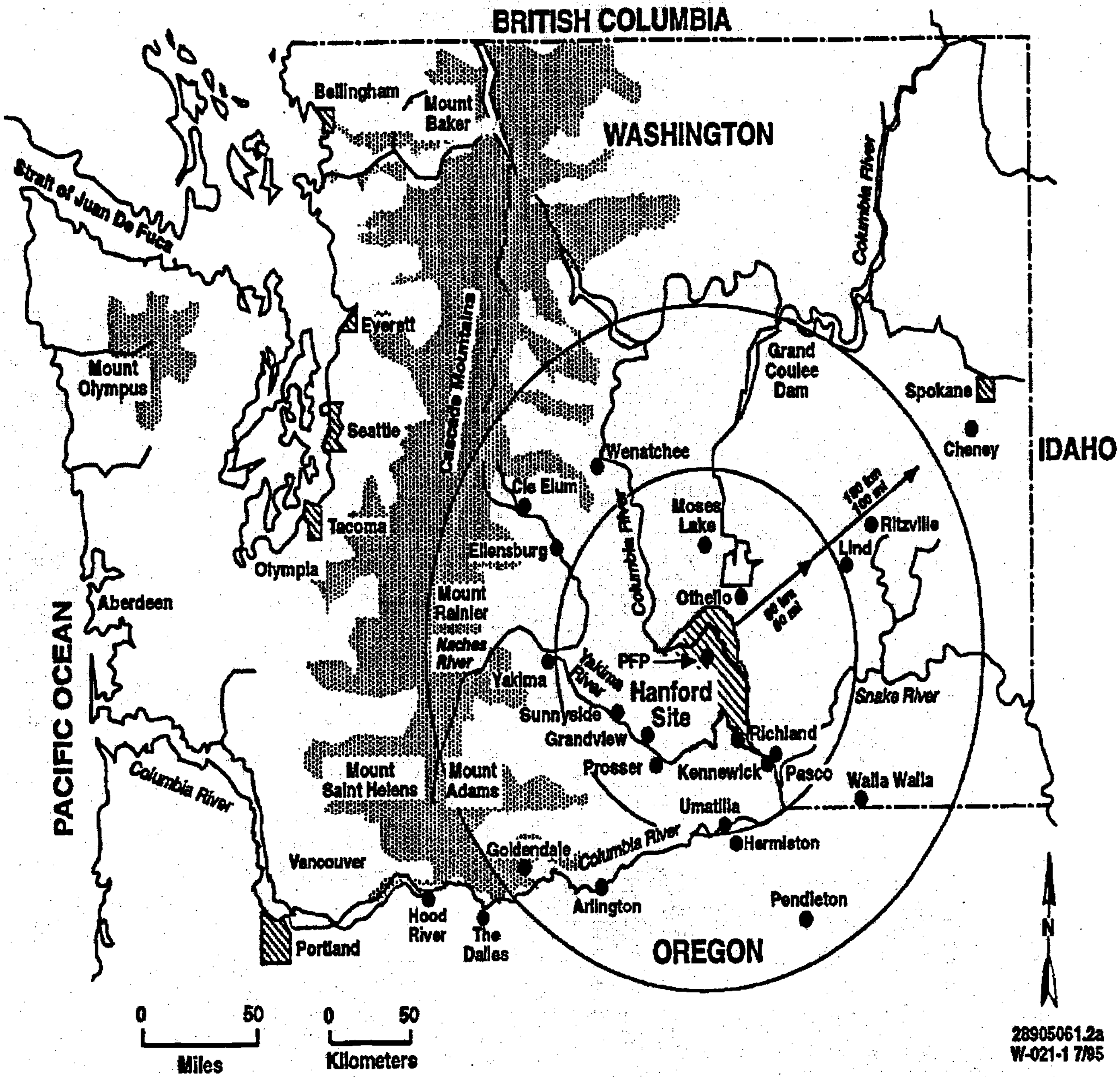
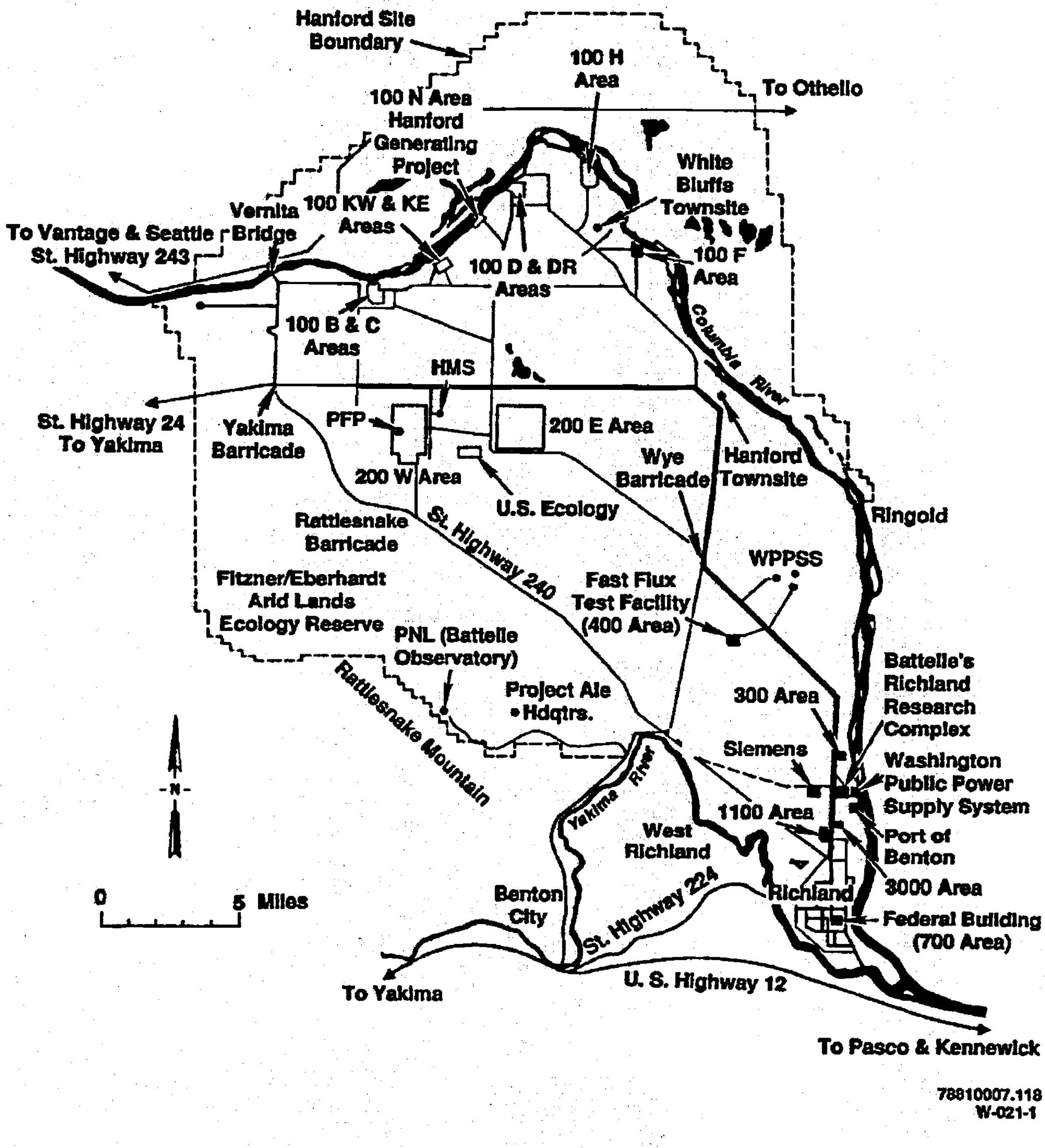


Figure 2 – Location of Major Areas at the Hanford Site



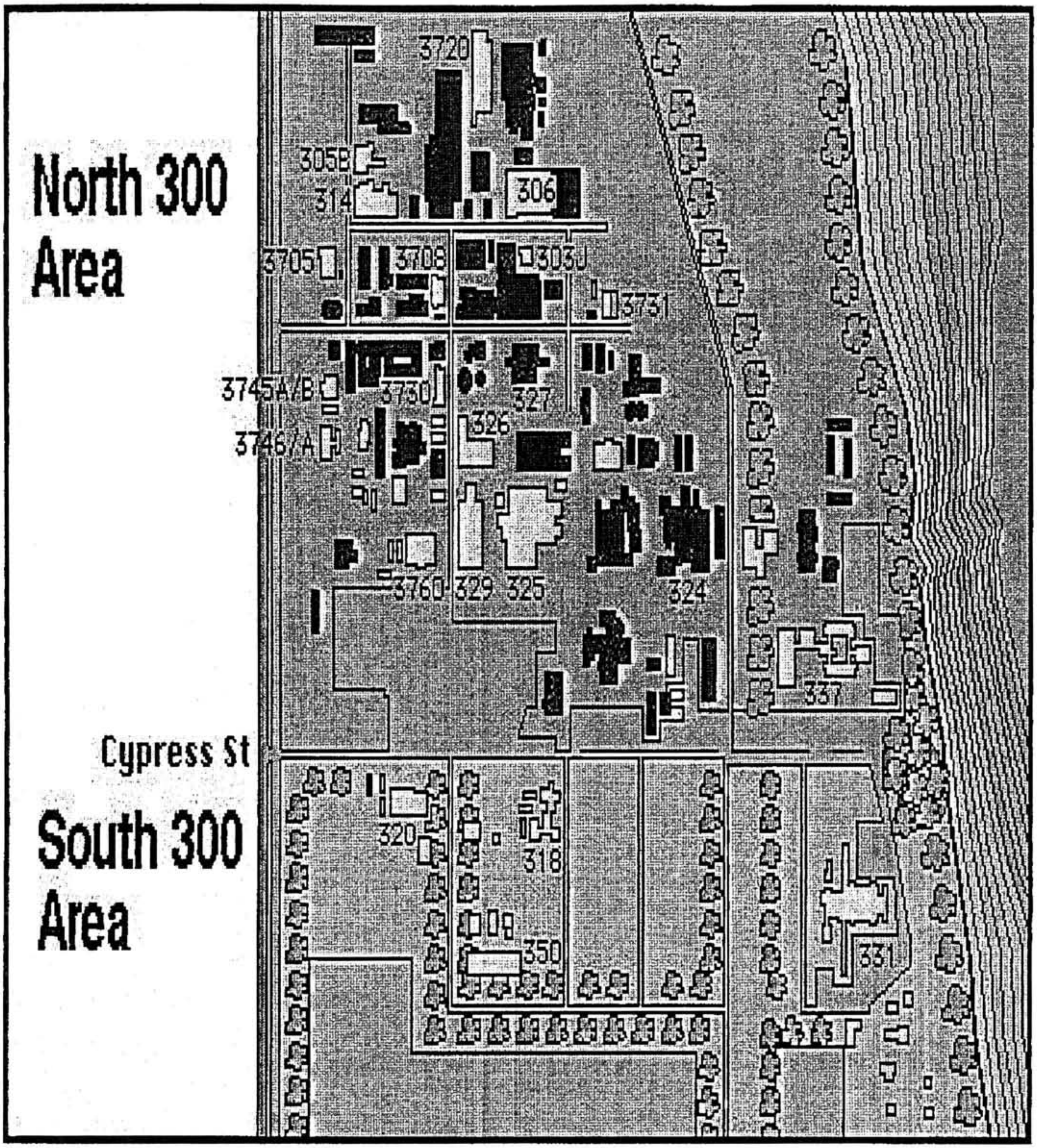
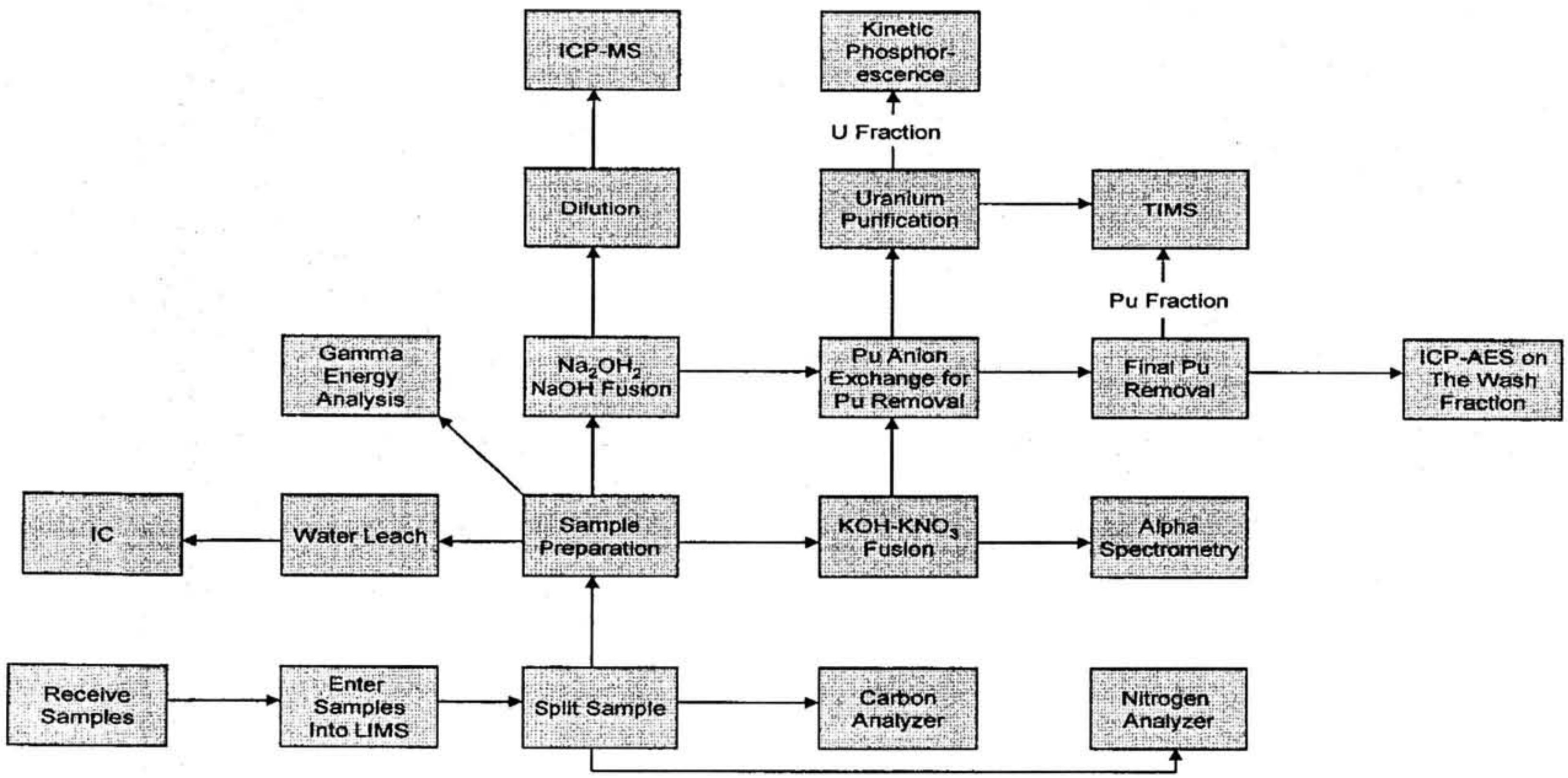


Figure 3 – 300 Area Layout

Figure 4 – Typical Laboratory Analysis Flow



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C. Title Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

D. Internet Address

E. Required Information (MANDATORY)

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Kurt McDonald K.M. McDonald
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☐ Plan ☒ Report ☐ Study ☐ Description Document ☐ Other

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Document revised throughout to incorporate changes resulting from recent WIPP hazardous waste permit modifications and from CBFO review and approval of waste stream profile form and AK summary.

REVIEWERS Others

Name *(print)*	Organization
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R.P. Dunn	TRU Program Site Project Mgr

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Name: (Print)	Date

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Revision 1

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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Richland, Washington

HNF-30810
Revision 1

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

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Fluor Hanford, Inc.

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APPROVAL

This AK document is approved for distribution:

(Sign Name) 7/2/07 (Date)

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Acceptable Knowledge

(Sign Name) 7/2/07 (Date)

M. J. Horhota
Site Quality Assurance Officer

(Sign Name) 7/2/07 (Date)

for **R. P. Dunn** K.M. McDonald
Site Project Manager

EXECUTIVE SUMMARY

This report provides the acceptable knowledge (AK) information required by the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit and the *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* to support the characterization and disposition of transuranic (TRU) waste at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the 325 Radiochemical Processing Laboratory and currently consists of approximately 4,695 containers having a total volume of approximately 1,202.6 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWBs), 3,723 55-gal. drums, and 951 other containers, including 85-gal. drums and variously sized wood and metal crates. These containers are currently retrievably stored in the Central Waste Complex (CWC) and the 218W3A, 218W4B, and 218W4C Burial Grounds.
TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0706200426745

The characterization information presented in this document is based on evaluation of container-specific documentation for containers listed in the most current container list. This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for waste generated by 325 Radiochemical Processing Laboratory operations. Each waste container in the RLM325D waste stream will contain greater than 100 nCi/g of TRU nuclides before being certified for disposal.

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets, and interviews with facility personnel. The AK source documents used to prepare this report are listed in Section 4.0.

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ACRONYMS AND ABBREVIATIONS

AK	Acceptable knowledge
ALARA	As low as reasonably achievable
BBI	Best Basis Inventory
CFR	Code of Federal Regulations
CH	Contact-handled
D&D	Decontamination and decommissioning
DOE	U.S. Department of Energy
EP	Extraction procedure
EPA	U.S. Environmental Protection Agency
FFTF	Fast Flux Test Facility
FY	Fiscal year
HWFP	Hazardous Waste Facility Permit
HWN	Hazardous waste number
HWTU	Hazardous waste treatment unit
ICP-AES	Inductively coupled plasma – atomic emission spectroscopy
ICP-MS	Inductively coupled plasma – mass spectrometry
IDMS	Integrated Document Management System
MOX	Mixed plutonium-uranium oxide
MSDS	Materials Safety Data Sheet
NASA	National Aeronautics and Space Agency
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PCB	Polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PNNL	Pacific Northwest National Laboratory
PPE	Personal protective equipment
PRF	Plutonium Recovery Facility
PUREX	Plutonium-Uranium Extraction facility
RECUPLEX	Recovery of Uranium and Plutonium by Extraction facility
REDOX	Reduction Oxidation facility
RMIS	Records Management Information System
RMS	Records Management System
SAL	Shielded Analytical Laboratory
SPO	Site Project Office
SWB	Standard waste box
TCLP	Toxicity characteristic leaching procedure
TGA-MS	Thermogravimetric analysis - mass spectrometry
TIMS	Thermal ionization mass spectrometry
TRAMPAC	TRUPACT-II Authorized Methods for Payload Control
TRU	Transuranic
TSD	Treatment, storage, and disposal
TWBIR	Transuranic Waste Baseline Inventory Report
TWINS	Tank Waste Inventory Network System
WIPP	Waste Isolation Pilot Plant

WIPP-WAC *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122)

1.0 INTRODUCTION

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the *Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant* (HWFP). This document and supporting references provide the mandatory waste program management and waste stream-specific acceptable knowledge (AK) information for transuranic (TRU) waste generated at the 325 Radiochemical Processing Laboratory from 1970 to present. This AK document contains a description of the TRU waste generating operations and the waste management practices at the time of waste generation.

The subject TRU waste stream (Richland Mixed 325 Building Debris [RLM325D]) is generated at the 325 Radiochemical Processing Laboratory and currently consists of approximately 4,695 containers for a total waste stream volume of approximately 1202.6 m^3. The total number of containers includes 21 standard waste boxes (SWBs), 3,723 55-gal. drums, and 951 other containers, including 85-gal. drums and variously sized wood and metal boxes and crates. The 85-gal. drums and wood and metal crates, and some of the 55-gal. drums, will require repackaging that will result in an approximate 35 percent increase in volume of the waste stream (e.g., due to splitting of drums based on fissile gram equivalent loading, addition of absorbents). Thus, the final RLM325D waste stream will consist of approximately 1,610.3 m^3 of TRU debris packaged in 21 SWBs and approximately 7,560 55-gal. drums. The annual volume of contact-handled waste estimated to be generated from the 325 Building is 6.6 m^3. [TRU-SPO-11.9-0706200426745, TRU-SPO-11.4.3-1013200649581, TRU-SPO-11.4.3-1013200650165, TRU-SPO-11.4.3-0621200728671]

A tracking number is assigned to each AK document through the Records Management System (RMS) database. Tracking numbers issued to documents originating under the Hanford TRU Waste Program will be identified with an "SPO" (i.e., Site Project Office) modifier. Documents are also entered into the RMS by the Hanford Waste Services organization and are identified by the "WST" or "TS" modifiers. Examples of tracking number prefixes used to identify the type of document entered into the database include:

- TRU-SPO-11.4.1 designates correspondence
- TRU-SPO-11.4.2 designates internal procedures
- TRU-SPO-11.4.3 designates published documents
- TRU-SPO-11.4.4 designates unpublished documents
- TRU-SPO-19 or TRU-SPO-11.9 designate Project Office memos

Other tracking numbers may be assigned as needed. The documents used to characterize a waste stream will be scanned into the Integrated Document Management System (IDMS). These documents, and documents submitted by other organizations or for other waste streams, will be accessible by IDMS or the Records Management Information System (RMIS). The waste in this waste stream will be characterized in accordance with the *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan* (HNF-2599) and certified in accordance with the *Hanford Site Transuranic Waste Certification Plan* (HNF-2600). [TRU-SPO-11.4.3-0606200628302, TRU-SPO-11.4.3-0606200628721]

The primary sources of AK used for determining the physical and chemical characteristics of the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared for each container. The documentation for each container includes all or part of the following information:

- Estimated plastic and metal content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- Contents Inventory Sheet identifying the composition of each package placed into the drum

2.0 BACKGROUND AND PROCESS DESCRIPTION

The Hanford Site is located in southeastern Washington State near the Tri-Cities area of Richland, Kennewick, and Pasco as shown in Figure 1. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemical Processing Laboratory is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figures 2 and 3. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0622200241184]

Generation of radioactive solid waste at Hanford coincided with plutonium production for defense purposes that first began in 1944. The Hanford Site was constructed to produce plutonium for the Manhattan Project during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184]

The 325 Building supported a wide variety of Hanford Site operations, including those at the 100, 200, and 300 Areas, and consisting of laboratory examinations and studies, analyses of fuel reactor samples, and characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200450893, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184]

2.1 Hanford Site Background

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW, in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water and was also a dual-purpose reactor that was capable of making electrical power and weapon- or fuel-grade plutonium. N Reactor was used for domestic power production from 1966 until 1986. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building (B Plant and T Plant, respectively) and a Bulk Reduction Building. These facilities chemically dissolved irradiated fuel from the 100 Area reactors and recovered the plutonium using the bismuth phosphate separation process. The final step of plutonium recovery operations was housed in the 231-Z Building at 200 West. Ancillary buildings supporting the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

In 200 West, the Reduction and Oxidation Plant (REDOX, also known as S Plant) began operations in 1951 using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium, plutonium, and neptunium. In 1953, the 224-U Building (U Plant) was converted from a training facility to the Uranium Oxide (UO_3) Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the 231-Z Building was converted to a research and development facility for plutonium processing and nuclear device development for testing at the Nevada Test Site. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

Also located in 200 West Area, the Plutonium Finishing Plant (PFP) began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal, performed casting and machining operations for weapons components, and recovered plutonium from waste and scrap generated at other Hanford and offsite facilities. The PFP began processing Pu nitrate to create buttons in 1952, and in the late 1960s participated in extended programs that prepared plutonium oxides for commercial nuclear experiments and development. As the need for additional plutonium scrap recovery capabilities became greater, the Plutonium Recovery Facility (PRF) was established to replace the Recovery of Uranium and Plutonium by Extraction (RECUPLEX) facility for recovering plutonium through incineration and solvent recovery from a range of scrap items, including incinerator ash, crucibles, and dissolver heels. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

Facilities in the 300 Area of the Hanford Site have had diverse missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. Most of these facilities were not designed for handling TRU materials and therefore are not TRU waste generators. Other facilities, such as the 308 Building, were designed to manufacture plutonium oxide and/or mixed plutonium-uranium oxide fuels for research reactors in the 300 and 400 Areas of the Hanford Site. Some facilities, such as the 324 Building and 325 Building hot cells, focused on research and development, fuel element performance evaluation, and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

2.2 Facility Description

The 325 Radiochemical Processing Laboratory was built in 1953 to house and handle multi-curie and high activity chemical development work. The laboratories were furnished with hoods and glove boxes designed for handling radioactive materials. The 325 Building was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four-foot thick concrete walls with steel liners surrounded these larger cells. Combined, these two analytical facilities were the largest laboratories at Hanford. Analyses were performed in glove boxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests. TRU-SPO-11.9-0708200436028

The 325 Building contains a total of approximately 140,000 square feet of laboratory space. In the 1960s, the building operated as many as 50 laboratories and 11 hot cells. All eleven hot cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431216

2.3 325 Building History

The 325 Building was first operated by General Electric (1953 until 1965), after which operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970 operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire facility was transferred to the current contractor, Pacific Northwest National Laboratories (PNNL), in 1987. Initial 325 Building missions included production and process improvement support for the REDOX and uranium metal recovery operations. Actinide separation studies were conducted to develop techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Building mission also included support to the Plutonium – Uranium Extraction (PUREX) plant, the RECUPLEX Facility, and PRF production processes. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200436028

In the 1960s the 325 Building supported National Aeronautics and Space Agency (NASA) and medical isotope development campaigns. A number of new techniques were developed involving separation and fractionation technology. Specific isotopes, including strontium-90, cesium-137, curium-244, americium-241, and promethium-147, were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During these years, Hanford was the only supplier in the world of promethium-147, which was used in the development of the artificial heart. Also, during the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell. TRU-SPO-11.9-0708200431216

The 325 Building was involved in Fast-Flux Test Facility (FFTF) fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory analyzed Exxon enriched uranium samples. These samples were submitted as sweepings from the process line glove boxes in the Exxon facility located adjacent to the Hanford Site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste, and 325 Building personnel in the shielded analytical facility worked on samples from these processes.

After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

In the late 1980s, operations to characterize tank waste began and continued through the 1990s. Many of the sampling and analytical techniques used for tank waste characterization at the Hanford Site were developed by the 325 Building personnel. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and mixed oxide (MOX) materials using electrochemical, spectrophotometric, and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 Building has been operated as a Treatment Storage and Disposal (TSD) facility since 1993 and has operated as part of an overall Hazardous Waste Treatment Unit (HWTU) for the Hanford Site since that time [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240. TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200440020]

2.4 Waste Generating Process

Over its operational history, the 325 Building has supported a wide range of activities and projects. Due to the number and nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document. The following processes contributed to this waste stream. Figure 4 provides a typical process flow involved in characterizing a specific waste form (i.e., mixed oxide materials).[TRU-SPO-11.9-0706200427171]

The 325 Building houses several laboratories and hot cells (used for high activity samples containing fission products). The laboratories are furnished with hoods and glove boxes designed for handling radioactive materials. Hot cells are used for examination of radioactive materials, including those associated with leach testing of vitrified wastes from the tank farms, spent nuclear fuel and characterization of neutralized cladding removal waste, and post-irradiation examination of the boron thermal shield from N Reactor.[TRU-SPO-11.9-0708200431216, TRU-SPO-11.4.3-0613200740651, TRU-SPO-11.4.3-0613200440171, TRU-SPO-11.4.3-0613200740388]

The 325 Building housed, and continues to house, a wide range of laboratory and research and development projects at the Hanford Site. Examples of the types of projects supported include: TRU-SPO-11.4.3-0613200740651, TRU-SPO-11.4.3-0613200440171, TRU-TS-11.4.2-0503199943148, TRU-SPO-11.4.3-0613200739512, TRU-SPO-11.4.3-0613200739801, TRU-SPO-11..4.3-0613200740836

- isolation and separation of plutonium and other radionuclides (including tritium, Am-241, Pu-239, Cm-244, Cs-137, Sr-90, and Pm-147) from irradiated fuel and target materials

- evaluating the chemical durability of ceramic, glass, and cemented monolithic waste forms
- evaluating and testing physical properties and pretreatment and vitrification of tank waste
- characterization leach testing of waste glass and spent fuel
- performing spent nuclear fuel characterization and performance testing
- process control studies for plutonium recovery
- supporting decontamination and decommissioning (D&D) activities across the Hanford Site.

Operations in the 325 Building can be divided into two general types: laboratory operations and hazardous waste treatment operations. These operations will be described separately in the following sections.

2.4.1 Laboratory Operations

Laboratory operations performed at the 325 Building encompassed four broad areas of activity: sample preparation, analytical operations, process development support (research and development), and general laboratory operations (i.e., maintenance, radiological surveys and control, and spill cleanup).

A wide range of samples and waste materials are evaluated in the 325 Building. Samples are accompanied by an internal documentation form that provides waste characterization information from the sample generating unit. Chemical characterization provided in these forms is based on previous chemical analysis and/or process knowledge.[TRU-SPO-11.4.3-0612200739127]

Typical debris waste items from laboratory operations include stainless steel vessels, Teflon gaskets, glassware, wipes, plastic, sample residues, thermometers, glovebox gloves, and hand tools (such as tweezers and forceps). Laboratory operations generate liquid waste that may be highly acidic and/or contain a high level of chlorine. This liquid waste is neutralized, and heavy metals that may be present are precipitated as hydroxides and are filtered from the solution. Chlorine, if present above 0.01 M limit, may be removed through silver nitrate precipitation. The liquids thus treated are then discharged to the Radioactive Liquid Waste System (before 1998) or the 325 Building Hazardous Waste Treatment Units (after 1998), as described below. Organic waste is segregated from the aqueous waste prior to neutralization to minimize treatment requirements.[TRU-SPO-11.9-0707200431874, TRU-SPO-11.9-0707200432171, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0706200427171, TRU-SPO-1.9-0707200438880, TRU-SPO-11.9-0708200441405, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-0707200437869]

2.4.1.1 Sample Preparation

Sample preparation includes a variety of activities preparatory to the actual examination of samples. These steps may include:[TRU-SPO-11.9-0707200431874, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0706200427171, TRU-SPO-1.9-0707200438880, TRU-SPO-11.9-0708200441405, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200426725]

- sample fabrication (for example, coring a mixed oxide pellet and then washing the core in deionized water)
- sample dissolution (dissolving the sample in hot, acid solutions (such as nitric, hydrofluoric, or sulfuric acid))
- sample mounting/cleaning (which may involve mounting the sample specimen using a combination of clay, paper and a weak adhesive and drying/cleaning the sample) with an organic solvent (e.g., ethanol, propanol, or acetone)
- pyrohydrolysis to remove fluoride and chloride from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets.

2.4.1.2 Analytical Operations

Analyses conducted at the 325 Building involved a variety of standard methods, including the following (note that chemicals identified as being used in the process are listed in parentheses):[TRU-SPO-11.9-0707200432171, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0708200440020, TRU-SPO-0707200439457]

- inductively coupled plasma-mass spectroscopy (ICP-MS) - used for bulk elemental chemical analysis of any material or substance (including water, biological materials, inorganic materials, environmental samples, and geological samples)
- inductively coupled plasma-atomic emission spectroscopy (ICP-AES) – used to determine trace elements in matrices (including unfiltered ground water, aqueous samples, toxicity characteristic leaching procedure (TCLP) and EP (extraction procedure) extracts, industrial and organic wastes, soils, sludges, sediments, and other solid wastes) following digestion (e.g., dissolution in nitric acid) prior to analysis
- kinetic phosphorescence – used to determine uranium and lanthanides in various matrices following digestion (e.g., dissolution)
- thermogravimetric analysis-mass spectrometry (TGA-MS) – used to simultaneously determine the change in weight of a material (either as a function of increasing temperature or isothermally as a function of time) and the identity and concentrations of vapors generated during heating
- coulometric titration of plutonium and uranium – used to measure plutonium and uranium concentrations in solution by measuring the concentration of specific ions using a constant electrical current flowing through the solution (hydrochloric acid)
- amperometric titration of plutonium – used to measure plutonium concentrations in solution by means of titration in which the equivalence (end) point is identified through measurement of an electric current (nitric acid, mercury, and silver oxide)
- thermogravimetry – used to measure the oxygen-to-metal ratio of plutonium and uranium oxides
- thermal ionization mass spectrometry (TIMS) – used to measure the isotopic abundances of plutonium and uranium in uranium oxide and nitrate, plutonium oxide powder and nitrate, and mixed oxide (to separate Pu and U - nitric acid, ammonium sulfate, and ion

exchange resins; to prepare the heating filament – acetone, toluene, isopropyl alcohol, and benzene)

- potentiometric titration – used to determine the concentration of uranium in uranium oxide powder and pellets, mixed oxide powder and pellets, and uranyl nitrate solutions (phosphoric acid, sulfamic acid, potassium dichromate titrant)
- ion-selective electrode measurement – used to quantify the concentration of fluoride removed from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- constant current coulometry – used to quantify chloride and water uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- spectrophotometry - used to quantify chloride and tungsten in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (depends on the ion to be detected, for example mercuric thiocyanate for chloride; hydrochloric acid, hydrofluoric acid, and nitric acid for tungsten)
- gas chromatography – used to quantify the amount of carbon in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- Kjeldahl spectrophotometry – used to quantify the amount of trace nitrogen (as nitride) in uranium oxide and mixed oxide powder and pellets (hydrochloric acid, hydrofluoric acid, sodium hydroxide)
- fusion and gas chromatography – used to determine total nitrogen in samples of uranium oxide, plutonium dioxide, and mixed oxide powder and pellets
- combustion and iodometry – used to determine sulfur in samples of uranium dioxide, plutonium oxide, and mixed oxide powder and pellets (hydrochloric acid)
- combustion and turbidimetry - used to determine sulfur in samples of uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (hydrochloric acid)
- emission spectroscopy (direct read and photographic) - used to determine impurity elements in samples of uranium oxide, plutonium oxide, and mixed oxide
- emission spectrography – used to determine rare earth elements in samples of uranium oxide, mixed oxide, and plutonium oxide using solvent extraction (hydrofluoric acid, nitric acid, boric acid, hydrochloric acid, methanol, perchloric acid, xylene)
- spark source mass spectrography – used to determine impurities in samples of uranium oxide, plutonium oxide, and mixed oxide
- anion exchange and alpha analysis – used to determine Americium-241 in unirradiated and irradiated samples of uranium oxide, plutonium oxide, and mixed oxide
- gamma spectrometry – used to determine Americium-241 in unirradiated samples of plutonium oxide and mixed oxide (nitric acid)

- vacuum outgassing – used to determine gas content of uranium, plutonium, and mixed oxide in pellet form
- combustion and infrared spectrometry – used to measure carbon and sulfur in samples of uranium, plutonium, and mixed oxide powders and pellets
- modified Brunauer, Emmett, and Teller method – used to determine the surface area of uranium, plutonium, and mixed oxide powders
- sedimentation and x-ray scattering – used to determine particle size distributions of uranium oxide, plutonium oxide, and mixed oxide
- mercury displacement – used to determine the density and open porosity of uranium, plutonium, and mixed oxide as pellets and pellet fragments (mercury, isopropyl alcohol)
- X-ray diffraction – used to obtain various measures (e.g., lattice parameters, crystallite size, residual stress, orientation effects) a variety of solid materials, including metals, nonmetals, inorganic and organic materials in the form of powder, sludge or paste, monoliths, sheets, wires, and other forms
- leach testing – used to determine leaching rates of radioactive and non-radioactive constituents from solid materials (e.g., vitrified waste forms) (nitric acid, sodium hydroxide, solvent for cleaning/drying specimens [for example, acetone, ethanol], hydrofluoric acid)
- ion chromatography – a form of liquid chromatography that uses ion-exchange resins to separate atomic or molecular ions in aqueous samples based on their interaction with the resin

2.4.1.3 Process Development Support

Historically, the 325 Building supported a variety of plutonium recovery and purification processes as used at Hanford. These processes evolved as knowledge was gained throughout the production history of Hanford, and included the following processes (note that chemicals identified as being used in the process are listed in parentheses):[TRU-SPO-11.4.3-0613200740651, TRU-TS-11.4.2-0503199943148, TRU-SPO-11.4.3-0613200739512, TRU-SPO-11.4.3-0613200739801, TRU-SPO-11.4.3-0613200740836]

- Bismuth Phosphate Process (nitric acid, phosphoric acid, hydrofluoric acid, oxalic acid, and sodium dichromate)
- REDOX process (methyl isobutyl ketone, aluminum nitrate, ammonium nitrate, nitric acid, sulfuric acid, and oxalic acid)
- PUREX and Metal Recovery (processes are very similar) (tributyl phosphate, kerosene, nitric acid, oxalic acid, ammonium fluoride, sodium hydroxide, sulfuric acid, and ammonium nitrate)
- RECUPLEX process (tributyl phosphate, carbon tetrachloride, nitric acid, oxalic acid, and hydrofluoric acid)
- PRF process (tributyl phosphate, carbon tetrachloride, dibutyl butyl phosphonate, butanol, kerosene, and phosphoric acid).

In addition, the 325 Building laboratory supported other processes and facilities at Hanford from a research and development standpoint. For N-Reactor, for example, the laboratory supported tests of iodine control during fuel processing for Pu-238 recovery (involving normal paraffin hydrocarbon, nitric acid, mercuric nitrate, silver, aluminum, and elemental iodine) and post-irradiation examination of the boron thermal shield (made of boron carbon steel plate).[TRU-SPO-11.9-0708200431216, TRU-SPO-11.4.3-0613200740651]

2.4.1.4 Maintenance, Radiological Surveys and Control, and Spill Cleanup

Maintenance of the gloveboxes and equipment in the fume hoods resulted in the generation of various types of waste including gloves, damaged/worn out equipment, and filters. The primary constituent of this waste is Hypalon (synthetic rubber) gloves that are replaced from the gloveboxes. These materials were removed from the gloveboxes and packaged for disposal as described previously.[TRU-SPO-11.9-0701200436625]

Routine radiological surveys generated radioactively contaminated cotton swabs and other survey media. Cells were routinely decontaminated to control radiation levels and prevent cross-contamination. Chemicals used during this decontamination included nitric acid, ethanol, acetone, many commercial (non-hazardous) products from the Turco Corporation, and other cleansers.[TRU-SPO-11.9-0708200431216]

Spills occurred throughout the operating history of the facility. Liquids collected from these spills were neutralized, as necessary for corrosive materials (beginning in the late 1970s), and solidified with vermiculite and cement in a 2 to 1 ratio and placed in drums for disposal. In the case of high alpha activity spills, a corn oil mist may be used during clean up to prevent the spread of the alpha contamination. Terry cloth towels are used during spill clean up and are disposed of separately from the solidified liquids.[TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0701200436625]

2.4.2 Hazardous Waste Treatment Operations

Two hazardous waste treatment units (HWTUs) were permitted by the Washington State Department of Ecology in the 325 Building. The 325 Building HWTUs consist of Shielded Analytical Laboratory (SAL) and the HWTU (Figure 5), and began operations in 1991 (SAL) and 1995 (HWTU).

The SAL includes Rooms 32, 200, 201, 202, and 203 (all located on the main floor) and a double-walled tank, TK-1, located in Room 32 in the basement of the building (Figures 6 and 7). The SAL serves two purposes: sample preparation and analyses of mixed waste and highly radioactive materials for various clients and treatment of hazardous waste generated during analytical work within the SAL and potentially from other onsite and/or offsite facilities. Typical analytical operations in the SAL include weighing, sample dissolution, sample dilution and aliquoting, digestion, distillation, titrimetric analysis, solvent extraction, and ion exchange separations. Hazardous waste treatment conducted in the SAL includes pH adjustment, ion exchange, waste concentration by evaporation, precipitation and/or filtration, solvent extraction, solids washing, and solidification and/or stabilization.[TRU-SPO-11.4.3-0612200739127]

The HWTU consists of three rooms, Rooms 520, 524, and 528, located in the northeast corner of the main floor of the 325 Building. Room 520 is limited to treatment of non-radioactive hazardous waste, while Room 528 is used for treating TRU, low-level, and mixed hazardous waste. Within these rooms, wastes are stored in containers ranging from small laboratory glassware to 55-gal. drums. Treatment processes in the HWTU are typically bench-scale operations that are portable and conducted inside open-faced hoods or gloveboxes and involve small quantities of waste in each batch. Treatment process used in the unit include pH adjustment, ion exchange, carbon absorption, oxidation, reduction, waste concentration by evaporation, precipitation, filtration, phase separation, catalytic destruction, and solidification and/or stabilization.[TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200435233]

Waste contributed by HWTU operations to the RLM325D waste stream may include debris items (e.g., glassware, laboratory equipment) and small quantities of solidified liquids. Except for in-tank treatments, hazardous waste treatments performed at the 325 Building HWTUs are generally conducted as small bench-scale operations and may include:[TRU-SPO-11.4.3-0612200739127]

- molten salt destruction
- pyrolysis
- calcination
- chemical fixation, oxidation, precipitation, and reduction
- chlorination
- chlorinolysis
- cyanide destruction
- degradation
- ion exchange
- ozonation
- photolysis
- solvent recovery
- reverse osmosis
- liquid-liquid extraction
- liquid ion exchange

The HWTUs are used to treat hazardous waste materials generated from laboratory operations throughout the 325 Building, and may also be used to treat waste materials from other Hanford facilities, primarily other PNNL facilities. Samples (including tank waste, ground water, and solid matrices) from other facilities are received and analyzed at the 325 Building laboratories; consequently, analytical waste from the analysis of samples from these other facilities is included in waste stream RLM325D. Hazardous waste numbers (HWNs) in waste treated in the HWTUs are enveloped by the HWNs applied to other materials (for example, tank waste samples) processed through the 325 Building laboratories, as described in the RCRA Hazardous Waste Characterization section.

Since the time the HWTUs were established at the 325 Building, materials for processing through the HWTUs were received from other PNNL facilities that performed, and continue to perform, various defense research activities. The majority of the materials are low level waste and will not be part of this waste stream. It is not possible to identify the individual research projects from the facilities that have sent materials to the 325 Building for processing. However, all materials to be processed meet the HWTU Permit requirements for receipt, treatment, and packaging. TRU waste generated from the HWTUs must meet the Hanford waste acceptance criteria, and, per the Hanford waste acceptance criteria, can only contain the HWNs included in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit Table II.C.4. Typical hot cell analytical processes generate liquid waste that is highly acidic and/or may contain a high level of chlorine. The waste is segregated to minimize treatment needs, and is neutralized. If heavy metals are present in the liquids before neutralization, they are precipitated as hydroxides from the solution during neutralization and are filtered from the solution. Chlorine is removed through silver nitrate precipitation. Therefore, the remaining liquid waste is not ignitable, reactive, or incompatible when transferred to the SAL tank (TK-1). Precipitated metals and other solids are solidified and stabilized before being packaged with the other waste materials in 55-gal. drums. TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200440354

Some of the waste processed through and stored at the 325 Building HWTUs require that the waste be placed into modified (shielded) 55-gal. drums to reduce the radiological hazard of the waste and to be compliant with as low as reasonably achievable (ALARA) criteria. Shielding used may include concrete, lead, or other materials. These drums are modified to contain from 1 gal. to 14 gal. of waste depending on the shielding required. Waste within these containers is packaged in individual 1- to 1.25-gal. containers before placement into the 55-gal. drum. All containers will be screened using radiography to identify sealed containers greater than 4 L and impenetrable objects (such as shielding) and radiological surveys to ensure that the containers meet contact-handled (CH) requirements before certifying the waste for shipment. Payload container shielding will not be used to meet *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122, WIPP-WAC) requirements. TRU-SPO-11.4.3-0612200739127

3.0 WASTE STREAM DESCRIPTION

Analyses performed in glove boxes, fume hoods, and hot cells included a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic and organic debris waste materials. Materials associated with waste packaging include plastic liners and absorbents (e.g., kitty litter, vermiculite, diatomaceous earth). TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200430656, TRU-SPO-16-0630200149652

3.1 Defense Determination

The WIPP-WAC requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU defense waste. Based on guidance from Department of Energy (DOE), a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in Section 10101(3) of the Nuclear Waste Policy Act of 1982 (NWPA). Based on the review of AK, TRU waste generated by 325 Building operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following activities: TRU-SPO-11.9-0630200449685

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense research and development

The historical mission of the Hanford Site was to produce nuclear materials (i.e., plutonium) for defense purposes. As described previously, the 325 Building has provided support to a variety of defense nuclear materials production activities at Hanford, including the following:

- REDOX – Operations were conducted in the REDOX facility to recover plutonium (as plutonium nitrate) and to concentrate the plutonium for transfer to PFP, where the plutonium nitrates were purified and converted to plutonium metal or oxide. [TRU-WST-11.4.3-0306200647097]

- PUREX - The PUREX facility replaced earlier fuel dissolution and plutonium separation facilities and produced plutonium nitrate solutions for further processing at PFP. [TRU-TS-11.4.3042319995354, TRU-TS-11.4.3-0427199915823]

- PRF - Pu was received from DOE and other (i.e., West Valley) sources under the Pu Recycling Program, conducted to reclaim economically valuable Pu for use in weapons, research, or fueling breeder reactors, such as FFTF. Much of this plutonium had been produced in reactors at Hanford and Savannah River, which were operated for defense-related purposes. [TRU-SPO-11.4.3-1127200254744, TRU-SPO-11.9-1112200350054]

- N-Reactor - Designed to be a dual purpose reactor (i.e. producing both plutonium and electricity), N-Reactor began producing plutonium in March 1964 and electrical power sometime later. From 1965 to 1967, tritium (also used in nuclear weapons) was produced at N-Reactor using fuel elements manufactured in the 333 facility. [TRU-SPO-11.4.3-0314200658459]

More recently, the 325 Building has continued to support defense activities associated with defense nuclear waste and by-product management. Samples of tank waste (sludge and liquid), resulting from fuel dissolution and plutonium separation for defense purposes, have been and continue to be analyzed in the 325 Building laboratories. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649, TRU-SPO-11.9-0708200441084]

The RLM325D waste stream also contains waste that was generated during defense research and development activities. In particular, studies were conducted in the 325 Building that were part of the Nuclear Waste Vitrification Project (NWVP) program, intended to treat tank sludges resulting from years of processing weapons materials at the Hanford Site. Other research projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. [TRU-SPO-11.9-0701200437194 TRU-SPO-11.9-0708200431216]

Due to the nature of the analytical work performed, defense-related analyses were carried out concurrent with other, potentially non-defense, projects across the Hanford Site that required analytical characterization. During these analytical activities, and because of the waste management practices in place at the 325 Building, no attempt was made to segregate the waste originating from non-defense and defense-related processes. Because segregation of waste into defense and non-defense portions is not feasible, all TRU waste from the RLM325D waste stream is eligible for disposal at the WIPP. TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0708200431216

3.2 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal at WIPP of spent nuclear fuel and high-level waste as defined by the NWPA. High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0919200631754

Pursuant to this definition the DOE has identified that waste resulting from reprocessing spent nuclear fuel is incidental to reprocessing and is not high-level waste. The determination of waste incidental to reprocessing is made using either the citation process or evaluation process as explained in DOE Manual 435.1-1. TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0906200639182

The citation process refers to those reprocessing waste items of the type that were discussed in the Statement of Proposed Policy for Appendix D, 10 Code of Federal Regulations (CFR) Part 50, as not being high level waste. These radioactive wastes are the result of reprocessing plant operations, including:

- Contaminated job wastes - a general category of wastes generated during high-level waste transfer, pretreatment, treatment, storage, and disposal activities. Included are protective clothing, personal protective equipment (PPE), work tools, ventilation filter media, and other job-related materials necessary to complete high-level waste management activities
- Sample media (e.g., sampling vials, crucibles, other hardware)
- Decontamination media and decontamination solutions (e.g., swabs, other decontamination-related materials)
- Laboratory clothing, tools, and equipment.

The RLM325D waste stream contains laboratory wastes, such as paper, PPE, filters, used glass ware (beakers, pipettes, vials, and tubing), and other debris items. Absorbed liquids, including sample residues from fuel pellets, tank waste, ceramics and wastes resulting from spill clean-up and decontamination activities, are also present in the RLM325D waste stream. As such, the waste stream contains waste items that are described in the Statement of Proposed Policy for Appendix D, 10 CFR Part 50, as not being high-level waste. Therefore, this waste stream has been determined to be waste incidental to reprocessing in accordance with the citation process as described in DOE M 435.1-1. TRU-SPO-0606200735392, TRU-SPO-11.4.1-0606200735117

3.3 Material Disposition

In 1998, Section 308 of the fiscal year (FY) 1999 Energy and Water Development Appropriations Act prohibited disposal of waste containing concentrations of plutonium "in excess of 20 percent by weight for the aggregate of any material category" (this prohibition has been promulgated in subsequent Appropriations Acts). RLM325D is a debris waste stream containing primarily waste materials associated with laboratory analysis. Because these materials were discarded as waste, they were identified as being contaminated with plutonium at levels below economic discard limits. Items above the economic discard limits would have been identified as scrap or residues, and would have been processed to recover the plutonium. Thus, the materials discarded as waste would not be contaminated with plutonium to 20 percent by weight.

3.4 Waste Matrix Code

The Summary Category Group of S5000 and heterogeneous debris Waste Matrix Code Group are assigned to the RLM325D waste stream. Based on the container-specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories. However, any container identified as containing greater than 50 percent solidified organic or inorganic liquids will be assigned to an appropriate homogeneous solids waste stream. Thus, the waste matrix code of S5490 is assigned to the RLM325D waste stream. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0708200431216]

Using information obtained from Waste Disposal Records and Contents Inventory Sheets, the waste material parameters presented in Table 1 have been identified in the RLM325D waste stream. The waste material parameters and physical content descriptions for 211 containers were reviewed, and estimated volume percentages were tabulated and the relative volumes for the various waste material parameters were calculated; these volume percent estimates are also presented in Table 1. [TRU-SPO-11.9-0701200437024 TRU-SPO-11.9-0706200430656]

Table 1. Waste Material Parameters Found in the RLM325D Waste Stream

Waste Material Parameter	Description	Present?	Estimated percent
Iron-based Metals/Alloys	Iron and steel alloys in the waste (does not include the waste container materials)	Y	41
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials	Y	<1
Other Metals	All other metals found in the waste materials	Y	1
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbent	Y	12
Cellulosics	Materials generally derived from high-polymer plant carbohydrates (e.g., paper, cardboard, wood, and cloth)	Y	7
Rubber	Natural or man-made elastic latex materials (e.g., surgeons' gloves, and leaded rubber gloves)	Y	3

Waste Material Parameter	Description	Present?	Estimated percent
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene and polyvinylchloride)	Y	28
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges	Y	<1
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents (e.g., wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates)	Y	8
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials	N	N/A
Steel (packaging materials)	55-gallon drums	Y	N/A
Plastics (packaging materials)	12-mil and 90-mil polyethylene drum liners and plastic bags	Y	N/A

The TRUPACT-II Content Code assigned to the waste is dependent on the layers of confinement in the containers. The containers have been assigned Content Codes of RH125/RH225, with the alpha designation assigned based on the packaging configuration (e.g., layers of confinement) at the time of certification. In accordance with Hanford procedures, layers of confinement may be reduced as necessary during processing of the waste as part of preparations for shipment.

3.5 Waste Packaging and Handling

The majority of waste is packaged in 55-gal. drums. Other containers were also used, such as 30-gal. drums, 110-gal. drums, and various waste box configurations (wooden and metal) suitable for waste storage at the Hanford Site. Those waste containers that do not meet the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) and *TRUPACT-II Authorized Methods for Payload Control* (TRAMPAC) requirements will be processed and repackaged as necessary before shipment to WIPP. Packaging methods are discussed in the following sections.

From 1970 to 1978, waste containing contamination that easily became airborne and that was to be placed in 55-gal. drums was required to be placed in an "inner container" (e.g., sheet plastic). In 1978, a polyethylene drum liner was required. In 1981, the polyethylene drum liners were required to be "horsetailed" and taped shut before the drum lid was installed. From approximately 1983 through 1987, single heat-sealed bags approximately five feet in length were used. As necessary (i.e., due to the presence of contamination on the outside of the bag), additional bags may be placed around bags of waste bagged out of a glovebox. Containers in the RLM325D waste stream may therefore have up to six layers of confinement (i.e., five inner bags and one liner bag). [TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640]

Various sizes of metal cans, including 4-quart, 5-quart, and 5-gal. paint cans and 4-gal. slip lid cans, were used to remove TRU waste from hot cells. These cans will contain waste items, but empty containers (e.g., used to transfer items to the glove boxes and hot cells) may also be present in the waste. These metal cans were placed into lined 55-gal. drums. All waste containers will be screened for prohibited items (e.g., sealed containers greater than 4 L) and any non-compliant containers will be remediated.[TRU-SPO-11.9-0708200431435]

Until 1998, liquid waste from the hot cells and from designated laboratory sinks were disposed of to the Radioactive Liquid Waste system and routed to the 340 Building. Since 1998, liquid waste from the 325 Building has been processed through the 325 Building HWTUs, which are described in more detail in the Waste Generating Process section. However, small amounts of liquid waste from the hot cells may also have been solidified in 5-quart cans by evaporation or using diatomaceous earth or cement and vermiculite in a 1:2 ratio prior to packaging in a 55-gal. drums for storage and disposal. Corrosive liquids were neutralized prior to solidification. TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0701200436625, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440354

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities. By 1980 each container accepted for storage at Hanford was required to be capable of being fitted with an air or vacuum hose or a gaseous diffusion vent. Drums were fitted with Nucfil 013 filters if radiolytic decomposition was a possibility. TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0708200430448, TRU-SPO-11.9-0708200431435

3.6 Exclusion of Prohibited Items

Radiography and/or visual examination technique will be performed on each container in this waste stream to determine the presence of the following prohibited items:

- Liquids (waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container may not exceed 1 percent volume of that container. Residual liquids containing polychlorinated biphenyls (PCBs) are not allowed at the WIPP. This waste stream does not contain waste designated with the Hazardous Waste Number U134.)
- Corrosives
- Reactives
- Ignitables
- Pyrophorics
- Explosives
- Compressed gases
- Sealed containers > 4 L (excluding heat-sealed bags as identified in Appendix 3.8 of the CH-TRU Payload Appendices)
- Pressurized containers

- PCB waste not authorized under a U.S. Environmental Protection Agency (EPA) PCB disposal authorization
- Non-TRU hazardous wastes
- Wastes incompatible with backfill, seal, and panel closure materials, container and packaging materials, shipping container materials, or other wastes
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table B-8 of HNF-2599, unless specifically approved through a Class 3 permit modification.

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents; however, because liquids were neutralized, absorbed, and cemented, they may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (e.g., 5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656

Any containers found during the characterization process to contain any prohibited items will be segregated and the nonconforming condition will be corrected before the container is certified for shipment. Because no prohibited articles are allowed for shipment to WIPP, the problem containers will have the prohibited articles treated and/or repackaged prior to certification. Only certified containers will be shipped to WIPP for disposal.

3.7 Waste Regulatory Characterization

The following sections describe the characterization rationale for the assignment of Environmental Protection Agency (EPA) HWNs to waste stream RLM325D. To assign EPA HWNs and Washington Dangerous Waste Codes, the available AK documentation (including analytical procedures, waste disposal records, site databases, material safety data sheets [MSDSs]) was reviewed to identify chemical usage and potentially hazardous materials that may be present in the waste stream. As described below, several of the HWNs were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from the containers in the waste stream.

Because Washington State dangerous waste codes (Chapter 173-303 of the Washington Administrative Code) are only assigned in the absence of an applicable EPA HWNs, and because the EPA HWNs are assigned to the RLM325D waste stream, no Washington state dangerous waste codes are assigned to waste stream RLM325D. Table 2 summarizes the HWNs assigned to this waste stream. TRU-SPO-11.9-0828200638735

Table 2 - HWNs Assigned to the RLM325D Waste Stream

EPA Hazardous Waste Numbers	
F001	D010
F002	D011
F003	D022
F004	D027
F005	D028
D004	D029
D005	D030
D006	D034
D007	D037
D008	D043
D009	

Table 3 summarizes the chemicals and commercial products identified during the review of AK documentation. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, , TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431874, SPO-11.9-0707200432171, TRU-SPO-11.9-0707200433058, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200439643, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200438206, TRU-SPO-11.4.3-0414200630007, TRU-SPO-11.9-0708200440020 TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0706200430656 TRU-SPO-11.9-0706200426745

Table 3 - Chemical and Commercial Product Usage

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Acetic acid	Coulometry solution, sample preparation	N/A
Acetone	Rinsing electrodes, cleaning filaments and glassware	F003
Adiponitrile	Organic synthesis	N/A
AG MP-1 (trimethylamine)	Ion exchange resin	N/A
Aluminum	Heating blocks, capsules and standard solutions	N/A
Aluminum chloride	Electrolytic solutions	N/A
Aluminum nitrate nonahydrate	Standard solutions	N/A
Aluminum oxide	Laboratory reagent (refractory)	N/A
Aluminum sulfate	Electrochemical solutions	N/A
Alundum (aluminum oxide)	Chromatography columns	N/A
Ammonium acetate	Analytical reagent	N/A
Ammonium chloride	Kjeldahl ammonia methods	N/A
Ammonium dichromate	Electrochemical solution	D007
Ammonium fluoride	Fluoride ion standard	N/A
Ammonium hydroxide	Liquid pH adjustment	N/A
Ammonium molybdate	Oxidizing acid, may be disposed in liquid waste stream	N/A
Ammonium oxalate	Chelating agent	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Ammonium phosphate, dibasic	Process chemical	N/A
Ammonium thiocyanate	Process chemical possibly used in Cs scavenging not from electroplating	N/A
Ammonium vanadate	Used as reagent in potentiometric methods.	N/A
Arsenic oxide	Laboratory reagent	D004
Arsenious acid	Electrochemical methods.	D004
Asbestos	Flame protection for glove box floors, and lab ware	N/A
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in gas chromatography	N/A
Ascorbic acid	Electrolytic solutions	N/A
Barium carbonate	Laboratory reagent	D005
Barium chloride	Precipitating reagent.	D005
Barium hydroxide	PH adjustments in solutions.	D005
Barium nitrate	Laboratory reagent	D005
Benzene	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium	Standard materials	N/A
Black sealing wax	Sealant for gas line testing	N/A
Boric acid	Sample preparation	N/A
Boron carbide	Laboratory reagent	N/A
Bromocresol purple	Titrations	N/A
Butyl alcohol, n-	Solvent and used in microscopy with paraffin	F003
Cadmium	Emission spectrometric standard material, neutron shielding	D006
Cadmium nitrate	Emission spectrometric standard material	D006
Calcium carbonate	Buffering agent	N/A
Calcium chloride	Chloride standard material (solution)	N/A
Calcium hydroxide	pH adjustment in solution	N/A
Calcium nitrate	Spectrometric standard material	N/A
Calcium sulfate	Laboratory reagent	N/A
Calcium tartrate	Laboratory Reagent	N/A
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	N/A
Carbon tetrachloride	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine	Complexing agent	N/A
Carboxymethylimine-bis-ethylenenitrile-tetraacetic acid	Complexing agent	N/A
Ceric ammonium nitrate	Process chemical	N/A
Ceric nitrate	Spectrometric standard material	N/A
Ceric sulfate	Laboratory reagent	N/A
Ceric oxide	Work with metals and glass	N/A
Cerous nitrate/Cesium nitrate	Spectrometric standard material	N/A
Chromic acid	Used in chrome plating.	D007
Chromium chloride	Spectrometris standard material	D007
Chromium trioxide	Oxidant and hardening agent	D007

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Chloroacetic acid	Used in sulfur analysis and as laboratory chemical	N/A
Chloroform/trichloromethane	Used as cleaning agent, and as an organic solvent.	D022
Citric acid	PH adjustment and chelating agent	N/A
Corn oil mist	Used in radiological clean up	N/A
Copper	Tubing and used in sulfur combustion methods.	N/A
Copper nitrate	Spectrometric standard material	N/A
Copper oxide	Combustion gas chromatography	N/A
Cresols	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine - N,N,N',N'-tetra acetic acid, monohydrate	Chelating agent	N/A
Cyclohexane	Extractant	N/A
Devarda's alloy (Al, Cu, Zn)	Metal work	N/A
D-19 [Kodak] Developer	Photographic work (emission spectrometry)	N/A
Diatomaceous earth	Absorbent material	N/A
Dibutyl butyl phosphonate	Reagent	N/A
1,2-dichloroethane, ethylene dichloride	Reagent, metal cleaning	D028
Diethylhexylorthophosphoric acid	Chelating and pH adjustment	N/A
Dimethyldichlorosilane	Gas chromatography agent	N/A
Dimethylglyoxime	Chelating agent	N/A
2,4-Dinitrophenol	Reagent	N/A
Dithiol (3,4-dimercaptotoluene)	Tungsten extractant	N/A
Dithiol-amyl acetate	Tungsten extractant	N/A
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) resin	Anion exchange chromatography	N/A
Dowex 50 (IX Resin) (Sulfonate polystyrene divinyl benzene)	Ion exchange resin	N/A
Drierite (Calcium sulfate)	Combustion gas chromatography	N/A
Ethanol	Cleaning filaments and glassware	N/A
Ether	Laboratory reagent	N/A
Ethylenedinitridotetraacetic acid	Chelating agent	N/A
Ethyleneoxyethylenenitrilotetraacetic acid	Complexing agent	N/A
Ferric ammonium sulfate	Ion specific electrode methods for chloride	N/A
Ferric chloride	Laboratory reagent	N/A
Ferric nitrate	Spectrometric standard material	N/A
Ferric oxide	Laboratory reagent	N/A
Ferric sulfate	Laboratory reagent	N/A
Ferrous ammonium sulfate	Determination of Pu by potentiometry and sample preparation	N/A
Ferrous chloride	Electrolytic solution	N/A
Ferrous sulfate	U by potentiometry	N/A
Formic acid	Reagent	N/A
Gallium oxide	Impurities by emission spectrometry	N/A
Gluconic acid	Metal cleaning, bottle washing	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Glycerin	Used in particle size determinations	N/A
Gold	Microelectrodes	N/A
Graphite	Crucibles, electrodes	N/A
Hexane	Liquid extraction and solvent	N/A
Hydrazine	Process chemical (PUREX)	N/A
Hydrochloric acid	Electrochemical solution and sample preparation	N/A
Hydrofluoric acid	Oxidizing reactions, sample preparation	N/A
Hydrogen peroxide	Oxidizing agent	N/A
Hydroiodic acid		N/A
Hydroxylamine hydrochloride	Organic synthesis, photographic developer	N/A
Hydroxylamine nitrate	Laboratory reagent	N/A
Iodine	Laboratory reagent	N/A
Iron	Standard material	N/A
Kerosene	Process chemical (PUREX)	N/A
Kodak Developer D-1[a]	Photographic plate development	N/A
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcohol[a]	Dispersant and wetting agent	N/A
Kodak solubilizing agent SA-2[a]	Solubilizing agent	N/A
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	N/A
Isopropyl alcohol	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	N/A
Lanthanum nitrate	Laboratory reagent	N/A
Lanthanum-neodymium nitrate	Laboratory reagent	N/A
Lead	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead acetate	Laboratory reagent	D008
Lead chloride	Laboratory reagent	D008
Lead nitrate	Spectrometric standard material	D008
Lead oxide	Laboratory reagent	D008
Linde AW-500 resin (Aluminum silicate)	Ion exchange resin	N/A
Lithium sulfate	Spectrometric standard material	N/A
Magnesium	Spectrometric standard material	N/A
Magnesium nitrate	Spectrometric standard material	N/A
Magnesium oxide	Laboratory reagent	N/A
Magnesium perchlorate	Thermogravimetric methods and water determinations by coulometry	N/A
Manganese dioxide	Laboratory reagent	N/A
Manganous chloride	Laboratory reagent	N/A
Manganous nitrate	Spectrometric standard material	N/A
Manganous sulfate	Reagent	N/A
Mannitol	Reagent	N/A
Mercury	Electrodes, thermometers, batteries	D009

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Mercuric iodide	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric nitrate	Laboratory reagent	D009
Mercuric oxide	Laboratory reagent	D009
Mercuricthiocyanate	Ion selective electrode reagent.	D009
Mercurous sulfate	Reference electrodes	D009
Metaldi fluid (Propylene glycol)	Dispersing agent	N/A
Methanol	Cleaning and drying glassware	F003
Methylene chloride	Reagent, solvent	F001, F002
Methyl ethyl ketone	Reagent, solvent	F005
Methyl isobutyl ketone	Reagent, solvent	F003
Methyl lactic acid	Laboratory reagent	N/A
Mineral oil	Reagent	N/A
Molybdenum	Spectrometric standard material	N/A
Molybdic acid	Laboratory reagent	N/A
Naphthalene	Laboratory reagent	N/A
Natrasorb, clay	Container material, desiccant, used in oil absorption	N/A
Neodymium nitrate	Spectrometric standard material	N/A
Neodymium oxide	Spectrometric standard material	N/A
Nickel bromide	Reagent	N/A
Nickelous chloride	Spectrometric standard material	N/A
Nickelous nitrate	Laboratory reagent	N/A
Nitricacid	Sample dissolution, eluant for ion exchange	N/A
Nitrous acid	Eluant for ion exchange	N/A
Nitrilotriaceticacid	Chelating acid	N/A
Normal paraffin hydrocarbon	PUREX process chemical used for liquid-liquid extraction	N/A
Oleic acid	Lubricant	N/A
Oxalic acid	Chelating acid	N/A
Pentachlorophenol	Herbicide, wood preservative	D037
Pentasodium diethylene triamine pentaactate (DPTA)	Chelating acid	N/A
Perchloric acid	Sample preparation for emission spectrometry	N/A
Periodic acid	Laboratory reagent	N/A
Phenol	Reagent	N/A
Phosphoric acid	Used in potentiometric methods	N/A
Phosphorous pentoxide	Used in sample preparation and for gas chromatography	N/A
Platinum	Crucibles, sample boats	N/A
Portland cement	Solidifying agent for liquid wastes	N/A
Potassium acetate	Buffer solution, dehydration	N/A
Potassium bicarbonate	Neutralization, reagent	N/A
Potassium carbonate	Dehydrating agent	N/A
Potassium chlorate	Laboratory reagent	N/A
Potassium chloride	Used as a control standard for ion selective electrode methods.	N/A
Potassium dichromate	Used in potentiometric methods, photochemical processing.	D007

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Potassium ferrocyanide	Fixative in photography, metal cleaner.	N/A
Potassium fluoride	Organic synthesis	N/A
Potassium hydroxide	Electrolyte fuel cells	N/A
Potassium iodate	Used in Iodometry	N/A
Potassium iodide	Used in Iodometry	N/A
Potassium permanganate	Lab reagent, decontamination agent	N/A
Potassium phosphate, tribasic	Process chemical, lab reagent	N/A
Potassium pyrosulfate	Sample preparation flux	N/A
Potassium sodium tartrate	Laboratory reagent	N/A
Primafloc A10 (acrylic polymers, monomers, water)	Laboratory reagent	N/A
Silica gel	Chromatographic separations, dehydrating agent.	N/A
Silver cleaning paste	Cleaning electrodes	D011
Silver cyanide	Plating	D011
Silver nitrate	Spectrometric standard material	D011
Silver oxide	Reagent for amperometric Pu determination	D011
Silver sulfate	Laboratory reagent	D011
Sodium acetate	Laboratory reagent	N/A
Sodium aluminate	Cleaning compound	N/A
Sodium arsenite	Dying reagent	D004
Sodium bicarbonate	Buffer solutions	N/A
Sodium bisulfate	Dying agent	N/A
Sodium bisulfite	Reducing agent	N/A
Sodium borate	Flame retardant	N/A
Sodium carbonate	Cleaning prep	N/A
Sodium chloride	Precipitation agent	N/A
Sodium citrate	Chelating agent	N/A
Sodium dichromate	Electrochemical reagent	D007
Sodium fluoride	Standard material for ion selective electrode methods and carrier for emission spectrometry	N/A
Sodium formaldehyde sulfoxylate	Laboratory reagent	N/A
Sodium hydroxide	Solution preparation and pH adjustments	N/A
Sodium hypochlorite	Laboratory reagent	N/A
Sodium iodide	Laboratory reagent	N/A
Sodium nitrate	Process chemical	N/A
Sodium nitrite	Process chemical	N/A
Sodium oxalate	Chelating agent, lab reagent	N/A
Sodium phosphate	Reagent, metal cleaner	N/A
Sodium phosphite	Laboratory reagent	N/A
Sodium pyrophosphate	Reagent, metal cleaner	N/A
Sodium selenate	Laboratory reagent	D010
Sodium silicate	Laboratory reagent	N/A
Sodium sulfate	Calibration standard material	N/A
Sodium tartrate	Water determination by coulometry	N/A
Sodium tungstate	Reagent	N/A
Stainless steel	Tubing ,standard materials, and alpha spectrometry sample disks	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Stannic chloride	Reagent	N/A
Stannous chloride	Spectrometric standard material	N/A
Strontium nitrate	Laboratory reagent	N/A
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	N/A
Sulfur	Mercury clean up reagent	N/A
Sulfuric acid	Sample preparation	N/A
Sulfur dioxide	Laboratory reagent	N/A
Tetrasodium ethylene diaminetetraacetate	Chelating agent	N/A
Tetraphenyl boron	Laboratory reagent	N/A
Thenoyltrifluoroacetone	Laboratory reagent	N/A
Thorium nitrate	Laboratory reagent	N/A
Tin	Capsules, spectrometric standard material	N/A
Tide detergent[b]	Cleansing solution	N/A
TISAB III	Buffer solution	N/A
Titanium chloride	Spectrometric standard material	N/A
Titanium (di)oxide	Standard, ceramics, decontamination	N/A
Toluene	Extractant and cleaning for mass spectrometer filaments.	F005
Tributylphosphate	Liquid-liquid extraction and studies of PUREX processes.	N/A
Trichloroethane,-1-1-1	Reagent, solvent	F001, F002
1,1,2-trichloro-1,2,2-trifluoroethane	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	N/A
Tri-n-octylamine	Liquid-liquid extraction	N/A
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	N/A
Trisodium hydroxyethyl ethylene-diamine triacetate (HEDTA)	Chelating agent	N/A
Turco alkaline (rust remover) (NaOH and kerosene)	Rust remover	N/A
Tungsten oxide	Spectrometric standard material	N/A
Turco Deseal Zit 2 (methylene chloride and aceticacid)[c]	Decontamination	F001, F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)[c]	Decontamination paint	F005, F003
Turco Plaudit[c]	Decontamination	N/A
Turco 4502 D (KOH, K2CrO4, KMnO4)[c]	Decontamination	N/A
Turco 4518 (Sodiumdodecyl benzene sulfonate)[c]	Decontamination paint	N/A
Uranyl nitrate	Extractant	N/A
Uranium oxide	Accelerator for pyrohydrolysis	N/A
Urea	Electrolytic solution	N/A
Vanadium	Spectrometric standard material	N/A
Vanadium pentoxide	Sample preparation flux	N/A
Vanadyl sulfate	U by potentiometric titration	N/A
Vinyl chloride	Sludge contaminant	D043

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Xylene	Liquid-liquid extraction, solvent	F003
Yttrium nitrate	Laboratory reagent	N/A
Zeolon 900 Resin (Aluminum silicate)	Ion exchange resin	N/A
Zinc chloride	Spectrometric standard material	N/A
Zinc nitrate	Spectrometric standard material	N/A
Zinc oxide	Laboratory reagent	N/A
Zirconium	Cladding material	N/A
Zirconyl nitrate	Spectrometric standard material	N/A

[a]Kodak™ is a registered trademark of the Eastman Kodak Company
[b]Tide® is a registered trademark of the Proctor & Gamble Company
[c]Turco® is a registered trademark of the Purex Corporation

The RLM325D waste stream is not mixed with hazardous waste from specific sources (40 CFR 261.32), discarded commercial chemical products (e.g., U134 hydrofluoric acid), an off-specification species, container residue, or a spill residue thereof (40 CFR 261.33). Chemical products at the 325 Building were maintained outside of gloveboxes to avoid radiologically contaminating the material and to facilitate disposal. Therefore, the P, U, and K HWNs do not apply to this waste stream.[TRU-SPO-11.9-0828200638735]

In addition to the chemicals used by 325 Building process, EPA hazardous waste numbers for 1,4-dichlorobenzene (D027), 1,1-dichloroethlylene (D029), 2,4-dinitrotoluene (D030), and hexachloroethane (D034) were assigned to the containers based on their presence in samples (i.e., tank sludge) analyzed at the 325 Building and chemicals treated in the HWTU.

Based on the review of waste management practices in the 325 Building, all waste has been conservatively determined to exhibit toxic characteristics (D codes) per 40 CFR 261.30 and F-listed per 40 CFR 261.31. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.

3.7.1 Characteristic of Ignitability

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed at the facility; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

3.7.2 Characteristic of Corrosivity

The debris materials in this waste stream do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The material in this waste stream is therefore not corrosive waste (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354]

3.7.3 Characteristic of Reactivity

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and.will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. Debris materials in this waste stream which came in contact with cyanide materials are not capable of detonation or explosive reaction. Sulfides were not used in the 325 Building. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The material in this waste stream are therefore not reactive (D003) waste. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200440354]

3.7.4 Toxicity Characteristic

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

This waste stream exhibits the characteristic of toxicty per 40 CFR 261.24. Table 4 identifies the toxicity characteristic chemicals used in 325 Building processes and their sources. These chemicals contaminate the waste, but the chemical itself was not discarded in this waste stream as commercial chemical product, an off specification commercial chemical product, or a container residue or spill residue thereof. [TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0706200430656, TRU-SPO-11.4.9-1019200652369, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-1026200650860]

Note that for constituents that carry both a D- and an F- HWN (for example, carbon tetrachloride carries both D019 and F001/F002 HWNs), the more conservative F- HWN is applied. These constituents are discussed in the listed waste section.

Table 4 - Toxicity Characteristic Chemicals Present in RLM325D Waste

Chemical	HWN	Source
Arsenic	D004	Used in some electrochemical processes and in laboratory reagents
Barium	D005	Used as a laboratory reagent, precipitating reagent, and used to adjust pH of laboratory solutions
Cadmium	D006	Used as an emission spectrometric standard material and neutron shielding
Chromium	D007	Used as a spectrometric standard material, for metal cleaning during fuel canning (as sodium dichromate), in laboratory reagents, as an oxidant for plutonium, and as a hardening agent
Lead	D008	Used as a spectrometric standard material, present in solder and in circuit boards, present in leaded rubber gloves, and used as shielding
Mercury	D009	Used in laboratory reagents, thermometers, fluorescent tubes, electrodes, and batteries
Selenium	D010	Present in laboratory reagents
Silver	D011	Used as a spectrometric standard material, in laboratory reagents, and used in batteries and electrodes
Chloroform	D022	Used as a cleaning agent and in metal cleaning, also identified in tank waste samples
1,4-Dichlorobenzene	D027	Identified in tank waste samples and in materials treated in the HWTU
1,2-Dichloroethane	D028	Used as a chemical reagent and in metal cleaning
1,1-Dichloroethylene	D029	Identified in tank waste samples and in materials treated in the HWTU
2,4-Dinitrotoluene	D030	Identified in tank waste samples and in materials treated in the HWTU
Hexachloroethane	D034	Identified in tank waste samples and in materials treated in the HWTU
Pentachlorophenol	D037	Used as a wood preservative and included in the 325 Building chemical inventory
Vinyl chloride	D043	Found as a contaminant in tank waste samples

Beryllium was present in standards used at the 325 Building, and some of these standards may have been disposed of in the RLM325D waste stream; however, in this form it would be present in trace amounts and in forms other than as a pure metal or oxide. Beryllium may be present in trace levels (i.e., < 1 weight percent) in the waste, as it was a trace constituent in tank waste samples analyzed in the 325 Building. Because beryllium may be present as a constituent of tank waste samples and not as a discarded commercial chemical product, the P015 HWN is not applied.[TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0708200436028, TRU-TS-11.4.3-0428199949492]

3.7.5 Listed Hazardous Waste Numbers

Waste stream RLM325D was mixed with or derived from F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31. Solvents were used in Building 325 and contributed to the F-listed HWNs applied to this stream. Based on the use of these chemicals during operations in the 325 Building, F-listed HWNs are assigned to this waste stream based on AK. These chemicals, the corresponding HWNs, and sources of the contamination are listed in Table 5.TRU-SPO-11.9-0707200432862, TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0706200430656, TRU-SPO-11.4.9-1019200652369, TRU-SPO-11.9-0708200441084, TRU-WST-11.4.3-0531200633612, TRU-SPO-11.9-1026200650860

Table 5 - Listed Waste Constituents Present in the RLM325D Waste Stream

Chemical	HWN	Source
Benzene	F005	Used as a cleaning agent
Carbon tetrachloride	F001	Used as a cleaning agent for metals and samples, also used in various plutonium separation processes
Cresols	F004	Used as a tank cleaning agent
Methylene chloride	F002	Used as a decontamination agent
Methyl ethyl ketone	F005	Used as a solvent in the REDOX facility and discharged to the tank farms
Toluene	F005	Used as an extractant and cleaning agent
1,1,1-Trichloroethane	F001, F002	Used in crane cleaning operations and discharged to the tank farms
1,1,2-Trichloro-1,2,2-trifluoroethane	F002	Used in laboratory operations
Acetone	F003	Used to dry glassware and rinse electrodes and as a cleaning agent
n-Butanol	F003	Used with paraffin in microscopy
Methanol	F003	Used as a cleaning and drying agent for glassware
Methyl isobutyl ketone	F003	Used as an extractant at the REDOX facility
Xylene	F003	Used to dry glassware and in liquid-liquid extraction

The F003 HWN is applied conservatively to the RLM325D waste stream on the basis of the F003-listed solvents used in the Building 325 Facility and potential presence in tank farms waste. Although this HWN is applied, neither contaminated waste items nor the RLM325D waste stream are ignitable as packaged for disposal.TRU-SPO-11.9-0828200638735, TRU-WST-11.4.3-0531200633612

3.7.6 Washington State Toxic and Dangerous Waste Determination

The Washington Administrative Code Dangerous Waste Regulations, Chapter 173-303-100(5), describe the approach for evaluating a toxic constituent(s) to determine whether the code for a Washington Toxic Waste should be assigned to the waste in the absence of assigned EPA HWNs. However, because corresponding EPA HWNs are applied to the RLM325D waste stream, the Washington state-specific waste codes are not applied. TRU-SPO-11.9-0828200638735

3.7.7 Toxic Substances Control Act

Based on the review of waste management practices and container documentation, waste containers from 325 Building operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB contamination, such as transformers and light ballasts, were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. Containers that contain PCBs will be managed and shipped in accordance with the PCB disposal requirements in the WIPP-WAC. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0706200430656

At the time the 325 Building was constructed, asbestos was a common constituent of floor tiles and pipe insulation, and was also used as insulation in laboratory heaters. Because of this, and because these items may have been placed in waste containers during glovebox cleanout, as failed equipment, or during facility maintenance, the RLM325D waste stream may contain asbestos.

3.8 Radionuclides

The Building 325 Facility provided radiochemistry support to the entire Hanford Site. A review was made of radionuclides analyzed at the Building 325 Facility based upon AK source documents. All of the WIPP-tracked radionuclides (i.e., Am-241, Pu-238, Pu-239, Pu-240, Pu-242, U-233, U-234, U-238, Cs-137, and Sr-90) are expected to be present in the RLM325D waste stream. Based on the 24 containers initially examined and the frequency and mass of the isotopes detected, the two most prevalent isotopes present in the waste stream are Pu-239 and Pu-240 (although the total mass of U-238 detected was greater than the mass of Pu-240 detected, U-238 was detected in less than 30 percent of the 24 containers initially evaluated and Pu-240 was detected in 100 percent of those containers).

Isotopic distributions for plutonium, uranium, and americium in waste from the 325 Building are presented in Table 6. These distributions were calculated on a weight percent basis using data results from samples collected from tanks at the PUREX facility as contained in the Tank Waste Inventory Network System (TWINS) Best Basis Inventory (BBI). This data was used because the majority of the uranium processing and plutonium recovery at the Hanford Site was performed at the PUREX facility and the 325 Building provided radiochemistry support (i.e., sample analysis) to the entire Hanford Site (including PUREX); thus waste from the 325 Building would be contaminated with radionuclides arising from the PUREX tanks.

The BBI database query included all radionuclides analyzed at the 325 Building. Weight percentages of the WIPP-tracked isotopes, and Am-243, Pu-241, U-232, U-235, and U-236) were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope "family" (i.e., plutonium, uranium, and americium) to obtain the weight percent for the individual isotopes. TRU-SPO-11.9-1010200634280, TRU-SPO-11.4.1-1010200654350, TRU-TS-11.4.3-0422199949473

Table 6 - Plutonium and Uranium Isotopic Distributions

Plutonium and Associated Distributions		Uranium Distributions	
Isotope	**Wt % Distribution**	**Isotope**	**Wt % Distribution**
^{238}Pu	0.024	^{232}U	Trace
^{239}Pu	93.2	^{233}U	0.004
^{240}Pu	6.46	^{234}U	0.007
^{241}Pu	0.21	^{235}U	0.80
^{242}Pu	0.036	^{236}U	0.05
^{241}Am	99.16	^{238}U	99.10
^{243}Am	0.84		

Acceptable knowledge was needed to quantify the amount of U-234 expected in individual containers to comply with WIPP-WAC reporting requirements. Scaling factors were determined or developed using historical data. The scaling factors for these activity relationships are as follows: TRU-SPO-11.9-0429200249094

- U-234/U-235 ~ 30
- U-234/U-238 ~ 2

Trace amounts of cesium (Cs)-137 and Sr-90 are also expected to be present in the waste stream. Because Sr-90 cannot be detected during nondestructive radioassay, additional AK was identified and reviewed to determine an appropriate scaling factor to be used to quantify the Sr-90 present in the waste. A scaling factor of 1.1 was identified as applicable to the RLM325D waste stream. TRU-SPO-11.9-0622200456967

In addition, because of the nature of the processes conducted and analyses performed in the 325 Building, a variety of other radionuclides may also be present in trace amounts. Because some processes performed in the 325 Building included separating these and other radionuclides (e.g., Am-241, Cs-137, Sr-90) from high level waste, these nuclides may be present in certain containers in greater than trace amounts. However, on a waste stream basis these radionuclides are present in trace amounts, do not contribute significantly to the radiological hazard, and are not the most prevalent isotopes in the waste. These radionuclides include:

- I-131/132
- Ru-103/106
- Y-90
- Pm-147
- Radioactive lanthanum
- Radioactive mercury
- Ce-144
- Mn-54
- Co-60

- Sb-125
- Cs-134
- Cm-244
- K-40
- Am-243
- Ba-137m
- Np-237
- Na-22

3.9 Transuranic Waste Baseline Inventory Report

The RLM325D waste stream is identified in the *Transuranic Waste Baseline Inventory Report-2004* (TWBIR) under the following code numbers: TRU-SPO-11.4.3-1012200649482

RL-T110	RLW635	RL-W641	RL-W647	RL-W659	RL-W668
RL-W630	RL-W636	RL-W642	RL-W648	RL-W660	RL-W669
RL-W631	RL-W637	RL-W643	RL-W649	RL-W661	RL-W670
RL-W632	RL-W638	RL-W644	RL-W653	RL-W662	RL-W671
RL-W633	RL-W639	RL-W645	RL-W654	RL-W665	RL-W672
RL-W634	RL-W640	RL-W646	RL-W657	RL-W666	RL-W673

4.0 ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT REFERENCE LIST

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0701200436625	Hanford-Building 325 Interview with Wayne Larson	B. Crawford	LANL-CO	N/A	PR4, PR6, WS9, WS12	All	Describes mission, waste packaging and waste streams.
TRU-SPO-11.9-0701200436839	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)	LANL-CO	N/A	PR7, WS2, WS4, WS12, WS6,	All	Describes waste packaging, waste management and waste characterization.
TRU-SPO-11.9-0701200437024	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin	LANL-CO	N/A	WS1, WS6, WS7	All	Provides weight percent / volume percent values of iron based metals/alloys, other inorganic materials, inorganic matrix, cellulosics, plastic rubber, and organic matrix. Describes waste material parameters including paper, rubber, plastic, metal, lead, etc. etc.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-1010200634280	Excerpt from Tank Waste Information Network system Best Basis Inventory	M.H. Conilogue	Fluor Hanford	N/A	WS9	All	The BBI contains tank-by-tank waste inventories which are the chemical and radiochemical component inventories by tank for each of the 177 single- and double-shell tanks on the Hanford Site. Of the 177 tanks, a query of radionuclide concentrations was pulled from the 35 tanks which support the PUREX facility. Weight percentages of WIPP tracked radionuclides were calculated using Ci/gm data taken from the TWINS.
TRU-TS-11.4.3-0422199949473	A Brief History of the PUREX and UO3 Facilities	M.S. Gerber	Westinghouse-Hanford Company	WHC-MR-0437	WS2, WS9	All	Gives a general history of the PUREX and UO_3 facilities. Provides some information on production.
TRU-SPO-11.4.5-1011200647978	AK Source Document Deficiency	M.H. Conilogue	Fluor Hanford	N/A	WS9	All	This document describes the discrepancy between Central Characterization Project (CCP) isotopic analysis memos: TRU-SPO-11.9-0701200437194 & TRU-SPO-11.4.1-1011200635570 As a resolution an Isotopic Analysis White Paper was generated by Hanford TRU Programs AK using the Tank Waste Inventory Network System (TWINS).

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.1-1010200648961	Record of Communication Regarding Isotopic Analysis RLM325D	M.H. Conilogue	Flour Hanford	N/A	WS9	All	Record of Communication between AK Engineer and Central Characterization Program contact involving discrepancy in weight percentages listed in TRU-SPO-11.9-0701200437194. Information in record copy of CCP memo does not match that supplied by CCP on 9/27/06
TRU-SPO-11.4.3-0314200658459	ORAU Team, NIOSH Dose Reconstruction Project, Technical Basis Document for the Hanford Site – Site Description	J. Selby	Oak Ridge Associated Universities	ORAUT-TKBS-006-2, Rev. 00 PC-1	PR2	7-9	Document provides timeframe for plutonium and tritium generation at N Reactor and gives a general description of the design of the reactor.
TRU-WST-11.4.3-0306200647097	Historic American Engineering Record Reduction-Oxidation Complex Plutonium Concentration Facility (Building 233-S)	M.S. Gerber D.W. Harvey	U. S. DOE	DOE/RL-96-29	PR2, PR3, PR4, WS2, WS9, WS10	All	Discusses Historical Timeline and processes used in the production of plutonium at 233-S.
TRU-TS-11.4.3-0427199945823	Characterization of Past and Present Solid Waste Streams from the Plutonium-Uranium Extraction Plant	J.A. Pottmeyer, D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0646, Rev. 0	WS2, WS12	3-4, 3-4,5	Describes the past and current solid waste streams from the PUREX Plant.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.3-0423199953594	Characterization of Past and Present Waste Streams from the Plutonium Finishing Plant	D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0621	WS4	2-1	Characterization of PFP waste since 1947, including PFP history, waste stream, maintenance, housekeeping, waste handling and packaging, and actual waste container characterization data.
TRU-SPO-11.4.3-1127200254744	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items with <30 Weight Percent Plutonium	Lini, D. C. and Rodgers, L. H	Science Applications International Corp.	HNF-10919 Rev. 0, Oct. 8, 2002	PR2, PR4, PR5, PR7, WS1, WS2, WS6, WS9, WS10, WS12	All	Document provides a discussion of PFP plutonium oxide material. Information includes process history, history of material origins, potential contaminants, material specifications and waste designation rationale, and process flow diagrams, building diagrams. Details of RCRA characteristic and listed constituents present, Washington state toxic waste designation and radionuclide information.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-1112200350054	Origin of Plutonium	D.C. Lini	Fluor Hanford	N/A	WS9	1 - 8	Document excerpt provides estimate of the amounts of Pu received from various sources as compared to the entire estimated U.S. inventory of Pu. Provides justification for assuming a defense origin for the Pu in MOX waste.
TRU-SPO-11.4.1-1010200654350	White Paper: Calculation of Isotopic Weight Percentages Using Tank Waste Information Network System data for the PUREX Facility	M.H. Conilogue	Fluor - Hanford	N/A	WS9	All	This white paper provides weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes using TWINS data from PUREX tanks.
TRU-SPO-11.9-0701200437194	Isotopic Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes Assays	D. Guerin	LANL-CO	N/A	WS9	All	Container specific assay results fo2 211 Building 325 containers. Provides weight % for U and Pu
TRU-SPO-11.9-0429200249094	U-234 To U-235 and U-238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	M4T00-PJC-02-077	WS11	All	This letter documents an uranium 234 to uranium 235 and uranium 238 ratio based on an analysis of historical concentration data from Hanford wastes and theoretical information. Uranium 234 concentrations can be derived from a NDA measured uranium 235 and/or uranium 238 concentration using the scaling factor based on the documented relationship.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0622200456967	Sr-90 to Cs-137 Ratio For Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	N/A	WS9	All	Ltr from R. Clinton to P. Crane to document analysis of historical data of Hanford Site Tank Waste. The purpose was to find a correlation between Cs-137 and Sr-90 using data from the Tank Waste information Network System (TWINS). A Sr-90 value can be derived from a concentration of Cs-137 using a scaling factor or ratio based on known, documented relationships or correlations. Since a consistent ratio could not be established, a default ratio of 1.1:1 was used. This is because there is a 1.1:1 ratio of Cs-137 to Sr-90 after the fission process.
TRU-SPO-11.9-0701200437361	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	J.E. Rasmussen to M.N. Jaraysi	Pacific Northwest National Laboratories	97-EAP-589	PR2	3	Identifies specific locations which define the HWTU and describes small bench treatment operations: molten salt destruction, pyrolysis, wet air oxidation, etc. etc.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200428969	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	General Electric, Hanford Atomic Products Operation, Richland, WA	HW 73112	WS12	5-8, 14, 25-28	Describes minimum critical concentrations for Pu solutions; minimum planer array: etc. and various other controls dealing with criticality safety. Describes packaging procedures, precautions for acid – soaked waste, collection of radioactive liquid waste and restrictions on the use of lab sinks.
TRU-SPO-11.9-0707200429376	Removal of High Dose Low Level Waste	R.T. Steele	PNNL	SAL-325-HDLLW-1	PR8, WS5, WS6	3, 4	Describes use of 4 and 5 quart cans during hot cell waste packaging and load out of TRU waste.
TRU-SPO-11.9-0707200429979	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	PNNL	SAL-84-5	PR4	All	Describes steps for the removal of low level dry waste, glove box waste, high level dry waste and alpha radiation free liquid waste.
TRU-SPO-11.9-0707200430240	Routine Research Operations	G.J. Lumetta	PNNL	RPL-OP-001 / Rev 0 and 1	PR3, PR4, PR5,	All	Procedure provides direction for routine chemical research operations in laboratories within the Bldg 325 Radiochemical Processing Laboratory
TRU-SPO-11.9-0707200430521	Handling and Opening Radioactive Material Shipments	R.T. Steele	PNNL	SAL-84-7	PR4	All	Provides instructions for the safe handling and opening of radioactive material shipments.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200430731	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	LAZAR Research Laboratories Inc.	13 644 5	WS12	5	Describes the proper use of the PHR-146 Micro Combination pH Electrode. States to use acetone to clean the connector.
TRU-SPO-11.9-0707200431037	Ross pH Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc	227296-00 / Rev C	WS12	All	Instructions for the ROSS series of pH electrodes.
TRU-SPO-11.9-0707200431225	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc.	502700-031 / Rev C	WS12	All	Describes Standard and Electrode filling solutions: glacial acetic acid, sodium hydroxide,.TRIS (hydroxymethyl) aminmethane, etc. etc.
TRU-SPO-11.9-0707200431579	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	Orion Research, Inc.	502700-078 / Rev D	WS12	2	Describes Standard and Electrode filling solutions
TRU-SPO-11.9-0707200431874	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	PNNL	325-PU-Purify-1 / Rev 0	WS12	All	Procedure provides a method to chemically purify plutonium by ion exchange. Lists chemicals used: Reagent Grade NH4F, HNO3, Al(NO3)3, H202, La(NO3)3, 85% Hydrazine, Ascorbic acid, Oxalic acid
TRU-SPO-11.9-0707200432171	Leaching Tests using the PCT Method	K.H. Olson	PNNL	MCC-TP-19	WS12	All	Procedure describes the techniques and methods for performing static leaching tests of crushed glass specimens. Describes various chemicals used to clean vessels and gaskets: HNO3, acetone and ethanol

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200432378	Evaluation of Monolithic Radioactive Material Immobilization Form Behavior in Fume Hoods	R.D. Scheele	PNNL	RPL-PIP-Ceramic Test-1 / Rev 0	WS6	All	Test Plan details the activities that will be performed to determine the behavior of radioactive material immobilized in a monolithic matrix form during routine operations. Describes various waste forms discarded after use during cleaning.
TRU-SPO-11.9-0707200432862	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	PNNL	RPL-EMSP-1, Rev. 0	WS12	7	Procedure supplements Procedure RPL-PIP-1 and is used for mounting and viewing samples. Describes chemicals used: ethanol, acetone
TRU-SPO-11.9-0707200433058	Standard Test Method for Fluoride Ion in Water		ASTM	D 1179-99	WS12	All	Test methods for the determination of fluoride in water. Describes chemicals used: silver sulfate, sodium arsenate, sodium fluoride, sulfuric acid, etc. etc.
TRU-SPO-11.9-0707200437469	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL	PNNL-RPG-268 / Rev 1	WS6, WS12	All	Procedure applies to operation of the Scintag PAD V X-ray diffractometer located in Room 409 of Building 325. Metals that may be examined include (but not limited to): metals, non-metals, powders, sludge or paste, wires, etc. etc.

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TRU-SPO-11.9-0707200437869	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	PNNL	ASTM C1220-98	WS12	All	Test method evaluates the relative chemical durability of simulated and radioactive monolithic waste forms in various test solutions at < 100C under low surface-to-area-to-volume radio conditions. Prior to 10/12/00 specimens were cleaned using an ultrasonic cleaner and ethanol. After 10/12/00 specimens were cleaned using dionized water.
TRU-SPO-11.9-0707200438233	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermo gravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R.D. Scheele	PNNL	ICN-PNL-ALO-508R0.2 / Rev 0	WS6	All	Procedure is applicable to compounds and mixtures which undergo changes due to reaction, thermal decomposition or phase changes. Procedure describes various waste forms that are generated and how they the waste is managed.
TRU-SPO-11.9-0707200438443	Preparation, Processing and Testing of Radioactive Glass and Ceramics	R.D. Scheele	PNNL	RPL-PIP-1 / Rev 2	WS9	6	Procedure provides general approaches and requirements for preparing, processing, testing, and characterizing radioactive calcines, glasses, and ceramics – which may contain plutonium, uranium, thorium, or any other radionuclides.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200438660	Fabrication of Ceramic Samples	W.C. Buchmiller	PNNL	RPL-PIP-2 / Rev 0	WS4, WS9, WS12	All	Procedure provides direction for the production of radioactive and non-radioactive ceramic pellets for the Plutonium Immobilization Project. Procedure provides chemicals used (oleic acid) specific processes and specific radioisotopes used during hot ceramic slurry spiking.
TRU-SPO-11.9-0707200438880	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	Procedure used by PIP to measure ion concentrations with a specific ion electrode.	RPL-PIP-3 / Rev 0	WS6, WS12, WS10,	All	Procedure describes methods to measure pH, fluoride, and chloride of radioactive samples with ion-specific electrodes. Procedure describes waste materials and chemicals that may be in the waste: KCl, NaCl, Kim Wipes, squirt bottles, acetic acid, etc. etc.
TRU-SPO-11.9-0707200439209	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	PNNL	RPL-PIP-4 / Rev 2 and 3	WS6, WS10, WS12	2-11	PNNL operating procedure which describes the process for mounting radioactive and non-radioactive solid and powdered samples form the Pu Immobilization Project and other Projects. Describes chemicals used and waste form: ethanol, propanol, tape, rags, etc. etc.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200439457	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	PNNL	RPL-PIP-5 / Rev 0	WS6, WS10, WS12	All	Procedure provides direction in how to measure release rates from radioactive materials into aqueous systems. Describes chemicals used and waste form: pipettes, thermometers, ultra high purity nitric acid, acetone. Directs user to discard rinsate, sodium hydroxide solution and used solvent.
TRU-SPO-11.9-0707200439643	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-1 / Rev 1	WS6, WS10, WS12	2-4	Procedure provides instructions for density, porosity, and specific gravity using gas pycnometery and geometric measurements. Describes potential waste materials and waste forms: approved solvent, moistened towels, Kodak Photoflo, etc. etc.
TRU-SPO-11.9-0707200446123	Geometric Density Determination of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-2 / Rev 3	WS6, WS10, WS12	2-5	Procedure provides direction in the measurement of the dimensions and geometric densities of candidate plutonium immobilization forms prepared for the Plutonium Immobilization Project. Procedure describes potential waste forms and chemicals used / discarded.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.6-0707200446381	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	PNNL	APEL-PIP-5 / Rev 2	WS4, WS6, WS10, WS12	2, 3, 4,	Procedure provides direction for polishing or size reducing radioactive or non-radioactive materials for the Plutonium Immobilization Project as well as other programs. Procedure describes potential waste forms and chemicals to be used a discarded.
TRU-SPO-11.9-0707200450552	Profiling Ovens and Furnaces	W.C. Buchmiller	PNNL	APEL-PIP-6 / Rev 0	WS6	2,3	Procedure provides direction in the determination of the temperature profile in ovens and furnaces used by the Plutonium Immobilization Project. Procedure describes potential waste forms that may be generated.
TRU-SPO-11.9-0707200450893	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	V.L. LeGore	PNNL	RPL-PIP-SPFT-1 / Rev 0	WS6, WS12	All	Procedure used for packaging and transfer of Single Pass Flow leach Test and Pressurized Unsaturated Flow Leach Test vessels containing Pu- or Pu-238 between labs in the Bldg 325 Radiochemical Processing Laboratory. Procedure describes possible waste form and chemicals to be discarded.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200426725	Preparation of Nondispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	PNNL	RPL-MAS-NMR, Rev. 0	WS12	All	Procedure provides direction in preparing non-dispersible solid monolith samples for Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy experiments. Describes chemicals and materials used in preparation and cleansing.
TRU-SPO-11.9-0708200426986	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	PNNL	RPL-XRD-PIP / 2	WS6, WS12	1.2, 1.3, 1.5, 1.6	PNNL operating procedure for the Scintag Pad-V X-Ray Diffractometer. Describes potential waste item generation points: water form cooling water system; spent x-ray tubes; shielding
TRU-SPO-11.9-0708200427207	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	E. Buck	PNNL	GDSP-01-BET / Rev 0	WS4, WS6, WS12	1-5, 7	Bldg 325 operating procedure for the determination of surface area for calcination of release rates for spent fuel flow. Procedure identifies potential waste forms such as: tygon tubing, gas syringes, etc. etc.
TRU-SPO-11.9-0708200427461	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	PNNL	SAL-84-8	WS6	1	Procedure provides direction and safe handling during bag in / bag out operations in a shielded analytical laboratory glove box. Describes potential physical waste forms.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200428050	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	PNNL	511-4 / 0	WS2, WS9	2, 3, 14	Procedure used for handling radioactive samples in Room 511 of Bldg 325. Procedure states instrument may be calibrated using Cs-137, Am-241 or Co-60.
TRU-SPO-11.9-0708200428240	Operation of Single Pass Flow Through Experiment	D.M. Wellman	PNNL	RPL-PIP-SPFT / Rev 1	PR4, WS4, WS6, WS9	2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14	Procedure describes the operation of the Single Pass flow Through experiment used to test radioactive and non-radioactive glass and ceramic materials under pH and temperature specific conditions. Procedure described specific radionuclides contained in materials tested, equipment and materials used, and waste forms and chemicals that have the potential to be discarded as waste.
TRU-SPO-11.9-0708200428483	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-3 / Rev 1	PR3, WS10, WS12	2, 3, 4	Procedure used for density, porosity, and specific gravity measurements of structural properties or ceramic samples. Provides examples of materials used and potential waste forms / chemicals to be discarded: ultrasonic cleaners and water baths, desiccant, Kodak Photoflo

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200429257	Gas Pycnometry Method for Apparent Specific Gravity Determinations of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-4 / Rev 2	WS6, WS10, WS12	2, 3, 4	Procedure used for density and specific gravity determination in a fume hood. Describes potential waste forms and chemicals used.
TRU-SPO-11.9-0708200429446	Response to Vacuum Alarms in RPL Glove boxes and Use of RPL Glove box Airlock	R.D. Scheele	PNNL	RPG-94-1 / Rev 1	WS2	2	Procedure describes responses to vacuum alarms in RPL glove boxes and the use of the RPL glove box airlock. Describes specific area where waste mat be generated.
TRU-SPO-11.9-0708200429642	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	PNNL	325-A-20 / Rev 0	WS11	6, 7, 8, 9	Describes the use of 4-gallon and 5-gallon cans. Waste packaged in inner can was covered with lid and placed in outer can. Cans may have been packed with lead shielding.
TRU-SPO-11.9-0708200429856	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	PNNL	RPL-PIP-SPFT-3 / Rev 0	WS5	3, 4, 5, 6	Procedure describes direction in the installation of in-line back flow preventors and/or in-line isolation valves on the Single Pass Flow Through systems and the performance of minor syringe pump maintenance.
TRU-SPO-11.9-0708200430448	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste			WM1	PR5, WS6, WS12	1.3-1.7	Describes hazards associated with radiological exposure, contamination and chemical contact. Describes packaging procedure in which waste bagged out of hoods were double bagged

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200431008	Transmittal of Variance RAD-00006	R.D. Scheele	Battelle	RAD-00006	WS4, WS5, WS9	All	Provides description of needed variance allowing radionuclide limits to be exceeded in order to perform bench top experiments on ceramic Pu and U immobilization forms.
TRU-WST-11.4.3-1017200543795	Data Quality Objectives Summary Report for D&D Waste Characterization of the 300 Area Buildings	R.A. Thoren	CH2M Hill Hanford, Inc	BHI-01750 Rev. 0	PR3, WS9, WS10	All	Provides site background. Indicates radionuclides in the waste stream. Discusses hazardous constituents.
TRU-SPO-11.9-0708200431216	Past Practices Technical Characterization Study-300 Area- Hanford Site	M.S. Gerber	Westinghouse Hanford Company	WHC-MR-0388	PR2, PR3, WS2, WS9, WS12	137, 138, 140, 141	Describes facility history and configuration of high-level radiochemistry annex, original mission to support REDOX, and subsequent missions including bismuth phosphate process, radioactive lanthanum development, tritium production and plutonium chemistry. Describes particulate radionuclides that may be present in waste including I-131 and 132, Curium (Cm)-144, ruthenium-103 and 106, Sr-90 and Y-90

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200431435	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D.I. Weyns-Rollosson, J.A. Pottmeyer, T.J. Stratton	Westinghouse Hanford Company	WHC-SA-2772-FP	PR3, PR4, PR5, WS6, WS10, WS8, WS12	4, 5, 6, 7, 8, 9, 10	Provides defense link by stating solid radioactive waste generation at Hanford was coincident with defense materials production initiated in 1944. Provides date of waste segregation by waste type. Describes design of waste containers, color coding of drums to separate waste type, and containment layers used during packaging.
TRU-SPO-11.9-0708200435233	Safety Analysis Report for 325 Building	Pacific Northwest Laboratory	Pacific Northwest Laboratory Richland, Washington	PNL-7748	PR1, PR2, PR4, PR7, WS4, WS5, WS9, WS10, WS12	1.1, 2.1, 3.1, 3.2-3.4, 4.4, 4.6-4.19, 4.19-4.23, 4.33-4.35, 7.3, 7.8, 7.9, A.5, A.11, A.14, B.6, B.15-B.18, B.33, B.89, D.5-D.26, F.3-F.5	Document gives facility description and purpose, location, specific processes by location within the facility, maximum container volume and radionuclide limit of Pu-239, flammable and toxic materials storage locations, relative amounts of At Risk inventory, 10/1989 Chemical Inventory, Expected Radionuclide source terms for resins in ion-exchange columns, Radionulides identified for dose determinations

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TRU-SPO-11.4.3-0809200628265	TRU Waste Packaging Requirements and Certification	L.D. Schwartz	PNNL and Waste Management	WHC-EP-0063/RHO-MA-222/PNL-MA-70/SD-WM-TI-202	PR4	All	Document provides an overview of WIPP requirements and how these requirements are applicable to and are satisfied by the Hanford TRU Waste Certification Program
TRU-SPO-11.9-0708200436028	Characterization of Past and Present Waste Streams from the 325 Radiochemistry Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	Westinghouse Hanford Company, Richland Washington	WHC-EP-0696	PR1, PR2, PR4, PR6, PR7, WS2, WS3, WS5, WS9, WS12	All	Document provides a location of the Bldg 325 Radiochemistry Lab, descriptions of historical and current TRU waste generating operations, map of the Hanford Site, types and quantities of TRU waste generated including historical and future projections, correlation of waste streams generated and description of time generated, etc. etc.
TRU-SPO-11.9-0708200438206	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	Battelle Pacific Northwest Laboratories, Richland, WA	PNL-MA-661	PR2, WS2, WS4, WS5, WS9, WS12	Iii, B.1, C.1, 2.5, 4.5, Appendix A	Document lists specific process locations, chemical inventories, and specific waste generating processes

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TRU-SPO-11.9-0708200438712	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	Pacific Northwest National Laboratory, Richland, WA	DOE/RL-92-35 / Rev 1	PR1, PR2, PR3, PR4, PR5, PR7, PR8, WS2, WS4, WS5, WS9, WS10, WS12	All	Contains treatment options (i.e. molten salt destruction, chlorination, etc.), liquid waste management, Hazardous Waste Treatment Unit description, EPA codes, hazardous material release scenarios and emergency response, facility mission and location, HWTU waste analysis plan , and facility hazard characterization
TRU-SPO-11.9-0708200439517	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	Waste Management Federal Services, Inc.	HNF-EP-0649	PR1, PR2, PR3, PR4, WS6	2-2, 3-2, 3-10, 3-14, 3-19, 6-2	Document provides maps of the Hanford Site. Document characterizes the 618-11 solid waste burial ground, the wastes generated at Hanford, and describes the facilities and activities that generated the wastes.
TRU-SPO-11:4.3-0414200630007	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington	PNL-10743 AD-940	PR3, WS5, WS6, WS10, WS12	1.1, Chapters 2, 3, 7 Pg 7.3	Document provides a detailed description of Hanford's solid waste system including treatment, storage and disposal strategy for managing Hanford's solid low-level waste, low-level mixed waste, TRU and TRU mixed waste and greater than Class III waste.

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TRU-SPO-11.9-0708200440020	Analytical Chemistry Laboratory Manual, Volume 2, Analytical Chemistry Methods for Mixed Uranium-Plutonium Oxide Fuel	W.L. Delvin	Hanford Engineering Development Laboratory, Richland WA	MG-28, Rev. 2	WS5	30.0.1-30.8.12, 40.0.1-40.19.9, and 50.0.1-50.3.16	Compendium of Hanford Engineering Development Laboratory analytical methods. These analytical methods were used for analysis of mixed oxide Uranium-Plutonium fuels. They were grouped into three categories: 1) analytical methods to detect the composition of the U/Pu MOX fuels; 2) analytical methods to detect the impurities in the U/Pu MOX fuels; 3) analytical methods to determine the physical characteristics of the MOX fuels.
TRU-SPO-11.9-0708200440354	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	Fluor Hanford	HNF-EP-0063 / Rev 8	PR3, PR4, PR5, PR8	All	Describes solid waste acceptance criteria for the: Central Waste Complex; T Plant Complex; Waste Receiving and Processing Facility

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-080920627933	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	R. Clinton	Fluor Hanford	HNF-3461 / Rev 7	PR1, PR2, PR4, PR6, PR7, PR8, WS2, WS3, WS4, WS9	All	Contains waste management program information for defense-related, retrievably stored, contact-handled TRU and TRU mixed wastes at the Hanford Site. Historical and current Site information is presented relative to Site location, description, mission, and waste certification procedures.
TRU-SPO-11.9-0708200440649	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers.	PNNL	PNNL-13341	WS4, WS6, WS12	1-32	This report describes the testing performed on KE Basin consolidated sludge samples by PNNL in May through November, 1999. Report provides potential waste forms and chemicals used and also describes waste generating processes.
TRU-SPO-11.9-0708200441084	Organic Analysis Progress Report FY 1997	S.A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL	PNNL-11738	WS4, WS6, WS10, WS12	All	Report describes work performed on the optimization of analysis techniques for identifying organic components in Hanford waste tank samples by PNNL during FY 1997. Document provides potential waste forms to be discarded as well as chemicals used during the analytical process.

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TRU-SPO-11.9-0708200441405	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas, T.L. Trang-Le, M.W. Urie, J.J. Wagner	CH2M Hill Hanford Group and PNNL	PNNL-13364/WTP-RPT-007 / Rev 0	WS4, WS9, WS10, WS12	All	Document provides analytical results of C-104 Tank waste which included cadmium, chromium mercury and lead in amounts greater than regulatory limits.
TRU-SPO-11.9-0708200447679	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL	PNNL-12157	WS2, WS4, WS9, WS10, WS12	All	Document was prepared to meet DOE Order 5400.i and other Environmental Protection Agency programs. Document provides chemical usage, areas in which chemicals will be used and waste generating processes.

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TRU-SPO-11.9-0708200448468	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M.W. Urie	Bldg 325 Operations / Criticality Safety Organization	CSS 325-1 / Rev 4	WS9	1, 2	Document provides a variance to existing Criticality controls in Bldg 325 glove box 283. Also provides a description of what radionuclides are allowed in a specific area.
TRU-SPO-11.9-0708200448678	MSDS for commercial products	Various	N/A	N/A	WS12	All	Material Data Safety Sheets form various manufacturers of various commercial chemicals products used in Bldg 325.
TRU-SPO-11.9-0706200430656	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel	N/A	N/A	PR2, PR5, PR4, PR7 WS1, WS6, WS8, WS9, WS10, WS12	All	Includes individual Solid Waste Disposal Records, Contents Inventory Sheets, and Waste Acceptance Criteria checklists for the TRU debris generated from Bldg 325
TRU-SPO-11.9-0706200426745	Solid Waste Information Tracking System (SWITS)-Container Assay Data Dump for the Building 325 Radiochemistry Laboratory	N/A	N/A	N/A	PR7, WS3, WS9	All	Radionuclide data dump from Hanford's Solid Waste information System for Building 325 containers stored at the Central Waste complex.

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TRU-SPO-11.9-0706200427171	Plutonium Oxide Characterization for MOX	C. Delegard	PNNL	PNNL-325	PR2, WS4, WS5, WS9, WS10, WS12	1, 2, 4, 5	Describes analytical methods used for characterization of Pu oxide in MOX. Identified chemical content of oxidized samples – includes 0.5% hexavalent chromium. Describes expected amount of Pu oxide generated after leaching. Describes expected waste form output. Provides flow diagram of analytical process.
TRU-SPO-11.9-0818200640189	AK Summary -Record of Communication Interview with Gary Lanham and Stan Bos	M. Conilogue, M. Anderson	AK	N/A	WS4	All	Documents Record of Communication between AK Engineer and Bldg 325 operators which involves the use of heat sealed bags in bldg 325 during a time frame between 1983-1987.

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TRU-SPO-11.9-0818200639640	AK Summary – AK Source Document Deficiency/Use of Heat Sealed Bags	M. Conilogue	AK	N/A	WS4	All	Documents and resolves deficiency between Record of Communication of Wayne Larsen (TRU-SPO-11.4.3-0701200463325) and Record Of Communication of Gary Lanham (TRU-WST-11.4.3-1219200555145) regarding the use of single heat sealed bags in Bldg 325. Deficiency resolved by re-interviewing Gary Lanham (TRU-SPO-11.4.1-0816200647976) on 8/3/06 and also Stan Bos (TRU-SPO-11.4.1-0816200648116) on 8/15/06, both of which confirmed the use of single heat sealed bags in Bldg 325 for a time period of 1983-1987.
TRU-SPO-11.4.3-0606200628721	Hanford Site Transuranic Waste Certification Plan		Fluor Hanford	HNF-2600	PR8	All	Document controls certification activities for TRU waste at the Hanford Site that will be sent to the WIPP for disposal.
TRU-SPO-11.4.1-1026200645819	Record of Communication	M. Conilogue	AK	N/A	WS4	All	Heat-sealed bags used in the 325 Facility were five feet in length and typically 8" in diameter.

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Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0828200638735	325 Facility Debris Waste Stream Designation	M.E. Lakes	Waste Services/ Hanford	N/A	WS1	All	Provides hazardous waste characterization rationale and designation based upon chemical inventory in the Building 325 Facility. Attachments such as MSDSs, etc. provide supporting documentation.
TRU-TS-11.4.3-0423199947115	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	M.S. Gerber	Fluor Daniel Hanford	HNF-EP-0924	WS2, WS3	9-7	PFP project and process descriptions including photographs
TRU-SPO-11.4.3-0606200628302	Hanford Site Transuranic Waste Quality Assurance Project Plan		Fluor Hanford	HNF-2599	PR5	All	Document controls transuranic waste characterization activities at the Hanford Site for waste that will be sent to WIPP for disposal.
TRU-SPO-11.9-0919200631754	35 FR 17530-17533, 52 FR 5992-6001, 53 FR 17709, 58 FR 12342-12347, 58 FR 64783, 59 FR 10439	United States Government	United States Government		WS4	All	Provides history of the decision making process by which waste incidental to the reprocessing of spent nuclear fuel can be designated as TRU / LLW using the Citation process and/or the Evaluation process as explained in Notice of Proposed Rulemaking 34 FR 8712

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0906200639182	Low Level or Transuranic Waste Classification of Hanford Tank Waste Sample Test Residues	T.L. Moore		99-WPD-219, Rev 0	PR5	All	Documents the classification of Hanford tank sample residues as not high-level waste by listing / satisfying the three requirements of the Evaluation process.
TRU-SPO-11.4.5-0914200649458	AK Source Document Deficiency	M. Anderson	Fluor Hanford	Document Deficiency # 009	WS4	All	Document presents the resolution to CCP issued NCRs resulting from Central characterization Program (CCP) characterization of Hanford waste containers.
TRU-SPO-11.4.1-1025200656684	Record of Communication	M.H. Conilogue	N/A	N/A	WS4	All	5-gallon paint cans are typical of those found in any paint supply store. Lids were fastened using either a screwdriver or crimper. Four-gallon slip lid cans were fastened with no tape; cross taped; or cylindrically taped
TRU-SPO-16-0630200149652	Transuranic Waste Baseline Inventory Report	DOE	DOE	DOE/CAO-95-1121, Rev. 2, Dec 1995		All	Establishes the methodology of grouping wastes of similar physical and chemical properties into waste profiles. Provides currently stored and projected contact handled and remote handled TRU mixed and non-mixed waste volumes throughout the DOE complex.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-1013200649581	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-220-0001-00, -01, -02, -03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200649840	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-01, PNNL-230-0001-02	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200650165	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-0621200728671	Waste Profile Sheet – PNNL-240-0001, Rev. 3	Waste Services	Fluor Hanford	PNNL-240-0001-03	PR5 PR6 WS4 WS9 WS10 WS12	All	The document is a waste profile form prepared by the Waste Services organization. It provides a brief description of the waste generating process, estimated volume of the waste to be generated, and radionuclide and chemical constituents present in the waste.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.10-1030200634971	Acceptable Knowledge Reevaluation Checklist RLM325D	M. Conilogue	Fluor Hanford	N/A	WS10	All	PNL-186034 [D7203158] & BP-188024 [D7197756] have been assigned EPA Hazardous Waste Number's (HWN's) D001 & D002. Container # BP-191004 [D198014006] has been assigned HWN D002 and Washington State Waste Toxicity Number WT02. The Waste Stream Designation and Acceptable Knowledge does not agree with nor attach these Waste Numbers. This reevaluation provides rationale removing these HWN's, direction to repack PNL-186034 to facilitate removal of the D002 HWN and the rationale to remove Washington State Toxicity Waste Number from Container # BP-191004
TRU-SPO-11.9-0906200638861	DOE Manual 435.1, Radioactive Waste Management	Office of Environmental Management	Department of Energy	DOE M 435.1-1	PR5		Describes both the Evaluation Process and Citation Process which waste incidental to reprocessing may be classified as non-high level waste.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0630200449685	Nuclear Waste Policy Act	DOE	Department of Energy	42 U.S.C 10141	N/A	N/A	Act provides for the development of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, including establishing a program of research, development, and demonstration regarding the disposal of high-level radioactive waste and spent nuclear fuel.
TRU-SPO-0606200735392	Request for Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	R.G. Gallagher	Fluor Hanford	FH-0602938	S13	All	Document seeks approval concurrence for the waste incidental to reprocessing determination made for the 325 Building waste stream, RLM325D, using the citation method.
TRU-SPO-11.4.1-0606200735117	Contract No. DE-A06-96RL13200 – Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	K.A. Klein	Department of Energy – Richland Operations Office	0700042	S13	All	Document approves the waste incidental to reprocessing determination made for the 325 Building waste stream, RLM325D, using the citation method.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-1012200649482	Transuranic Waste Baseline Inventory Report-2004	U.S. Department of Energy	DOE-Carlsbad Field Office	DOE/TRU-06-3344, Rev. 0	PR2 PR3 PR4 PR6 WS1 WS2 WS3 WS4 WS6 WS7 WS9 WS10	Throughout	Document provides descriptions of the waste streams anticipated to be generated at the Hanford Site, including anticipated stored and projected waste volumes, waste materials parameters, generating building, and a brief process description.
TRU-SPO-11.4.3-0612200739127	Hanford Site Operating Permit, Operable Unit 5 - 325 Hazardous Waste Treatment Units	Fluor Hanford	Washington State	WA7890008967	PR1 PR4 WS2 WS4 WS9 WS10 WS12 S2 S16	30-31, 73-74 93-94 4, 47-49 7, 30 43-45, 47-49 9-22 43 7 52-61 77-79, 86-87	Document provides information on the hazardous constituents expected to be managed and treated in the 325 Building hazardous waste treatment units, including procedures for accepting and managing the waste, the treatments performed, the process for generating waste from the treatment units, and packaging the waste.
TRU-WST-11.4.3-0531200633612	Tank Farms Solid Waste Characterization Guide with Sampling and Analysis Plan Attachment	J.T. Quigley	RUST Federal Services of Hanford	HNF-SD-WM-PLN-119, Rev. 1	WS8 WS10 WS11	15 15-19 12, 13, 15, 32	Document describes the methods used, including soil sampling and analysis, to characterize hazardous chemical constituents in Tank Farms containerized solid waste.

Site: Hanford							
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris							
Waste Stream/Waste Stream Lot Number: RLM325D							
RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
TRU-SPO-11.9-1026200650860	Data Quality Objectives Reconciliation, Headspace Gas Analysis Report, Flammable VOC Report, and Acceptable Knowledge Confirmation Checklist for 24 Containers from Waste Stream RLM325D, WSPF #RLM325D.001	M.H. Conilogue	Fluor Hanford	M4T00-TRU-06-639			
TRU-SPO-11.4.3-0613200740651	Radioiodine Control During Reprocessing of Short-Cooled Irradiated Neptunium-237 Aluminum Alloy Target Elements	W.O. Greenhalgh	Pacific Northwest National Laboratory	BNWL-460	PR4, PR6, WS4, WS12	All	Document describes the chemical contaminants present during the irradiation of Np-237 to produce Pu-238 and also those contaminates present when employing methods to control radioiodine as a result of the Np-237 irradiation.
TRU-SPO-11.4.3-0613200740171	325 Radiochemical Processing Laboratory website	G. Patello	Pacific Northwest National Laboratory	N/A	WS12	13, 14, 16	Website describes past, present and future Operations supported by the 325 Radiochemistry Laboratory including Office of River Protection Waste Treatment Plant, Plutonium Finishing Plant, Nuclear Fuels Research, use of yittrum-90 in cancer treatment, Yucca Mountain, Environmental Management, K-Basin Sludge Processing, and Mixed Oxide Feed Characterization

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-0613200740388	Preliminary FFTF Fuel Raw Materials Survey and Analysis	R.E. Beardsly	Battelle Northwest	BNWL-CC-1336	WS12	13, 14, 16	Document describes the chemical contaminants present in the FFTF process feed. The 325 Radiochemistry Laboratory supported the FFTF process.
TRU-SPO-11.4.3-0613200739512	Summary of Bismuth Phosphate Process and Plutonium-Uranium Extraction Process Chemical Flowsheets	M.E. Johnson	CH2M Hill Hanford	7G330-MEJ-03-001	WS4 WS5 WS10 WS12	3-27 3-15, 19-27 3-15, 19-27 3-15, 19-27	Document identifies the chemicals used and the steps in the processes to recover plutonium using the bismuth phosphate and PUREX techniques. Chemical inputs and intermediaries are identified for each step in the process.
TRU-SPO-11.4.3-0613200739801	RECUPLEX Process Chemical Flowsheets, RECUPLEX HW#1 and HW#2	C. Groot, R.E. Tomlinson, D.P. Granquist	N/A	HW-22604	WS2 WS4 WS5 WS12	2-3 2-7 6-7 2-7	The document identifies the purpose of the RECUPLEX processing (solvent extraction) as to combine the plutonium from various sources (given in the memo) into a form amenable for use in the 234-5 process (i.e., Plutonium Finishing Plant).
TRU-SPO-11.4.3-0613200740836	REDOX Process Waste Streams - Approximate Quantities and Compounds	N/A	Hanford Works	HW-10733	WS12	All	Document describes the chemical contaminants present in the REDOX process waste streams, which were supported by the 325 Building.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.2-0503199943148	PRF Solvent Extraction Depletion Flowsheet – High Uranium/High Fluoride Feed	Process Engineering Group	PFP Administration	PFD-Z-180-00001, Rev. C-1	WS4 WS5 WS10 WS12	5-6 7 22-29, 47-51 47-51	Document describes the PRF solvent extraction process in great detail, providing flow diagrams and giving column by column breakdown of the chemicals involved.
TRU-TS-11.4.3-0428199949492	Inventory of Chemicals Used at Hanford Site Production Plants and Support Operations	M.J. Klem	Westinghouse Hanford Company	WHC-EP-0172, Rev. 1	PR4 PR7	Entire	Document provides chemical information by facility with the time frame for these chemicals indicated.

Appendix A

Figures

Figure 1 – Location of Hanford Site

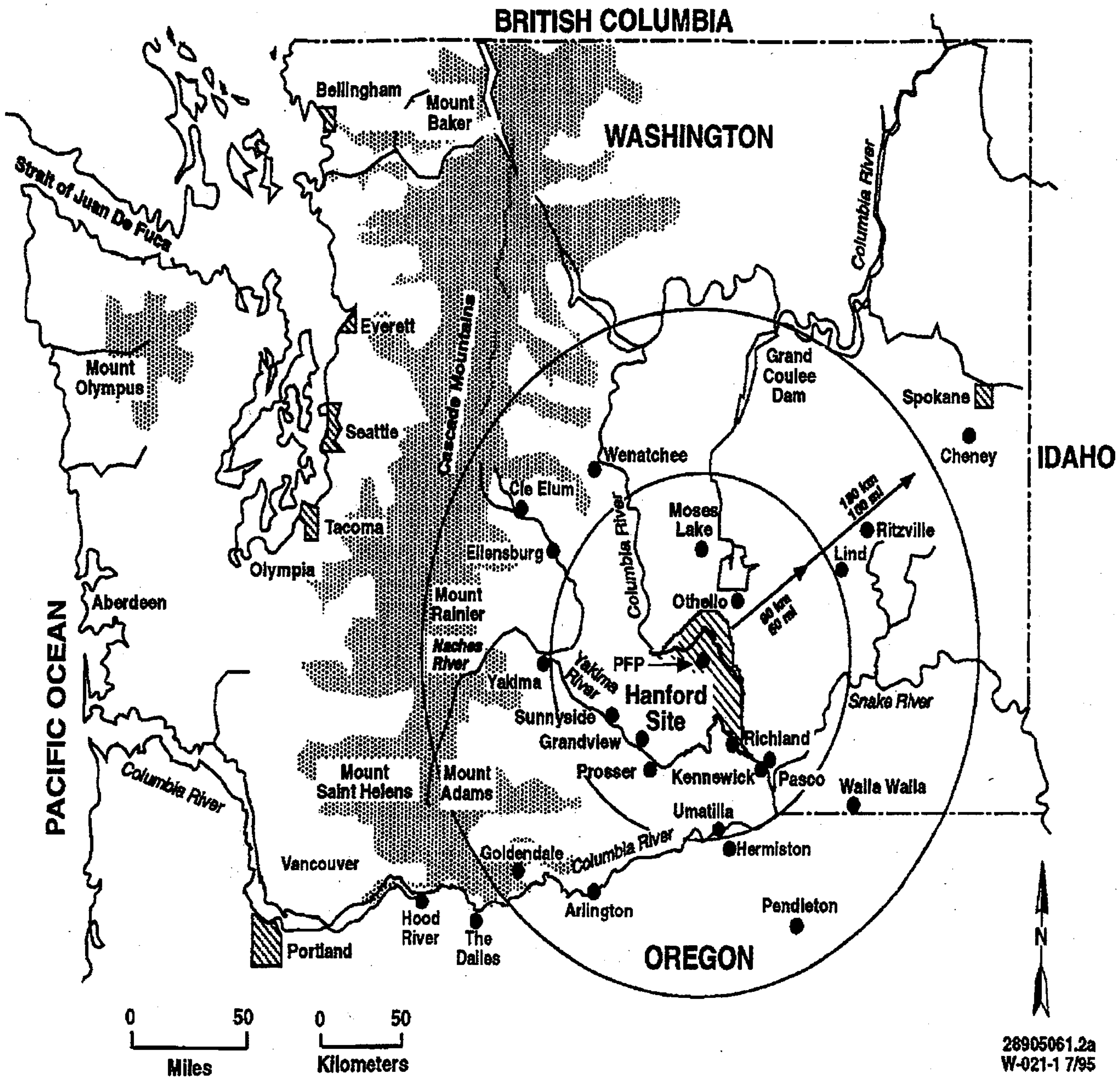


Figure 2 – Location of Major Areas at the Hanford Site

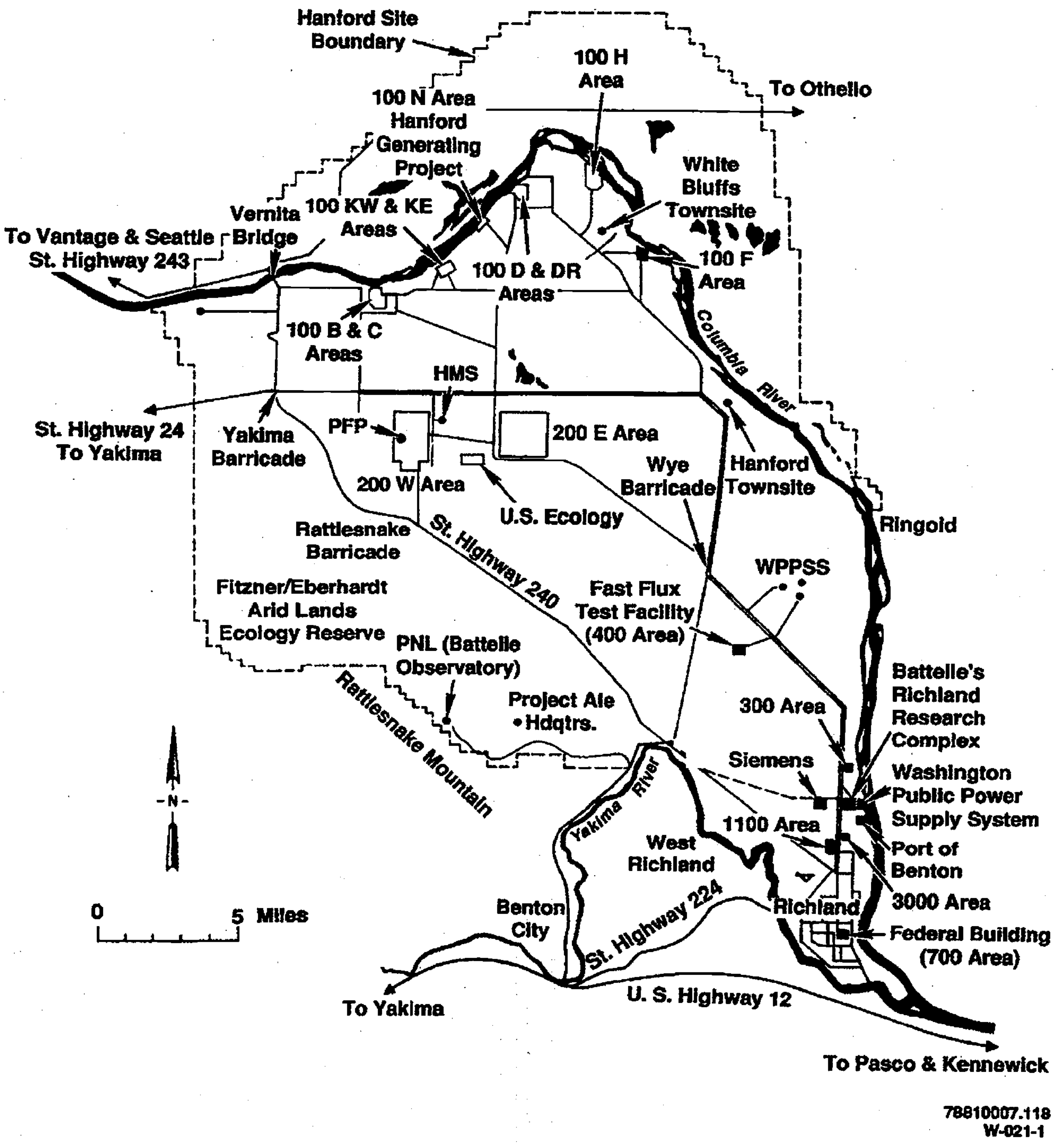


Figure 3 – 300 Area Layout

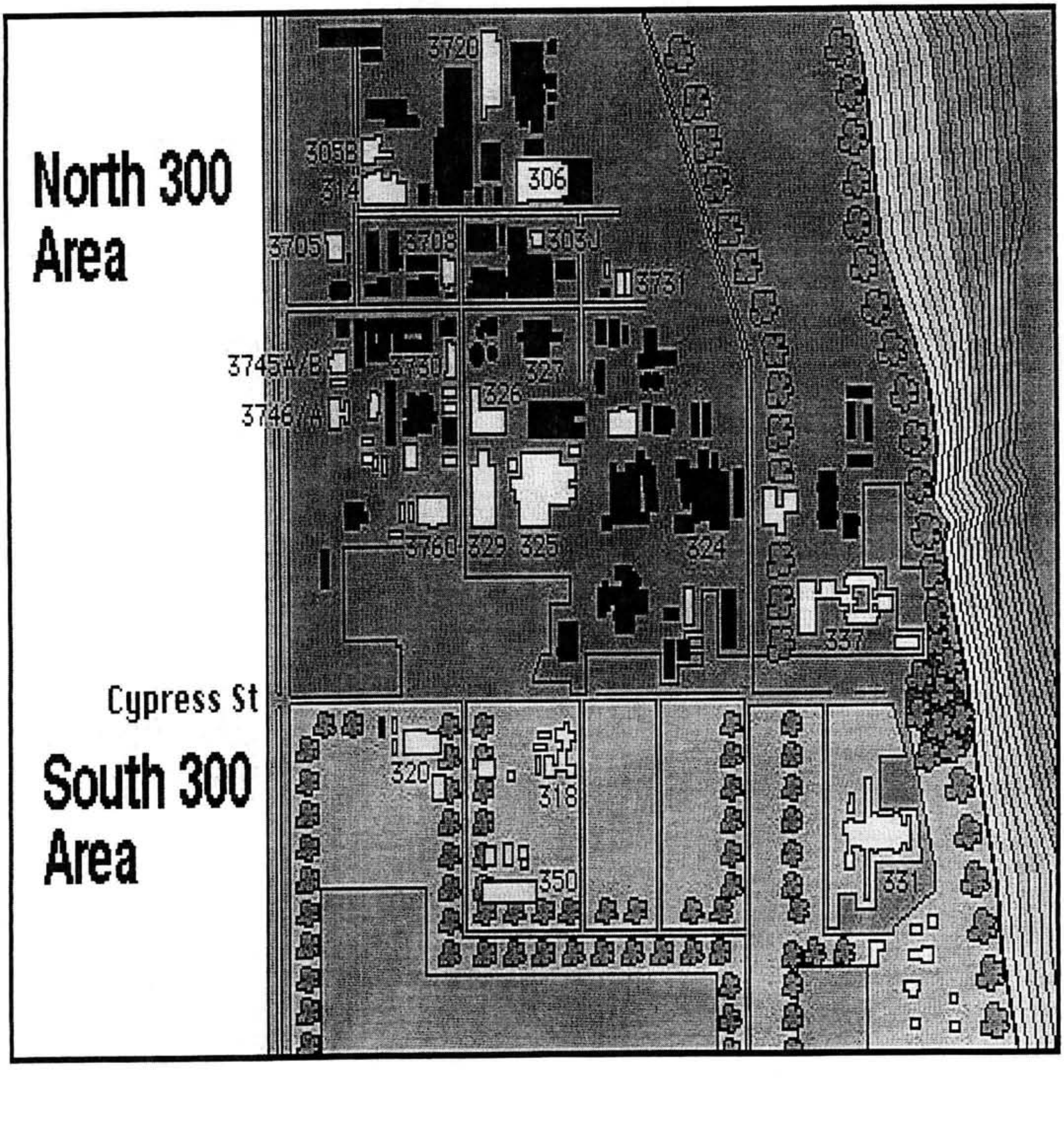


Figure 4 – Typical Laboratory Analysis Flow

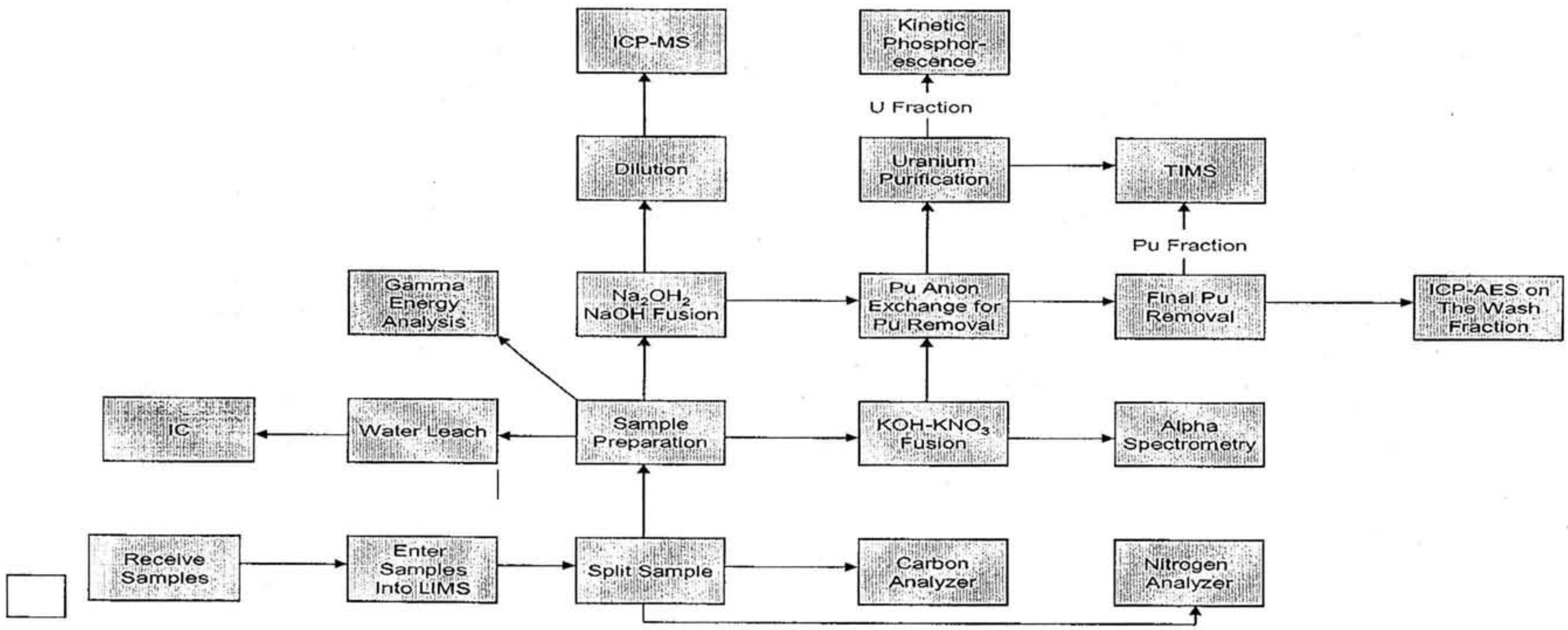


Figure 5 – Location of the HWTU and Shielded Analytical Laboratory (main floor)

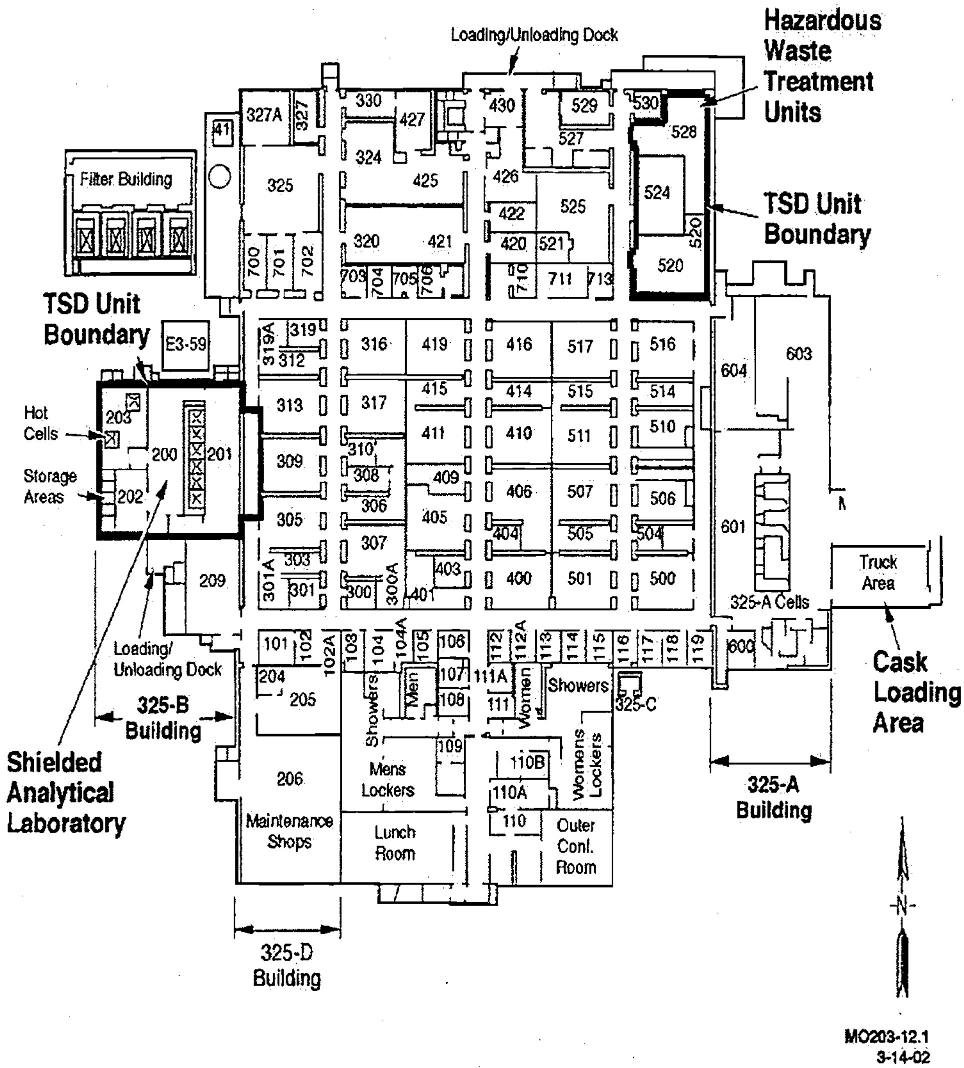


Figure 6 - Location of the SAL Tank in Room 32 (basement)

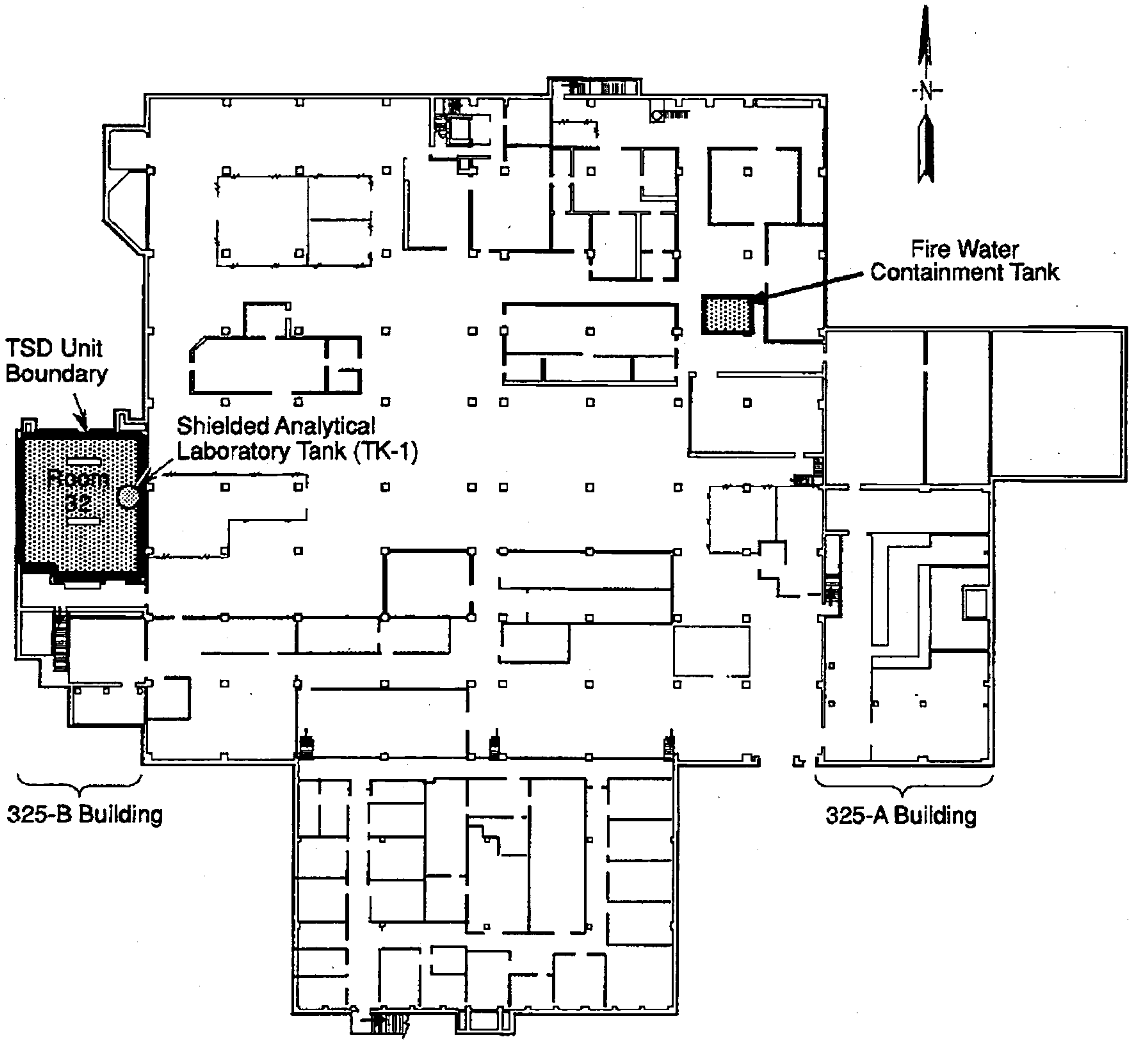
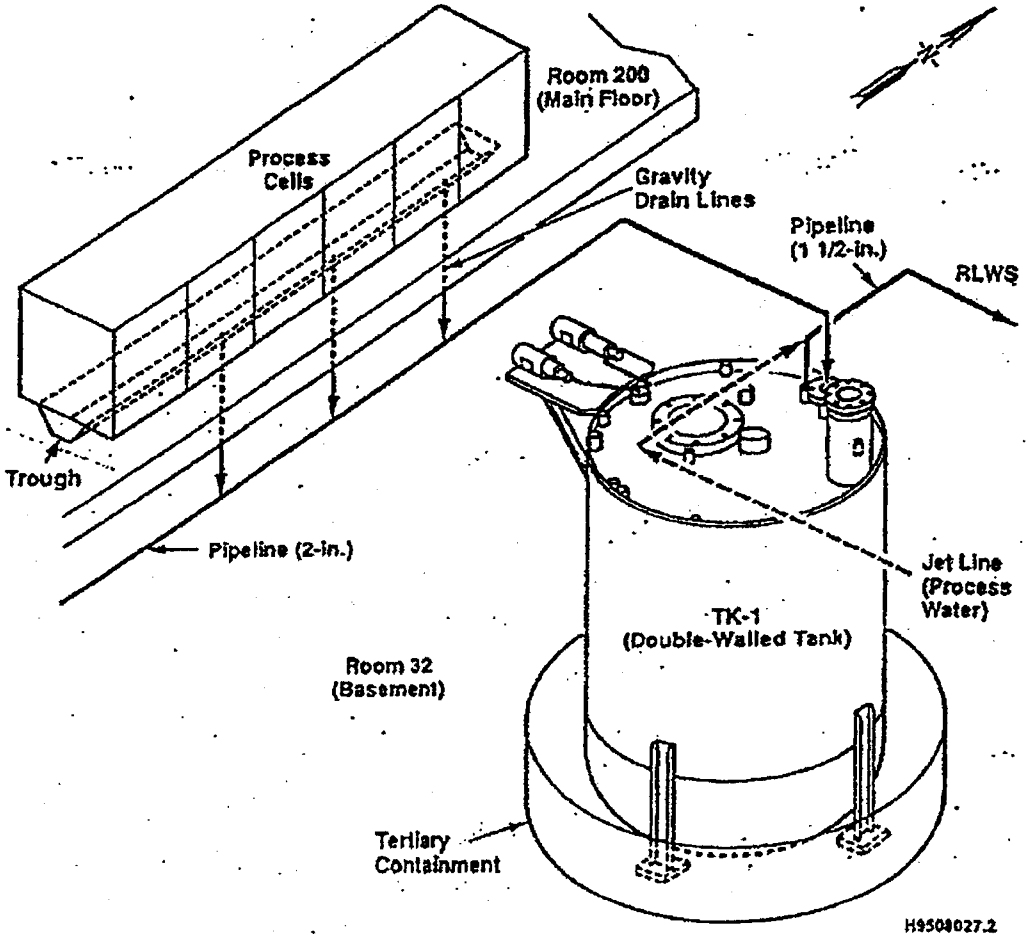


Figure 7 - Shielded Analytical Laboratory Tank and Ancillary Piping



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CCP-AK-RL-102

Central Characterization Project
Acceptable Knowledge Summary Report
For

Hanford 325 Building Radiochemistry Laboratory
Contact-Handled Transuranic Debris Waste

Waste Stream:
RLM325D.001

REVISION 1

January 19, 2011

Larry Porter
Printed Name

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	07/09/2010	Initial issue.
1	01/19/2011	Updated isotopic distribution.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
ATWIR	Annual Transuranic Waste Inventory Report
BBI	Best Basis Inventory
$BiPO_4$	Bismuth Phosphate
BNWL	Battelle Northwest Laboratories
CCP	Central Characterization Project
CFR	Code of Federal Regulations
CH	Contact-Handled
CH-TRAMPAC	*TRUPACT-II Authorized Methods for Payload Control*
Ci%	Curie percent
Cs	Cesium
CWC	Central Waste Complex
D&D	decontamination and decommissioning
DOE	U.S. Department of Energy
EP	Extraction Procedure
EPA	U.S. Environmental Protection Agency
FFTF	Fast Flux Test Facility
ft	feet
ftp	CCP File Transfer Protocol site
FY	Fiscal Year
HEPA	High Efficiency Particulate Air
HWN	Hazardous Waste Number
HWTU	Hazardous Waste Treatment Unit
ICP-AES	inductively coupled plasma – atomic emission spectroscopy
ICP-MS	inductively coupled plasma – mass spectrometry
M	Molar
m^3	cubic meters
MOX	Mixed Oxide
MSDS	materials safety data sheet
NASA	National Aeronautics and Space Agency
NWVP	Nuclear Waste Vitrification Project
NWPA	*Nuclear Waste Policy Act of 1982*
PCB	polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PNNL	Pacific Northwest National Laboratory
PPE	Personal Protective Equipment
PRF	Plutonium Recovery Facility
Pu	Plutonium
PUREX	Plutonium-Uranium Extraction Plant
RCRA	Resource Conservation and Recovery Act
R&D	research and development
RECUPLEX	Recovery of Uranium and Plutonium by Extraction Facility
REDOX	Reduction Oxidation facility
RMIS	Records Management Information System
RTR	Real-Time Radiography

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

SAL	Shielded Analytical Laboratory
SWB	Standard Waste Box
SWITS	Solid Waste Information Tracking System
TCLP	Toxicity Characteristic Leaching Procedure
TGA-MS	Thermogravimetric analysis - mass spectrometry
TIMS	thermal ionization mass spectrometry
TRU	transuranic
TRUCON	TRUPACT-II Content (Codes)
TRUSAF	Transuranic Storage and Assay Facility
TSD	Treatment, Storage, and Disposal
TWINS	Tank Waste Inventory Network System
UO_3	Uranium Oxide
VE	visual examination
WDS	Waste Data System
WIPP	Waste Isolation Pilot Plant
WIPP-WAC	*Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*
WIPP-WAP	*Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan*
WMP	waste material parameter
WRAP	Waste Receiving and Packaging
wt%	weight percent
WWIS	WIPP Waste Information System

1.0 EXECUTIVE SUMMARY

This Acceptable Knowledge (AK) Summary Report summarizes the information collected by the Central Characterization Project (CCP) to satisfy the transportation and waste acceptance requirements for the transfer of transuranic (TRU) waste between sites. The information collected includes documentation to be used by the receiving site to address the AK requirements of the *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan* (WIPP-WAP) (Reference 2) and DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) (Reference 3). Additionally, this AK Summary Report provides the transportation information required for shipment of TRU waste in accordance with CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control* (*CCP CH-TRAMPAC*) (Reference 4).

This report has been prepared by CCP for contact-handled (CH) TRU waste generated at the Hanford Site to be shipped to the Waste Isolation Pilot Plant (WIPP). The debris waste described in this report was generated in the 325 Building Radiochemistry Processing Laboratory at Hanford. This report addresses containers included in the Hanford waste stream described in HNF-30810, *Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D* (Reference 6).

This AK Summary Report includes information relating to the mission and process operations of the 325 Radiochemistry Laboratory, waste identification and characterization, and waste management. This report also includes information regarding the physical form, radiological characteristics, and chemical contaminants of the waste, as well as prohibited items and packaging configurations.

This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for the characterization of waste generated by operations in the 325 Building Radiochemistry Processing Laboratory. The source documents listed in Section 8.0 of this AK Summary Report and cited throughout the report are identified by alphanumeric designations (e.g., C001, DR001, M001, P001, and U001) corresponding to the Source Document Tracking Number using the following convention:

C – Correspondence
DR – Discrepancy resolutions
M – Miscellaneous data
P – Published documents and Procedures
U – Unpublished documents

The CCP is tasked with certification of CH TRU waste for transportation to and disposal at the WIPP. The procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), describes how AK is compiled and confirmed by the CCP. The CCP is responsible for AK development in accordance with CCP procedures and will review and approve this Acceptable Knowledge Summary Report and maintain this document and supporting AK source documentation as CCP quality assurance records. The CCP maintains responsibility for all referenced documentation, which will be stored at the CCP Records Center, Carlsbad, New Mexico.

2.0 Waste Stream Identification Summary

Generation and Storage Location:

Hanford Site
P.O. Box 1000
Richland, Washington 99352-1000
U.S. Environmental Protection Agency (EPA) ID WA7890008967

Facility Where Transuranic Waste Was Generated:

325 Building Radiochemistry Processing Laboratory

Facility Mission:

The mission of the Hanford Site was plutonium (Pu) production for the nuclear weapons program during and following World War II. The mission of the 300 Area was research and development activities supporting fuel fabrication and reactor development programs. Irradiation of fuel elements took place in the 100 Area production reactors; and chemical dissolution and separation into plutonium, uranium, and various fission byproducts occurred in the 200 Area (Reference P153).

Since 1953, the 325 Building Radiochemistry Processing Laboratory has supported a wide variety of Hanford Site operations, consisting of laboratory examinations and studies, analyses of fuel reactor samples, and characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium. Initial 325 Building missions included production and process improvement support for the Reduction Oxidation Facility (REDOX) and uranium metal recovery operations. Actinide separation studies were conducted to develop techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Building mission also included support to the Plutonium-Uranium Extraction Plant (PUREX), the Recovery of Uranium and Plutonium by Extraction Facility (RECUPLEX), and Plutonium Recovery Facility (PRF) production processes (Refer to Section 4.3).

Waste Stream:	RLM325D.001
Summary Category Group:	S5000 Debris Waste
Waste Matrix Code Group:	Heterogeneous Debris
Waste Matrix Code:	S5400 Heterogeneous Debris
TRUPACT-II Content Code (TRUCON):	RH 125/RH 225
Maximum Layers of Confinement:	Six (inside Standard Waste Box [SWB] or 55-gallon containers)

Waste Stream Description:

Analyses performed in glove boxes, fume hoods, and hot cells included a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (e.g., kitty litter, vermiculite, diatomaceous earth) (References C001, C003, P050, and U001). Specific waste items may include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, aerosol cans, High Efficiency Particulate Air (HEPA) filters, stainless-steel tubing, plastic pipe, lead (e.g., bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (e.g., beakers, pipettes, vials, and tubing), gloves (e.g., leaded, cloth, leather, rubber, and Hypalon), lab equipment (e.g., balances, drying ovens, heating mantles, pumps, and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed combustible liquids such as oils, sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans, have also been placed in some containers (Refer to Section 5.4.1).

As discussed in Section 5.4.2, U-238 and Pu-239 are the two predominant radionuclides by mass, and Pu-241 and Am-241 are the two predominant radionuclides by activity. It should be noted that while U-238 is the most prevalent radionuclide by mass, it was reported in only 89 of 267 containers (e.g., 33 percent) evaluated. This supports the initial assessment that Pu-239 and Pu-240 are the two predominant radionuclides by mass in most containers.

EPA hazardous waste numbers (HWNs) assigned to this debris waste stream are D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043, F001, F002, F004, and F005 (Refer to Section 5.4.3).

Based on the review of the container documentation and waste management practices, prohibited items may have been included in containers in waste stream RLM325D.001 at the time of generation. Waste management practices prohibited the packaging of free liquids or unused reagents; however, because liquids were neutralized, absorbed, and cemented, they may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (e.g., 5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Aerosol cans were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. Prior to shipment, CCP will perform radiography on the containers to verify the absence of prohibited items. Any container found to contain a prohibited item during radiography will be remediated by Host site personnel in accordance with the Hanford Waste Acceptance Criteria prior to returning to CCP for characterization (Reference P051).

From 1970 to 1978, waste containing contamination that easily became airborne and that was to be placed in 55-gallon containers was required to be placed in an "inner container" (e.g., sheet plastic). In 1978 a polyethylene container liner was required. In 1981, the polyethylene container liners were required to be "horsetailed" and taped shut before the container lid was installed. The use of 10-mil clear plastic 8- and 15-inch bags that were twisted (horsetail) were bagged out and placed in the 55-gallon containers. From approximately 1983 through 1987, single heat-sealed bags approximately five feet (ft) in length were used. As necessary (i.e., due to the presence of contamination on the outside of the bag), additional bags may be placed around bags of waste bagged out of a glovebox. Padding and tape were used to cover sharp projections on materials such as broken glass items. Containers in the RLM325D.001 waste stream may therefore have up to six layers of confinement in the 55-gallon container (i.e., five inner bags and one liner bag).

Various sizes of metal cans, including 4-quart, 5-quart, and 5-gallon paint cans and 4-gallon slip lid cans, were used to remove TRU waste from hot cells. These cans will contain waste items, but empty containers (e.g., used to transfer items to the glove boxes and hot cells) may also be present in the waste. These metal cans were placed into lined 55-gallon containers. All containers will be screened for prohibited items (e.g., sealed containers greater than 4 liters) and any non-compliant containers will be remediated to WIPP-WAC standards.

Until 1998, liquid waste from the hot cells and from designated laboratory sinks were disposed of in the Radioactive Liquid Waste system and routed to the 340 Building. However, small amounts of liquid waste from the hot cells were historically solidified in 5-quart cans by evaporation or using diatomaceous earth or cement and vermiculite. Corrosive liquids were neutralized prior to solidification. For these reasons, ignitable, corrosive, and reactive liquids are not expected to be present in any quantity in waste stream RLM325D.001; the absence of prohibited amounts of liquids will be verified during radiography prior to shipment.

3.0 ACCEPTABLE KNOWLEDGE DATA AND INFORMATION

This AK Summary Report summarizes the information collected by CCP to satisfy the transportation and waste acceptance requirements for the transfer of TRU waste between sites. The information collected includes documentation to be used by the receiving site to develop the AK required by the WIPP-WAP and WIPP-WAC (References 2 and 3). This report provides the transportation information required for shipment of TRU waste in accordance with the CCP CH-TRAMPAC (Reference 4).

This report has been prepared by CCP for CH TRU debris waste generated at the Hanford Site to be shipped to the WIPP. The debris waste described in this report consists of wastes originally generated in the 325 Building Radiochemistry Processing Laboratory. Some of the waste will be repackaged at T Plant or Waste Receiving and Packaging (WRAP) by Hanford personnel. A majority of the sources collected consist of the AK documentation originally compiled by Hanford to develop the AK for CCP-PK-RL-102, *The Hanford 325 Building* Radiochemical *Processing Laboratory Contact-Handled Transuranic Debris Waste 85-Gallon Overpacked Drums* (Reference 5). These Hanford sources include facility safety basis documentation, standard operating procedures, waste packaging documentation, generator and storage facility waste records, materials safety data sheets (MSDSs), and interviews with facility personnel. Additionally, CCP has compiled and reviewed the Hanford characterization procedures and resulting documentation (e.g., radiography, headspace gas, and assay batch data reports) generated to supplement the data previously collected.

The DOE/TRU-10-3425, *Annual Transuranic Waste Inventory Report* (ATWIR) – 2010, identifies a previous CH debris waste stream for the 325 Building Radiochemistry Processing Laboratory (Reference 9):

- ATWIR Waste Stream Number: RLM325D001-S
- ATWIR Waste Stream Name: Not available in ATWIR
- ATWIR Waste Stream Description: Not available in ATWIR

4.0 REQUIRED PROGRAM INFORMATION

This section provides waste management program information, including a brief history of the 325 Building Radiochemistry Processing Laboratory, a summary of its missions, a discussion of the operations associated with the generation of TRU waste, and a description of the TRU waste management program.

4.1 Facility Location and Description

The Hanford Site is located in southeastern Washington State near the Tri-Cities area of Richland, Kennewick, and Pasco as shown in Figure 1, Location of Hanford Site. The locations of the major areas of the Hanford Site are shown in Figure 2, Location of the Major Areas at the Hanford Site. The 325 Radiochemistry Processing Laboratory is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figure 2 and Figure 3, 300 Area Layout (References P041, P043, and P052).

4.2 Facility Mission

4.2.1 Hanford Site

Generation of radioactive solid waste at Hanford coincided with plutonium production for defense purposes that first began in 1944. The Hanford Site was constructed to produce plutonium for the Manhattan Project during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology (References P041, P042, P052, and P153).

The Hanford Site is divided into several areas where defense and nuclear weapons production took place. Operations generating TRU waste were conducted primarily at the 100, 200, and 300 Areas at the site (References P041, P042, P052, and P401).

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW, in order of construction) were "single pass" reactors and used exclusively for defense purposes (e.g., plutonium production). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water and was also a dual-purpose reactor that was capable of making electrical power and weapon- or fuel-grade plutonium. N Reactor was used for domestic power production from 1966 until 1986 (References P041 and P052).

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building (B Plant and T Plant, respectively) and a Bulk Reduction Building. These facilities chemically dissolved irradiated fuel from the 100 Area reactors and recovered the plutonium using the bismuth phosphate separation process. The final step of plutonium recovery operations was housed in the 231-Z Building at 200 West. Ancillary buildings supporting the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T (References P041 and P052).

In 200 West, the REDOX (also known as S Plant) began operations in 1951 using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium, plutonium, and neptunium. In 1953, the 224-U Building (U Plant) was converted from a training facility to the Uranium Oxide (UO_3) Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the 231-Z Building was converted to a research and development facility for plutonium processing and nuclear device development for testing at the Nevada Test Site (References P041, P052, and P402).

Also located in 200 West Area, the Plutonium Finishing Plant (PFP) began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal, performed casting and machining operations for weapons components, and recovered plutonium from waste and scrap generated at other Hanford and offsite facilities. The PFP began processing Pu nitrate to create buttons in 1952, and in the late 1960s participated in extended programs that prepared plutonium oxides for commercial nuclear experiments and development. As the need for additional plutonium scrap recovery capabilities became greater, the PRF was established to replace the RECUPLEX facility for recovering plutonium through incineration and solvent recovery from a range of scrap items, including incinerator ash, crucibles, and dissolver heels (References P041, P052, P071, P231, P405, and P502).

Facilities in the 300 Area of the Hanford Site have had diverse missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. Most of these facilities were not designed for handling TRU materials and therefore are not TRU waste generators. Other facilities, such as the 308 Building, were designed to manufacture plutonium oxide and/or mixed plutonium-uranium oxide fuels for research reactors in the 300 and 400 Areas of the Hanford Site. Some facilities, such as the 324 Building and 325 Building hot cells, focused on research and development, fuel element performance evaluation, and high activity waste solidification studies. These facilities were the principal generators of TRU waste in the 300 Area. TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition (References P041, P052, and P071).

Since the 1960's, the Hanford Site has accepted waste generated from numerous offsite U.S. Department of Energy (DOE) facilities. It is estimated, that 20 percent by volume of the defense TRU waste generated in the United States is stored at the Hanford Site. Approximately half of the retrievably stored CH TRU waste was stacked in modules on asphalt pads or aboveground buildings in the 200 East and

200 West areas and the other half was placed in gravel earthen trenches. TRU waste unsuitable for asphalt pad storage because of size, chemical composition, security requirements, or surface radiation was packaged in reinforced wood, concrete, or metal boxes and stored in dry waste trenches. The trenches were covered with plywood and plastic reinforced nylon sheeting and backfilled with dirt (References P041, P052, P414, and P415).

Since 1970, approximately 37,400 suspect TRU waste containers have been placed in retrievable storage at the Hanford Site. Initially, waste containers were placed horizontally in trenches with direct soil cover. Then, for a brief period of time (1972 to 1973), they were stacked on an angle in an engineered storage configuration known as Trench V-7. This storage methodology proved to be too expensive to implement, hence the concept for storage on asphalt pads was adopted in 1972. Storage in gravel trenches continued after 1972; however, the containers were then stacked vertically. The earthen trenches during this later period were used primarily for biological, classified, and other special-case CH TRU waste. After 1974, containers and boxes of CH TRU waste were stored upright in trenches with asphalt or plywood bottoms, plywood and plastic tarps covering the containers, and 4 ft of earth over the tarp cover. TRU waste continued to be placed in trenches until 1989 (Reference P041, P052, P414, and P415).

In 1985, an aboveground building, the Transuranic Storage and Assay Facility (TRUSAF), was opened for storage of TRU waste until its inactivation in 1996. The Central Waste Complex (CWC), which consists of 20 storage buildings, currently stores TRU waste. In 1987, the Hanford Site stopped disposing of mixed waste in unlined trenches and began to store these wastes in aboveground facilities at the CWC exclusively (Reference P041, P048, and P052).

Hanford began retrieving containers from the TRUSAF in 1996, containers from the burial grounds are sent for processing to the WRAP Facility in the 2336W Building. The WRAP was designed to receive, confirm, repackage, certify, treat, store, and ship CH TRU and low-level radioactive waste. The WRAP Facility is comprised of three buildings: 2336W, the main processing facility (also referred to generically as WRAP); 2740W, an administrative support building; and 2620W, a maintenance support building (References P414, P415, and P416).

WRAP is a 4,800-square-meter pre-engineered metal building with a ground floor and partial second floor. The building layout accommodates seven functional areas: the building entry; waste shipping and receiving; nondestructive examination and nondestructive assay; waste processing; control and computers; heating, ventilation, air conditioning, electrical, and mechanical; and personnel support (change rooms) (Reference P416).

T Plant, built in 1944, is a canyon-type facility that has been adapted for various waste management functions. Operations within this facility include treatment of WIPP non-compliant waste items, and repackaging of TRU waste. T Plant remediation and repackaging operations are performed in a glovebag within a Permacon structure to eliminate the spread of contamination. When the glovebag is determined to exceed a set fissile gram equivalent loading, it is placed into a container being repackaged (with the container's paperwork updated accordingly) or into a new container.

4.2.2 325 Building Radiochemistry Processing Laboratory

The 325 Building Radiochemistry Processing Laboratory supported a wide variety of Hanford Site operations, including those at the 100, 200, and 300 Areas, and consisting of laboratory examinations and studies, analyses of fuel reactor samples, and characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium (References C001, P012, P016, P027, P041, and P045).

The 325 Radiochemistry Processing Laboratory was built in 1953 to house and handle multi-curie and high activity chemical development work. The laboratories were furnished with hoods and glove boxes designed for handling radioactive materials. The 325 Building was constructed in 1953 with eight 6 ft x 6 ft x 5.5 ft hot cells with 2.5 ft-thick concrete walls and stainless-steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15 ft x 16 ft x 6 ft. The other two cells (B- and C-Cells) were 15 ft x 7 ft x 6 ft. Four-ft thick concrete walls with steel liners surrounded these larger cells. Combined, these two analytical facilities were the largest laboratories at Hanford. Figure 4, 325 Building Radiochemistry Processing Laboratory Layout illustrates the layout of the 325 Building Radiochemistry Processing Laboratory. Analyses were performed in glove boxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests (References P041, P043, P045, and P052).

The 325 Building contains a total of approximately 140,000 square ft of laboratory space. In the 1960s, the building operated as many as 50 laboratories and 11 hot cells. All 11 hot cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank (Reference P041).

The 325 Building Radiochemistry Processing Laboratory was first operated by General Electric (1953 to 1965), after which operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970 operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire facility was transferred to the current contractor, Pacific Northwest National Laboratories (PNNL), in 1987. Initial 325 Building missions included production and process improvement support for the REDOX and uranium metal recovery operations. Actinide separation studies were conducted to develop techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Building mission also included support to the PUREX plant, the RECUPLEX Facility, and PRF production processes (References P041, P045, P231, P400, P403, and P503).

In the 1960s, the 325 Building supported National Aeronautics and Space Agency (NASA) and medical isotope development campaigns. A number of new techniques were developed involving separation and fractionation technology. Specific isotopes, including strontium-90, cesium-137, curium-244, americium-241, and promethium-147, were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport Nuclear Power Plant. During these years, Hanford was the only supplier in the world of promethium-147, which was used in the development of the artificial heart. Also, during the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-Cell (References P041, P400, and P403).

The 325 Building was involved in Fast-Flux Test Facility (FFTF) fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory analyzed Exxon enriched uranium samples. These samples were submitted as sweepings from the process line glove boxes in the Exxon facility located adjacent to the Hanford Site. In approximately 1987, vitrification processes were being developed at other 300 Area facilities for disposition of high-level waste, and 325 Building personnel in the shielded analytical facility worked on samples from these processes (References C004, P041, and P503).

After 1980, the hot cells were used for characterization of materials associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) was performed in the A-, B- and C-Cells from 1977 to 1980 (Reference C004).

In the late 1980s, operations to characterize tank waste began and continued through the 1990s. Many of the sampling and analytical techniques used for tank waste characterization at the Hanford Site were developed by the 325 Building personnel. Other radiochemistry work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N-Reactor, and experiments in strontium recovery. Analyses of fuel and mixed oxide (MOX) materials using electrochemical, spectrophotometric, and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid-1980s, to the beginning of 2000. In addition, the 325 Building has been operated as a Treatment Storage and Disposal (TSD) facility since 1993 and has operated as part of an overall Hazardous Waste Treatment Unit (HWTU) for the Hanford Site since that time (References C001, P004, P030, P032, P033, P034, P035, P038, P041, and P050).

4.3 Defense Waste, Spent Nuclear Fuel, and High-Level Waste

4.3.1 Defense Waste Assessment

The WIPP-WAC (Reference 3) requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU "defense" waste. Based on guidance from the DOE, TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in section 10101(3) of the *Nuclear Waste Policy Act of 1982* (NWPA) (Reference 8). Based on the review of AK, TRU waste generated by 325 Building operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following activities:

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense research and development

The historical mission of the Hanford Site was to produce nuclear materials (e.g., plutonium) for defense purposes. As described previously, the 325 Building has provided support to a variety of defense nuclear materials production activities at Hanford, including the following (References C001, C004, P041, P045, P052, P071, P231, P400, P401, P402, P403, P405, P406, P407, and P503):

- REDOX – Operations were conducted in the REDOX facility to recover plutonium (as plutonium nitrate) and to concentrate the plutonium for transfer to PFP, where the plutonium nitrates were purified and converted to plutonium metal or oxide.

- PUREX – The PUREX facility replaced earlier fuel dissolution and plutonium separation facilities and produced plutonium nitrate solutions for further processing at PFP.

- PRF – Plutonium was received from DOE and other (e.g., West Valley) sources under the Plutonium Recycling Program, conducted to reclaim economically valuable plutonium for use in weapons, research, or fueling breeder reactors such as FFTF. Much of this plutonium had been produced in reactors at Hanford and Savannah River, which were operated for defense-related purposes.

- N-Reactor – Designed to be a dual purpose reactor (e.g., producing both plutonium and electricity), N-Reactor began producing plutonium in March 1964 and electrical power sometime later. From 1965 to 1967, tritium (also used in nuclear weapons) was produced at N-Reactor using fuel elements manufactured in the 333 Facility.

More recently, the 325 Building has continued to support defense activities associated with defense nuclear waste and by-product management. Samples of tank waste (e.g., sludge and liquid) resulting from fuel dissolution and plutonium separation for defense purposes have been and continue to be analyzed in the 325 Building laboratories (References P041, P042, P043, P045, P050, P053, P054, and P055).

The RLM325D.001 waste stream also contains waste that was generated during defense research and development activities. In particular, studies were conducted in the 325 Building that were part of the NWVP intended to treat tank sludges resulting from years of processing weapons materials at the Hanford Site. Other research projects involved work on the development of waste forms suitable for long term disposal (such as ceramics) and analysis of Rocky Flats oxides (References C004 and P041).

Due to the nature of the analytical work performed, defense-related analyses were carried out concurrent with other, potentially non-defense, projects across the Hanford Site that required analytical characterization. During these analytical activities, and because of the waste management practices in place at the 325 Building, no attempt was made to segregate the waste originating from non-defense and defense-related processes. Because segregation of waste into defense and non-defense portions is not feasible, waste stream RLM325D.001 is eligible for disposal at the WIPP (References C001 and P041).

4.3.2 Spent Nuclear Fuel and High-Level Waste Assessment

The Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act* (Reference 7), prohibits the disposal of spent nuclear fuel and high-level waste as defined by the NWPA at the WIPP (Reference 8). High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation" (References 12 and P073).

According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." DOE Order 435.1-1, *Radioactive Waste Management Manual* (Reference 14) expands on this definition to clarify that "test specimens of fissionable material irradiated for research and development only, and not production of power or plutonium, may be classified as waste, and managed in accordance with the requirements of this Order when it is technically infeasible, cost prohibitive, or would increase worker exposure to separate the remaining test specimens from other contaminated material." Pursuant to this definition the DOE has identified that waste resulting from reprocessing spent nuclear fuel is incidental to reprocessing and is not high-level waste. The determination of waste incidental to reprocessing is made using either the citation process or evaluation process as explained in DOE Manual 435.1-1 (References 13 and P074).

The citation process refers to those reprocessing waste items of the type that were discussed in the Statement of Proposed Policy for Appendix D, 10 Code of Federal Regulations (CFR) Part 50, as not being high-level waste. These radioactive wastes are the result of reprocessing plant operations, including:

- Contaminated job wastes – a general category of wastes generated during high-level waste transfer, pretreatment, treatment, storage, and disposal activities. Included are protective clothing, personal protective equipment (PPE), work tools, ventilation filter media, and other job-related materials necessary to complete high-level waste management activities

- Sample media (e.g., sampling vials, crucibles, other hardware)

- Decontamination media and decontamination solutions (e.g., swabs, other decontamination-related materials)

- Laboratory clothing, tools, and equipment.

The RLM325D.001 waste stream contains laboratory wastes, such as paper, PPE, filters, used glass ware (e.g., beakers, pipettes, vials, and tubing), and other debris items. Absorbed liquids, including sample residues from fuel pellets, tank waste, ceramics and wastes resulting from spill clean-up and decontamination activities, are also present in the RLM325D.001 waste stream. Therefore, this waste stream has been determined to be waste incidental to reprocessing in accordance with the citation process as described in DOE M 435.1-1. This determination was submitted to and approved by the DOE Richland Operations Office in December 2006 (References C009 and C010). Therefore, the waste is not a spent nuclear fuel, not high-level waste, nor a waste historically managed as high-level waste, and is eligible for disposal at WIPP as TRU waste (References 7, 8, P073, and P074).

4.4 Description of Waste Generating Operations

This section describes the waste generating activities that occurred at the 325 Building. Section 5.4 describes the types of waste generated. Section 5.5 provides the packaging discussion. The chemicals used at the 325 Building are listed in Table 5-5, Waste Stream RLM325D.001 Material and Chemical Inputs, in Section 5.4.3.

Over its operational history, the 325 Building Radiochemistry Processing Laboratory has supported a wide range of activities and projects. Due to the number and nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this report. The following processes contributed to this waste stream. Figure 5, Typical Laboratory Analysis Flow Diagram provides a typical process flow diagram for operations conducted in the facility (References P040, P050, and U003).

The 325 Building Radiochemistry Processing Laboratory houses several laboratories and hot cells (used for high activity samples containing fission products). The laboratories are furnished with hoods and glove boxes designed for handling radioactive materials. Hot cells are used for examination of radioactive materials, (including those associated with leach testing of vitrified wastes from the tank farms), spent nuclear fuel and characterization of neutralized cladding removal waste, and post-irradiation examination of the boron thermal shield from N-Reactor (References P041, P274, and P503).

The 325 Building housed, and continues to house, a wide range of laboratory and research and development projects at the Hanford Site. Examples of the types of projects supported include (References P082, C112, P231, P274, P502, P503, and P504):

- Isolation and separation of plutonium and other radionuclides (including tritium, Am-241, Pu-239, Cm-244, Cesium(Cs)-137, Sr-90, and Pm-147) from irradiated fuel and target materials;
- Evaluating the chemical durability of ceramic, glass, and cemented monolithic waste forms;
- Evaluating and testing physical properties and pretreatment and vitrification of tank waste;
- Characterization leach testing of waste glass and spent fuel;
- Performing spent nuclear fuel characterization and performance testing;
- Process control studies for plutonium recovery; and
- Supporting decontamination and decommissioning (D&D) activities across the Hanford Site.

Operations in the 325 Building can be divided into two general types: laboratory operations and hazardous waste treatment operations. These operations will be described separately in the following sections (Reference U001).

4.4.1 Laboratory Operations

Laboratory operations performed at the 325 Building encompassed four broad areas of activity: sample preparation, analytical operations, process development support (e.g., research and development), and general laboratory operations (e.g., maintenance, radiological surveys and control, and spill cleanup) (Reference P050).

Typical debris waste items from laboratory operations include stainless-steel vessels, Teflon gaskets, glassware, wipes, plastic, sample residues, thermometers, glovebox gloves, and hand tools (e.g., tweezers and forceps). Laboratory operations generate liquid waste that may be highly acidic (nitric acid) and/or contain a high level of chlorine.

This liquid waste is neutralized, and heavy metals that may be present are precipitated as hydroxides and are filtered from the solution. Chlorine, if present above 0.01 Molar (M) limit, may be removed through silver nitrate precipitation. The treated liquids are then discharged to the Radioactive Liquid Waste System (before 1998) or the 325 Building Hazardous Waste Treatment Units (after 1998). Organic waste is segregated from the aqueous waste prior to neutralization to minimize treatment requirements (References P010, P011, P016, P020, P054, P080, and U003).

4.4.1.1 Sample Preparation

Sample preparation includes a variety of activities prior to the actual examination of samples. These steps may include (References C001, P010, P018, P019, P020, P028, P040, P050, P054, P055, and U003):

- Sample fabrication (for example, coring a mixed oxide pellet and then washing the core in deionized water);
- Sample dissolution (dissolving the sample in hot, acid solutions [e.g., nitric, hydrofluoric, or sulfuric acid]);
- Sample mounting/cleaning (which may involve mounting the sample specimen using a combination of clay, paper, and a weak adhesive, and drying/cleaning the sample) with an organic solvent (e.g., ethanol, propanol, or acetone); and
- Pyrohydrolysis to remove fluoride and chloride from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets.

4.4.1.2 Analytical Operations

Analyses conducted at the 325 Building Radiochemistry Processing Laboratory involved a variety of standard methods, including the following (note that chemicals identified as being used in the process are listed in parentheses) (References C001, P004, P011, P015, P016, P017, P021, P022, P023, P024, P029, P032, P033, P034, P040, and P050):

- Inductively coupled plasma-mass spectroscopy (ICP-MS) - used for bulk elemental chemical analysis of any material or substance (including water, biological materials, inorganic materials, environmental samples, and geological samples);
- Inductively coupled plasma-atomic emission spectroscopy (ICP-AES) – used to determine trace elements in matrices (including unfiltered ground water, aqueous samples, toxicity characteristic leaching procedure [TCLP] and extraction procedure [EP], extracts, industrial and organic wastes, soils, sludges, sediments, and other solid wastes) following digestion (e.g., dissolution in nitric acid) prior to analysis;

- Kinetic phosphorescence – used to determine uranium and lanthanides in various matrices following digestion (e.g., dissolution using nitric and hydrofluoric acids);

- Thermogravimetric analysis-mass spectrometry (TGA-MS) – used to simultaneously determine the change in weight of a material (either as a function of increasing temperature or isothermally as a function of time) and the identity and concentrations of vapors generated during heating;

- Coulometric titration of plutonium and uranium – used to measure plutonium and uranium concentrations in solution by measuring the concentration of specific ions using a constant electrical current flowing through the solution (e.g., hydrochloric acid);

- Amperometric titration of plutonium – used to measure plutonium concentrations in solution by means of titration in which the equivalence (end) point is identified through measurement of an electric current (e.g., nitric acid, mercury, and silver oxide);

- Thermogravimetry – used to measure the oxygen-to-metal ratio of plutonium and uranium oxides;

- Thermal ionization mass spectrometry (TIMS) – used to measure the isotopic abundances of plutonium and uranium in uranium oxide and nitrate, plutonium oxide powder and nitrate, and mixed oxide (to separate Pu and U - nitric acid, ferrous ammonium sulfate, and ion exchange resins; to prepare the heating filament – acetone, toluene, isopropyl alcohol, and benzene);

- Potentiometric titration – used to determine the concentration of uranium in uranium oxide powder and pellets, mixed oxide powder and pellets, and uranyl nitrate solutions (e.g., phosphoric acid, sulfamic acid, and potassium dichromate);

- Ion-selective electrode measurement – used to quantify the concentration of fluoride removed from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets;

- Constant current coulometry – used to quantify chloride and water in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets;

- Spectrophotometry - used to quantify chloride and tungsten in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (depends on the ion to be detected, for example mercuric thiocyanate for chloride; hydrochloric acid, hydrofluoric acid, and nitric acid for tungsten);

- Gas chromatography – used to quantify the amount of carbon in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets;

- Kjeldahl spectrophotometry – used to quantify the amount of trace nitrogen (as nitride) in uranium oxide and mixed oxide powder and pellets (e.g., hydrochloric acid, hydrofluoric acid, and sodium hydroxide);

- Fusion and gas chromatography – used to determine total nitrogen in samples of uranium oxide, plutonium dioxide, and mixed oxide powder and pellets;

- Combustion and iodometry – used to determine sulfur in samples of uranium dioxide, plutonium oxide, and mixed oxide powder and pellets (hydrochloric acid);

- Combustion and turbidimetry - used to determine sulfur in samples of uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (hydrochloric acid);

- Emission spectrography (direct read and photographic) – used to determine rare earth elements in samples of uranium oxide, mixed oxide, and plutonium oxide using solvent extraction (hydrofluoric acid, nitric acid, boric acid, hydrochloric acid, methanol, perchloric acid, and xylene);

- Spark source mass spectrography – used to determine impurities in samples of uranium oxide, plutonium oxide, and mixed oxide;

- Anion exchange and alpha analysis – used to determine Am-241 in unirradiated and irradiated samples of uranium oxide, plutonium oxide, and mixed oxide;

- Gamma spectrometry – used to determine Am-241 in unirradiated samples of plutonium oxide and mixed oxide (nitric acid);

- Vacuum outgassing – used to determine gas content of uranium, plutonium, and mixed oxide in pellet form;

- Combustion and infrared spectrometry – used to measure carbon and sulfur in samples of uranium, plutonium, and mixed oxide powders and pellets;

- Modified Brunauer, Emmett, and Teller method – used to determine the surface area of uranium, plutonium, and mixed oxide powders;

- Sedimentation and x-ray scattering – used to determine particle size distributions of uranium oxide, plutonium oxide, and mixed oxide;

- Mercury displacement – used to determine the density and open porosity of uranium, plutonium, and mixed oxide as pellets and pellet fragments (e.g., mercury, isopropyl alcohol);

- X-ray diffraction – used to obtain various measurements (e.g., lattice parameters, crystallite size, residual stress, orientation effects) of a variety of solid materials, including metals, nonmetals, inorganic, and organic materials in the form of powder, sludge or paste, monoliths, sheets, wires, and other forms;

- Leach testing – used to determine leaching rates of radioactive and non-radioactive constituents from solid materials (e.g., vitrified waste forms) (nitric acid, sodium hydroxide, solvent for cleaning/drying specimens [for example, acetone, ethanol], hydrofluoric acid); and

- Ion chromatography – a form of liquid chromatography that uses ion-exchange resins to separate atomic or molecular ions in aqueous samples based on their interaction with the resin.

4.4.1.3 Process Development Support

Historically, the 325 Building Radiochemistry Processing Laboratory supported a variety of plutonium recovery and purification processes used at Hanford. These processes evolved and knowledge was gained throughout the production history of Hanford, and included the following processes (note that chemicals identified as being used in the process are listed in parentheses) (References P050, P052, P082, C112, P231, P400, P401, P402, P403, P502, P503, and P504):

- Bismuth Phosphate Process (nitric acid, phosphoric acid, hydrofluoric acid, oxalic acid, and sodium dichromate);

- REDOX process (methyl isobutyl ketone, aluminum nitrate, ceric ammonium nitrate, nitric acid, sulfuric acid, and oxalic acid);

- PUREX and Metal Recovery (processes are very similar) (tributyl phosphate, kerosene, nitric acid, oxalic acid, ammonium fluoride, sodium hydroxide, sulfuric acid, and ceric ammonium nitrate);

- RECUPLEX process (tributyl phosphate, carbon tetrachloride, nitric acid, oxalic acid, and hydrofluoric acid); and

- PRF process (tributyl phosphate, carbon tetrachloride, dibutyl butyl phosphonate, butanol, kerosene, and phosphoric acid).

In addition, the 325 Building Radiochemistry Processing Laboratory supported other processes and facilities at Hanford from a research and development standpoint. For N-Reactor, for example, the laboratory supported tests of iodine control during fuel processing for Pu-238 recovery (involving normal paraffin hydrocarbon, nitric acid, mercuric nitrate, silver, aluminum, and elemental iodine) and post-irradiation examination of the boron thermal shield (made of boron carbon steel plate) (References P041 and P082).

4.4.1.4 Maintenance, Radiological Surveys and Control, and Spill Cleanup

Maintenance of the gloveboxes and equipment in the fume hoods resulted in the generation of various types of waste including gloves, damaged/worn out equipment, and filters. These materials were removed from the gloveboxes and packaged for disposal as described previously (References C001 and P043).

Routine radiological surveys generated radioactively contaminated cotton swabs and other survey media. Cells were routinely decontaminated to control radiation levels and prevent cross-contamination. Chemicals used during this decontamination included nitric acid, ethanol, acetone, many commercial (non-hazardous) products from the Turco Corporation, and other cleansers (Reference P041).

Laboratory operations performed include sample preparation, analytical operations, process development support and general laboratory operations (i.e. maintenance, radiological surveys and control, and spill cleanup) (Reference P002, P003, P005, P036, P037, P038, and P039).

Several events occurred in the 325 Building that resulted in wide spread laboratory contamination. Glovebox and hot cell floods created ruptures in gloves and seals causing contamination to be spread across laboratory floors. One incident was caused by improper wiring of the laboratory vacuum system, which caused the hoods and other containment systems to blow contamination across the laboratory. These releases resulted in major cleanup efforts by laboratory personnel involving the decontamination of equipment, flooring, and other surfaces. The spill liquids were collected and packaged with vermiculite and cement in a two to one ratio. Terry cloth towels were also used to mop up liquids and a corn oil mist was used to control the release of airborne radioactive materials (Reference C001, C002, P041, P043, and P051).

4.4.2 Hazardous Waste Treatment Operations

Two HWTUs were permitted by the Washington State Department of Ecology in the 325 Building. The 325 Building HWTUs consist of Shielded Analytical Laboratory (SAL) and the HWTU, which began operations in 1991 (SAL) and 1995 (HWTU) (References P047 and U001).

The SAL includes Rooms 32, 200, 201, 202, and 203 (all located on the main floor) and a double-walled tank, TK-1, located in Room 32 in the basement of the building. The SAL serves two purposes: sample preparation and analyses of mixed waste and highly radioactive materials for various clients and treatment of hazardous waste generated during analytical work within the SAL and onsite and/or offsite facilities. Typical analytical operations in the SAL include weighing, sample dissolution, sample dilution and aliquoting, digestion, distillation, titrimetric analysis, solvent extraction, and ion-exchange separations. Hazardous waste treatment conducted in the SAL includes pH adjustment, ion-exchange, waste concentration by evaporation, precipitation and/or filtration, solvent extraction, solids washing, and solidification and/or stabilization (References C005, P006, P007, P047, and P080).

The HWTU consists of two rooms, Rooms 520 and 528, located in the northeast corner of the main floor of the 325 Building. Room 520 is limited to treatment of non-radioactive hazardous waste, while Room 528 is used for treating TRU, low-level, and mixed hazardous waste. Within these rooms, waste was stored in containers ranging from small laboratory glassware to 55-gallon containers. Treatment processes in the HWTU are typically bench-scale operations that are portable and conducted inside open-faced hoods or gloveboxes and involve small quantities of waste in each batch. Treatment processes used in the unit include pH adjustment, ion-exchange, carbon absorption, oxidation, reduction, waste concentration by evaporation, precipitation, filtration, phase separation, catalytic destruction, and solidification and/or stabilization (References C005, P006, P007, P047, and P080).

Wastes contributed by HWTU operations include debris items (e.g., glassware, laboratory equipment) and small quantities of solidified liquids. Except for in-tank treatments, hazardous waste treatments performed at the 325 Building HWTUs are generally conducted as small bench-scale operations and may include (References C005 and P080):

- molten salt destruction
- pyrolysis
- calcination
- chemical fixation, oxidation, precipitation, and reduction
- chlorination
- chlorinolysis
- cyanide destruction
- degradation
- ion exchange
- ozonation
- photolysis
- solvent recovery
- reverse osmosis
- liquid-liquid extraction
- liquid ion exchange

The HWTUs are used to treat hazardous waste materials generated from laboratory operations throughout the 325 Building, and may also be used to treat waste materials from other Hanford facilities, primarily other PNNL facilities. Samples (including tank waste, ground water, and solid matrices) from other facilities are received and analyzed at the 325 Building laboratories; consequently, analytical waste from the analysis of samples from these other facilities is included in waste stream RLM325D.001. HWNs in waste treated in the HWTUs are enveloped by the HWNs applied to other materials (for example, tank waste samples) processed through the 325 Building laboratories, as described in Section 5.4.3 (Reference P047).

Typical hot cell analytical processes generate liquid waste that is highly acidic and/or may contain a high level of chlorine. The waste is segregated to minimize treatment needs and is neutralized. If heavy metals are present in the liquids before neutralization, they are precipitated as hydroxides from the solution during neutralization and are filtered from the solution. Chlorine is removed through silver nitrate precipitation. Therefore, the remaining liquid waste is not ignitable, reactive, or incompatible when transferred to the SAL tank (TK-1). Precipitated metals and other solids are solidified and stabilized before being packaged with the other waste materials in 55-gallon containers (References P051 and P080).

4.5 Waste Identification and Categorization

Waste materials from 325 Building Radiochemistry Processing Laboratory operations were not segregated based on the physical form or chemical content at the time of generation. Waste items packaged and bagged out of the gloveboxes and hot cells were recorded on the contents inventory sheet and were placed into prepared containers. An inventory sheet was maintained for each container as it was filled. Items were added to lined TRU containers, and the liners and containers closed when full. Hazardous constituents packaged in the waste containers were noted by the waste generators on the Waste Disposal Records and Contents Inventory Sheets or identified during radiography (e.g., free liquids or lead). Historically if Real-Time Radiography (RTR) identified potential Resource Conservation and Recovery Act (RCRA)-regulated items, the characterization was reviewed by the previous Hanford certified TRU Waste Program and RCRA HWNs would be assigned to a container, as appropriate (Reference C001, P041, P047, U001 and U002).

4.6 TRU Waste Management

Prior to 1985, chemists controlled all containers of waste from their own individual projects. The waste was tracked in laboratory notebooks but was disposed according to hazard. In order for containers generated at this time to be stored at the TRUSAF or the CWC, documentation was provided on checklists to document that waste was TRU or mixed TRU as generated from the processes described in these notebooks. Though RCRA-regulated chemicals and metals were identified and documented in the Solid Waste Storage/Disposal Record forms and Contents Inventory Sheets, waste management practices did not require the segregation of these materials (Reference C002, P005, P041, P043, P045, and U001).

The use of standardized burial records began in about 1968. The generators were responsible for preparing various container specific documentations to demonstrate compliance with the applicable Hanford disposal waste acceptance criteria in force at that time. This historical documentation includes burial records, databases, process knowledge documents, and historical waste management documentation. Throughout the past 40 years a number of documents and databases have been used to archive waste content data and track waste containers. Records from the early 1970s include information on radioactive contents, container weight, and generator. Later burial records contain physical content descriptions and, since 1987, information on the non-radioactive chemical waste constituents has been required. The Solid Waste Information and Tracking System (SWITS) database is used to track the radioactive solid waste that has been buried or stored in the 200 Area burial grounds and waste storage facilities. Information on SWITS has been derived from the historic burial records. Information that can be tracked by SWITS for an individual waste container includes generator, container type and size, storage or burial location, radioactive contents, chemical contents, and waste form information.

As illustrated in Figure 6, TRU Waste Retrieval Diagram, prior to retrieval of the containers from the burial ground, documentation was collected for each container; including information from the SWITS database, burial records, location maps, and supplemental generator records. Careful review of this documentation was performed and compared to the observations during container retrieval to ensure proper assignment of the container to the appropriate waste stream and ensure proper non-WIPP certified characterization for subsequent storage and processing of the containers in the CWC, WRAP, and T Plant facilities (References P414, P415, and U001).

4.6.1 Correlation of Waste Streams Generated from the Same Building and Process

The WIPP-WAP defines a waste stream as waste material generated from a single process or from an activity that is similar in material, physical form, and hazardous constituents. One CH TRU debris waste stream has been delineated for the 325 Building Radiochemistry Processing Laboratory according to this definition. The basis and rationale for delineating this waste stream is as follows:

- The waste is similar in process materials originating from 325 Building Radiochemistry Processing Laboratory general laboratory, facility maintenance, and waste management operations (refer to Section 4.5).

- A similar waste stream, RLM325D, was generated and shipped by the previous Hanford certified TRU Waste Program, and was combined into a single waste stream based on the fact the activities that generated the waste were similar for all the facilities at the 325 Building (Refer to Section 4.5). The debris waste was generated from similar processes and activities that are similar in material, physical form and hazardous constituents and constitute a single waste stream (Refer to Section 4.5). The waste stream, RLM325D, previously certified and shipped under the Hanford TRU Waste program from the 325 Building is similar in physical form and hazardous constituents to the waste stream RLM325D.001. Hanford applied the F003 because it was used historically. However, the waste stream has been determined to not be ignitable, so F003 has been removed. The waste material parameters (WMPs) for this waste stream have been derived from the analysis of actual shipped containers under the previously certified Hanford program and are therefore a more accurate estimate than what was available when the waste was first characterized. The change in waste stream name provides a distinction between the two different certification programs, CCP and Hanford (waste stream RLM325D) and CCP (waste stream RLM325D.001) respectively.

- The waste stream is similar in material and physical form in that it is comprised of a variety of organic and inorganic debris waste items. Wastes were not segregated by material type, and the volume percent of the WMPs in each container is highly variable (refer to Section 5.4.1).

- Based on the review of waste management practices in the 325 Building Radiochemistry Processing Laboratory, all of the waste has been conservatively determined to exhibit toxic characteristics per CFR 261.30 and F-listed per 40 CFR 261.31. It is not feasible to segregate containers based on chemical contamination, due to the research and development (R&D) nature of these operations and waste management practices. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33 (refer to Section 5.4.3).

5.0 REQUIRED WASTE STREAM INFORMATION

This section presents waste stream specific information for the TRU debris waste (waste stream RLM325D.001) generated in 325 Building Radiochemistry Processing Laboratory, including the physical, radiological, and chemical characterization. This section also addresses waste packaging and prohibited items.

5.1 Area and Building of Generation

Waste stream RLM325D.001 originated from the 325 Building Radiochemistry Processing Laboratory operations. The area and processes which encompass the 325 Building Radiochemistry Processing Laboratory operation are described in Section 4.4.

5.2 Waste Stream Volume and Period of Generation

Waste stream RLM325D.001 consists of debris waste generated at the 325 Building Radiochemistry Processing Laboratory. Containers from the 325 Building waste in the Hanford inventory have been generated from May 1970 to present. The total volume projected by Hanford for this waste stream consists of an estimated 166.61 cubic meters (m^3) of TRU waste debris. The waste stream will consist of approximately 809 containers. This total includes 6 SWBs and 801 55-gallon containers (References 9 and M305).

5.3 Waste Generating Activities

The waste generating processes that were performed at the 325 Building Radiochemistry Processing Laboratory, prior to the D&D of the facility, are described in Section 4.4.

5.4 Type of Wastes Generated

This section describes the waste materials based on process inputs and outputs, waste matrix code assignment, WMP weight estimates, radionuclide contaminants, hazardous waste determinations, and prohibited items for waste stream RLM325D.001.

5.4.1 Materials Related to Physical Form

The current waste stream consists of waste generated at the 325 Building. Examples of waste items are listed below:

Iron-based Metals/Alloys:

- Stainless steel tubing
- Failed machinery

- Lab equipment (balances, drying ovens, heating mantles, pumps and reaction vessels)

- Plumbing fixtures

- Tools

Aluminum-based Metals/Alloys:

- Metal cans
- Aerosol cans

Other Metals:

- Lead (bricks and sheeting)
- Alkaline batteries

Other Inorganic Materials:

- Incandescent light bulbs
- Used lab ware (beakers, pipettes, vials, and tubing)
- Thermometers
- Concrete
- Insulation
- Absorbents (e.g., kitty litter, vermiculite, diatomaceous earth)

Cellulosics

- Diaper paper
- Wipes
- Towels
- Protective clothing
- Cardboard
- Tape
- Ladders
- Step benches
- HEPA Filters

Rubber:

- Gloves

Plastics:

- Plastic liners
- Plastic pipe
- Polyethylene bottles

Organic Matrix:

- Absorbed combustible liquids such as oils, sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans

Inorganic Matrix:

- Absorbed inorganic liquids

5.4.1.1 Waste Matrix Code

The Summary Category Group of S5000 and heterogeneous debris Waste Matrix Code Group S5400 are assigned to the RLM325D.001 waste stream. Based on the container-specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this waste stream may include nearly any percentage of the identified WMPs (see Table 5-1, Waste Stream RLM325D.001 Waste Material Parameters). However, no container will contain greater than 50 percent homogeneous solids. Therefore, waste matrix code S5490 is assigned to the RLM325D.001 waste stream (References 11, C001, C003, M103, P041, and U001).

5.4.1.2 Waste Material Parameters

To estimate the WMPs for waste stream RLM325D.001, WMP data were obtained from the WIPP Waste Information System (WWIS)/Waste Data System (WDS) database as of December 14, 2009. The WMP data were derived from RTR and visual examination (VE) of similar Building 325 waste characterized during the Hanford TRU Waste Certification Program (Reference C068).

The WMPs for waste stream RLM325D.001 were estimated by reviewing WWIS/WDS WMP data for 267 55-gallon containers. It is assumed that the WMP data for the 267 containers are representative of waste stream RLM325D.001 as a whole. Average, minimum, and maximum WMP weight percentages were calculated using the WWIS data. The results of this analysis are presented in the Table 5-1 (Reference C068).

RTR and/or VE did not identify any containers with organic matrix or inorganic matrix WMPs in the 267 containers reviewed; however, absorbents such as kitty litter, vermiculite, diatomaceous earth, and cement have been used to absorb and solidify aqueous liquids and sludges, and cemented organic resins, solidified organic liquids, and sludges are also expected in waste stream RLM325D.001 (References 5, 6, C003, C068, and U001).

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Table 5-1. Waste Stream RLM325D.001 Waste Material Parameters

WMP Description	Average Weight Percent (wt%)	wt% Range
Iron-based Metals/Alloys	41%	0 - 97%
Aluminum-based Metals/Alloys	<1%	0 - 7%
Other Metals	2%	0 - 5%
Other Inorganic Materials	26%	0 - 91%
Cellulosics	9%	0 - 88%
Rubber	4%	0 - 60%
Plastics (waste materials)	18%	3% - 98%
Organic Matrix[1]	0.00%	
Inorganic Matrix[2]	0.00%	
Soils/gravel	0.00%	
TOTAL INORGANIC	69%	
TOTAL ORGANIC	31%	

1. Organic Matrix such as cemented organic resins, solidified organic liquids, and sludges are expected.
2. Inorganic Matrix such as kitty litter, vermiculite, diatomaceous earth, and cement used to absorb and solidify aqueous liquids and sludges are expected.

5.4.2 Radiological Characterization

The 325 Building Radiochemistry Processing Laboratory provided radiochemistry support to the entire Hanford Site. A review was made of radionuclides analyzed at the Building 325 Facility based upon AK source documents. All of the WIPP-tracked radionuclides (e.g., Am-241, Pu-238, Pu-239, Pu-240, Pu-242, U-233, U-234, U-238, Cs-137, and Sr-90) are expected to be present in the RLM325D.001 waste stream (References C004, DR001, and P408).

Isotopic distributions for plutonium, uranium, and americium in waste from the 325 Building are presented in Table 5-2, Plutonium and Uranium Isotopic Distributions. These distributions were calculated on a wt% basis using data results from samples collected from tanks at the PUREX facility and contained in the Tank Waste Inventory Network System (TWINS) Best Basis Inventory (BBI). The majority of the uranium processing and plutonium recovery at the Hanford Site was performed at the PUREX facility and the 325 Building provided radiochemistry support (e.g., sample analysis) to the entire Hanford Site (including PUREX); thus waste from the 325 Building would be contaminated with radionuclides arising from the PUREX tanks (References P400, P403, and P408).

The BBI database query included all radionuclides analyzed at the 325 Building. Weight percentages of the WIPP-tracked isotopes, (Am-243, Pu-241, U-232, U-235, and U-236), were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope "family" (e.g., plutonium, uranium, and americium) to obtain the wt% for the individual isotopes (References M001, P400, and P408).

Table 5-2. Plutonium and Uranium Isotopic Distributions

Plutonium and Associated Distributions		Uranium Distributions	
Isotope	**Wt % Distribution**	**Isotope**	**Wt % Distribution**
^{238}Pu	0.19	^{232}U	Trace
^{239}Pu	89.14	^{233}U	Trace
^{240}Pu	10.07	^{234}U	0.02
^{241}Pu	0.42	^{235}U	1.80
^{242}Pu	0.18	^{236}U	Trace
^{241}Am	99.62	^{238}U	98.18
^{243}Am	0.38		

Acceptable knowledge was needed to quantify the amount of U-234 expected in individual containers to comply with WIPP-WAC reporting requirements. Scaling factors were determined or developed using historical data. The scaling factors for these activity relationships are as follows (Reference C100):

- U-234/U-235 ~ 30
- U-234/U-238 ~ 2

Trace amounts of cesium (Cs)-137 and Sr-90 are also expected to be present in the waste stream. Because Sr-90 cannot be detected during nondestructive radioassay, additional AK was identified and reviewed to determine an appropriate scaling factor to be used to quantify the Sr-90 present in the waste. A scaling factor of 1.1:1 for Cs-137 to Sr-90 was identified as applicable to the RLM325D.001 waste stream (Reference C102).

In addition, because of the nature of the processes conducted and analyses performed in the 325 Building, a variety of other radionuclides may also be present in trace amounts. Because some processes performed in the 325 Building included separating these and other radionuclides (e.g., Am-241, Cs-137, Np-237, Sr-90), these nuclides may be present in certain containers in greater than trace amounts. However, on a waste stream basis, these radionuclides are present in trace amounts, do not contribute significantly to the radiological hazard, and are not the most prevalent isotopes in the waste. Other trace radionuclides include (References C069, P082, P721, and P934):

- I-131/132
- Ru-103/106
- Y-90
- Pm-147
- Radioactive lanthanum
- Radioactive mercury
- Ce-144
- Mn-54

- Co-60
- Sb-125
- Cs-134
- Cm-243
- Cm-244
- Cm-245
- K-40
- Am-243
- Ac-227
- Ba-133
- Ba-137m
- Na-22
- Eu-152
- Eu-154
- Ra-226
- Th-232
- Cf-249

To further evaluate the radiological characteristics of waste stream RLM325D.001, data were obtained from the WWIS/Waste Data Systems (WDS) database as of December 14, 2009. The radionuclide data were derived from Hanford TRU Waste Certification Program reported nondestructive radioassay results, and included reported radionuclides for 267 55-gallon containers (Reference C069).

To present a summary of the WWIS/WDS reported data, the total gram value for each individually reported radionuclide was divided by the total mass of all radioactive constituents for the 267 containers and converted to a percentage. This result is listed as "Total Radionuclide Weight%." To determine the radionuclide wt% range for individual containers, the radiological mass in each container in the 267 container data set was summed. The mass of each individual radionuclide in a container was divided by the total radiological mass for that container and converted to a percentage. The minimum and maximum results are listed as "Radionuclide Weight% Range for Individual Containers." The same process was applied to determine "Total Radionuclide Curie%" and "Radionuclide Ci% Range for Individual Containers." To determine the average activity per container for each radionuclide, the total activity reported for each radionuclide was divided by 267. This value is listed as the "Ave. Ci/Container" and is the average activity for each radionuclide in the 267 containers evaluated regardless of the number of containers with a reported value for each radionuclide. Based on this evaluation, as shown in Table 5-3, Waste Stream RLM325D.001 WWIS Reported Radionuclides, U-238 and Pu-239 are the two predominant radionuclides by mass, and Pu-241 and Am-241 are the two predominant radionuclides by activity. It should be noted that while U-238 is the most prevalent radionuclide by mass, it was reported in only 89 of 267 containers (e.g., 33 percent). This supports the initial assessment that Pu-239 and Pu-240 are the two predominant radionuclides by mass in most containers. Additionally, some containers will have different predominant radionuclides (Reference C069).

Table 5-3. Waste Stream RLM325D.001 WWIS Reported Radionuclides

Radio nuclide	Containers with Values	Total Radio nuclide Wt.%[1]	Total Radio nuclide (Curie percent) Ci%[2]	Radionuclide wt% Range for Individual Containers[3]	Radionuclide Ci% Range for Individual Containers[4]	Expected Present (Yes/No)
WIPP Required Radionuclides						
Am-241	265	0.21%	**10.86%**	0% - 58.95%	0% - 97.94%	Yes
Pu-238	264	0.02%	5.19%	0% - 14.82%	0% - 93.87%	Yes
Pu-239	267	**9.90%**	9.09%	0.06% - 95.08%	0.03% - 81.00%	Yes
Pu-240	267	1.12%	3.76%	<0.01 % - 59.29%	0.01% - 19.00%	Yes
Pu-242[6]	252	0.02%	<0.01%	0% - 4.29%	0% - 0.02%	Yes
U-233	1	<0.01%	<0.01%	0% - 0.05%	0% - 0.01%	Yes
U-234 [6]	90	0.01%	<0.01%	0% - 0.56%	0% - 0.07%	Yes
U-238	89	**79.09%**	<0.01%	0% - 98.40%	0% - 0.03%	Yes
Cs-137	135	<0.01%	<0.01%	0% - 0.16%	0% - 7.08%	Yes
Sr-90 [6]	135	<0.01%	<0.01%	0% - 0.09%	0% - 6.44%	Yes
Additional Radionuclides						
Na-22	66	<0.01%	<0.01%	0% - <0.01%	0% - 0.06%	Yes
Co-60	29	<0.01%	<0.01%	0% - <0.01%	0% - 0.16%	Yes
Ba-133	2	<0.01%	<0.01%	0% - <0.01%	0% - <0.01%	Yes
Eu-152	9	<0.01%	<0.01%	0% - <0.01%	0% - 0.02%	Yes
Eu-154	22	<0.01%	<0.01%	0% - <0.01%	0% - 0.16%	Yes
Ra-226	7	<0.01%	<0.01%	0% - <0.01%	0% - 0.04%	Yes
Th-232	5	8.06%	<0.01%	0% - 99.86%	0% - 0.01%	Yes
U-232	96	<0.01%	<0.01%	0% - <0.01%	0% - 0.17%	Yes
U-235	90	1.45%	<0.01%	0% - 59.10%	0% - <0.01%	Yes
Np-237	169	0.06%	<0.01%	0% - 70.02%	0% - 0.22%	Yes
Pu-241	262	0.05%	**71.09%**	0% - 49.33%	0% - 98.86%	Yes
Am-243	61	<0.01%	<0.01%	0% - 5.73%	0% - 9.88%	Yes
Cm-243	20	<0.01%	<0.01%	0% - <0.01%	0% - 0.31%	Yes
Cf-249	3	<0.01%	<0.01%	0% - <0.01%	0% - <0.01%	Yes

1. This listing indicates the total wt% of each radionuclide over the entire waste stream.
2. This listing indicates the total activity Ci% of each radionuclide over the entire waste stream.
3. This listing is the wt% percent range of each radionuclide on a container-by-container basis. Containers with "0" listed as the lower range did not have the specified radionuclide reported.
4. This listing is the Ci% range of each radionuclide on a container-by-container basis.
5. This is the average curie activity for each radionuclide in the 267 containers evaluated.
6. Pu-242, U-234, and Sr-90 cannot be accurately quantified by nondestructive assay.

5.4.3 Chemical Content Identification – Hazardous Constituents

This section describes the characterization rationale for assignment of EPA HWNs to waste stream RLM325D.001. The EPA HWNs assigned to this waste stream are summarized in Table 5-4, Waste Stream RLM325D.001 Hazardous Waste Characterization Summary.

Based on historical waste management, the original site HWN assignments have been maintained with the exception of F003 which was assigned on the basis of the F003-listed solvents used in the 325 Building Radiochemistry Processing Laboratory and potential presence in tank farms waste. These F003 constituents, including acetone, ethyl acetate, n-butanol, methanol, methyl isobutyl ketone, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned (References M006 and P081).

Table 5-4. Waste Stream RLM325D.001 Hazardous Waste Characterization Summary

EPA Hazardous Waste Number	Constituent
Toxicity Characteristic Metals	
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
Toxicity Characteristic Organics	
D022	Chloroform
D027	1,4-Dichlorobenzene
D028	1,2-Dichloroethane
D029	1,1-Dichloroethylene
D030	2,4-Dinitrotoluene
D034	Hexachloroethane
D037	Pentachlorophenol
D043	Vinyl chloride
F-Listed Organic Solvents	
F001	Carbon tetrachloride
F001	Freon 112 (1,1,1,2-tetrachloro-1,2-difuoroethane)
F001, F002	1,1,1-Trichloroethane
F001, F002	1,1,2-Trichloro-1,2,2-trifluoroethane
F001, F002	Methylene chloride
F001, F002	Tetrachloroethylene
F002	Chlorobenzene
F002	1,2-dichlorobenzene

Table 5-4. Waste Stream RLM325D.001 Hazardous Waste Characterization Summary (Continued)

EPA Hazardous Waste Number	Constituent
F-Listed Organic Solvents (Continued)	
F004	Cresols
F004	Nitrobenzene
F005	2-Nitropropane
F005	Benzene
F005	Carbon Disulfide
F005	Methyl ethyl ketone
F005	Pyridine
F005	Toluene

The following sections describe the characterization rationale for the assignment of EPA HWNs to waste stream RLM325D.001 (Reference 10). To assign EPA HWNs, the available AK documentation (including previous AK reports, analytical procedures, chemical inventories, waste disposal records, site databases, [MSDSs] was reviewed to identify chemical usage and potentially hazardous materials that may be present in the waste stream. As described below, several of the HWNs were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from the containers in the waste stream. Table 5-5, summarizes the chemicals and commercial products identified during the review of AK documentation, including chemicals identified in several chemical inventory evaluations performed in the facility (References M006, P043, P045, P050, and P505).

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
1,1,1-trichloroethane	Reagent, solvent	M006, P045, P056, U001	F001 F002
1,1,2-trichloro-1,2,2-trifluoroethane (Freon 113)	Reagent, solvent	M006, M043	F002
1,2-cyclohexanediamine -N,N,N',N'-tetra acetic acid, monohydrate, trans-(CyDTA)	Chelating agent (TISAB III)	M008, P008, P058	N/A
1,2-dichloroethane (ethylene dichloride)	Reagent, metal cleaning	M006, P043	D028
1,2-dichloroethylene	325 Laboratory inventory	M006, M012	N/A
1,2-dichlorobenzene	325 Laboratory inventory	P056	F002
1,2,4-trichlorobenzene	325 Laboratory inventory	P056	N/A
1,4-dichlorobenzene	Constituent in tank waste	M304	D027

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
1,1-dichloroethylene	325 Laboratory inventory	M006, M012	D029
2-nitropropane	325 Laboratory inventory	P056	F005
2,2,4-trimethylpentane	325 Laboratory inventory	P056	N/A
2,4-Dinitrophenol	Reagent	M006, P043	N/A
2,4-dinitrotoluene	325 Laboratory inventory	M006, M012	D030
3-methylphenol	325 Laboratory inventory	P056	N/A
Acetaldehyde	325 Laboratory inventory	P056	N/A
Acetic acid	Coulometry solution, sample preparation	M006, P008, P014, P020, P043, P045, P054, P056	N/A
Acetic anhydride	325 Laboratory inventory	P056	N/A
Acetone	Rinsing electrodes, cleaning filaments and glassware, lubricant	M006, P006, P011, P013, P018, P019, P021, P022, P043, P045, P055, P056, U001	N/A
Acetonitrile	325 Laboratory inventory	P056	N/A
Acrylic acid	325 Laboratory inventory	U001	N/A
Adipic acid	325 Laboratory inventory	P054	N/A
Adiponitrile	Organic synthesis	M006, P046	N/A
AG MP-1 (trimethylamine)	Ion exchange resin	M006	N/A
Aluminum	Heating blocks, capsules and standard solutions	M006, P043, P045, P048	N/A
Aluminum chloride	Electrolytic solutions	M006, P043, U001	N/A
Aluminum nitrate, nonahydrate	Standard solutions	M006, P010, P043, P045	N/A
Aluminum oxide	Laboratory reagent (refractory)	M006, P043	N/A
Aluminum sulfate	Electrochemical solutions	M006, P056	N/A
Alundum (aluminum oxide)	Chromatography columns	M006	N/A
Aminopyridine	325 Laboratory inventory	P043	N/A
Ammonia (anhydrous)	325 Laboratory inventory	P045, P055, P056	N/A
Ammonium acetate	Analytical reagent	M006, P056	N/A
Ammonium bicarbonate	325 Laboratory inventory	P056	N/A
Ammonium chloride	Kjeldahl ammonia methods	M006, P014, P056	N/A
Ammonium citrate	325 Laboratory inventory	P056	N/A
Ammonium dichromate	Electrochemical solution	M006, P056	D007
Ammonium fluoride	Fluoride ion standard	M006, P010, P043, P045, P056	N/A
Ammonium fluoroborate	325 Laboratory inventory	P056	N/A
Ammonium fluoro-zirconate	325 Laboratory inventory	M006, P045	N/A
Ammonium hydrogen difluoride	325 Laboratory inventory	P056	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Ammonium hydroxide	Liquid pH adjustment	M006, P014, P045, P056	N/A
Ammonium molybdate	Oxidizing acid, may be disposed in liquid waste stream	M006, P043	N/A
Ammonium oxalate	Chelating agent	M006, P045	N/A
Ammonium phosphate, dibasic	Process chemical	M006	N/A
Ammonium sulfamate	325 Laboratory inventory	P056	N/A
Ammonium sulfide	325 Laboratory inventory	P056	N/A
Ammonium tartrate	325 Laboratory inventory	P056	N/A
Ammonium thiocyanate	Process chemical possibly used in Cs scavenging not from electroplating	M006, P056	N/A
Ammonium vanadate	Used as reagent in potentiometric methods.	M006, P043	N/A
Aniline	325 Laboratory inventory	P056	N/A
Anthracene	325 Laboratory inventory	P056	N/A
Antimony	325 Laboratory inventory	P056	N/A
Antimony chloride	325 Laboratory inventory	P056	N/A
Antimony trioxide	325 Laboratory inventory	P056	N/A
Aroclor-1348 (PCB)	325 Laboratory inventory	U001	N/A
Arsenic	325 Laboratory inventory	P056	D004
Arsenious acid	Electrochemical methods.	M006, P043, P056	D004
Asbestos	Flame protection for glove box floors, and lab ware	M006, P045, U001	N/A
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO2 in gas chromatography	M006, U001	N/A
Ascorbic acid	Electrolytic solutions	M006, P010	N/A
Barium carbonate	Laboratory reagent	M006, P043	D005
Barium chloranilate	325 Laboratory inventory	P043	D005
Barium chloride	Precipitating reagent.	M006, P043	D005
Barium hydroxide	PH adjustments in solutions.	M006	D005
Barium nitrate	Laboratory reagent	M006, P043, P045	D005
Benzene	Carbonization of mass spectrometric filaments, cleaning agent.	M006, P056	F005
Benzoic acid	325 Laboratory inventory	P056	N/A
Beryllium	Standard materials	M006, P043, P045, P056, U001	N/A
Bismuth phosphate	325 Laboratory inventory	C112	N/A
Boric acid	Sample preparation	M006, P045	N/A
Boron	325 Laboratory inventory	U001	N/A
Boron carbide	Laboratory reagent	M006, P045	N/A
Boron fluoride	325 Laboratory inventory	P054	N/A
Boron trifluoride	325 Laboratory inventory	P054	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Bromine	325 Laboratory inventory	P046	N/A
Bromocresol purple	Titrations	M006, P045, P058	N/A
Bromoform	325 Laboratory inventory	P056	N/A
Brucine	325 Laboratory inventory	P043, P056	N/A
Butyl alcohol, n-	Solvent and used in microscopy with paraffin	M006, P056	N/A
Butylamine, n-	325 Laboratory inventory	P056	N/A
Butyl dioctylphosphate (BOOP)	325 Laboratory inventory	P054	N/A
Cadmium	Emission spectrometric standard material, neutron shielding	M006, P043, P056	D006
Cadmium chloride	325 Laboratory inventory	P056	D006
Cadmium nitrate	Emission spectrometric standard material	M006, P043	D006
Calcium	325 Laboratory inventory	U001	N/A
Calcium carbonate	Buffering agent	M006, P043, P045	N/A
Calcium chloride	Chloride standard material (solution)	M006, P045	N/A
Calcium hydroxide	pH adjustment in solution	M006	N/A
Calcium nitrate	Spectrometric standard material	M006, P045	N/A
Calcium sulfate	Laboratory reagent	M006, P043	N/A
Calcium tartrate	Laboratory Reagent	M006	N/A
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	M006	N/A
Carbon (di)sulfide	325 Laboratory inventory	P043, P056	F005
Carbon tetrachloride	Metal and sample cleaning.	M006, P043, P045, P046, P056	F001
N-Carboxymethyl-N'-(-hydroxyethyl^2)-N,N'-ethylenediglycine	Complexing agent	M006	N/A
Carboxymethylimine-bis-ethylenenitrile-tetraacetic acid	Complexing agent	M006	N/A
Ceric ammonium nitrate	Process chemical	M006	N/A
Ceric nitrate	Spectrometric standard material	M006, P045	N/A
Ceric oxide	Work with metals and glass	M006	N/A
Ceric sulfate	Laboratory reagent	M006, P045	N/A
Cerium	325 Laboratory inventory	U001	N/A
Cerous nitrate/Cesium nitrate	Spectrometric standard material	M006, P045	N/A
Cesium	325 Laboratory inventory	M006, P045	N/A
Cesium nitrate	325 Laboratory inventory	M006, P045	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Chloroacetic acid	Used in sulfur analysis and as laboratory chemical	M006, P046, P056	N/A
Chlorobenzene	325 Laboratory inventory	P056	F002
Chloroform (trichloromethane)	Used as cleaning agent, and as an organic solvent.	M006, P046, P054, P056	D022
Chromic acid	Used in chrome plating.	M006, P045	D007
Chromium	325 Laboratory inventory	P056, U001, U003	D007
Chromium chloride	Spectrometris standard material	M006, P056	D007
Chromium nitrate	325 Laboratory inventory	P043	D007
Chromium (IV) oxide	325 Laboratory inventory	P056	D007
Chromium trioxide	Oxidant and hardening agent	M006, P043, P058	D007
Citric acid	PH adjustment and chelating agent	M006, P014, P045, P054	N/A
Cobalt bromide	325 Laboratory inventory	P056	N/A
Copper	Tubing and used in sulfur combustion methods.	M006, P043, P056	N/A
Copper chloride	325 Laboratory inventory	P056	N/A
Copper nitrate	Spectrometric standard material	M006, P045	N/A
Copper oxide	Combustion gas chromatography	M006	N/A
Copper sulfate	325 Laboratory inventory	P054, P056	N/A
Corn oil mist	Used in radiological clean up	M006	N/A
Cresols	Sludge contaminants	M006, U001	F004
Cupric acetate	325 Laboratory inventory	P056	N/A
Cuprous cyanide	325 Laboratory inventory	P043, P056	N/A
Cyanide	325 Laboratory inventory	P055, P056	N/A
Cyclohexane	Extractant	M006, P043, P056	N/A
D-19 [Kodak] Developer	Photographic work (emission spectrometry)	M006, P058	N/A
Devarda's alloy (Al, Cu, Zn)	Metal work	M006, P058	N/A
Diammonium hexafluorosilicate	325 Laboratory inventory	P056	N/A
Diatomaceous earth (kitty litter)	Absorbent material	M006, P012, P045	N/A
Diazomethane	325 Laboratory inventory	P054	N/A
Dibutyl butyl phosphonate	Reagent	M006	N/A
Dichlorodifluoromethane	325 Laboratory inventory	P056	N/A
Dichlorodiphenyl-trichloroethane (DDT)	325 Laboratory inventory	P056	N/A
Dichloromethane	325 Laboratory inventory	U001	N/A
Diethylhexylortho-phosphoric acid	Chelating and pH adjustment	M006	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Dimethyldichlorosilane	Gas chromatography agent	M006, P046	N/A
Dimethylglyoxime	Chelating agent	M006	N/A
Dimethyl sulfate	325 Laboratory inventory	P054	N/A
Di-n-octyl phthalate	325 Laboratory inventory	P056	N/A
Dithiol (3,4 dimercaptotoluene)	Tungsten extractant	M006	N/A
Dithiol-amyl acetate	Tungsten extractant	M006, P045	N/A
Dowex-1X-3, X-4 (Trimethyl ammonium functional grouping chloride form) resin	Anion exchange chromatography	M006, P058, P082	N/A
Dowex 50 (IX Resin) (Sulfonate polystyrene divinyl benzene; sulfuric acid)	Ion exchange resin	M006, P045, P054, P058	N/A
Drierite (Calcium sulfate)	Combustion gas chromatography	M006, P043, P045, P058	N/A
Dodecyltrimethyl ammonium bromide	325 Laboratory inventory	P054	N/A
Ethanol (ethyl alcohol)[1]	Cleaning filaments and glassware	M006, P011, P013, P014, P021, P022, P023, P034, P035, P045, P054, U001	N/A
Ether	Laboratory reagent	M006	N/A
Ethyl acetate	325 Laboratory inventory	P056	N/A
Ethylenediamine	325 Laboratory inventory	P056	N/A
Ethylene dichloride	325 Laboratory inventory	P056	N/A
Ethylenedinitrilotriacetic acid (ED3A)	Chelating agent	P054	N/A
Ethylenedinitrilotetra-acedic acid (EDTA)	Chelating agent	M006	N/A
Ethylene glycol	325 Laboratory inventory	P043, P056	N/A
Ethyleneoxyethylene-nitrilotetraacetic acid	Complexing agent	M006	N/A
Ethyl ether	325 Laboratory inventory	P056	N/A
Ferric ammonium sulfate	Ion specific electrode methods for chloride	C112, M006, P045	N/A
Ferric chloride	Laboratory reagent	M006, P043	N/A
Ferric nitrate	Spectrometric standard material	M006, P043, P045	N/A
Ferric oxide	Laboratory reagent	M006, P043	N/A
Ferric sulfate	Laboratory reagent	M006, P043, P045	N/A
Ferrous ammonium sulfate	Determination of Pu by potentiometry and sample preparation	C112, M006, P043, P045, P050	N/A
Ferrous chloride	Electrolytic solution	M006, P045	N/A
Ferrous sulfate	U by potentiometry	M006, P043, P045	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Formaldehyde	325 Laboratory inventory	P056	N/A
Formic acid	Reagent	M006, P043, P047, P054, P056	N/A
Freon-112	Solvent	P043, P045	F001
Gallium oxide	Impurities by emission spectrometry	M006, P045	N/A
Germanium oxide	Buffer reagent	M006, P045	N/A
Gluconic acid	Metal cleaning, bottle washing	M006	N/A
Glycerin	Used in particle size determinations	M006	N/A
Gold	Microelectrodes	M006, P045	N/A
Gold potassium cyanide	325 Laboratory inventory	P043	N/A
Graphite	Crucibles, electrodes	M006, P045, P048	N/A
Hexane[1]	Liquid extraction and solvent	M006, P043, P045, P056	N/A
Hexachloroethane	325 Laboratory inventory	M006, M012	D034
Hydrazine	Process chemical (PUREX)	P010, P043, P045, P046	N/A
Hydrobromic acid[2]	325 Laboratory inventory	P043	N/A
Hydrochloric acid	Electrochemical solution and sample preparation	M006, P007, P008, P011, P014, P043, P045, P048, P054, P055, P056, U001	N/A
Hydrofluoric acid	Oxidizing reactions, sample preparation	C112, M006, P043, P045, P050, P054, P056, U001	N/A
Hydrogen peroxide	Oxidizing agent	M006, P010, P043, P045, P046, P056	N/A
Hydroiodic acid	325 Laboratory inventory	M006, P045	N/A
Hydroxylamine hydrochloride	Organic synthesis, photographic developer	M006, P045	N/A
Hydroxylamine nitrate	Laboratory reagent	M006	N/A
Iodine	Laboratory reagent	M006, P043, P045, P082	N/A
Iodine cyanide	325 Laboratory inventory	P043	N/A
Iodomethane	325 Laboratory inventory	P056	N/A
Iron	Standard material, cans	M006, P045, P048, U001	N/A
Iron chloride	325 Laboratory inventory	P056	N/A
Iron sulfate	325 Laboratory inventory	P056	N/A
Isoamyl alcohol	325 Laboratory inventory	P043	N/A
Isobutyl alcohol	325 Laboratory inventory	P056	N/A
Isobutyric acid	325 Laboratory inventory	P056	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Isopropyl alcohol (isopropanol)	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	M006, P043, P045	N/A
Kerosene1	Process chemical (PUREX)	M006, P045	N/A
Kodak Developer D-1a (sodium sulfite, sodium carbonate, potassium bromide)	Photographic plate development	M006, P058	N/A
Kodak Photoflo propylene glycol, ethylene glycol, P-tert-octylphenoxypolyethoxy-ethyl alcohol, octylphenoxypolyethoxy-ethanol)	Dispersant and wetting agent	M006, P023, P034, P058	N/A
Kodak solubilizing agent SA-2a	Solubilizing agent	M006, P058	N/A
KP-140 (tributyl cellulose phosphate w/ZnO and halogenated hydrocarbons)	Resin solvent, paint	M006, P058	N/A
Lanthanum	325 Laboratory inventory	C112, U001	N/A
Lanthanum fluoride	325 Laboratory inventory	C112	N/A
Lanthanum nitrate	Laboratory reagent	C112, M006, P008, P010, P045	N/A
Lanthanum-neodymium nitrate	Laboratory reagent	M006, P045	N/A
Lead	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	M006, P043, P045, P046, P048, P056, U001	D008
Lead acetate	Laboratory reagent	M006, P043	D008
Lead chloride	Laboratory reagent	M006, P056	D008
Lead fluoride	325 Laboratory inventory	P056	D008
Lead iodide	325 Laboratory inventory	P056	D008
Lead nitrate	Spectrometric standard material	M006, P043, P045, P048	D008
Lead oxide	Laboratory reagent	M006	D008
Lead sulfide	325 Laboratory inventory	P056	D008
Linde AW-500 resin (Aluminum silicate)	Ion exchange resin	M006, P058	N/A
Lithium fluoride	Electrode, inventory	P014, P043	N/A
Lithium sulfate	Spectrometric standard material	M006	N/A
Magnesium	Spectrometric standard material	M006	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Magnesium nitrate	Spectrometric standard material	M006, P045	N/A
Magnesium oxide	Laboratory reagent	M006, P043, P045	N/A
Magnesium perchlorate	Thermogravimetric methods and water determinations by coulometry	M006	N/A
Manganese dioxide	Laboratory reagent	M006, P043, P045	N/A
Manganous chloride	Laboratory reagent	M006	N/A
Manganous nitrate	Spectrometric standard material	M006, P043	N/A
Manganous sulfate	Reagent	M006	N/A
Mannitol	Reagent	M006, P058	N/A
Mercury	Electrodes, thermometers, batteries	M006, P043, P045, P046, P056, P082, U001	D009
Mercuric iodide	Nessler's reagent used in Kjeldahl ammonia determinations	M006	D009
Mercuric nitrate	Laboratory reagent	M006, P043, P046	D009
Mercuric oxide	Laboratory reagent	M006, P045	D009
Mercuric sulfate	Reference electrodes	M006, P056	D009
Mercuric thiocyanate	Ion selective electrode reagent.	M006	D009
Metaldi fluid (Propylene glycol)	Dispersing agent	M006	N/A
Methanol (methyl alcohol)	Cleaning and drying glassware	M006, P043, P045, P054, P056, U001	N/A
Methylene chloride	Reagent, solvent	M006, P043, P045, P048, P055, P056, U001	F001 F002
Methyl ethyl ketone	Reagent, solvent	M006, P045, P056, U001	F005
Methyl isobutyl ketone	Reagent, solvent	M006, P043, P045, P056, U001	N/A
Methyl lactic acid	Laboratory reagent	M006, P045	N/A
Mineral oil	Reagent	M006, P045	N/A
Molybdenum	Spectrometric standard material	M006, P045, U001	N/A
Molybdic acid	Laboratory reagent	M006, P043	N/A
Naphthalene	Laboratory reagent	M006	N/A
Natrasorb, clay	Container material, desiccant, used in oil absorption	M006	N/A
Neodymium	325 Laboratory inventory	U001	N/A
Neodymium nitrate	Spectrometric standard material	M006	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Neodymium fluoride	Spectrometric standard material	P055	N/A
Neodymium oxide	Spectrometric standard material	M006	N/A
Nickel	325 Laboratory inventory	M006, P056, U001	N/A
Nickel bromide	Reagent	M006	N/A
Nickelous ammonium sulfate	325 Laboratory inventory	P056	N/A
Nickelous chloride	Spectrometric standard material	M006, P043, P056	N/A
Nickelous nitrate	Laboratory reagent	M006, P056	N/A
Nickel sulfate	325 Laboratory inventory	P056	N/A
Nitric acid	Sample dissolution, effluent for ion exchange	C112, M006, P007, P010, P011, P014, P020, P022, P033, P043, P045, P048, P050, P055, P056, P078, P082, U001, U003	N/A
Nitric oxide	325 Laboratory inventory	P056	N/A
Nitrilotriacetic acid	Chelating acid	M006, P045, P054	N/A
Nitrobenzene	325 Laboratory inventory	P056	N/A
Nitrogen dioxide	325 Laboratory inventory	P056	N/A
Nitrophenol	325 Laboratory inventory	P056	N/A
Nitrosoiminodiacetic acid-n	325 Laboratory inventory	P054	N/A
Nitrous acid	Eluant for ion exchange	M006, P045, P055	N/A
Normal paraffin hydrocarbon	PUREX process chemical used for liquid-liquid extraction	M006, P043, P045, P082	N/A
Octane, iso-	Solvent	P043, P045	N/A
Oleic acid	Lubricant	M006, P018, P019	N/A
Osmium tetraoxide	325 Laboratory inventory	P056	N/A
Oxalic acid	Chelating acid	M006, P010, P043, P045, P054	N/A
Pentachlorophenol	Herbicide, wood preservative	M006, P043	D037
Pentafluorobutyric acid	325 Laboratory inventory	P054	N/A
Pentasodium diethylene triamine pentaactate (DPTA)	Chelating acid	M006, P045	N/A
Pentyl acetate	325 Laboratory inventory	P056	N/A
Perchloric acid	Sample preparation for emission spectrometry	M006, P045	N/A
Perfluorotributylamine	325 Laboratory inventory	P054	N/A
Periodic acid	Laboratory reagent	M006, P045	N/A
Phenol	Reagent	M006, P056	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Phosphoric acid	Used in potentiometric methods	C112, M006, P043, P045, P054, P055, P056, U001	N/A
Phosphorus	325 Laboratory inventory	P046	N/A
Phosphorus pentoxide	Used in sample preparation and for gas chromatography	M006, P045	N/A
Platinum	Crucibles, sample boats	M006, P045	N/A
Polyester resin	325 Laboratory inventory	U001	N/A
Portland cement	Solidifying agent for liquid wastes	M006, P045, U001	N/A
Potassium acetate	Buffer solution, dehydration	M006, P008	N/A
Potassium bicarbonate	Neutralization, reagent	M006, P045	N/A
Potassium carbonate	Dehydrating agent	M006, P045	N/A
Potassium chlorate	Laboratory reagent	M006	N/A
Potassium chloride	Used as a control standard for ion selective electrode methods.	M006, P007, P014, P0202, P048	N/A
Potassium chromate	325 Laboratory inventory	P056	D007
Potassium cyanide	325 Laboratory inventory	P043	N/A
Potassium dichromate	Used in potentiometric methods, photochemical processing.	M006, P043, P045, P056	D007
Potassium dihydrogen phosphate	325 Laboratory inventory	P054	N/A
Potassium ferrocyanide	Fixative in photography, metal cleaner.	M006	N/A
Potassium fluoride	Organic synthesis	C112, M006	N/A
Potassium hexafluorozirconate	325 Laboratory inventory	P056	N/A
Potassium hydroxide	Electrolyte fuel cells	C112, M006, P008, P043, P045, P055, P056, U003	N/A
Potassium iodate	Used in lodometry	M006, P045	N/A
Potassium iodide	Used in lodometry	M006, P045, P082, U001	N/A
Potassium nitrate	Cleaning compound	P009, P055, U003	N/A
Potassium permanganate	Lab reagent, decontamination agent	C112, M006, P043, P045, P055, P056	N/A
Potassium persulfate	325 Laboratory inventory	P055	N/A
Potassium phosphate, tribasic	Process chemical, lab reagent	M006	N/A
Potassium pyrosulfate	Sample preparation flux	M006, P045	N/A
Potassium sodium tartrate	Laboratory reagent	M006	N/A
Primafloc A10 (acrylic polymers, monomers, water)	Laboratory reagent	M006, P058	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Propanol	Reagent	P021	N/A
Propylamine	325 Laboratory inventory	P056	N/A
Propylene glycol	325 Laboratory inventory	P058	N/A
Pyridine	325 Laboratory inventory	P056, U001	F005
Resorcinol (formaldehyde)	Ion exchange resin	P043	N/A
Selenium	325 Laboratory inventory	P056	N/A
Selenium oxide	325 Laboratory inventory	P056	N/A
Silica gel	Chromatographic separations, dehydrating agent.	M006, P043, P046	N/A
Silver	Reduction reagent	P045, P082, U001	D011
Silver chloride	Electroplating	P014, P045	D011
Silver cyanide	Plating	M006, P043, P056	D011
Silver nitrate	Spectrometric standard material	M006, P043, P045, P046, P047	D011
Silver oxide	Reagent for amperometric Pu determination	M006, P045	D011
Silver sulfate	Laboratory reagent	M006, P014	D011
Sodium	325 Laboratory inventory	P056, U001	N/A
Sodium acetate	Laboratory reagent	M006, P008, P020, P054	N/A
Sodium aluminate	Cleaning compound	C112, M006, P043	N/A
Sodium arsenate	Reagent	P014, P055	N/A
Sodium arsenite	Dying reagent	M006	D004
Sodium azide	325 Laboratory inventory	P043, P056	D004
Sodium bicarbonate	Buffer solutions	M006, P045, P048, P054	N/A
Sodium bisulfate	Dying agent	M006, P045	N/A
Sodium bisulfite	Reducing agent	M006	N/A
Sodium borate	Flame retardant	M006	N/A
Sodium carbonate	Cleaning prep	C112, M006, P045, P048, P054	N/A
Sodium chloride	Precipitation agent	M006, P009, P014, P048, P055	N/A
Sodium chromate	325 Laboratory inventory	C112, P056	D007
Sodium citrate	Chelating agent	M006	N/A
Sodium cyanide	325 Laboratory inventory	P043, P056	N/A
Sodium dichromate	Electrochemical reagent	C112, M006, P043, P045, P056	D007
Sodium dioxide	325 Laboratory inventory	P056, U003	N/A
Sodium (bi)fluoride	Standard material for ion selective electrode methods and carrier for emission spectrometry	M006, P008, P014, P043, P045, P056	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Sodium hydroxide	Solution preparation and pH adjustments	C112, M006, P008, P014, P016, P020, P022, P045, P048, P054, P055, P056, P058	N/A
Sodium hypochlorite	Laboratory reagent	M006, P007, P045, P056	N/A
Sodium iodide	Laboratory reagent	M006	N/A
Sodium nitrate	Process chemical	C112, M006, P014, P020, P045, P054	N/A
Sodium nitrite	Process chemical	C112, M006, P045, P054, P056	N/A
Sodium oxalate	Chelating agent, lab reagent	M006, P045	N/A
Sodium phosphate	Reagent, metal cleaner	M006, P045, P056	N/A
Sodium phosphite	Laboratory reagent	M006	N/A
Sodium polyacrylate	325 Laboratory inventory	U001	N/A
Sodium pyrophosphate	Reagent, metal cleaner	M006	N/A
Sodium selenate	Laboratory reagent	M006, P046	D010
Sodium silicate	Laboratory reagent	C112, M006, P045	N/A
Sodium sulfate	Calibration standard material	M006, P045, P054, P055	N/A
Sodium tartrate	Water determination by coulometry	M006, P008, P014	N/A
Sodium tungstate	Reagent	M006	N/A
Stainless-steel	Tubing, standard materials, and alpha spectrometry sample disks	M006, P045, P048	N/A
Stannic chloride	Reagent	M006	N/A
Stannous chloride	Spectrometric standard material	M006, P043	N/A
Strontium fluoride	Carrier reagent	M006, P045	N/A
Strontium nitrate	Laboratory reagent	M006, P045	N/A
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	M006, P045	N/A
Succinic acid	325 Laboratory inventory	P054	N/A
Sulfamic acid	Reduction reagent	P045, U001	N/A
Sulfur	Mercury clean up reagent	M006	N/A
Sulfuric acid	Sample preparation	C112, M006, P014, P043, P045, P048, P054, P056, U001	N/A
Sulfur dioxide	Laboratory reagent, interim product	P045, P046	N/A
Tetrabutylammonium hydroxide	325 Laboratory inventory	P054	N/A
Tetrachloroethylene	325 Laboratory inventory	U001	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Tetrahydrofuran	325 Laboratory inventory	P056	N/A
Tetrasodium ethylene diaminetetraacetate (EDTA)	Chelating agent, filling solution	M006, P007, P045, P054	N/A
Tetraphenyl boron	Laboratory reagent	M006, P045	N/A
Thallium	325 Laboratory inventory	U001	N/A
Thallium chloride	325 Laboratory inventory	P056	N/A
Thenoyltrifluoroacetone	Laboratory reagent	M006, P045	N/A
Thioacetamide	325 Laboratory inventory	P056	N/A
Thionyl chloride	325 Laboratory inventory	P043	N/A
Thiourea	325 Laboratory inventory	P056	N/A
Thorium nitrate-	Laboratory reagent	M006	N/A
Tide detergent	Cleansing solution	M006, P045	N/A
Tin	Capsules, spectrometric standard material	M006, P043	N/A
TISAB III (trans-1,2-diaminocyclohexane tetraacetic acid [CDTA], ammonium chloride, ammonium acetate)	Buffer solution	M006, P008, P058	N/A
Titanium chloride	Spectrometric standard material	M006, P046	N/A
Titanium (di)oxide	Standard, ceramics, decontamination	M006, P043	N/A
Titanium tetrachloride	325 Laboratory inventory	P056	N/A
Toluene	Extractant and cleaning for mass spectrometer filaments.	M006, P043, P045, P056, U001	F005
Tributyl phosphate	Liquid-liquid extraction and studies of PUREX processes.	C112, M006, P043, P045, P048	N/A
Triethylamine	Reagent	P056	N/A
Tri-iso-octylamine	Liquid-liquid extraction	M006, P045	N/A
Trimethylchlorosilane	325 Laboratory inventory	M006	N/A
Tri-n-octylamine	Liquid-liquid extraction	M006, P045	N/A
Tris(hydroxymethyl) aminomethane (THAM)	Buffer	M006, P008, P014	N/A
Trisodium hydroxyethyl ethylenediamine triacetate (HEDTA)	Chelating agent	M006, P045, P054	N/A
Turco alkaline (rust remover) (NaOH and kerosene)	Rust remover	M006, P045	N/A
Tungsten oxide	Spectrometric standard material	M006	N/A

Table 5-5. Waste Stream RLM325D.001 Material and Chemical Inputs (Continued)

Chemical/Compound	Description/Use/Source	Source Document	EPA HWN
Turco Deseal Zit (methylene chloride and acetic acid)	Decontamination	M006, P045	F001 F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)	Decontamination paint	M006, P045	F005
Turco Plauditc	Decontamination	M006, P045	N/A
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	M006, P045	N/A
Turco 4518 (Sodium dodecylbenzene sulfonate)	Decontamination paint	M006, P045	N/A
Uranyl bromate	Hazardous constituent in 325 solid waste	M006, P045	N/A
Uranyl nitrate	Extractant	M006, P045, P056	N/A[1]
Uranyl stearate	Hazardous constituent in 325 solid waste	M006, P045	N/A
Urea	Electrolytic solution	M006, P045	N/A
Vacuum pump oil	Lubricant	U001	N/A
Vanadium	Spectrometric standard material	M006, P045, U001	N/A
Vanadium pentoxide	Sample preparation flux	M006, P043, P045, P056	N/A
Vanadyl sulfate	U by potentiometric titration	M006	N/A
Vinyl chloride	Sludge contaminant	M006	D043
Xylene	Liquid-liquid extraction, solvent	M006, P043, P045, P056	N/A
Yttrium nitrate	Laboratory reagent	M006, P045	N/A
Zeolon 900 Resin (Aluminum silicate)	Ion exchange resin	M006, P058	N/A
Zinc	325 Laboratory inventory	U001	N/A
Zinc acetate	325 Laboratory inventory	P056	N/A
Zinc bromate	325 Laboratory inventory	P056	N/A
Zinc carbonate	325 Laboratory inventory	P056	N/A
Zinc chloride	Spectrometric standard material	M006, P035, P043, P056	N/A
Zinc nitrate	Spectrometric standard material	M006, P045, P056	N/A
Zinc oxide	Laboratory reagent	M006, P043	N/A
Zinc sulfate	325 Laboratory inventory	P056	N/A
Zirconium	Cladding material	M006, P045	N/A
Zirconyl nitrate	Spectrometric standard material	M006, P045, P056	N/A

5.4.3.1 F-Listed Constituents

Based on review of AK documentation relative to the 325 Building Radiochemistry Processing Laboratory chemicals usage and chemical inventory information, waste stream RLM325D.001 contains or is mixed with F-listed hazardous wastes (from non-specific sources) listed in 40 CFR Part 261, Subpart D (40 CFR 261.31). As shown in Table 5-4 and Table 5-5, F001, F002, F004, and F005-listed solvents were identified (References 10, M006, M012, P081, and U001).

Hanford assigned the F003 HWN conservatively to the RLM325D.001 waste stream on the basis of the F003-listed solvents used in the 325 Building Radiochemistry Processing Laboratory and potential presence in tank farms waste. These F003 constituents, including acetone, ethyl acetate, n-butanol, methanol, methyl isobutyl ketone, and xylene are listed solely because these solvents are ignitable in the liquid form. The waste stream will not exhibit the characteristic of ignitability because it is not liquid; therefore, F003 is not assigned (References M006 and P081).

5.4.3.2 Toxicity Characteristic Constituents

Based on review of AK relative to chemicals used or present in the 325 Building Radiochemistry Processing Laboratory and supporting analytical operations, waste stream RLM325D.001 is contaminated with toxicity characteristic compounds as defined in 40 CFR Part 261, Subpart C (40 CFR 261.24). Where a constituent has been identified and there is no quantitative data available to demonstrate that the concentration of a constituent is below regulatory threshold levels, the applicable EPA HWN is conservatively applied to the waste stream (References 10, M006, M012, and U001).

Debris waste from the 325 Building Radiochemistry Processing Laboratory operations contains or is contaminated with toxicity characteristic metal compounds listed in 40 CFR 261. As shown in Tables 5-4 and 5-5, EPA HWNs D004, D005, D006, D007, D008, D009, D010, and D011 are conservatively assigned to waste stream RLM325D.001 (References M006 and M012).

As shown in Tables 5-4 and 5-5, EPA HWNs were assigned for chloroform (D022), 1,2-dichloroethane (D028), pentachlorophenol (D037), and vinyl chloride (D043) to waste stream RLM325D.001 based on AK sources identifying the use of these toxicity characteristic chemicals in the 325 Building Radiochemistry Processing Laboratory. In addition, EPA HWNs for 1,4-dichlorobenzene (D027), 1,1-dichloroethlylene (D029), 2,4-dinitrotoluene (D030), and hexachloroethane (D034) were assigned based on the presence of these chemicals in tank sludge samples analyzed at the 325 Building. The toxicity characteristic compound HWNs for solvents that have been assigned as F-listed EPA HWNs (e.g., benzene and carbon tetrachloride) are not assigned to waste stream RLM325D.001, because the more specific F-listed EPA HWNs have been assigned for these compounds (F005 for benzene and F001 for carbon tetrachloride). For this reason, assignment of the corresponding toxicity characteristic HWNs (D018 for benzene and D019 for carbon tetrachloride) is not necessary. Chlordane and

2,4,6-trichlorophenol were identified in the chemical inventory record; however, the D codes for these chemicals are not applicable (References DR014, M006, M012 and M311).

5.4.3.3 U-, P-, and K- Listed Wastes

Based on a review of AK documentation, the RLM325D.001 waste stream is not mixed with hazardous waste from specific sources (40 CFR 261.32), discarded commercial chemical products (e.g., U134 hydrofluoric acid), an off specification species, container residue, or a spill residue thereof (40 CFR 261.33). The review of the AK source documentation did not identify the disposal of unused hydrofluoric acid (U134) or disposal of materials contaminated with spills of this acid; therefore the EPA HWN U134 is not assigned to waste stream RLM325D.001. The only spills identified in the AK record consisted of releases of radioactive contamination during flooding and releases of process waste liquids (e.g., acids and water). Chemical products at the 325 Building Radiochemistry Processing Laboratory were maintained outside of gloveboxes to avoid radiologically contaminating the material and limit the amount of hydrogenated liquids in the analytical areas. Therefore, the P- and U-listed HWNs do not apply to this waste stream (References 10, C001, C002, M006, P001, P041, P045, P050, P054, P056, and U001).

Beryllium was present in standards used at the 325 Building Radiochemistry Processing Laboratory, and some of these standards may have been disposed of in the RLM325D.001 waste stream; however, in this form it would be present in trace amounts and in forms other than as a pure metal or oxide. Beryllium may be present in trace levels (e.g., < 1 wt%) in the waste, as it was a trace constituent in tank waste samples analyzed in the 325 Building. Because beryllium may be present as a constituent of tank waste samples and not as a discarded commercial chemical product, the P015 HWN is not applied (References M006, P043, P045, P050, and P505). The material in waste stream RLM325D.001 is not a hazardous waste from any of the sources specified in 40 CFR 261.32. Waste stream RLM325D.001 is therefore not assigned a K-listed HWN.

5.4.3.4 Ignitables, Corrosives, and Reactives

As discussed above, the evaluation performed to identify chemical usage identified numerous chemicals that may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure, liquid, solid, or powder form. However, based on the Hanford waste management practices, no pure or unused chemicals would have been introduced into the waste stream. In addition, all liquids and reactive materials would have been solidified, evaporated, neutralized, and/or deactivated prior to disposal. Radiography prior to shipment will verify the absence of prohibited liquids (References C001, C002, M006, M103, P043, P045, P411, and U001).

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography is performed to verify the absence of prohibited liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed at the facility; however, these materials were absorbed, deactivated, and solidified, as necessary (References C001, C002, P001, P002, P004, P045, and P051).

The debris materials in this waste stream do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid and radiography is performed to verify the absence of prohibited liquids. The material in this waste stream is therefore not corrosive waste (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary (References C001, C002, P001, P002, P004, P045, and P051).

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. Debris materials in this waste stream which came in contact with cyanide materials are not capable of detonation or explosive reaction. The waste is not capable of generating toxic fumes due to cyanide bearing waste. Sulfides were not used in the 325 Building Radiochemistry Processing Laboratory. Numerous resins were used during operations in the facility; however numerous controls were used to avoid resin oxidation during operations and only small (milliliter) quantities would have been placed into the waste. As early as 1962, acid-soaked waste was rinsed thoroughly to minimize any fire hazard. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. Radiography is performed to verify the absence of prohibited liquids. The materials in this waste stream are therefore not reactive (D003) waste (References C001, C002, P001, P002, P004, P043, P045, and P051).

5.4.3.5 Polychlorinated Biphenyls

Based on the review of waste management practices and container documentation, waste containers from 325 Building operations may contain polychlorinated biphenyl (PCB) items. Items, such as transformers and light ballasts, were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. Containers that contain these PCBs items identified during radiography will be managed as PCB waste in accordance with the WIPP (References C001, M006, P411, M103, and U001).

5.4.4 Prohibited Items

Based on the review of the container documentation and waste management practices, prohibited items may have been included in containers in waste stream RLM325D.001 at the time of generation. Waste management practices prohibited the packaging of free liquids or unused reagents; however, because liquids were neutralized, absorbed, and cemented, they may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (e.g., 5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Aerosol cans were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time (References C001, C002, C006, C007, DR002, M006, P002, P003, P031, P037, and U001).

5.5 Waste Packaging

From 1970 to 1978, waste containing contamination that easily became airborne and that was to be placed in 55-gallon containers was required to be placed in an "inner container" (e.g., sheet plastic). In 1978, a polyethylene container liner was required. In 1981, the polyethylene container liners were required to be "horsetailed" and taped shut before the container lid was installed. The use of 10-mil clear plastic 8- and 15-inch bags that were twisted (horsetail) were bagged out and placed in the 55-gallon containers. From approximately 1983 through 1987, single heat-sealed bags approximately five ft in length were used. As necessary (e.g., due to the presence of contamination on the outside of the bag), additional bags may be placed around bags of waste bagged out of a glovebox. Padding and tape were used to cover sharp projections on materials such as broken glass items. Containers in the RLM325D.001 waste stream may therefore have up to six layers of confinement in the 55-gallon container (e.g., five inner bags and one liner bag) (References C001, C006, C007, DR002, M103, P031, P037, P042, and U001).

Various sizes of metal cans, including 4-quart, 5-quart, and 5-gallon paint cans and 4-gallon slip lid cans, were used to remove TRU waste from hot cells. These cans will contain waste items, but empty containers (e.g., used to transfer items to the glove boxes and hot cells) may also be present in the waste. These metal cans were placed into lined 55-gallon containers. All containers will be screened for prohibited items (e.g., sealed containers greater than 4 Liters) and any non-compliant containers will not be shipped to WIPP (References C001, P042, M103, and P411).

Until 1998, liquid waste from the hot cells and from designated laboratory sinks were disposed of to the Radioactive Liquid Waste system and routed to the 340 Building. Since 1998, liquid waste from the 325 Building has been processed through the 325 Building HWTUs. Small amounts of liquid waste from the hot cells were historically solidified in 5-quart cans by evaporation or using diatomaceous earth or cement and vermiculite in a 2:1 ratio prior to packaging in 55-gallon containers for storage and disposal. Corrosive liquids were neutralized prior to solidification. For these reasons, ignitable, corrosive, and reactive liquids are not expected to be present in any quantity in waste stream RLM325D.001; the absence of prohibited amounts of liquids will be verified during radiography prior to shipment (References C001, M103, P003, P042, P045, P051, P080, and P411).

Some drums may be repacked at the WRAP facility in a glovebox. Only the contents of one drum at a time are allowed on the sorting table, and the sorting table and glovebox are cleaned out each time a new waste stream is introduced. Waste that is repackaged at the WRAP facility will be placed into a double-lidded drum with filtered inner lid and have zero layers of confinement. These are referred to as "one-trip" drums (References P1088 and P1089).

5.5.1 Container Filter Vents

Beginning in 1980, containers were required to be equipped with a vent clip if there was the potential for gas generation. All containers will be vented with a WIPP-approved filter vent before being certified for shipment to WIPP for disposal (References P506, P507, P508, and P509).

6.0 CONTAINER SPECIFIC INFORMATION

Historic container documentation reviewed for containers in waste stream RLM325D.001 including: SWITS database information, Solid Waste Disposal Requests, Waste Disposal Records, Contents Inventory Sheets, and miscellaneous spreadsheets compiled from this documentation is maintained in AK Source U001. Relevant radiography and assay documentation for each container is maintained in AK Sources M103 and M104, respectively.

The list of containers included in waste stream RLM325D.001, based on a review of the available AK documentation, is included in the current AK Containers List as required by CCP-TP-005 (Reference 1). As required by CCP-TP-005 a Container Tracking Spreadsheet will be prepared from the AK Containers List and posted on the CCP File Transfer Protocol site (ftp) containing, at a minimum, the following information:

- Container I.D.
- Waste Stream I.D.
- Generation Date
- Vent Date
- Change Reason
- New Closure Date
- New Vent Date
- Container Type.

7.0 REFERENCES

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation*

2. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit, Waste Analysis Plan,* New Mexico Environment Department, Santa Fe, New Mexico

3. DOE/WIPP-02-3122, *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. Department of Energy

4. CCP-PO-003, *CCP Transuranic Authorized Methods for Payload Control (CCP CH-TRAMPAC)*

5. CCP-PK-RL-102, *The Hanford 325 Building Radiochemical Processing Laboratory Contact-Handled Transuranic Debris Waste 85-Gallon Overpacked Drums*

6. HNF-30810, *Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D*

7. Public Law 102-579, *The Waste Isolation Pilot Plant Land Withdrawal Act* (as amended)

8. 42 U.S.C 10101, *Nuclear Waste Policy Act of 1982*

9. DOE/TRU-2009-3425, *Annual Transuranic Waste Inventory Report – 2009,* U.S. Department of Energy

10. 40 CFR 261, *Identification and Listing of Hazardous Waste, U.S.* Environmental Protection Agency

11. CCP-TP-113, *CCP Standard Contact-Handled Waste Visual Examination,* Carlsbad, New Mexico, Washington TRU Solutions, LLC.

12. DOE/LLW-217, *DOE Waste Treatability Group Guidance*

13. DOE Order 435.1-1, *Radioactive Waste Management,* U.S. DOE, Environmental Management

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8.0 AK SOURCE DOCUMENTS

Source Document Number	Title	Document Number	Date
C001	Hanford-Building 325 Interview with Wayne Larson	N/A	9/11/2003
C002	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	N/A	10/16/2003
C003	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	N/A	10/2003
C004	Isotopic Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes Assays	N/A	10/2003
C005	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	97-EAP-589	7/28/1997
C006	AK Summary - Record of Communication Interview with Gary Lanham and Stan Bos	N/A	3/29/2006
C007	Record of Communication; Heat-Sealed Bags	N/A	10/25/2006
C009	Request for Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	FH-0602938	11/28/2006
C010	Contract No. DE-A06-96RL13200 – Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	0700042	12/29/2006
C068	Waste Material Parameter Evaluation for Waste Stream RLM325D	N/A	9/24/2008
C069	WWIS Reported Radionuclides for Waste Stream RLM325D	N/A	9/25/2008
C100	U-234 To U-235 and U-238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	M4T00-PJC-02-077	4/11/2002
C102	Sr-90 to Cs-137 Ratio For Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	M4T00-PJC-02-006	4/11/2002
C112	Summary of Bismuth Phosphate Process and Plutonium-Uranium Extraction Process Chemical Flowsheets	7G330-MEJ-03-001	12/11/2003
DR001	AK Source Document Deficiency; Isotopic Discrepancies	N/A	10/11/2006
DR002	AK Source Document Deficiency/Use of Heat Sealed Bags	N/A	8/18/2006
DR014	Chemical Discrepancy Report	N/A	TBD
M001	Excerpt from Tank Waste Information Network system Best Basis Inventory	N/A	10/04/2006
M006	325 Facility Debris Waste Stream Designation	N/A	7/27/2004
M008	Waste Profiles published by the Hanford Waste Services Organization	PNNL-230-0001-01 PNNL-230-0001-02	2/2/2004 2/7/2006
M012	Data Quality Objectives Reconciliation, Headspace Gas Analysis Report, Flammable VOC Report, and Acceptable Knowledge Confirmation Checklist for 24 Containers from Waste Stream RLM325D, WSPF #RLM325D.001	M4T00-TRU-06-639	10/26/2006
M043	MSDS for ShellSol D060	MSDS 7653-2	06/05/00
M103	NDE Batch Data Reports for Containers in Waste Stream RLM325D	N/A	Various
M104	NDA Batch Data Reports for Containers in Waste Stream RLM325D	N/A	Various
M305	Current Volume Inventory for Hanford Waste Streams	N/A	N/A
M311	E-mails Documenting D042 Evaluation	N/A	05/19/10
P001	325 Building Standard Operating Procedure	HW 73112	9/15/1962
P002	Removal of High Dose Low Level Waste	SAL-325-HDLLW-1	9/30/1994
P003	Disposal of Contaminated and Radioactive Wastes from the SAL	SAL-84-5	4/13/1994
P004	Routine Research Operations	RPL-OP-001 Rev. 0 and 1	3/2000
P005	Handling and Opening Radioactive Material Shipments	SAL-84-7	4/13/1994
P006	Instructions for PHR-146 Micro Combination pH Electrode	13 644 5	N/A
P007	Ross pH Electrodes Instruction Manual	227296-001 Rev. C	1999

Source Document Number	Title	Document Number	Date
P008	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	502700-031 Rev. C	1991
P009	Chloride/ Chloride Combination Electrode Instruction Manual	502700-078 Rev. D	1999
P010	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	325-PU-Purify-1 Rev. 0	6/12/1998
P011	Leaching Tests using the PCT Method	MCC-TP-19	4/1993
P012	Evaluation of Monolithic Radioactive Material Immobilization Form Behavior in Fume Hoods	RPL-PIP-Ceramic Test-1 Rev. 0	5/2001
P013	Preparation and Viewing of Samples by Microscopy	RPL-EMSP-1 Rev. 0	11/2000
P014	Standard Test Method for Fluoride Ion in Water	D 1179-99	2/1999
P015	Solids Analysis X-Ray Diffraction	PNNL-RPG-268 Rev. 1	2/2000
P016	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	ASTM C1220-98	11/2000
P017	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermo gravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	ICN-PNL-ALO-508R0.2 Rev. 0	1/1998
P018	Preparation, Processing and Testing of Radioactive Glass and Ceramics	RPL-PIP-1 Rev. 2	7/2001
P019	Fabrication of Ceramic Samples	RPL-PIP-2 Rev. 0	4/1998
P020	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	RPL-PIP-3 Rev. 0	6/2001
P021	Mounting Radioactive Samples in PIP XRD sample holder base	RPL-PIP-4 Rev. 2 and 3	8/2002
P022	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	RPL-PIP-5 Rev. 0	6/2001
P023	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	APEL-PIP-1 Rev. 1	1/1999
P024	Geometric Density Determination of Consolidated Solids	APEL-PIP-2 Rev. 3	5/2001
P027	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	RPL-PIP-SPFT-1 Rev. 0	5/8/2000
P028	Preparation of Nondispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	RPL-MAS-NMR Rev. 0	8/2003
P029	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	RPL-XRD-PIP Rev. 2	2/1/2003
P030	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	GDSP-01-BET Rev. 0	1/27/2003
P031	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	SAL-84-8	4/13/1994
P032	Operation of Gamma Spectroscopy Equipment	511-4 Rev. 0	1/1996
P033	Operation of Single Pass Flow Through Experiment	RPL-PIP-SPFT Rev. 1	5/2003
P034	Archimedes (Buoyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	APEL-PIP-3 Rev. 1	1/1999
P035	Gas Pycnometry Method for Apparent Specific Gravity Determinations of Consolidated Solids	APEL-PIP-4 Rev. 2	8/2001
P036	Response to Vacuum Alarms in RPL Glove boxes and Use of RPL Glove box Airlock	RPG-94-1 Rev. 1	7/16/1999
P037	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	325-A-20 Rev. 0	11/1995
P038	Installation of In-Line Back Flow Preventers and/or In-Line Isolation Valves on Single Pass Flow Through Systems	RPL-PIP-SPFT-3 Rev. 0	12/2001

Source Document Number	Title	Document Number	Date
P039	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste	GEN-325-WM1 Rev. 1	3/27/1996
P040	Transmittal of Variance RAD-00006	RAD-00006	2/2000
P041	Past Practices Technical Characterization Study-300 Area- Hanford Site	WHC-MR-0388	12/1992
P042	A History of Solid Waste Packaging at the Hanford Site	WHC-SA-2772-FP	2/1995
P043	Safety Analysis Report for 325 Building	PNL-7748	1/1992
P045	Characterization of Past and Present Waste Streams from the 325 Radiochemistry Building	WHC-EP-0696	12/1993
P046	Facility Effluent Monitoring Plan for the 325 Facility	PNL-MA-661	11/1994
P047	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	DOE/RL-92-35 Rev. 1	7/1997
P048	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	HNF-EP-0649	10/1997
P050	Analytical Chemistry Laboratory Manual, Volume 2, Analytical Chemistry Methods for Mixed Uranium-Plutonium Oxide Fuel	MG-28 Rev. 2	10/1978
P051	Hanford Site Solid Waste Acceptance Criteria	HNF-EP-0063 Rev. 8	5/2003
P052	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	HNF-3461 Rev. 0	10/2006
P053	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	PNNL-13341	12/1999
P054	Organic Analysis Progress Report Fiscal Year (FY) 1997	PNNL-11738	4/1998
P055	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	PNNL-13364 WTP-RPT-007 Rev. 0	10/31/2000
P056	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL-12157	3/1999
P058	MSDS for commercial products	Various	Various
P071	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	HNF-EP-0924	3/1997
P073	35 FR 17530-17533, 52 FR 5992-6001, 53 FR 17709, 58 FR 12342-12347, 58 FR 64783, 59 FR 10439	N/A	Various
P074	Low Level or Transuranic Waste Classification of Hanford Tank Waste Sample Test Residues	99-WPD-219 Rev. 0	4/8/1999
P078	Nuclear Waste Policy Act	42 U.S.C 10141	1/2002
P080	Hanford Site Operating Permit, Operable Unit 5 - 325 Hazardous Waste Treatment Units	WA7890008967	1/2007
P081	Tank Farms Solid Waste Characterization Guide with Sampling and Analysis Plan Attachment	HNF-SD-WM-PLN-119 Rev. 1	4/1997
P082	Radioiodine Control During Reprocessing of Short-Cooled Irradiated Neptunium-237 Aluminum Alloy Target Elements	BNWL-460	4/1967
P153	History of the Plutonium Production Facilities at the Hanford Site – Historic District, 1943-1990	DOE/RL-97-1047	6/2002
P231	PRF Solvent Extraction Depletion Flowsheet – High Uranium/High Fluoride Feed	PFD-Z-180-00001 Rev. C-1	6/10/1993
P274	325 Radiochemical Processing Laboratory website	N/A	8/2005
P400	A Brief History of the PUREX and UO3 Facilities	WHC-MR-0437	11/1993
P401	ORAU Team, NIOSH Dose Reconstruction Project, Technical Basis Document for the Hanford Site – Site Description	ORAUT-TKBS-006-2 Rev. 00 PC-1	12/29/2004
P402	Historic American Engineering Record Reduction-Oxidation Complex Plutonium Concentration Facility (Building 233-S)	DOE/RL-96-29	1/1996
P403	Characterization of Past and Present Solid Waste Streams from the Plutonium-Uranium Extraction Plant	WHC-EP-0646, Rev. 0	04/01/1993
P405	Characterization of Past and Present Waste Streams from the Plutonium Finishing Plant	WHC-EP-0621	2/1993

Source Document Number	Title	Document Number	Date
P406	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items with <30 Weight Percent Plutonium	HNF-10919 Rev. 0	3/2002
P407	Tritium Production at the Fast Flux Test Facility	9650398	2/1/1996
P408	White Paper: Calculation of Isotopic Weight Percentages Using Tank Waste Information Network System data for the PUREX Facility	M4T00-TRU-06-640 Rev. 0	10/11/2006
P411	WRAP Facility Operating Procedure; Operation of the Drum Nondestructive Examination System	WRP1-OP-0908, Rev. J-2	9/9/2008
P414	Waste Retrieval Process Description	HNF-5597 Rev. 3	3/31/2004
P415	Transuranic (TRU) Waste Phase I Retrieval Plan	HNF-4781 Rev. 1	9/28/2000
P416	WRAP Final Safety Analysis Report	HNF-SD-W026-SAR-002 Rev. 2	7/2001
P502	RECUPLEX Process Chemical Flowsheets, RECUPLEX HW#1 and HW#2	HW-22604	11/1/1951
P503	Preliminary FFTF Fuel Raw Materials Survey and Analysis	BNWL-CC-1336	4/10/1967
P504	REDOX Process Waste Streams - Approximate Quantities and Compounds	HW-10733	8/12/1948
P505	Inventory of Chemicals Used at Hanford Site Production Plants and Support Operations (1944-1980)	WHC-EP-0172, Rev. 1	4/1990
P506	PFP Standard Practices Technical Procedure - Load Standard Waste Box (SWB) Storage Containers with TRU Waste	ZO-170-044 Rev. F-26	11/4/2008
P507	PFP Technical Procedure - Visual Examination Technique for PFP Debris Waste	ZO-170-057 Rev. C-11	11/4/2008
P508	Waste Isolation Pilot Plant (WIPP) Procedures – Section 7.1.10	WMP-400 Rev. 12	3/24/2009
P509	PFP Standard Practices Technical Procedure - Handle TRU/TRU Mixed Waste in 55-Gallon Drums	ZO-170-015 Rev. P-3	11/25/2008
P721	Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D	HNF-30810 Rev. 1	7/2007
P934	Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site, 325 Radiochemistry Building Transuranic Debris	CCP-AK-RL-003 Rev. 0	11/26/2003
U001	Records Management Information System (RMIS) Retrievals-Solid Waste Disposal Requests and Associated Waste Information	N/A	Various
U002	Solid Waste Information Tracking System (SWITS)- Container Assay Data Dump for the Building 325 Radiochemistry Laboratory	N/A	10/23/2003
U003	Notes on Waste Stream Description for Pu Oxide Characterization Studies	PNNL-325	N/A

Figure 1. Location of Hanford Site

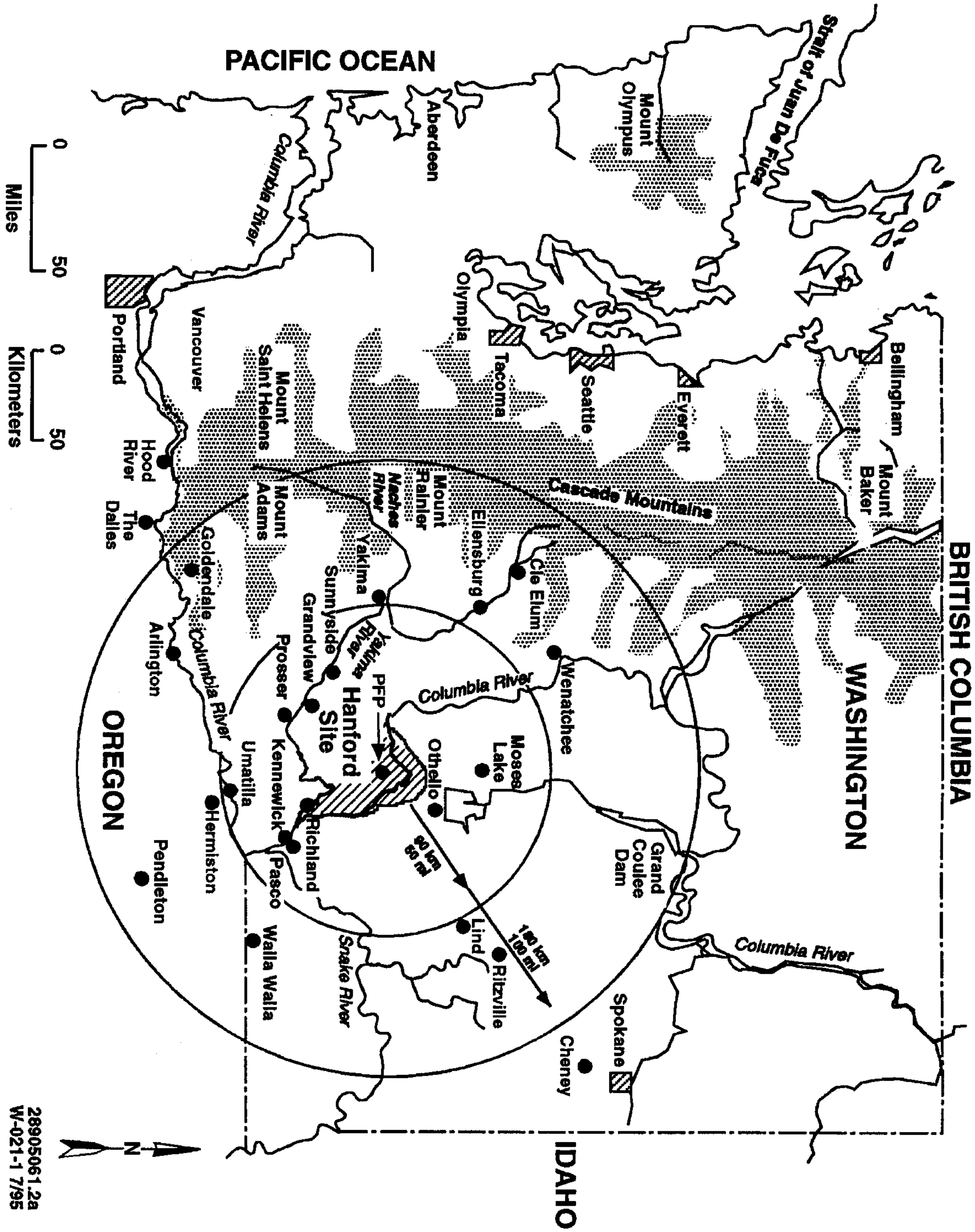

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Figure 2. Location of the Major Areas at the Hanford Site

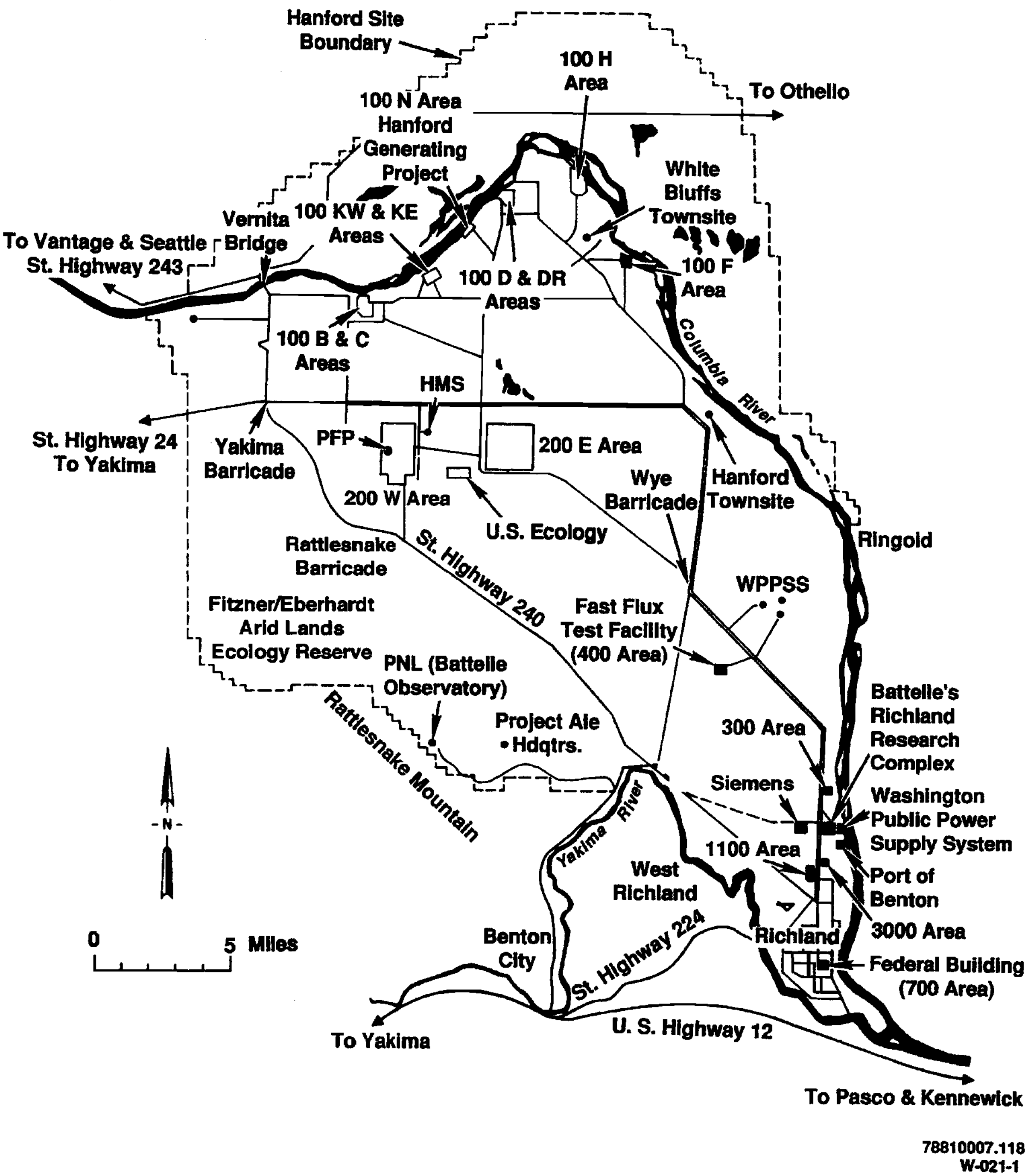

Figure 3. 300 Area Layout

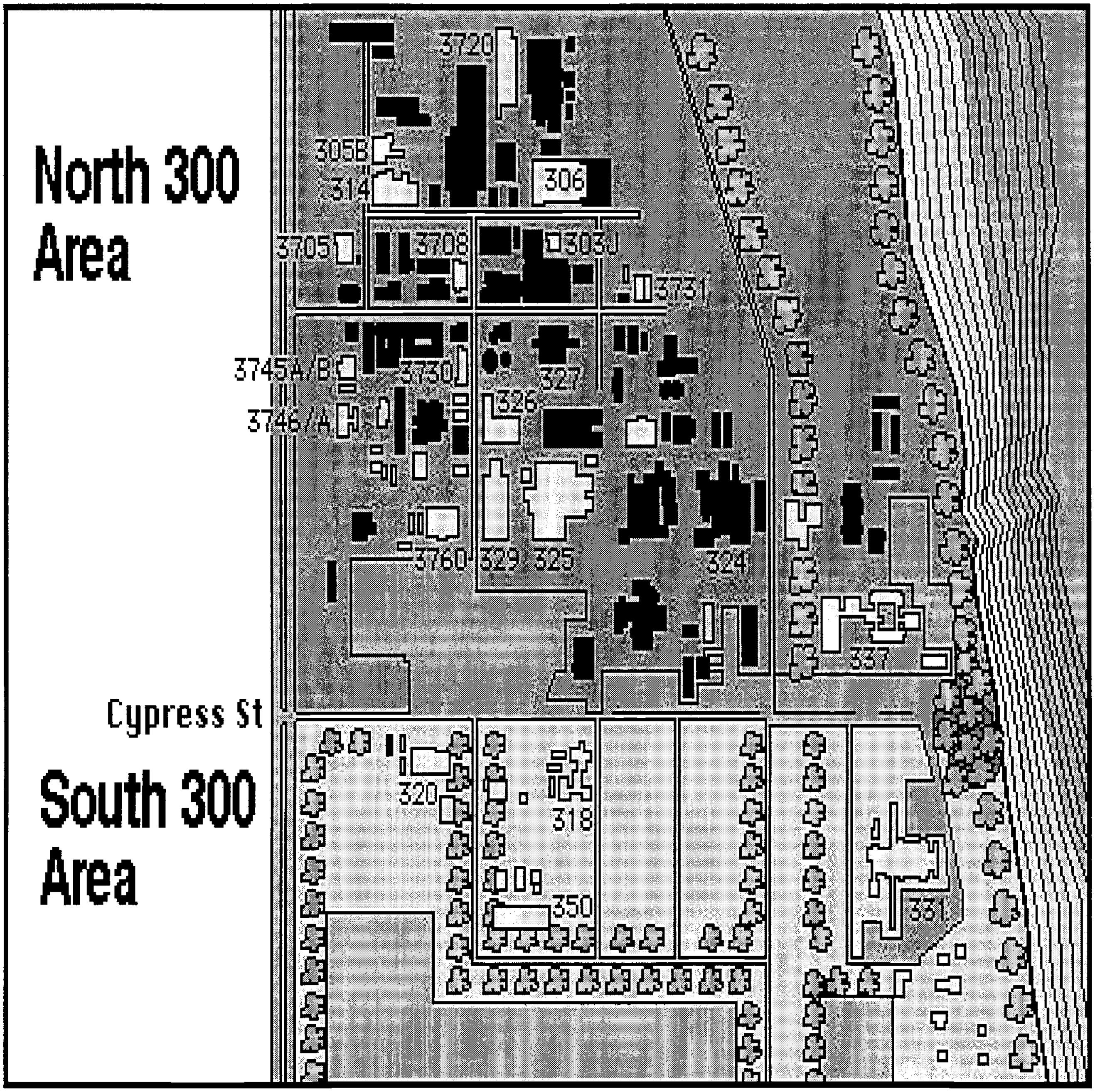

Figure 4. 325 Building Radiochemistry Processing Laboratory Layout

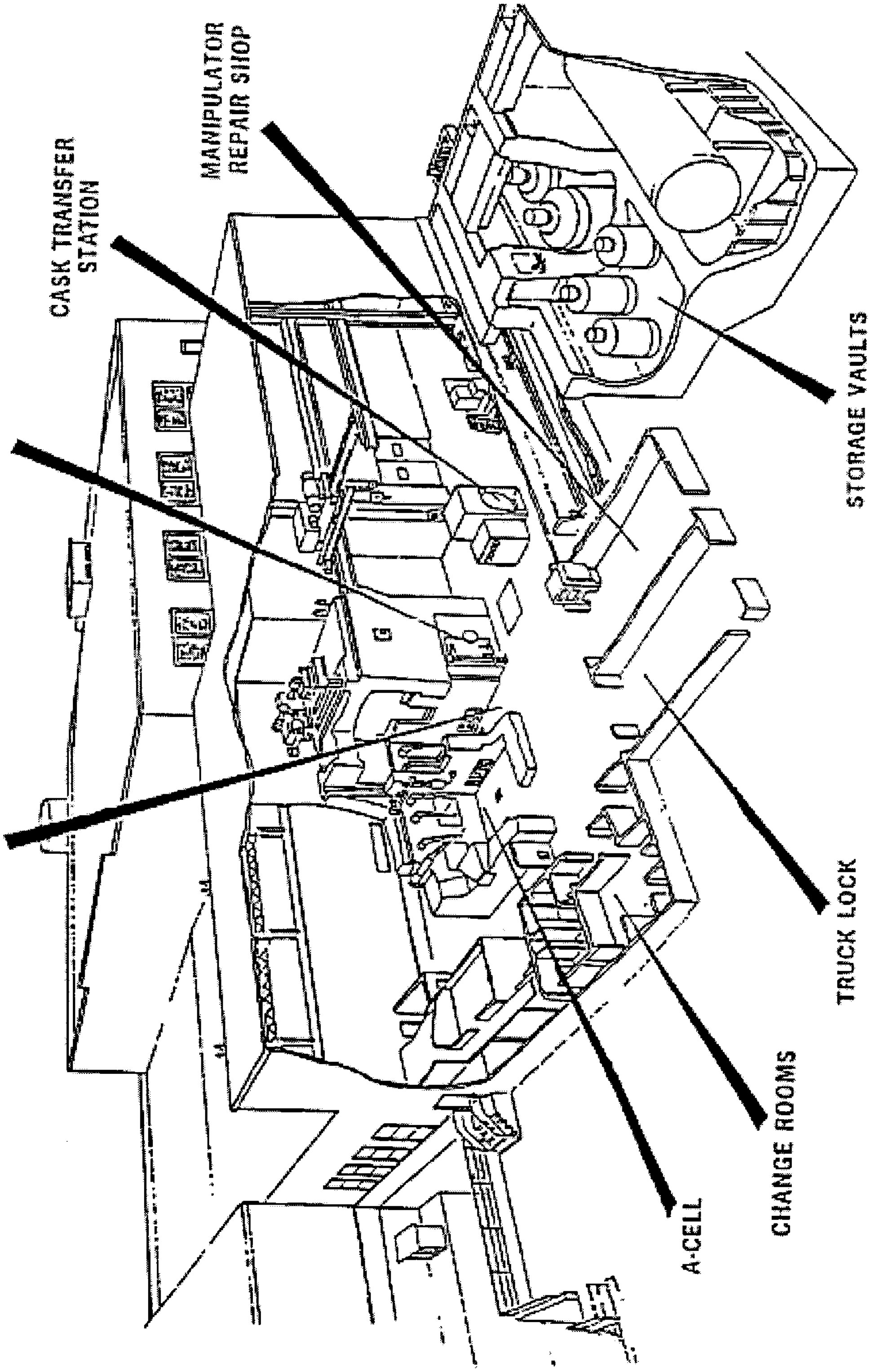

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Figure 5. Typical Laboratory Analysis Flow Diagram

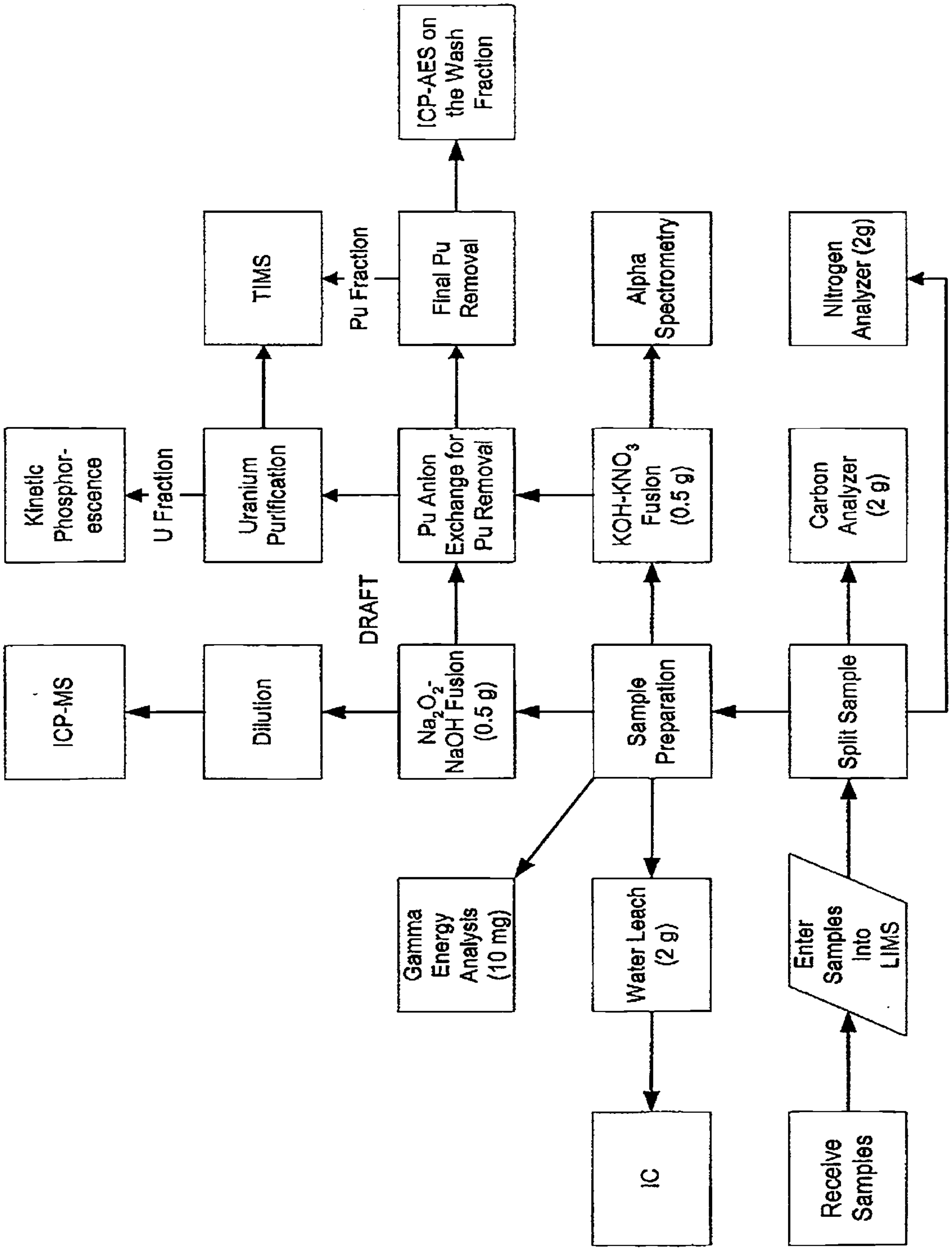
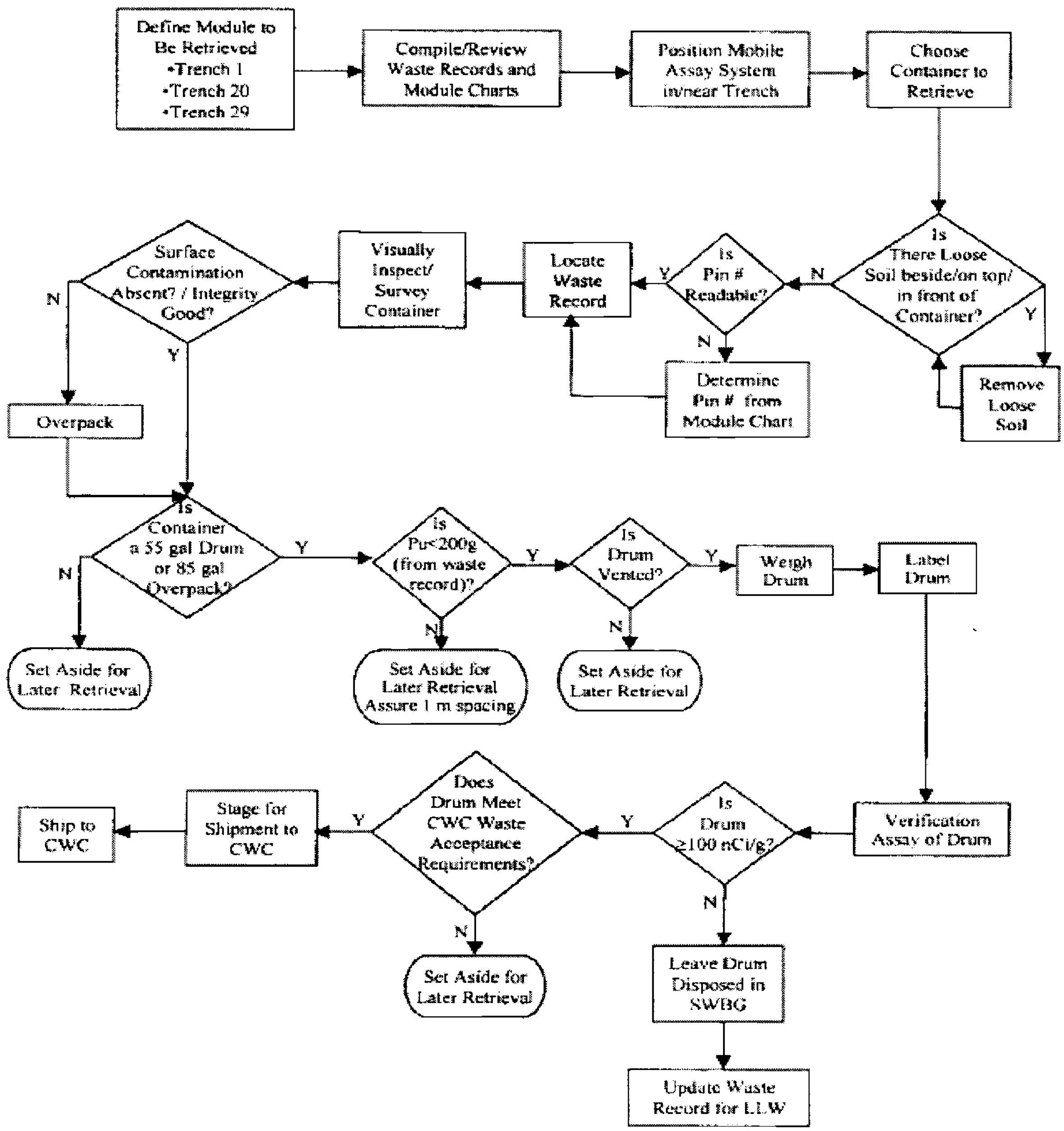


Figure 6. TRU Waste Retrieval Diagram



Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Package ID:	0059303	Secondary Pkg ID:		Accumulation Date:	02/10/2011
Waste Type:	D TRU	Phys State Cd:	S	Deadline Date:	05/10/2011
Sec Waste Type:	TRU	UHC Determination:		Ship Date:	
Encasement/HIC#:		UHC's Applicable:		TSD Receive Date:	
Profile / Rev#:	WRAP TRU REPAK - 00	NFPA < 93.3C:		TSD Accept Date:	
WSRd / Rev #:	230 - 02	Storage Category:	A	Disposal Date:	

Routine Status: 100 Non-Routine / Other

Container Type / Descr: DM / 85 GALLON — Container Empty Tare Wt. (kg): 35.4000
Container Volume (cu. meters): 0.3220 — Waste Weight (kg): 134.5500
Labpack Flag: N — Container Gross Wt. (kg): 178.7500
Container Contents: WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11. INNER DRUM WAS PLACED IN 85 GALLON OVERPACK WITH 2 PLASTIC BAGS, 10 POUNDS OF BAKING SODA AND 3 BATT MAT PADS.
SWO Comments: NEW CRITICALITY REVIEW NOTE COMMENT- FISSILE, CPS CONTAINER TYPE A DRUM. 07/13/06

Generator Information

Generating Company: CHPRC CH2M HILL PLATEAU REMEDIATION CO. — Generator ID: 0034111 — Generator Group: WRAP
Source Facility: 2336W — Generator: NP WILLIS
Generator Comments: ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE. PER GUIDANCE FROM R AUSTIN AND A PH , TEST RESULT OF THE SPILLED MATERIAL, THE CONTAINER IS BEING MANAGED AS CONTAINING AN UNDETERMINED ACID. INNER DRUM OVERPACKED ON 4-MAY-2011.

Billing Detail

Charge Code	COA	Company	Group ID	Percent
PACKS		CH2M HILL PLATEAU REMEDIATION CO.	WRAP	100.00
				100.00

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Hazardous Package Detail

Container Status: **Full** Flashpoint: **N/A** pH Value: **<2** Subpart CC Flag: **NA**

DW Numbers: **D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005**

RCRA Reporting

ADWR Stream Description: **TRU Project -Homogenous solids**
Designation Code: **DW**
Source Code: **G25** **Hazardous Waste Management (requires previous management code)**
Comment: **H129**
Form Code: **W319** **Other inorganic solids, specify in comments**
Comment: **Absorbed Acids**
Origin Code: **v** **Residual waste stream derived from the management of a previously existing dangerous waste stream.**
Residual Mgmt Method: **H129** **Other treatment**
Comment: **Neutralization/Stabilization**
Management Method:
Comment:
Certification Group:
Reportable CERCLA?:

Pre-2007 Reporting

Waste Stream: Offsite TSD Waste Stream: RCRA Designated Date:

PCB Package Detail:

PCB Type: PCB Source Concentration (PPM):
PCB Subtype: PCB Waste Weight:
PCB Contents: Removed from Service:

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0059303**
Source Facility:
Location Facility:
Shipment #:

Radioactive Package Detail

		snm Waste?:		Thermal Power (w/cu.m.):	**5.20607E-01**
Waste Category:	**GTWC3**	Shielding:	**None**	Neutron Dose Rate:	**2.00000E-01**
Combustible Flag:		Handling:	**C**	Contact Dose Rate:	**6.00000E+00**
Exceeds ISB Limit:	**Y**	RSWIMS Container Cnt:	**1**	Tot Pe-Ci:	**5.42058E+00**
NRC Class:	**>C**	Excluded from DE-Ci:		ICRP 71 DE-Ci:	**5.13959E+00**

VOC/Hydrogen Gas Diffusion Detail

H2 Diffusion Release Date: VOC Hold?: VOC Resample Date:

Current Location Information

Facility ID:	**2336W**	Tier Level:		Loc Beg Coordinates - N:	
Trench / Unit:		Tier Position:		W:	
Module:		GPS Data Flag:		Loc End Coordinates - N:	
				W:	

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0059303

Source Facility:

Location Facility:

Shipment #:

Isotope Information

Isotope Number	Isotope Name	Isotope Activity (Ci)
21	Np-237	2.55000E-05
26	Am-241	1.69000E+00
41	Pu-238	2.45000E-01
97	Pu-240	1.12000E+00
98	Pu-241	1.08000E+01
99	Pu-242	1.61000E-04
100	Pu-239	2.18000E+00
202	U-234	9.74000E-05
203	U-235	1.72000E-06
206	U-238	5.20000E-05

Venting Information

Vent Code	Serial #	Install Date	Torque Wrench ID #	MT & E Range	Calibration Date	Filter Mfg Date	Summa #
NF019DS		02/10/2011					

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0059303

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10022-31-8	BARIUM NITRATE		0.1745	.130
10025-73-7	CHROMIC CHLORIDE		0.1745	.130
10028-22-5	FERRIC SULFATE		0.1745	.130
10034-81-8	MAGNESIUM PERCHLORATE		0.1745	.130
10042-76-9	STRONTIUM NITRATE		0.1745	.130
10043-01-3	ALUMINUM SULFATE		0.0537	.040
10043-35-3	BORIC ACID		0.0071	.005
10043-52-4	CALCIUM CHLORIDE		0.2147	.160
10045-89-3	FERROUS AMMONIUM SULFATE		0.4429	.329
10045-94-0	MERCURIC NITRATE		0.1745	.130
10045-95-1	NEODYMIUM NITRATE		0.1745	.130
10099-59-9	LANTHANUM NITRATE		0.1745	.130
10099-74-8	LEAD NITRATE		0.1745	.130
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)		0.1745	.130
10102-06-4	URANYL NITRATE		0.0805	.060
10108-73-3	CEROUS NITRATE		0.2147	.160
10124-37-5	CALCIUM NITRATE		0.1745	.130
10138-04-2	FERRIC AMMONIUM SULFATE		0.4429	.329
10192-30-0	AMMONIUM BISULFITE, SOLID		0.0006	.000
10213-10-2	SODIUM TUNGSTATE		0.1745	.130
10294-26-5	SILVER SULFATE		0.1745	.130
10294-41-4	CERIUM NITRATE		0.1745	.130
10325-94-7	CADMIUM NITRATE		0.1745	.130
10361-03-2	SODIUM METAPHOSPHATE		0.1745	.130
10361-37-2	BARIUM CHLORIDE		0.1745	.130
10361-93-0	YTTRIUM NITRATE		0.1745	.130
10377-48-7	LITHIUM SULFATE		0.2147	.160
10377-60-3	MAGNESIUM NITRATE		0.2147	.160
10377-66-9	MANGANESE NITRATE		0.2147	.160
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)		0.1745	.130

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: 0059303

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10450-60-9	PERIODIC ACID		0.1745	.130
10588-01-9	SODIUM DICHROMATE		0.1745	.130
106-44-5	P-CRESOL		0.0008	.001
106-46-7	P-DICHLOROBENZENE		0.0010	.001
107-06-2	1,2-DICHLOROETHANE		0.0001	.000
107-21-1	ETHYLENE GLYCOL		0.0003	.000
107-66-4	DIBUTYL PHOSPHATE		0.1745	.130
108-10-1	4-METHYL-2-PENTANONE		0.0044	.003
108-39-4	M-CRESOL		0.0008	.001
108-88-3	TOLUENE		0.0013	.001
108-95-2	PHENOL		0.2282	.170
110-54-3	N-HEXANE		0.0537	.040
110-82-7	CYCLOHEXANE		0.0537	.040
110-86-1	PYRIDINE		0.0021	.002
111-69-3	ADIPONITRILE		0.0537	.040
11138-49-1	SODIUM ALUMINATE		0.3488	.259
1116-76-3	TRIOCTYLAMINEINE		0.0537	.040
112-80-1	OLEIC ACID		0.0537	.040
115-40-2	BROMOCRESOL PURPLE		0.0018	.001
117-10-2	1,8-DIHYDROXYANTHRAQUINONE		0.0071	.005
12024-21-4	GALLIUM OXIDE		0.1745	.130
12044-50-7	ARSENIC (V) OXIDE, HYDRATE		0.1745	.130
12054-48-7	NICKEL HYDROXIDE		0.0644	.048
12069-32-8	BORON CARBIDE		0.1745	.130
121-14-2	2,4-DINITROTOLUENE		0.0000	.000
12125-01-8	AMMONIUM FLUORIDE		0.4429	.329
12125-02-9	AMMONIUM CHLORIDE		0.0134	.010
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE		0.0004	.000
123-31-9	HYDROQUINONE		0.0006	.000
12428-46-5	ALUMINUM HYDROXIDE SILICATE		0.4429	.329

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
126-73-8	TRIBUTYL PHOSPHATE (TBP)		0.0537	.040
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)		0.0805	.060
127-18-4	TETRACHLOROETHYLENE		0.0008	.001
1303-96-4	SODIUM BORATE, DECAHYDRATE		0.4429	.329
1305-62-0	CALCIUM HYDROXIDE		0.4429	.329
1306-38-3	CERIC OXIDE		0.8857	.658
1309-37-1	FERRIC OXIDE		0.1745	.130
1309-48-4	MAGNESIUM OXIDE		0.1745	.130
1309-60-0	LEAD DIOXIDE		0.3488	.259
1310-58-3	POTASSIUM HYDROXIDE		0.4429	.329
1310-65-2	LITHIUM HYDROXIDE		0.0021	.002
1310-73-2	SODIUM HYDROXIDE		0.4295	.319
13106-76-8	AMMONIUM MOLYBDATE		0.4965	.369
1313-13-9	MANGANESE DIOXIDE		0.1745	.130
1313-97-9	NEODYMIUM OXIDE		0.2147	.160
13138-45-9	NICKEL (II) NITRATE (1:2)		0.1745	.130
1314-13-2	ZINC OXIDE		0.1745	.130
1314-35-8	TUNGSTEN TRIOXIDE		0.2147	.160
1314-56-3	PHOSPHORUS PENTOXIDE		0.1745	.130
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC		0.0805	.060
1317-38-0	COPPER OXIDE		0.0805	.060
1317-65-3	CALCIUM CARBONATE		0.8857	.658
1317-99-3	URANIUM OCTAOXIDE		0.1745	.130
1318-00-9	VERMICULITE, EXFOLIATED		6.7098	4.987
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID		0.1745	.130
1330-20-7	XYLENE (MIXED ISOMERS)		0.0537	.040
1331-17-5	PROPYLENE GLYCOL		0.0071	.005
1332-21-4	ASBESTOS		0.6710	.499
1333-82-0	CHROMIUM TRIOXIDE		0.1745	.130
1335-30-4	ALUMINUM SILICATE		0.1745	.130

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
1336-21-6	AMMONIUM HYDROXIDE		0.8857	.658
13410-01-0	SODIUM SELENATE		0.1745	.130
1344-28-1	ALUMINUM OXIDE		0.1745	.130
1344-64-5	VANADYL SULFATE		0.1745	.130
13463-67-7	TITANIUM OXIDE		0.3488	.259
13464-37-4	ARSENOUS ACID, TRISODIUM SALT		0.0537	.040
13465-08-2	HYDROXYLAMINE NITRATE		0.0537	.040
13478-10-9	FERROUS CHLORIDE		0.2683	.199
13590-82-4	CERIUM SULFATE		0.1745	.130
13708-85-5	SODIUM PHOSPHITE		0.1745	.130
13746-66-2	POTASSIUM FERROCYANIDE		0.8857	.658
13778-30-8	ZINC NITRATE		0.2147	.160
13823-29-5	THORIUM NITRATE		0.1745	.130
13826-66-9	ZIRCONYL NITRATE		0.2147	.160
13870-30-9	SODIUM SILICATE		0.1745	.130
139-13-9	NITRILOTRIACETIC ACID		0.0537	.040
140-01-2	PENTASODIUM PENTETATE (DTPA)		0.0537	.040
14258-49-2	AMMONIUM OXALATE		0.4965	.369
143-19-1	SODIUM OLEATE		0.4429	.329
143-66-8	SODIUM TETRAPHENYL BORON POWDER		0.1745	.130
144-33-2	SODIUM CITRATE		0.4429	.329
144-55-8	SODIUM BICARBONATE		0.0054	.004
144-62-7	OXALIC ACID		0.0537	.040
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE		0.1745	.130
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-		0.0537	.040
17194-00-2	BARIUM HYDROXIDE		0.4965	.369
1762-95-4	AMMONIUM THIOCYANATE		0.2683	.199
19004-19-4	COPPER (II) NITRATE		0.2147	.160
20667-12-3	SILVER (1+) OXIDE		0.1745	.130
21041-95-2	CADMIUM HYDROXIDE		0.1476	.110

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0059303

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
21908-53-2	MERCURIC OXIDE		0.1745	.130
2466-09-3	DIPHOSPHORIC ACID		0.0537	.040
25155-30-0	SODIUM DODECYLBENZENESULFONATE		0.1745	.130
25322-68-3	POLYETHYLENE GLYCOL		0.0016	.001
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-		0.0537	.040
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE		0.0537	.040
298-14-6	POTASSIUM BICARBONATE		0.0000	.000
301-04-2	LEAD ACETATE		0.3488	.259
304-59-6	POTASSIUM SODIUM TARTRATE		0.1745	.130
326-91-0	THENOYLTRIFLUOROACETONE		0.0071	.005
3811-04-9	CHLORIC ACID, POTASSIUM SALT		0.1745	.130
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-		0.0537	.040
496-74-2	TOLUENE-3,4-DITHIOL		0.1745	.130
497-19-8	SODIUM CARBONATE		0.1745	.130
50-00-0	FORMALDEHYDE		0.0497	.037
50-81-7	ASCORBIC ACID		0.0537	.040
506-64-9	SILVER CYANIDE		0.1745	.130
51-28-5	DINITROPHENOL, 2,4-		0.0071	.005
513-77-9	BARIUM CARBONATE		0.0175	.013
526-95-4	GLUCONICACID 50% IN WATER		0.0537	.040
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE		0.0443	.033
55-55-0	P-METHYLAMINOPHENOL SULFATE		0.0006	.000
56-23-5	CARBON TETRACHLORIDE		0.0008	.001
56-40-6	GLYCINE		0.0018	.001
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL		0.0537	.040
57-13-6	UREA		0.0805	.060
57-50-1	SUCROSE		0.2147	.160
57-55-6	1,2-PROPANEDIOL		0.0161	.012
584-08-7	POTASSIUM CARBONATE		0.1745	.130
592-85-8	MERCURIC THIOCYANATE		0.1745	.130

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0059303

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)		0.0537	.040
6131-90-4	SODIUM ACETATE		0.0268	.020
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)		0.1745	.130
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE		0.0006	.000
631-61-8	AMMONIUM ACETATE		0.0027	.002
63231-67-4	SILICA GEL		0.1745	.130
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE		0.1745	.130
64-17-5	ETHANOL		0.0537	.040
64-18-6	FORMIC ACID		0.0537	.040
64-19-7	ACETIC ACID		0.0092	.007
64742-38-7	NORMAL PARAFFINS		0.4429	.329
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)		0.0537	.040
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)		0.1745	.130
65997-15-1	PORTLAND CEMENT		17.8883	13.295
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-		0.0537	.040
67-56-1	METHANOL		0.0001	.000
67-63-0	ISOPROPYL ALCOHOL		0.0537	.040
67-64-1	ACETONE		0.0215	.016
67-66-3	CHLOROFORM		0.0008	.001
67-72-1	HEXACHLOROETHANE		0.0004	.000
69-65-8	D-MANNITOL		0.0537	.040
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN		0.3087	.229
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU		0.2549	.189
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM		0.2683	.199
71-36-3	BUTYL ALCOHOL		0.0004	.000
71-43-2	BENZENE		0.0013	.001
71-55-6	1,1,1-TRICHLOROETHANE		0.0537	.040
7429-90-5	ALUMINUM		0.4160	.309
7439-89-6	IRON		0.2147	.160
7439-92-1	LEAD			

Waste Component Records

Component_ID	Component Text	PPM	Weight (kg)	Weight %
			0.0007	.001
7439-95-4	MAGNESIUM		0.2147	.160
7439-97-6	MERCURY		0.0000	.000
7439-98-7	MOLYBDENUM		0.2147	.160
7440-02-0	NICKEL		0.0939	.070
7440-06-4	PLATINUM		0.1745	.130
7440-22-4	SILVER		0.0007	.001
7440-31-5	TIN		0.0537	.040
7440-38-2	ARSENIC		0.0007	.001
7440-39-3	BARIUM		0.0134	.010
7440-41-7	BERYLLIUM		0.0215	.016
7440-43-9	CADMIUM		0.0002	.000
7440-44-0	CARBON		0.0071	.005
7440-47-3	CHROMIUM		0.0007	.001
7440-50-8	COPPER		0.4429	.329
7440-57-5	GOLD		0.0000	.000
7440-62-2	VANADIUM		0.2147	.160
7440-66-6	ZINC		0.4563	.339
7440-67-7	ZIRCONIUM		0.2147	.160
7446-70-0	ALUMINUM CHLORIDE		0.0805	.060
7447-40-7	POTASSIUM CHLORIDE		0.4429	.329
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)		0.0000	.000
75-09-2	DICHLOROMETHANE		0.1745	.130
75-35-4	1,1-DICHLOROETHYLENE		0.0001	.000
75-77-4	TRIMETHYL CHLOROSILANE		0.0071	.005
7553-56-2	IODINE		0.1745	.130
7558-79-4	SODIUM PHOSPHATE DIBASIC		0.1745	.130
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.0067	.005
7601-90-3	PERCHLORIC ACID		0.0537	.040
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)		0.1342	.100

Solid Waste Information and Tracking System
Container Listing Report

for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7631-99-4	SODIUM NITRATE		0.2683	.199
7632-00-0	SODIUM NITRITE		0.2683	.199
7646-78-8	STANNIC CHLORIDE		0.1745	.130
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN)		0.2147	.160
7647-01-0	HYDROCHLORIC ACID		0.0537	.040
7647-14-5	SODIUM CHLORIDE		0.1745	.130
7647-15-6	SODIUM BROMIDE		0.0036	.003
7664-39-3	HYDROFLUORIC ACID		0.0537	.040
7664-41-7	AMMONIA		0.4429	.329
7664-93-9	SULFURIC ACID		0.0537	.040
7681-11-0	POTASSIUM IODIDE		0.4429	.329
7681-38-1	SODIUM BISULFATE		0.1745	.130
7681-49-4	SODIUM FLUORIDE		0.2683	.199
7681-52-9	SODIUM HYPOCHLORITE		0.1745	.130
7681-82-5	SODIUM IODIDE		0.2282	.170
7697-37-2	NITRIC ACID		0.0537	.040
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL		0.0537	.040
77-92-9	CITRIC ACID		0.0537	.040
7704-34-9	SULFUR		0.1745	.130
7705-07-9	TITANIUM TRICHLORIDE		0.2282	.170
7705-08-0	FERRIC CHLORIDE		0.1745	.130
7718-54-9	NICKEL (II) CHLORIDE (1:2)		0.2147	.160
7720-78-7	FERROUS SULFATE		0.2683	.199
7722-64-7	POTASSIUM PERMANGANATE		0.2683	.199
7722-84-1	HYDROGEN PEROXIDE		0.4965	.369
7727-43-7	BARIUM SULFATE		0.0429	.032
7732-18-5	WATER		8.0517	5.984
7738-94-5	CHROMIC (VI) ACID		0.0071	.005
7757-82-6	SODIUM SULFATE		0.2631	.196
7757-83-7	SODIUM SULFITE		0.0054	.004

Solid Waste Information and Tracking System
Container Listing Report

for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7758-02-3	POTASSIUM BROMIDE		0.0006	.000
7758-05-6	POTASSIUM IODATE		0.4429	.329
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT		0.1745	.130
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)		0.3488	.259
7761-88-8	SILVER NITRATE		0.2147	.160
7772-99-8	STANNOUS CHLORIDE		0.4429	.329
7773-01-5	MANGANESE CHLORIDE		0.0175	.013
7774-29-0	MERCURIC IODIDE		0.1745	.130
7778-18-9	CALCIUM SALT SULFURIC ACID		0.1745	.130
7778-50-9	DIPOTASSIUM DICHROMATE		0.0537	.040
7778-53-2	POTASSIUM PHOSPHATE		0.1745	.130
7782-42-5	GRAPHITE		0.8857	.658
7782-49-2	SELENIUM		0.0002	.000
7782-77-6	NITROUS ACID		0.0537	.040
7782-91-4	MOLYBDIC ACID		0.2282	.170
7783-18-8	AMMONIUM THIOSULFATE		0.0054	.004
7783-28-0	AMMONIUM PHOSPHATE DIBASIC		0.2683	.199
7783-36-0	MERCUROUS SULFATE		0.1745	.130
7784-27-2	ALUMINUM NITRATE		0.2147	.160
7784-46-5	SODIUM ARSENITE		0.1745	.130
7785-87-7	MANGANOUS SULFATE		0.1745	.130
7788-98-9	AMMONIUM CHROMATE		0.0805	.060
7789-00-6	POTASSIUM CHROMATE		0.1745	.130
7789-23-3	POTASSIUM FLUORIDE		0.0404	.030
7790-62-7	POTASSIUM PYROSULFATE		0.2683	.199
78-38-6	DIETHYL ETHYLPHOSPHONATE		0.0537	.040
78-51-3	2-BUTOXYETHANOL, PHOSPHATE		0.0071	.005
78-93-3	METHYL ETHYL KETONE		0.0049	.004
7803-55-6	AMMONIUM VANADATE		0.1745	.130
79-01-6	TRICHLOROETHYLENE		0.0008	.001

Solid Waste Information and Tracking System
Container Listing Report

for Package ID: 0059303
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
79-11-8	CHLOROACETIC ACID		0.2683	.199
80-55-7	METHYL LACTIC ACID (ETHYLESTER)		0.0537	.040
8001-30-7	CORN OIL		0.0071	.005
8008-20-6	KEROSENE		0.0537	.040
868-18-8	SODIUM TARTRATE		0.0805	.060
87-69-4	TARTARIC ACID		0.1745	.130
87-86-5	PENTACHLOROPHENOL		0.0134	.010
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-		0.0805	.060
9002-93-1	TRITON X-100		0.0054	.004
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER		0.0523	.039
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE		0.4429	.329
91-20-3	NAPHTHALENE		0.1745	.130
95-45-4	DIMETHYLGLYOXIME		0.4429	.329
95-48-7	O-CRESOL		0.0008	.001
98-95-3	NITROBENZENE		0.0019	.001
GCN049	ABSORBENTS (NON-SPECIFIED)		0.1611	.120
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)		56.8385	42.243
GCN113	ACRYLIC EMULSION/POLYMER		0.0102	.008
GCN126	ETHERS (NON-SPECIFIED)		0.0537	.040
GCNPCBOIL	PCB OIL		0.0002	.000
			134.5506	

Packaging Components

Component Description	Weight (kg)
10 MIL LINER	0.8000
ABSORBENT, MINERAL	8.0000
	8.8000

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0059303**
Source Facility:
Location Facility:
Shipment #:

Inner/From Relationships

Inner/from Package	Date	Operation
0062288	**05/04/2011**	**Disposal Overpack**

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Package ID:	**0062288**	Secondary Pkg ID:		Accumulation Date:	**02/10/2011**
Waste Type:	**D TRU**	Phys State Cd:	**LS**	Deadline Date:	**05/10/2011**
Sec Waste Type:	**TRU**	UHC Determination:		Ship Date:	
Encasement/HIC#:		UHC's Applicable:		TSD Receive Date:	
Profile / Rev#:	-	NFPA < 93.3C:		TSD Accept Date:	
WSRd / Rev #:	**230 - 02**	Storage Category:	**A**	Disposal Date:	

Routine Status: **100 Non-Routine / Other**

Container Type / Descr:	**DM / 55 GALLON**	Container Empty Tare Wt. (kg):	**31.6000**
Container Volume (cu. meters):	**0.2080**	Waste Weight (kg):	**147.1500**
Labpack Flag:	**N**	Container Gross Wt. (kg):	**178.7500**

Container Contents: **WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11.**

SWO Comments: **NEW CRITICALITY REVIEW NOTE COMMENT- FISSILE, CPS CONTAINER TYPE A DRUM. 07/13/06**

Generator Information

Generating Company: **CHPRC CH2M HILL PLATEAU REMEDIATION CO.** Generator ID: **0034111** Generator Group: **WRAP**

Source Facility: **2336W** Generator: **NP WILLIS**

Generator Comments: **ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE. D002 APPLIED DUE TO SUSPECT CORROSIVE LIQUIDS IDENTIFIED DURING PROCESSING AND A SUBSEQUENT REVIEW OF AK INFORMATION PROVIDED ON THE WASTESTREAM. MHM, 5/18/11.**

Billing Detail

Charge Code	COA	Company	Group ID	Percent
300017	EL00	CH2M HILL PLATEAU REMEDIATION CO.	WRAP	100.00
				100.00

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0062288**
Source Facility:
Location Facility:
Shipment #:

Hazardous Package Detail

Container Status: **Full** Flashpoint: **N/A** pH Value: **<2** Subpart CC Flag: **NA**

DW Numbers: **D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005**

RCRA Reporting

ADWR Stream Description: **WIPP-Rags, Paper, Plastic, Absorbed Acids, Organics, Spent Solvents, Metals**
Designation Code: **DW**
Source Code: **G25** **Hazardous Waste Management (requires previous management code)**
Comment: **H129**
Form Code: **W002** **Contaminated Debris, paper, cloth, rags, wood, empty fiber or plastic containers, glass, piping, or other solids**
Comment:
Origin Code: **v** **Residual waste stream derived from the management of a previously existing dangerous waste stream.**
Residual Mgmt Method: **H129** **Other Treatment**
Comment: **Repackaging, Sorting, Segregation**
Management Method:
Comment:
Certification Group:
Reportable CERCLA?:

Pre-2007 Reporting

Waste Stream: Offsite TSD Waste Stream: RCRA Designated Date:

PCB Package Detail:

PCB Type: PCB Source Concentration (PPM):
PCB Subtype: PCB Waste Weight:
PCB Contents: Removed from Service:

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0062288**
Source Facility:
Location Facility:
Shipment #:

Radioactive Package Detail

		snm Waste?:		Thermal Power (w/cu.m.):	**8.05940E-01**
Waste Category:	**GTWC3**	Shielding:	**None**	Neutron Dose Rate:	**2.00000E-01**
Combustible Flag:		Handling:	**C**	Contact Dose Rate:	**6.00000E+00**
Exceeds ISB Limit:	**Y**	RSWIMS Container Cnt:	**1**	Tot Pe-Ci:	**5.42058E+00**
NRC Class:	**>C**	Excluded from DE-Ci:		ICRP 71 DE-Ci:	**5.13959E+00**

VOC/Hydrogen Gas Diffusion Detail

H2 Diffusion Release Date: VOC Hold?: VOC Resample Date:

Current Location Information

Facility ID:	**REPACKAGED**	Tier Level:		Loc Beg Coordinates - N:	
Trench / Unit:		Tier Position:		W:	
Module:		GPS Data Flag:		Loc End Coordinates - N:	
				W:	

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: **0062288**

Source Facility:

Location Facility:

Shipment #:

Isotope Information

Isotope Number	Isotope Name	Isotope Activity (Ci)
21	Np-237	2.55000E-05
26	Am-241	1.69000E+00
41	Pu-238	2.45000E-01
97	Pu-240	1.12000E+00
98	Pu-241	1.08000E+01
99	Pu-242	1.61000E-04
100	Pu-239	2.18000E+00
202	U-234	9.74000E-05
203	U-235	1.72000E-06
206	U-238	5.20000E-05

Venting Information

Vent Code	Serial #	Install Date	Torque Wrench ID #	MT & E Range	Calibration Date	Filter Mfg Date	Summa #
NF019DS	AI-2719	02/10/2011				01/08	

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10022-31-8	BARIUM NITRATE		0.1908	.130
10025-73-7	CHROMIC CHLORIDE		0.1908	.130
10028-22-5	FERRIC SULFATE		0.1908	.130
10034-81-8	MAGNESIUM PERCHLORATE		0.1908	.130
10042-76-9	STRONTIUM NITRATE		0.1908	.130
10043-01-3	ALUMINUM SULFATE		0.0587	.040
10043-35-3	BORIC ACID		0.0078	.005
10043-52-4	CALCIUM CHLORIDE		0.2348	.160
10045-89-3	FERROUS AMMONIUM SULFATE		0.4844	.329
10045-94-0	MERCURIC NITRATE		0.1908	.130
10045-95-1	NEODYMIUM NITRATE		0.1908	.130
10099-59-9	LANTHANUM NITRATE		0.1908	.130
10099-74-8	LEAD NITRATE		0.1908	.130
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)		0.1908	.130
10102-06-4	URANYL NITRATE		0.0881	.060
10108-73-3	CEROUS NITRATE		0.2348	.160
10124-37-5	CALCIUM NITRATE		0.1908	.130
10138-04-2	FERRIC AMMONIUM SULFATE		0.4844	.329
10192-30-0	AMMONIUM BISULFITE, SOLID		0.0006	.000
10213-10-2	SODIUM TUNGSTATE		0.1908	.130
10294-26-5	SILVER SULFATE		0.1908	.130
10294-41-4	CERIUM NITRATE		0.1908	.130
10325-94-7	CADMIUM NITRATE		0.1908	.130
10361-03-2	SODIUM METAPHOSPHATE		0.1908	.130
10361-37-2	BARIUM CHLORIDE		0.1908	.130
10361-93-0	YTTRIUM NITRATE		0.1908	.130
10377-48-7	LITHIUM SULFATE		0.2348	.160
10377-60-3	MAGNESIUM NITRATE		0.2348	.160
10377-66-9	MANGANESE NITRATE		0.2348	.160
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)		0.1908	.130

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10450-60-9	PERIODIC ACID		0.1908	.130
10588-01-9	SODIUM DICHROMATE		0.1908	.130
106-44-5	P-CRESOL		0.0008	.001
106-46-7	P-DICHLOROBENZENE		0.0011	.001
107-06-2	1,2-DICHLOROETHANE		0.0001	.000
107-21-1	ETHYLENE GLYCOL		0.0003	.000
107-66-4	DIBUTYL PHOSPHATE		0.1908	.130
108-10-1	4-METHYL-2-PENTANONE		0.0048	.003
108-39-4	M-CRESOL		0.0008	.001
108-88-3	TOLUENE		0.0014	.001
108-95-2	PHENOL		0.2495	.170
110-54-3	N-HEXANE		0.0587	.040
110-82-7	CYCLOHEXANE		0.0587	.040
110-86-1	PYRIDINE		0.0023	.002
111-69-3	ADIPONITRILE		0.0587	.040
11138-49-1	SODIUM ALUMINATE		0.3815	.259
1116-76-3	TRIOCTYLAMINEINE		0.0587	.040
112-80-1	OLEIC ACID		0.0587	.040
115-40-2	BROMOCRESOL PURPLE		0.0019	.001
117-10-2	1,8-DIHYDROXYANTHRAQUINONE		0.0078	.005
12024-21-4	GALLIUM OXIDE		0.1908	.130
12044-50-7	ARSENIC (V) OXIDE, HYDRATE		0.1908	.130
12054-48-7	NICKEL HYDROXIDE		0.0704	.048
12069-32-8	BORON CARBIDE		0.1908	.130
121-14-2	2,4-DINITROTOLUENE		0.0000	.000
12125-01-8	AMMONIUM FLUORIDE		0.4844	.329
12125-02-9	AMMONIUM CHLORIDE		0.0147	.010
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE		0.0004	.000
123-31-9	HYDROQUINONE		0.0006	.000
12428-46-5	ALUMINUM HYDROXIDE SILICATE		0.4844	.329

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: **0062288**

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
126-73-8	TRIBUTYL PHOSPHATE (TBP)		0.0587	.040
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)		0.0881	.060
127-18-4	TETRACHLOROETHYLENE		0.0009	.001
1303-96-4	SODIUM BORATE, DECAHYDRATE		0.4844	.329
1305-62-0	CALCIUM HYDROXIDE		0.4844	.329
1306-38-3	CERIC OXIDE		0.9686	.658
1309-37-1	FERRIC OXIDE		0.1908	.130
1309-48-4	MAGNESIUM OXIDE		0.1908	.130
1309-60-0	LEAD DIOXIDE		0.3815	.259
1310-58-3	POTASSIUM HYDROXIDE		0.4844	.329
1310-65-2	LITHIUM HYDROXIDE		0.0023	.002
1310-73-2	SODIUM HYDROXIDE		0.4697	.319
13106-76-8	AMMONIUM MOLYBDATE		0.5430	.369
1313-13-9	MANGANESE DIOXIDE		0.1908	.130
1313-97-9	NEODYMIUM OXIDE		0.2348	.160
13138-45-9	NICKEL (II) NITRATE (1:2)		0.1908	.130
1314-13-2	ZINC OXIDE		0.1908	.130
1314-35-8	TUNGSTEN TRIOXIDE		0.2348	.160
1314-56-3	PHOSPHORUS PENTOXIDE		0.1908	.130
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC		0.0881	.060
1317-38-0	COPPER OXIDE		0.0881	.060
1317-65-3	CALCIUM CARBONATE		0.9686	.658
1317-99-3	URANIUM OCTAOXIDE		0.1908	.130
1318-00-9	VERMICULITE, EXFOLIATED		7.3384	4.987
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID		0.1908	.130
1330-20-7	XYLENE (MIXED ISOMERS)		0.0587	.040
1331-17-5	PROPYLENE GLYCOL		0.0078	.005
1332-21-4	ASBESTOS		0.7339	.499
1333-82-0	CHROMIUM TRIOXIDE		0.1908	.130
1335-30-4	ALUMINUM SILICATE		0.1908	.130

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
1336-21-6	AMMONIUM HYDROXIDE		0.9686	.658
13410-01-0	SODIUM SELENATE		0.1908	.130
1344-28-1	ALUMINUM OXIDE		0.1908	.130
1344-64-5	VANADYL SULFATE		0.1908	.130
13463-67-7	TITANIUM OXIDE		0.3815	.259
13464-37-4	ARSENOUS ACID, TRISODIUM SALT		0.0587	.040
13465-08-2	HYDROXYLAMINE NITRATE		0.0587	.040
13478-10-9	FERROUS CHLORIDE		0.2935	.199
13590-82-4	CERIUM SULFATE		0.1908	.130
13708-85-5	SODIUM PHOSPHITE		0.1908	.130
13746-66-2	POTASSIUM FERROCYANIDE		0.9686	.658
13778-30-8	ZINC NITRATE		0.2348	.160
13823-29-5	THORIUM NITRATE		0.1908	.130
13826-66-9	ZIRCONYL NITRATE		0.2348	.160
13870-30-9	SODIUM SILICATE		0.1908	.130
139-13-9	NITRILOTRIACETIC ACID		0.0587	.040
140-01-2	PENTASODIUM PENTETATE (DTPA)		0.0587	.040
14258-49-2	AMMONIUM OXALATE		0.5430	.369
143-19-1	SODIUM OLEATE		0.4844	.329
143-66-8	SODIUM TETRAPHENYL BORON POWDER		0.1908	.130
144-33-2	SODIUM CITRATE		0.4844	.329
144-55-8	SODIUM BICARBONATE		0.0059	.004
144-62-7	OXALIC ACID		0.0587	.040
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE		0.1908	.130
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-		0.0587	.040
17194-00-2	BARIUM HYDROXIDE		0.5430	.369
1762-95-4	AMMONIUM THIOCYANATE		0.2935	.199
19004-19-4	COPPER (II) NITRATE		0.2348	.160
20667-12-3	SILVER (1+) OXIDE		0.1908	.130
21041-95-2	CADMIUM HYDROXIDE		0.1615	.110

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
21908-53-2	MERCURIC OXIDE		0.1908	.130
2466-09-3	DIPHOSPHORIC ACID		0.0587	.040
25155-30-0	SODIUM DODECYLBENZENESULFONATE		0.1908	.130
25322-68-3	POLYETHYLENE GLYCOL		0.0017	.001
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-		0.0587	.040
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE		0.0587	.040
298-14-6	POTASSIUM BICARBONATE		0.0000	.000
301-04-2	LEAD ACETATE		0.3815	.259
304-59-6	POTASSIUM SODIUM TARTRATE		0.1908	.130
326-91-0	THENOYLTRIFLUOROACETONE		0.0078	.005
3811-04-9	CHLORIC ACID, POTASSIUM SALT		0.1908	.130
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-		0.0587	.040
496-74-2	TOLUENE-3,4-DITHIOL		0.1908	.130
497-19-8	SODIUM CARBONATE		0.1908	.130
50-00-0	FORMALDEHYDE		0.0544	.037
50-81-7	ASCORBIC ACID		0.0587	.040
506-64-9	SILVER CYANIDE		0.1908	.130
51-28-5	DINITROPHENOL, 2,4-		0.0078	.005
513-77-9	BARIUM CARBONATE		0.0191	.013
526-95-4	GLUCONICACID 50% IN WATER		0.0587	.040
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE		0.0485	.033
55-55-0	P-METHYLAMINOPHENOL SULFATE		0.0006	.000
56-23-5	CARBON TETRACHLORIDE		0.0009	.001
56-40-6	GLYCINE		0.0019	.001
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL		0.0587	.040
57-13-6	UREA		0.0881	.060
57-50-1	SUCROSE		0.2348	.160
57-55-6	1,2-PROPANEDIOL		0.0176	.012
584-08-7	POTASSIUM CARBONATE		0.1908	.130
592-85-8	MERCURIC THIOCYANATE		0.1908	.130

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)		0.0587	.040
6131-90-4	SODIUM ACETATE		0.0294	.020
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)		0.1908	.130
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE		0.0006	.000
631-61-8	AMMONIUM ACETATE		0.0030	.002
63231-67-4	SILICA GEL		0.1908	.130
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE		0.1908	.130
64-17-5	ETHANOL		0.0587	.040
64-18-6	FORMIC ACID		0.0587	.040
64-19-7	ACETIC ACID		0.0101	.007
64742-38-7	NORMAL PARAFFINS		0.4844	.329
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)		0.0587	.040
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)		0.1908	.130
65997-15-1	PORTLAND CEMENT		19.5640	13.295
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-		0.0587	.040
67-56-1	METHANOL		0.0001	.000
67-63-0	ISOPROPYL ALCOHOL		0.0587	.040
67-64-1	ACETONE		0.0235	.016
67-66-3	CHLOROFORM		0.0009	.001
67-72-1	HEXACHLOROETHANE		0.0004	.000
69-65-8	D-MANNITOL		0.0587	.040
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN		0.3376	.229
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU		0.2788	.189
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM		0.2935	.199
71-36-3	BUTYL ALCOHOL		0.0004	.000
71-43-2	BENZENE		0.0014	.001
71-55-6	1,1,1-TRICHLOROETHANE		0.0587	.040
7429-90-5	ALUMINUM		0.4549	.309
7439-89-6	IRON		0.2348	.160
7439-92-1	LEAD			

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0062288**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
			0.0007	.000
7439-95-4	MAGNESIUM		0.2348	.160
7439-97-6	MERCURY		0.0000	.000
7439-98-7	MOLYBDENUM		0.2348	.160
7440-02-0	NICKEL		0.1027	.070
7440-06-4	PLATINUM		0.1908	.130
7440-22-4	SILVER		0.0007	.000
7440-31-5	TIN		0.0587	.040
7440-38-2	ARSENIC		0.0007	.000
7440-39-3	BARIUM		0.0147	.010
7440-41-7	BERYLLIUM		0.0235	.016
7440-43-9	CADMIUM		0.0002	.000
7440-44-0	CARBON		0.0078	.005
7440-47-3	CHROMIUM		0.0007	.000
7440-50-8	COPPER		0.4844	.329
7440-57-5	GOLD		0.0000	.000
7440-62-2	VANADIUM		0.2348	.160
7440-66-6	ZINC		0.4990	.339
7440-67-7	ZIRCONIUM		0.2348	.160
7446-70-0	ALUMINUM CHLORIDE		0.0881	.060
7447-40-7	POTASSIUM CHLORIDE		0.4844	.329
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)		0.0000	.000
75-09-2	DICHLOROMETHANE		0.1908	.130
75-35-4	1,1-DICHLOROETHYLENE		0.0001	.000
75-77-4	TRIMETHYL CHLOROSILANE		0.0078	.005
7553-56-2	IODINE		0.1908	.130
7558-79-4	SODIUM PHOSPHATE DIBASIC		0.1908	.130
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.0073	.005
7601-90-3	PERCHLORIC ACID		0.0587	.040
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)		0.1468	.100

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7631-99-4	SODIUM NITRATE		0.2935	.199
7632-00-0	SODIUM NITRITE		0.2935	.199
7646-78-8	STANNIC CHLORIDE		0.1908	.130
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN)		0.2348	.160
7647-01-0	HYDROCHLORIC ACID		0.0587	.040
7647-14-5	SODIUM CHLORIDE		0.1908	.130
7647-15-6	SODIUM BROMIDE		0.0039	.003
7664-39-3	HYDROFLUORIC ACID		0.0587	.040
7664-41-7	AMMONIA		0.4844	.329
7664-93-9	SULFURIC ACID		0.0587	.040
7681-11-0	POTASSIUM IODIDE		0.4844	.329
7681-38-1	SODIUM BISULFATE		0.1908	.130
7681-49-4	SODIUM FLUORIDE		0.2935	.199
7681-52-9	SODIUM HYPOCHLORITE		0.1908	.130
7681-82-5	SODIUM IODIDE		0.2495	.170
7697-37-2	NITRIC ACID		0.0587	.040
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL		0.0587	.040
77-92-9	CITRIC ACID		0.0587	.040
7704-34-9	SULFUR		0.1908	.130
7705-07-9	TITANIUM TRICHLORIDE		0.2495	.170
7705-08-0	FERRIC CHLORIDE		0.1908	.130
7718-54-9	NICKEL (II) CHLORIDE (1:2)		0.2348	.160
7720-78-7	FERROUS SULFATE		0.2935	.199
7722-64-7	POTASSIUM PERMANGANATE		0.2935	.199
7722-84-1	HYDROGEN PEROXIDE		0.5430	.369
7727-43-7	BARIUM SULFATE		0.0469	.032
7732-18-5	WATER		8.8060	5.984
7738-94-5	CHROMIC (VI) ACID		0.0078	.005
7757-82-6	SODIUM SULFATE		0.2877	.196
7757-83-7	SODIUM SULFITE		0.0059	.004

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7758-02-3	POTASSIUM BROMIDE		0.0006	.000
7758-05-6	POTASSIUM IODATE		0.4844	.329
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT		0.1908	.130
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)		0.3815	.259
7761-88-8	SILVER NITRATE		0.2348	.160
7772-99-8	STANNOUS CHLORIDE		0.4844	.329
7773-01-5	MANGANESE CHLORIDE		0.0191	.013
7774-29-0	MERCURIC IODIDE		0.1908	.130
7778-18-9	CALCIUM SALT SULFURIC ACID		0.1908	.130
7778-50-9	DIPOTASSIUM DICHROMATE		0.0587	.040
7778-53-2	POTASSIUM PHOSPHATE		0.1908	.130
7782-42-5	GRAPHITE		0.9686	.658
7782-49-2	SELENIUM		0.0002	.000
7782-77-6	NITROUS ACID		0.0587	.040
7782-91-4	MOLYBDIC ACID		0.2495	.170
7783-18-8	AMMONIUM THIOSULFATE		0.0059	.004
7783-28-0	AMMONIUM PHOSPHATE DIBASIC		0.2935	.199
7783-36-0	MERCUROUS SULFATE		0.1908	.130
7784-27-2	ALUMINUM NITRATE		0.2348	.160
7784-46-5	SODIUM ARSENITE		0.1908	.130
7785-87-7	MANGANOUS SULFATE		0.1908	.130
7788-98-9	AMMONIUM CHROMATE		0.0881	.060
7789-00-6	POTASSIUM CHROMATE		0.1908	.130
7789-23-3	POTASSIUM FLUORIDE		0.0441	.030
7790-62-7	POTASSIUM PYROSULFATE		0.2935	.199
78-38-6	DIETHYL ETHYLPHOSPHONATE		0.0587	.040
78-51-3	2-BUTOXYETHANOL, PHOSPHATE		0.0078	.005
78-93-3	METHYL ETHYL KETONE		0.0053	.004
7803-55-6	AMMONIUM VANADATE		0.1908	.130
79-01-6	TRICHLOROETHYLENE		0.0009	.001

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0062288

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
79-11-8	CHLOROACETIC ACID		0.2935	.199
80-55-7	METHYL LACTIC ACID (ETHYLESTER)		0.0587	.040
8001-30-7	CORN OIL		0.0078	.005
8008-20-6	KEROSENE		0.0587	.040
868-18-8	SODIUM TARTRATE		0.0881	.060
87-69-4	TARTARIC ACID		0.1908	.130
87-86-5	PENTACHLOROPHENOL		0.0147	.010
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-		0.0881	.060
9002-93-1	TRITON X-100		0.0059	.004
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER		0.0572	.039
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE		0.4844	.329
91-20-3	NAPHTHALENE		0.1908	.130
95-45-4	DIMETHYLGLYOXIME		0.4844	.329
95-48-7	O-CRESOL		0.0008	.001
98-95-3	NITROBENZENE		0.0021	.001
GCN049	ABSORBENTS (NON-SPECIFIED)		0.1761	.120
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)		62.1629	42.245
GCN113	ACRYLIC EMULSION/POLYMER		0.0112	.008
GCN126	ETHERS (NON-SPECIFIED)		0.0587	.040
GCNPCBOIL	PCB OIL		0.0002	.000
			147.1497	

Inner/From Relationships

Inner/from Package	Date	Operation
0031161	02/09/2011	WRAP Waste Processing

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: **0062288**

Source Facility:

Location Facility:

Shipment #:

Outer/Into Relationships

Outer/to Package	Date	Operation
0059303	**05/04/2011**	**Disposal Overpack**

DCMP Issues

Issue	Status	Date Entered	Date Resolution Completed	Final Resolution
Inconsistent Inventory	Open	05/17/11		
Physical Damage/Corrosion (30-day mitigation clock)	Closed	04/26/11	05/05/11	See ACMP Container Form Container is overpacked and Recovery Plan is complete--RJB 05/09/2011

Attachment VIII

Department of Energy
Washington, DC 20585

JUN 3 0 2011

MEMORANDUM FOR DISTRIBUTION

FROM: DR. ROBERT GOLDSMITH
DIRECTOR OF SAFETY OPERATIONS ASSURANCE
OFFICE OF SAFETY MANAGEMENT

SUBJECT: Safety Alert - Leaking Drums

Two sites have recently experienced releases of highly radioactive liquid waste during routine drum operations. The drums failed due to extremely rapid corrosion from acidic liquids in the waste. The releases generated airborne radioactive conditions that challenged the ability of the sites to contain the leaks and subsequently clean up the areas. The attached Safety Alert describes the events, highlights the potential concerns, and recommends several actions for sites that handle drums of radioactive waste.

While recommended actions are not mandatory and a response to this Safety Alert is not required, we will examine the response during routine assessments and site visits. If you have any questions please call me at (301) 903-4954.

Attachment

cc: R. Lagdon, S-3
I. Triay, EM-1
D. Chung, EM-2
C. Anderson, EM-3
K. Picha, EM-20 (Acting)
J. Hutton, EM-21 (Acting)
R. Murray, EM-23
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Kevin Bazzell, Federal Project Director, Stanford Linear Accelerator Center (SLAC)

Office of Environmental Management

Safety Alert
Radioactive Liquid Release from Drums

June 2011

Summary

During the past year, transuranic (TRU) waste drums at two Environmental Management (EM) sites have failed, releasing acidic and highly radioactive liquid wastes. In both cases, the failed waste drums were relatively new and had corroded from the inside, thus providing no indication of their imminent failure. The resulting high contamination and airborne radioactivity levels severely hindered the ability of facility personnel at both sites to reenter the areas and contain the release in a timely fashion.

Savannah River Site

(EM-SR--SRNS-CPWM-2010-0010)

During drum retrieval activities, a severely corroded 55 gallon drum was recovered from a water filled culvert. Real Time Radiography (RTR) showed the drum to have free liquid inside, but the composition of the liquid was unknown. Per site practice, the drum was overpacked into a new 85- gallon DOT Type 7A liquid-rated container and stored at TRU Pad 16. The overpack did not have a plastic liner.

Approximately 2 years later, on July 27, 2010, the overpacked drum was rolled off a pallet in preparation for movement. An approximately 1 inch diameter piece of the overpack bottom failed and liquid began running out.

The hole developed in an otherwise solid looking drum. The blue material is a fixative applied to reduce the spread of contamination

Hanford Site

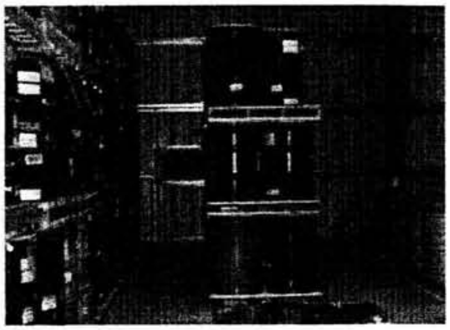
(EM-RL—CPRC-WRAP-2011-0002)

A 55 gallon drum that had been retrievably buried in 1979 was recovered in 2006 and placed in the queue for remediation for shipment to Waste Isolation Pilot Plant. RTR showed an inner liner, an absence of debris and a mass consistent with absorbed liquid. The drum was transferred to Waste Receiving and Processing Facility (WRAP) for remediation. Efforts to prepare the drum for disposal consisted of pouring the drum contents onto a sorting table and testing the contents. The absorbed liquid was found to have a pH of 2 or less. Baking Soda was added to neutralize the liquid; however no pH testing was performed after the addition to determine if the treatment was effective. The contents were repacked into 2 daughter drums without liners. These drums had an acrylic paint coating on the inside. Approximately 2 months later, one of the daughter drums was found leaking during a routine inspection.

Office of Environmental Management

Safety Alert
Radioactive Liquid Release from Drums

June 2011



Cramped operating conditions in the drum aisle impacts the response

Response

Follow-up radiological surveys at the TRU Pad 16 and WRAP facilities indicated transuranic radioactive contamination levels up to 58 million and 73 million disintegrations per minute per 100 square centimeters (DPM/100 cm2) respectively. These extremely high contamination levels also created the potential for airborne radioactivity concentrations that exceeded the protection factors of the powered air purifying respirators (PAPR) routinely used by both facilities. After initial immediate actions to contain the leaks, both facilities opted to prescribe respiratory protection devices with higher protection factors (airfed suits and self-contained breathing apparatus) to support entries for decontamination of the spill areas; however facility personnel were not currently trained on the more protective respiratory protection devices. Consequently, each facility required a minimum of five days to obtain the necessary equipment, train personnel, and plan and conduct a re-entry to the facility and overpack the leaking drums. Surface contamination levels were significant and hampered operations while the cleanup was undertaken.

Drum pallet destacked and leaking drum overpacked.

Observations

The Office of Safety Operations Assurance (EM-22) review of the events and discussion with Department of Energy and contractor personnel identified the following:

- The sudden failure of the drums, without any external indications of failure is troubling. Without any obvious signs that a drum is structurally under attack, actions to prevent or mitigate such failures are difficult to plan.
- Any drum containing free liquid or damp materials has the potential for failure.
- Of particular concern is the possibility of a drum failure while in transit. At both sites, drums are moved using forklifts and any spill during these movements

would be uncontained, with the potential for release onto the ground.

- Waste drums known to contain liquids were not routinely segregated or stored in a manner different from other waste drums. No special treatment or precautions were taken when moving known liquid-containing drums.
- Facility procedures for leaking drum spill response had generic guidance (i.e., "use the SWIMS procedure") and did not address potential chemical concerns.
- Spill response may require special PPE to protect workers from strong acids and bases. Radioactive response to these events will require high levels of personnel protection.

Imposing requirements to treat all drums as a potential release of the magnitude experienced from the two events would be prohibitively expensive and the mitigative actions would rapidly grind drum movements to a halt.

Screening to identify potentially high risk drums, actions to mitigate the failure of those drums and advanced planning to respond to such drum failures are necessary.

Recommended Actions

EM facilities currently handling and storing radioactive waste drums should review this Safety Alert and evaluate its applicability to their own operations. In particular, such facilities should take actions to ensure they meet the following objectives:

1. Sites should develop a process to identify those drums with higher potential for leakage. Drums that may contain free liquids and/or damp materials should have the threat to the integrity of the drum assessed.

2. Each site should develop the capability to mitigate a leak from the drums identified as having higher potential risk. This should include drums in storage and in transit.

Overpacked drum stored on a spill pallet

3. Sites should ensure they have an effective capability in place to respond to leaking drums in a timely fashion regardless of where they occur. To meet this objective, facility response procedures should provide appropriate detail, PPE should be readily available and appropriate for event conditions, and individuals should be currently trained for all levels of required PPE and in event response procedures.

4. Each site should conduct training with realistic drill scenarios to test its ability to respond to an unexpected release of radioactive liquid from a drum. This should have the facility response integrated with site emergency services.

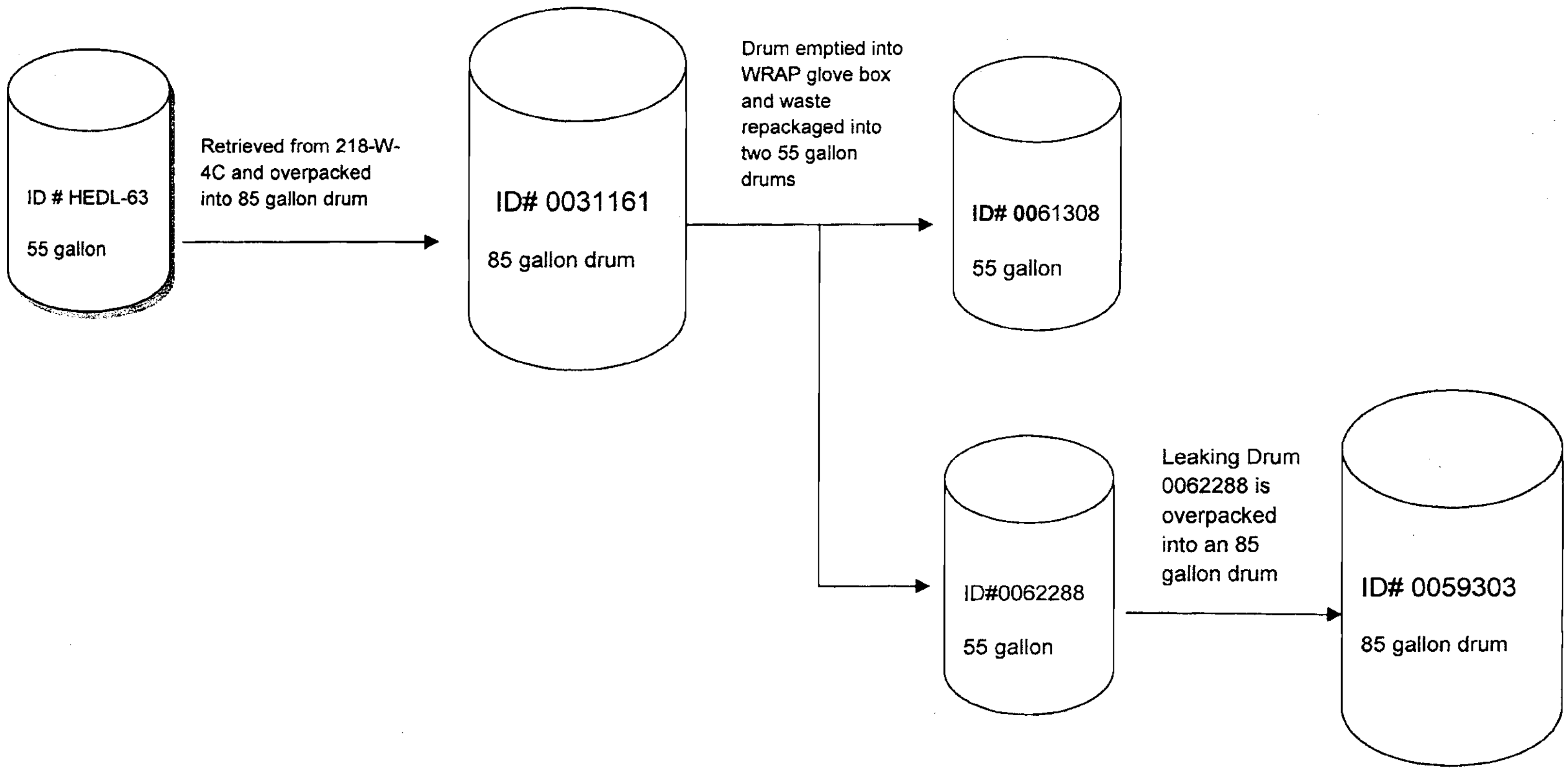
Questions concerning this EM Safety Alert should be directed to Terry Tracy (301) 903-7964 or Ed Westbrook (303) 236-3673 of EM-22.

Dr. Robert Goldsmith

Director, Office of Operations Assurance

Attachment IX

Drum Relationships to HEDL-63



Timeline and management of waste drum HEDL-63 from generation to repackage (Drum 0062288).
5/20/11

Date	Action
05/17/78	HEDL-63, a 55 gallon drum packaged at 325 building and transferred to 324 for shipment to 200 West Area **(see Reference 4 below).**
05/18/79	HEDL-63 is retrievably stored in 218-W-4C Burial ground, Trench 4.
11/26/03	Issuance of the Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site 325 Radiochemistry Mixed Debris Waste Stream RLM325D. (CCP-AK-RL-003) **Reference 1**
07/27/04	Memo from M. Lakes to C. Girres on "325 Facility Debris Waste Stream Designation" **(Reference 2)** that summarizes the Waste Services review of CPP-AK-RL-003.
09/07/04	Designation"325-DES-01-00" **(Reference 3)** for 325 TRU Debris waste stream completed by Waste Services.
03/30/06	Waste Retrieval Project retrieves HEDL-63 from 4C, Trench 4 and overpacks it into an 85 gallon drum # 0031161 due to corrosion. The inner liner was intact. **(See Reference 4's "Attachment 1 - Overpack Data Sheet" pg 2)**.
04/18/06	Addendum to TSD record is filed by Waste Services for 0031161 to document the burial and retrieval activities. Addendum includes "Updating Overpack Container Checklist, ADDENDUM" pg 1; "Attachment 1 - Overpack Data Sheet" pg 2; "Addendum to TSD Record" with the revised isotopic inventory spreadsheet, Pg 3); "Reference Material" Pg 4; "Solid Waste Burial Record" Pg 5, 6; and the "Nuclear Material Transaction Report" Pg 7. **(Reference 4)**
05/23/06	Designation # 325-DES-01-00 applied to drum 0031161 in SWITS to prepare it for transfer to CWC. **(Reference 5, pg 1)**
06/05/06	Drum 0031161 is reviewed and approved by Waste Services for transfer to CWC. Drum is transferred to CWC by Waste Retrieval Project and is received and placed in storage at 2403WA. **(Reference 5, pg 2-10)**
11/14/06	Acceptable Knowledge Document for the 325 Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D approved. (HNF-30810, Rev 0) **(Reference 6)**
07/17/07	Revision to Acceptable Knowledge Document for the 325 Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D approved. (HNF-30810, Rev1) **(Reference 7)** - previously provided on May 3)
08/26/08	Drum 0031161 is transferred to WRAP building 2404WB for RTR and Assay feed.
09/03/08	Drum 0031161 is transferred to WRAP building 2336W and RTR is performed. Radiographer identifies no prohibited liquids or items, but does identify waste is greater than 50% non-debris (doesn't meet the debris waste stream description) that is contained in a sealed container (inner liner) greater than 4 liters (WIPP WAC prohibits sealed containers > 4 liters). **(Reference 8)**
09/04/08	Drum 0031161 is assayed at WRAP building 2336W.
09/05/08	Drum 0031161 is transferred to WRAP building 2404WB to await transfer to CWC.
09/23/08	TRUEDMT database updated and waste stream changed to reflect TRU S3000 (homogeneous solids) waste determination. **(Reference 9)**
11/13/08	Designation # 325-DES-01-00 is revised and # 325-DES-01-01 **(Reference 10)** applied to drum 0031161 in SWITS.

Timeline and management of waste drum HEDL-63 from generation to repackage (Drum 0062288).
5/20/11

Date	Action
11/20/08	Addendum to TSD record filed for 0031161 and SWITS updated to include 55 gallon inner drum as waste component not packaging. **(Reference 11)**
02/23/09	Assay of record data uploaded to SWITS; isotopic distribution and activity and TRU calculation for 0031161 is updated by WRAP Operations Technical Support.
04/10/09	Addendum to TSD record filed by WRAP WMR for 0031161 to reflect new isotopic distribution, activity and TRU calculation resulting from Assay of Record. **(Reference 12)**
07/16/09	Empty drum 0062288 received at WRAP building 2336W from stores warehouse 2101M
09/24/09	Drum 0031161 is transferred to CWC and stored at building 2403WA.
05/07/10	TRU Information Bulletin "TRU-IB-10-010" published for "325 Radiochemistry Building Comprehensive Homogeneous Solids Waste Stream S3000 RLM325." **(Reference 13)**
10/20/10	Drum 0031161 is transferred to WRAP building 2404WB as WRAP prepares to restart repackage line.
01/11/11	Drum 0031161 is transferred to WRAP building 2336W for repackage.
02/07/11	Empty drum 0062288 transferred to the WRAP building 2336W Process Area
02/09/11	Drum 0031161 contents are removed in WRAP Process Area TRU Line Glovebox. The sealed 50 gal liquid liner was cut up. The absorbent material was found to be acidic (pH <2) using a pH strip and 4.5 lbs of baking soda was added to neutralize. The waste was packaged into two new 55 gallon drums, # 0062288 **(Reference 14)** and 0061308 **(Reference 15)**.
03/11/11	Drum 0062288 moved from the Process Area to the WRAP building 2336W NDE/NDA Area
03/14/11	Drum 0062288 was weighed, assayed in WRAP GEA-B vault and transferred to 2404WB row WB-08. It remained in this row until the leak was discovered on 4/26/2011.
04/26/11	Liquids discovered on the bottom edge of Drum 0062288. Operational activities in 2404-WB ceased and the development of a recovery plan was initiated. Issue on drum 006288 entered into the Discrepant Container Management Program (DCMP).
05/03/11	Recovery activities were initiated and Drum 0062288 was overpacked into Drum 0059303 and the contaminated pallet wrapped **(Reference 16 and Reference 17)**. Drum 0061308 was inspected and no issues identified.
05/05/11	0062288 issue in DCMP closed after overpacking container. **(Reference 18)**
05/10/11	In consultation with Waste Support Services, direction was provided for the 85 gallon overpack drum 0059303 to be labeled and managed as Corrosive (D002). This labeling occurred on 5/10/2011 and Drum 0061308 was placed on a spill pallet. Due to contamination, Overpack Drum 0059303 (containing drum 0062288) remained in the decontamination area.
05/11/11	Overpack Drum 0059303 (containing Drum 0062288) was placed on a spill pallet.
05/12/11	Three other similar drums entered in the Discrepant Container Management Program (0062289, 0081216, and 0061308) as Unknown Contents - Suspect Contents. **(Reference 19)**

Timeline and management of waste drum HEDL-63 from generation to repackage (Drum 0062288). 5/20/11

Date	Action
05/16/11	Received instructions from Waste Services that containers with HEDL waste are to be labeled as “corrosive”, have the D002 applied in SWITS, the pH identified as pH<2, the storage category updated to “A” for Acids, and the physical type changed to L/S (liquid/solid). These containers are: 0025025, 0025090, 0028846, 0028928, 0029796, 0029841 (repackaged to 0062289, 0081216), 0030841, 0030851, 0031159, 0031161 (repackaged to 0062288, 0061308), 0031164, 0031165, 0034390, 0034274, 0034364. **(Reference 20)**
05/17/11	Because additional SWITS updates are needed for the containers identified in the 5/16/11 list, an additional DCMP item "inconsistent inventory" was created for each container. Example DCMP history report attached **(Reference 21)**

Print Date: 12/07/2005

Procurement Initial and Date ______
M&TE Initial and Date ______
Training Initial and Date n/a
Procedure Initial and Date ______

Records Transmittal Sheet - Project - TRU Waste Certification Program

If sent from facility please check one: ☐ SPO ☐ PFP ☐ WRAP ☐ WSCF ☒ WST

Accession Number:
TRU-WST-11.4.4-1206200539702

Initiator/Transmitter:
Print Name: R J Swan
Signature: [signature] Date: 1/31/06

Initial Page Count: ~~51~~ 50 nw 2/8/06
Final Page Count: ~~50~~ 51 KP 3/14/08

Date: 12/06/2005

Document Number: ~~WST Not Available~~ CCP-AK-RL-003 Revision 0 KM 3/6/08

This document is: ☒ New Document ☐ Addition - Add to Previous Submittal ☑ Final Closure Document

Document Title: Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site 325 Radiochemistry Building Transuranic Debris

Index Category:
- ☐ 10 Site Certification
- ☑ 11 Waste Characterization and Certification
- ☐ 12 Transportation and Packaging
- ☐ 13 Procurement
- ☐ 14 Quality Assurance
- ☐ 15 Personnel Qualification and Training
- ☐ 16 Policies Plans and Procedures
- ☐ 17 Calibration/M&TE
- ☐ 18 Records Management (Records use only)
- ☐ 19 General Correspondence
- ☐ 20 Reference Material

Reference/Key Words used for Customer Document Retrieval:
~~WST~~ CCP, AK, 325 Building, 300 Area, ~~AK~~ TRU debris, Radiochemistry KM 3/6/08

* Note: Two copies of electronic media are labeled with responsible organization, activity title, sampling batch numbers, inclusive dates, and identification of hardware and software used.

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Site Project Office Receipt Date: 2/8/06

Receipt Print Name: Nettie Watson Signature: [signature]

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Print Name: Krishna Pandey
Signature: [signature] **Date:** 3/14/08

Courier/Expeditor/Transmitter:
Print Name: n/a **Date:** ______
Signature: ______

ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT SUMMARY

Site: Hanford	Source Document Tracking Number: TRU-WST-11.4.4-1206200539702
Acceptable Knowledge Documentation Type: ☒ TRU Waste Management Program Information ☒ Waste Stream Specific Information ☐ Supplemental Information	Category: ☐Published Document or Controlled Database ☒Unpublished Data ☐ Internal Procedure or Note ☐ Correspondence

Title of Source Document: Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site, 325 Radiochemistry Building Transuranic Debris

Description of Source Document: Describes the 325 Radiochemistry Building, Transuranic Debris

Source Document Reference Information (author(s), document and revision number, date, publisher):
Author(s): D.H. Haar; Document #: CCP-AK-RL-003, Rev. 0; Date: November 26, 2003, Publisher: Not Published

AK # [a]	Source Doc. Page #	Source Document Summary
PR2	7-14	Discusses the site mission, waste generation, and management.
PR3	13-24	Provides an overview of the site and waste management.
PR4	13-24	Describes historical waste operations.
WS2	22	Discusses areas where waste was generated.
WS7	24-25	Indicates waste material parameters present in the waste stream.
WS9	25-26	Identifies radionuclides in the waste stream.
WS10	26-37	Discusses hazardous constituents in the waste stream.

Source Document Data Limitations (if any):
Document does not include a map or layout of the facility

Data Collector: R. J. Swan [signature] Date: 1/12/06
Print/Sign

Site Project Manager K.M. McDONALD / Kurt McDonald Date: 3/6/08
(or designee) Print/Sign

[a]Obtain from Acceptable Knowledge Documentation Checklist

2

Controlled
Copy

CCP-AK-RL-003

Central Characterization Project
Acceptable Knowledge Summary Report
For

HANFORD SITE
325 RADIOCHEMISTRY BUILDING TRANSURANIC DEBRIS
REVISION 0
November 26, 2003

David H. Haar

Printed Name

APPROVED FOR USE

RECORD OF REVISION

Revision Number	Date Approved	Description of Revision
0	11/26/2003	Initial issue.

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LIST OF ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
Am	Americium
CCP	Central Characterization Project
CFR	Code of Federal Regulations
CH	contact-handled
Cm	Curium
Cs	Cesium
CWC	Central Waste Complex
DOE	United States Department of Energy
DOT	United States Department of Transportation
EPA	United States Environmental Protection Agency
FFTF	Fast Flux Test Facility
HEPA	High Efficiency Particulate Air
HWFP	Hazardous Waste Facility Permit
HWTU	Hazardous Waste Treatment Unit
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
m^3	cubic meters
MAS-NMR	Magnetic Angle Spinning Nuclear Magnetic Resonance Spectrometry
MBA	Material Balance Area
MSDSs	Materials Safety Data Sheets
Np	neptunium
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PFP	Plutonium Finishing Plant
PRF	Plutonium Recovery Facility
Pu	plutonium
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
RTR	Real-Time Radiography
SAL	Shielded Analytical Laboratory
SEM	Scanning Electron Microscopy
Sr	strontium
TIMS	Thermal Ionization Mass Spectrometry
TRU	Transuranic
TRUSAF	Transuranic Storage and Assay Facility
TWBIR	Transuranic Waste Baseline Inventory Report
U	Uranium
WAC	Waste Acceptance Criteria
WIPP	Waste Isolation Pilot Plant
WIPP-WAC	Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant
WIPP-WAP	WIPP Hazardous Waste Facility Permit Waste Analysis Plan

1.0 Executive Summary

This document has been prepared for the Central Characterization Project (CCP) for contact-handled (CH) transuranic (TRU) waste generated at the 325 Radiochemistry Building located in the 300 Area at the Hanford Site. This report presents the required characterization information for the mixed debris waste stream (RLM325D.001) associated with process operations and building deactivation activities.

The CCP is tasked with certification of CH-TRU waste for transportation to and disposal at the Waste Isolation Pilot Plant (WIPP). The procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1), describes how acceptable knowledge (AK) is compiled and confirmed by the CCP. The CCP is responsible for AK development in accordance with CCP procedures and will review and approve this Acceptable Knowledge Summary Report and maintain this document and supporting AK source documentation as CCP quality assurance records. The CCP maintains responsibility for all referenced documentation, which will be stored at the CCP Records Center, Carlsbad, New Mexico.

This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for the characterization of waste generated by the 325 Radiochemistry Building operations. The references and AK sources used to prepare this report are listed in Attachment 1. The AK sources referenced within this report by alphanumeric designations (i.e., C001, P001, D001, and U001), correspond to the Source Document Tracking Number using the following convention:

- C – Correspondence
- P – Published Documents and Procedures
- U – Unpublished Documentation and Data
- D – Discrepancy Resolution Reports

This AK report includes information relating to the facility's history, process operations, and waste management practices. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, RCRA permit applications, facility procedures, generator and storage facility waste records, and interviews with cognizant personnel.

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the "*Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant*" (HWFP) (Reference 2). This document and supporting references provide the mandatory waste program management and waste stream-specific AK information for the 325 Radiochemistry Building TRU waste generated between 1970 and 2002. This AK document contains a description of the TRU waste generating facilities and the waste management practices at the time of waste generation.

2.0 Waste Stream Identification Summary

Site Where TRU Waste Was Generated:

Generation Location:
Hanford Site
P.O. Box 1000
Richland, Washington 99352-1000

Facility Where TRU Waste Was Generated:

325 Building – Radiochemistry Building and High-Level Radiochemistry Annex

Facility Mission:

The 325 Radiochemistry Building was built in 1953 to safely house and handle mutli-curie or high activity chemical development work. The High-Level Radiochemistry Annex was added to the facility in 1959 and 1960. Combined these two analytical operations were the largest among Hanford's laboratories. Section 4.4.3 provides a discussion of the missions associated with this facility.

Waste Stream RLM325D.001 (Mixed Debris)

Summary Category Group:	S5000
Waste Matrix Code Group:	Heterogeneous Debris
Waste Matrix Code:	S5400 (Heterogeneous Debris)
TRUPACT-II Content Code (TRUCON):	RH225A - AM
Waste Type Code:	MTRU
Waste Stream TWBIR Identification:	RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398
Layers of Confinement:	Maximum of four layers

Waste Stream Description: This debris waste stream was generated during laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium (Reference C001, P012, P016, P027, and P041). These analyses, performed in gloveboxes, fume hoods and hot cells, used a wide variety of electrochemical, spectrophotometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Specific waste items may include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, aerosol cans, High Efficiency Particulate Air (HEPA) filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids have been placed in some drums. Also included are sample residues from fuel pellets, tank wastes, ceramics and grouted plutonium in cans (Reference 10, C001, C003, P050, and U001).

Waste stream RLM325D.001 was determined to contain RCRA regulated constituents and is assigned the following EPA Hazardous Waste Codes: F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D033, D034, D037, D041, and D043. See Section 5.4 for the rationale for assignment of these codes.

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D.001. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment (Reference C001, C002, P002, P003, P031, P037, and U001).

TRUCON Code RH225 is assigned to waste stream RLM325D.001 assuming that organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The SPM will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate.

3.0 Acceptable Knowledge Data and Information

TRU waste destined for disposal at the WIPP must be characterized prior to shipment. The *WIPP HWFP Waste Analysis Plan* (WIPP-WAP) (Reference 2) permits use of knowledge of the materials and processes that generate and control the waste, provided a clear and convincing argument about the characteristics of the waste is achieved. The AK characterization documented herein complies with the requirements of the WIPP-WAP and was developed in accordance with Section B4 of CCP-PO-001, *CCP TRU Waste Characterization Quality Assurance Project Plan* (Reference 3), CCP-PO-002, *CCP Transuranic Waste Certification Plan* (Reference 4), and CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1).

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets (MSDSs), and interviews with facility personnel.

The primary sources of AK used for determining the physical and chemical characterization for the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared by the Hanford site for each container. The documentation for each container included the following information:

- Estimated Plastic and Metals content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- A Hanford WIPP Certification Checklist for each Waste Acceptance Criteria (WAC) requirement
- A Contents Inventory Sheet identifying the composition of each package placed into the drum

4.0 Required Program Information

This section presents the waste management program information required by Section B4 of the HWFP (Reference 2). Included is a brief history of this facility, summaries of the missions, discussions of operations associated with the generation of TRU waste, and descriptions of the TRU waste management program. Attachment 1 of procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1) provides a list of TRU waste management program information required to be developed as part of the AK record.

4.1 Facility Location

The Hanford Site is located in southeastern Washington State near the Tri Cities area of Richland, Kennewick, and Pasco as shown in Figure 1 in Attachment 2. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemistry Building is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figure 2 and Figure 3 in Attachment 2 (Reference P041, P043, and P052).

4.2 Facility Description and Site Operations

4.2.1 Hanford Site

The Hanford Site is divided into several areas where defense and nuclear weapons production took place. Operations generating TRU waste were conducted primarily at the 100, 200, and 300 areas at the site (Reference P041, P042, and P052).

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were all light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production and reactor operations research and experimentation). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water. It was a dual-purpose reactor that was capable of making electrical power and weapon-grade plutonium, or electric power and fuel-grade plutonium. It was used for domestic power production from 1966 until 1986 (References P041 and P052).

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building. Both facilities contained a Bulk Reduction Building. These facilities performed chemical dissolution of irradiated fuel from the 100 Area reactors and plutonium recovery using the bismuth phosphate separation process.

The final step of plutonium recovery operations was housed in the Plutonium Finishing Plant (PFP) at 200 West. Ancillary buildings that existed to support the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T (Reference P041 and P052).

In 200 West, the REDOX Plant began operations in 1951, using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium. In 1953, the 224-U Building was converted from a training facility to the UO3 Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the PFP was converted to a research and development facility for plutonium processes and nuclear device development for testing at the Nevada Test Site (Reference P041 and P052).

Also located in 200 West, the PFP began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal in the remote mechanical lines; performed casting and machining operations for weapons components; and operated to recover plutonium from waste and scrap generated at other Hanford facilities. The PFP remote mechanical lines processed oxides in the early 1960's and in 1968, switched to produce plutonium oxide. Wastes such as incinerator ash, scrap and crucible, and dissolver heels, were run through the solvent extraction process at the Plutonium Reclamation Facility (Reference P041 and P052).

Facilities in the 300 Area of the Hanford Site have been diverse in their missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. These facilities were not designed for handling TRU materials therefore, were not generators of TRU waste. Other facilities, such as Building 308, were designed for the manufacture of plutonium oxide and/or mixed oxide fuels for the research reactors in the 300 and 400 Areas of the Hanford Site. Some facility missions such as Buildings 324 and 325 hot cells were the focus of research and development (R&D) for fuel element performance evaluation and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. The TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. Twenty-three 300 Area facilities were generators of, or had the potential for generating, TRU waste (Reference P041 and P052).

Since the 1960's, the Hanford Site has accepted waste generated from numerous offsite United States Department of Energy (DOE) facilities. It is estimated, that 20 volume percent of the defense TRU waste generated in the United States is stored at the Hanford Site. Approximately half of the retrievably stored CH-TRU waste was stacked in modules on asphalt pads or aboveground buildings in the 200 East and 200 West areas and the other half was placed in gravel earthen trenches. TRU waste unsuitable for asphalt pad storage because of size, chemical composition, security requirements, or surface radiation was packaged in reinforced wood, concrete, or metal boxes and stored in dry waste trenches. The trenches were covered with plywood and plastic-reinforced nylon sheeting and backfilled with dirt (Reference P041 and P052).

Initially, waste drums were placed horizontally in trenches with direct soil cover. Then, for a brief period of time (1972-1973), they were stacked on an angle in an engineered storage configuration known as trench V-7. This storage methodology proved to be too expensive to implement, hence the concept for storage on asphalt pads was adopted in 1972. Storage in gravel trenches continued after 1972, however, the drums were then stacked vertically. The earthen trenches during this later period were used primarily for biological, classified, and other special-case CH-TRU waste. After 1974, drums and boxes of CH-TRU waste were stored upright in trenches with asphalt or plywood bottoms, plywood and plastic tarps covering the containers, and 4 ft of earth over the tarp cover. TRU waste continued to be placed in trenches until 1989 (Reference P041 and P052).

In 1985, an aboveground building, the Transuranic Storage and Assay Facility (TRUSAF), was opened for storage of TRU waste until its inactivation in 1996. The Central Waste Complex (CWC), which consists of 20 storage buildings, currently stores TRU waste. In May 1987, the DOE issued an interpretive rule under the Atomic Energy Act of 1954 clarifying DOE obligations under Resource Conservation and Recovery Act (RCRA), which is promulgated in Washington State by the *Dangerous Waste Regulations* (Reference 9). This rule created categories of waste that required separate waste management disposition and segregation. In 1987, the Hanford Site stopped disposing of mixed waste in unlined trenches and began to store these wastes in aboveground facilities at the CWC exclusively (Reference P041, P048, and P052).

4.2.2 325 Radiochemistry Building

The 325 Radiochemistry Building contains approximately 140,000 square feet of laboratory space. In 1960s, the building operated as many as 50 laboratories and 11 hot cells. The laboratories were furnished with hoods and gloveboxes designed handing radioactive materials (Reference P041). The 325 Building was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four- foot concrete walls with steel liners surrounded these larger cells. All eleven cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank (Reference P041). Section 4.5 provides a summary of the operations associated with TRU waste generation.

4.3 Mission

4.3.1 Hanford Site Mission

Generation of radioactive solid waste at Hanford was coincident with nuclear weapons production that first began in 1944. The Hanford Site was constructed to produce plutonium for the weapons program during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. The primary mission of the 300 Area of the Hanford Site was reactor fuels development and fabrication. (Reference P041, P042, and P052).

The *Hanford Mission Plan*, Volume 1, "Site Guidance," states, "The primary Hanford mission is to clean up the Hanford Site, eliminate potential risks to the public and our workers, and serve as the DOE model in environmental restoration." To meet this need the Solid Waste Program mission is to "receive, store, treat, and dispose of solid radioactive and non-radioactive wastes in a safe and environmentally compliant manner." The Solid Waste Program is responsible for buried waste located in RCRA-regulated burial grounds in the 200 East and 200 West Area. The Solid Waste Program is also responsible for stored solid waste in the CWC in the 200 West areas and receipt of solid waste from on-site and off-site generators (Reference P052).

4.3.2 325 Building Mission

Initial 325 Radiochemistry Building missions included production and process improvement support for the REDOX and Uranium Metal Recovery operations. Actinide separation studies were conducted that focused on the development of techniques to reduce activity in high-level wastes prior to disposal. Other missions included production development of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Radiochemistry Building mission also included development support for the PUREX, RECUPLEX and Plutonium Recovery Facility (PRF) production processes. (Reference P041).

In the 1960's the 325 Radiochemistry Building supported NASA and medical isotope development campaigns. A number of new techniques were developed to involving separation and fractionation technology. Specific isotopes including strontium-90, cesium-137, curium-244, americium-241, and promethium-147 were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell (References P041).

The 325 Radiochemistry Building was involved in FFTF fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory performed analyses on Exxon Enriched Uranium samples. These samples were submitted as sweepings from the process line gloveboxes in the Exxon facility located adjacent to the site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste. 325 personnel in the shielded analytical facility worked on samples from these processes.

After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

Characterization of tank waste started in the late 1980s and continued through the 1990s. Many of the sampling and analytical techniques used during tank waste characterization at the Hanford site were developed by the 325 Radiochemistry Building operations. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and MOX materials using electrochemical, spectrophotometric and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 facility has been operated as a TSD (Treatment Storage and Disposal) facility since 1993 and has operated as part of an overall HWTU (Hazardous Waste Treatment Unit) for the Hanford site since that time. (Reference C001, P004, P006 through P030, P032, P033, P034, P035, P038, P041, and P050).

4.3.3 Defense Waste Assessment

Hanford's solid waste legacy can be traced back to early weapons production activities in 1944. As discussed above, the 325 Building has had an ongoing history of supporting production reactor and reprocessing activities at the Hanford site, including REDOX, PUREX, RECUPLEX, PRF, and N-Reactor operations. In recent years, the facility has continued to support defense activities associated with defense nuclear waste and by-product management (Reference P041, P042, P043, P045, P050, P053, and P054).

The WIPP-WAC (Reference 6) requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU "defense" waste. Based on guidance from DOE, a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the *atomic energy defense activities* listed in section 10101(3) of the *Nuclear Waste Policy Act of 1982*. TRU wastes generated in the 325 Radiochemistry Building are contaminated with radiological isotopes that are part of defense waste clean up activities (i.e., Characterization of tank waste from years of weapons production and waste vitrification) and other activities supporting weapons process development and reactor research (i.e., N-reactor shielding experiments). Based on the review of AK, TRU wastes generated by 325 Radiochemistry Building operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following functions:

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense research and development

This waste stream contains waste that was generated in part from studies that were part of the DOE NWVP program and support to defense nuclear waste management, including characterization of tank sludges resulting from years of processing weapons materials at the Hanford site. In addition, support to processes at N- Reactor such as examination of boron thermal shielding, iodine control and uranium dissolution took place in the hot-cells and additional characterization was performed in support of PUREX reprocessing and waste characterization. Other projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. Due to the nature of the analytical work performed in the laboratory, all defense project work was carried out in conjunction with other projects supporting analytical characterization needs across the Hanford site (Reference C004 and P041).

Due to the waste management practices and analytical nature of the operations conducted in the 325 Building, no attempt was made to segregate the waste originating from non-defense from defense-related campaigns. Since segregation of the wastes is no longer feasible, by definition this waste is eligible for disposal at the WIPP facility (Reference 7 and C001).

4.3.4 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal of spent nuclear fuel and high-level waste, as defined by the Nuclear Waste Policy Act (NWPA), at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation."

The TRU waste that is identified in this waste stream includes debris generated during analysis and study of samples obtained from multiple processes that include transuranic elements. These laboratory operations did not involve separation or reprocessing of constituent elements from reactor fuel. The waste does not contain irradiated fuel elements withdrawn from a reactor. The waste stream is contaminated with samples of waste sludges taken from tanks associated with repossessing, however these waste materials are defined as waste incidental to reprocessing by DOE Order 435.1. Therefore, the waste is not a spent nuclear fuel or high-level waste and is eligible for disposal at WIPP (Reference 8, 10 and 12).

4.4 TRU Waste Management

During laboratory operations, the office of Laboratory Operations was designated as the administrator of Control procedures overseeing nuclear safety specification and was cognizant of control area classifications, and material transfers. The laboratory supervisor was also responsible for maintenance of a written record of the quantity and location of plutonium held in Plutonium control areas based upon data submitted by Chemical Research and Development personnel. Material Balance Points were established through incorporation of Material Balance Areas (MBAs). These MBAs were used to control plutonium materials in the 325 Building. Cans of plutonium were tracked in specific areas by unique identification numbers and quantity of plutonium present. Log sheets were maintained for each of these areas until the material was used or disposed of as waste (Reference C001, P001, and P043).

During operation when spills occurred, liquids present in the room were collected and packaged with vermiculite and cement to absorb free liquids. Additional mop up was completed using terry cloth towels. When there was potential for release of airborne radioactive materials, corn oil mist was used as a dust suppressant (Reference C001, C002, and P051).

After the completion of a given project, liquids were disposed of through sanitary water, the retention process sewer, and the radioactive liquid waste systems (Reference P003, P043, and P045). Radioactive liquid waste was routed to the 340 Building and then transferred by cask to the 200 area tank farms (Reference C001 and P043). Solid and liquid wastes treated at the HWTU in the facility was segregated into low-level, TRU, and mixed waste streams prior to disposition, and solid wastes were packaged, shipped, and stored in accordance with the Hanford specific waste acceptance criteria (Reference C001, P042 through P045, and P051). Free liquids were solidified using cement and vermiculite mixtures in a 1 to 2 ratio prior to disposal. If the liquids were corrosive they were neutralized prior to solidification. In the early 1980s, aerosol cans were required to be punctured and ballasts were segregated from TRU waste prior to disposal (Reference C001, P004, and P047).

In general, waste materials were bagged out of gloveboxes into plastic liners and packed into 55-gallon drums. TRU waste materials were removed from the gloveboxes and hot cells using plastic bag out bags that had 8- and 15-inch openings. These bags were filled with waste and then pig-tailed and placed in 55-gallon drums. None of the bags were heat-sealed before being loading into the drums. Waste cans (4-gallon) were loaded out of hot cells into 5-gallon cans and loaded into lined 55-gallon drums. The drum liners were then horse-tailed once the waste filled the10-mil clear plastic liners. Mixed waste from the hot cells was packaged in sheet metal liners with a Cellutex plug prior to being placed in the drum. All waste packaging was in accordance with the version of HNF-EP-0063 in place at the time (see section 5.5 for additional information regarding waste packaging configuration). Containers were sent to be assayed in the 300 area. TRU containers were sent to the TRUSAF or CWC for Real-time Radiography (RTR) prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the TRUSAF or CWC (Reference C001, C002, P002, P037, and P051).

Prior to 1985, chemists controlled all containers of waste from their own individual projects. The waste was tracked in laboratory notebooks but was disposed according to hazard. In order for drums generated at this time to be stored at the TRUSAF or the CWC, documentation was provided on checklists to document that waste was TRU or mixed TRU as generated from the processes described in these notebooks. Though RCRA-regulated chemicals and metals were identified and documented in the Solid Waste Storage/Disposal Record forms and Contents Inventory Sheets, waste management practices did not require the segregation of these materials (Reference C002, P005, P041, P043, P045, and U001).

4.4.1 Types and Quantity of TRU Waste Generated

The Hanford Site currently manages approximately 4,400 containers (1,150 cubic meters) of TRU waste generated by the Building 325 Radiochemistry Building from May 1970 through May 2002. Approximately 300 containers (100 cubic meters) are currently stored above ground at the CWC in the 200 West Area. The remaining containers are stored at the Hanford 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. The waste stream characterization presented in this document is based on the review of container-specific documentation for those containers listed in the most current AK Waste Containers list.

4.4.2 Correlation of Waste Streams Generated from the Same Building and Process

Solid Waste Disposal Records and Contents Inventory Sheets were reviewed for each container to verify the physical composition and origin of the 325 Radiochemistry Building waste stream (RLM325D.001) inventory. It was determined that every container included in this report was generated from 325 Building operations and meets the definition of waste generated from an activity that is similar in material, physical form, and hazardous constituents as follows (Reference 2 and U003):

- The waste is similar in material in that the drums contain general laboratory, facility maintenance, and waste management organic and inorganic debris.
- The waste is similar in physical form, which meets the regulatory definition of debris and the description of heterogeneous debris as defined by the WIPP-WAP.
- Based on the review of waste management practices in the 325 Radiochemistry Building, all of the waste have been conservatively determined to exhibit toxic characteristics (D codes) per 40 Code of Federal Regulations (CFR) 261.30 and F-listed per 40 CFR 261.31. It is not feasible to segregate containers based on chemical contamination, due to the R&D nature of these operations and waste management practices. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.
- Containers were not packaged with the intent to segregate specific waste materials (i.e., containers with 100% plastic, paper, or metal). Containers in this waste stream are made up of a composite of materials that meet the definition of debris.

4.5 Description of Waste Generating Process

This section provides descriptions for of historical operations conducted in the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex. These descriptions discuss the major activities performed in the laboratory and are representative of the analytical, process development, R&D, and waste management capabilities provided by the facility. Due to the number and R&D nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document. Sections 4.5.1 through 4.5.4 describe the operations being conducted during the time period the waste was generated (Reference P001, P004, P006 through P030, P032 through P035, P038, P040 through P042, P047, P050, and P053 through P057).

4.5.1 Sample Preparation and Analyses

Sample preparation included sample fabrication, sample dissolution, mounting, and cleaning required for studies and analyses. Samples were prepared for analysis by doping chemicals and powders with plutonium, uranium and thorium then making immobilized plutonium forms. Ceramic samples were fabricated in gloveboxes and fume hoods. In order to prepare samples for analysis, they were fused and dissolved in acids and when necessary plutonium containing solutions were purified using ion separation and liquid-liquid extraction methods. Solid samples were mounted after coring for magnetic angle spinning nuclear magnetic resonance (MAS-NMR) spectrometry in gloveboxes and fume hoods (Reference P004, P010, P018, P019, P028, and U003).

Once prepared, the samples were analyzed using a variety of chemical and physical methods. These methods included: MAS-NMR, gamma spectrometry, scanning electron microscopy (SEM), x-ray diffraction, and ion specific electrode methods. In addition spark source emission spectroscopy, potentiometric and amperometric electrochemical analyses, inductively coupled plasma-mass spectrometry (ICP-MS), thermal ionization mass spectrometry (TIMS), inductively coupled plasma-atomic emission spectroscopy (ICP-AES), kinetic phosphorescence, and thermal gravimetric analysis-mass spectrometry were performed on solid and liquid samples. Figure 4 in Attachment 2 provides a typical flow diagram of these analyses performed on plutonium oxide materials (Reference C001, P006, P007, P008, P009, P015, P050, and U003).

4.5.2 Process Development Support, Research and Development

Many of the sampling and analytical methods used for tank waste characterization at the Hanford site were developed at the 325 laboratory. These methods involved extruding and sub-sampling of tank slurries and sludges followed by analysis of these materials for inorganic and organic constituents (Reference C001, P054, and P055).

R&D support was conducted for studies relating to the immobilization of radioactive waste forms. As much as 2.0 kilograms of plutonium was used in these studies that produced vitrified waste materials such as ceramics. These studies included leach testing the immobilized waste forms under differing temperature and pH environments. Other projects included the development of electrochemical methods for the recovery of plutonium (the CEPOD project); evaluation of treatment methods; assessments of the removal of radionuclides from dissolved light water reactor fuels; process improvement support for PUREX processing; evaluation of potential exothermic reactions in tank wastes, testing of ion exchange resins; determination of the feed specifications for West Valley waste vitrification project. Physical examinations performed in support of Hanford process development included leach testing, radiation damage examinations by SEM, determination of specific gravity of solids, and thermogravimetric analysis (Reference P001, P011, P012, P016, P017, P033, P034, P035, P040, P043, and U003).

4.5.3 Hazardous Waste Treatment Unit

Several treatment methods were also developed as part of the HWTU located in the Shielded Analytical Laboratory (SAL) and room 528. Small bench scale treatment methods were used to treat hazardous waste for disposal or disposition to eliminate reactive and corrosive hazards not allowed by Hanford site storage facilities (C001, C002, P046, P051). Examples of the types of treatment methods employed at the HWTU include: molten salt destruction, pyrolysis, wet air oxidation, calcinations, microwave discharge, chemical fixation chlorination, chlorinolysis, cyanide destruction, degradation, detoxification, ion exchange, neutralization, filtration, crystallization, reverse osmosis, and evaporation (Reference C001, C002, C005, P046, P047, P051).

4.5.4 General Laboratory Operations and Spill Cleanup

Laboratory operations involved maintenance to gloveboxes and equipment in gloveboxes and fume hoods as well as disposal and shipment of radioactive materials. Equipment and materials were moved into and out of containment areas using a variety of methods to minimize room contamination (Reference P002, P003, P005, P036, P037, P038, and P039).

The AK identified events that resulted in wide spread laboratory contamination. Glovebox and hot cell floods created ruptures in gloves and seals causing contamination to be spread across laboratory floors. One incident was caused by improper wiring of the laboratory vacuum system caused the hoods and other containment systems to blow contamination across the laboratory. These releases resulted in major cleanup efforts by laboratory personnel involving the decontamination of equipment, flooring, and other surfaces. The spill liquids were collected and packaged with vermiculite and cement. Terry cloth towels were also used to mop up liquids and a corn oil mist was used to control the release of airborne radioactive materials. (Reference C001, C002, P041, P043, and P051).

4.6 Waste Identification and Categorization

Waste materials from operations were not segregated based on the physical form or chemical content at the time of generation. Waste items packaged and bagged out of the gloveboxes and hot cells were recorded on the contents inventory sheet, and were placed into prepared drums. An inventory sheet was maintained for each drum as it was filled. Items were added to lined TRU drums, and the liners and drums closed when full. Hazardous constituents packaged in the waste containers were noted by the waste generators on the Waste Disposal Records and Contents Inventory Sheets or identified during radiography (free liquids or lead). If RTR identified potentially RCRA-regulated items, the characterization was reviewed and

RCRA Hazardous Waste Numbers would be assigned to a container, as appropriate (Reference C001, P041, P047, U002).

4.7 Waste Certification Procedures

The certification of the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex debris waste stream will be certified in accordance with the *CCP TRU Waste Characterization Quality Assurance Project Plan* (Reference 3).

5.0 Required Waste Stream Information

This section presents the mandatory waste stream AK required by Section B4 of the HWFP (Reference 2). Attachment 1 of procedure CCP-TP-005, *CCP Acceptable Knowledge Documentation* (Reference 1) provides a list of the TRU waste stream information required to be developed as part of the AK record.

5.1 Area and Building of Generation

All of the TRU debris waste containers included in waste stream RLM325D.001 were generated during process characterization, support and sample analysis in the 325 Radiochemistry Building. Solid Waste Disposal Records and Contents Inventory Sheets were reviewed to verify that each container originated from the 325 Building.

5.2 Waste Stream Volume and Period of Generation

The Hanford Site currently manages approximately 4,400 containers (1,150 cubic meters) of TRU waste generated by the Building 325 Radiochemistry Building from May 1970 through May 2002. The waste drums and boxes are currently stored in the CWC and the 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. Table 1 provides the current location and volumes of Building 325 waste managed at the Hanford facilities (Reference U002).

Table 1. RLM325D.001 Waste Stream Volume and Generation Dates

Storage Location	Containers (Volume)	Package Dates
CWC	285 55-gal. drums (60 m^3) 11 85-gal. drums (3.5 m^3) 13 boxes (40 m^3)	Jan. 1986 – May 2002
218W3A	42 30-gal. drums (5.0 m^3) 308 55-gal. drums (65 m^3) 21 boxes (95 m^3)	May 1970 – Oct. 1978
218W4B	2,566 55-gal. drums (540 m^3) 1 110-gal. drum (0.4 m^3) 49 boxes (100 m^3)	May 1971 – Sept. 1978
218W4C	1,051 55-gal. drums (220 m^3) 2 boxes (19 m^3)	May 1978 – Oct. 1985

5.3 Waste Generating Activities

The waste generating processes associated with waste stream RLM325D.001 are described in Section 4.5. The waste was generated from the multiple operations in the 325 Radiochemistry Building and High-Level Radiochemistry Annex. The 325

Radiochemistry Laboratory remains in operation. Future TRU waste containers may be generated to support Hanford site process operations. This waste will be addressed in future reports, as appropriate (Reference P043 and P047).

5.4 Type of Wastes Generated

This section describes the process inputs, Waste Matrix Code assignment, radionuclide contaminants, and RCRA hazardous waste determinations for waste stream RLM325D.001. The waste stream is characterized based on knowledge of the materials, knowledge of the processes generating the waste, and physical descriptions of the waste. The Transuranic Waste Baseline Inventory Report (TWBIR) identification numbers associated with this waste stream include: RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398 (Reference 11).

5.4.1 Material Input Related to Physical Form

This debris waste stream was generated during laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium (Reference C001, P012, P016, P027, and P041). These analyses, performed in gloveboxes, fume hoods and hot cells, used a wide variety of electrochemical, spectrophotometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Specific waste items may include diaper paper, wipes, towels, protective clothing, cardboard, metal cans, aerosol cans, HEPA filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids have been placed in some drums. Also included are sample residues from fuel pellets, tank wastes, ceramics and grouted plutonium in cans (Reference C001, C003, P050, and U001).

5.4.1.1 Waste Matrix Code

The waste matrix code was assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, such as packaging procedures, waste generating activities, and the Waste Disposal Records and Contents Inventory Sheets completed by the waste generator for each container. (Reference C003).

The waste material parameters and physical content descriptions for each container were reviewed. The waste material parameters and estimated volume percentages were tabulated in an Excel spreadsheet. When volume percentages of organic materials (i.e., paper, wood, cloth) were listed as a single value, these percentages were evenly distributed in the spreadsheet between each identified waste matrix parameter. This assumption was also applied to the organic materials. Once the material composition was tabulated, the relative volumes for organic debris, inorganic debris, homogenous organic solids, and homogenous inorganic solids were estimated for the waste stream to assign the waste matrix code (Reference C003).

Based on the container specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris such as iron-based alloys, plastics, cellulosics, concrete, lead, glass, ceramics, diatomaceous earth, and asbestos. With the balance of the waste stream consisting of homogenous inorganic and organic solids such as absorbed liquids and cemented materials. Therefore Waste Matrix Code S5400, Heterogeneous Debris is assigned to the Building 325 RPL mixed debris, waste stream RLM325D.001. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories, including absorbed and solidified liquids (Reference 5, C001, C003, U001, P041).

5.4.1.2 Waste Material Parameters

Waste material parameters were identified and assessed as described in Section 5.4.1.1. Based on the information was obtained from the Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 contains the following waste material parameters (Reference 2, C003, and U001):

- Iron-based metals
- Aluminum-based metals
- Other metals
- Other inorganic materials
- Cellulosics
- Rubber
- Plastics (waste materials)
- Inorganic matrix
- Steel (packaging materials)
- Plastic (packaging materials)

The AK Containers list includes the most recent evaluation of the relative composition of the waste material parameters for waste stream RLM325D.001, based on the assessment of the containers determined to be eligible for confirmation in this stream.

5.4.2 Radiological Characterization

Isotopic data was derived from Hanford's Solid Waste Information Tracking System and exported to a Microsoft Excel spreadsheet for analysis. This data consists of results from nondestructive assay (NDA) performed on 325 Building containers by gamma spectroscopy and neutron coincidence counting. Of the drums initially assessed more than 90 percent were estimated to exceed 100 nCi/g of TRU isotopes (Reference C004 and U002). As additional containers are assessed for this waste stream, the isotopic distributions will be evaluated and included in the most current AK Containers list for waste stream RLM325.001.

Uranium and plutonium content in the waste originated from fuel and weapons production with various isotopic compositions possible. Major sources of isotopic contamination were the FFTF, tank waste characterization, and facility support activities. Based on the NDA container data, the estimated uranium and plutonium isotopic distributions are summarized in Table 2 (Reference C004 and U002).

Table 2 – Plutonium and Uranium Isotopic Distributions

Uranium Wt%		Plutonium Wt%	
U-234	0.02%	Pu-236	0.1%
U-235	3.0%	Pu-239	88%
U-236	0.02%	Pu-240	10%
U-238	97%	Pu-241	1.0%
		Pu-242	0.1%

Based on the mass analysis performed for the initial containers assigned to this waste stream, U-238 and Pu-239 are the two prevalent isotopes in the waste stream estimated at 59 and 26 weight percent, respectively. Other WIPP tracked isotopes include: Am-241 (0.4%), Pu- 238 (0.04%), Pu-240 (3%), and Pu-242 (0.04%). Other isotopes include: Am-243 (0.01%), Np-237 (0.2%), Pu-241 (0.3%), Th-232 (9%), U-235 (2%), and U-236 (0.01%). Trace amounts Cs-137 and Sr-90 were reported with a mean ratio of 1.1:1 (Reference C004).

Isotopic analysis will be attempted on every drum in this waste stream and those results will be used to determine the activity in each drum. In the event that the waste matrix does not allow NDA to obtain acceptable results, the relative isotopic ratios above may be used to support assay determinations, as appropriate. The values obtained will be compared to assay results on a lot basis as waste containers undergo data reconciliation prior to certification for disposal.

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The isotopic weight percent ranges for the 10 WIPP-tracked radionuclides and Np-237, U-235, and Pu-241 reported for containers in the waste stream RLM325D.001 are provided in Table 3 below. The estimated ranges were determined from radionuclide inventories obtained from gloveboxes, fume hoods and hot cells and an evaluation of the containers that were identified for this waste stream (Reference C004).

Table 3. Isotopic Weight Percent Ranges for Individual RLM325D.001 Containers

Weight Percent	^{241}Am	^{237}Np	^{238}Pu	^{239}Pu	^{240}Pu	^{241}Pu	^{242}Pu	^{233}U	^{234}U	^{235}U	^{238}U	^{90}Sr	^{137}Cs
(Min – Max)	0	0	0	0	0	0	0	0	0	0	0	0	0
	12	100	90	86	12	1.2	0.2	5	.006	100	59	Trace	Trace

5.4.3 Chemical Content Identification – Hazardous Constituents

The following sections describe the characterization rationale for the assignment of EPA Hazardous Waste Codes and Washington State dangerous waste codes to waste streamRLM325D.001. Table 4 summarizes the waste codes assigned to this waste stream.

Table 4. Waste Stream RLM325D.001 Hazardous Waste Characterization Summary

Waste Stream	EPA Hazardous Waste Codes	Washington State Dangerous Waste Codes
RLM325D.001	F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D033, D034, D037, D041, D043	WT01, WT02, WP01, WP02, WSC2

To assign EPA Hazardous Waste Codes the available AK documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. AK was collected from analytical procedures, chemical inventories, interviews, and process studies. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below, several of the Hazardous Waste Codes were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from any container in the waste stream. Table 5 summarizes the chemicals, compounds, and commercial products identified during the AK process (Reference C001, C002, D001, P006, P008, P010, P011, P014, P016, P023, P035, P041, P043, P045, P046, P049, P050 and U001).

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Table 5. Chemical and Commercial Product Usage

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Acetic acid (L)	Coulometry Solution, Sample Preparation	NA*
Acetone (L)	Rinsing Electrodes, cleaning filaments and glassware	F003*
Adiponitrile (L)	Organic synthesis	NA
AG MP-1 (trimethylamine)	Ion Exchange Resin	NA
Aluminum (S)	Heating blocks, capsules and standard solutions	NA
Aluminum Chloride (S)	Electrolytic solutions	NA*
Aluminum Nitrate Nonahydrate (S)	Standard solutions	NA*
Aluminum Oxide (S)	Laboratory Reagent (refractory)	NA
Aluminum Sulfate (S, L)	Electrochemical solutions	NA
Alundum (S, aluminum oxide)	Chromatography columns	NA
Ammonia (S, anhydrous)	Commonly ammonium hydroxide in water (pH adjustment)	NA*
Ammonium Acetate (L, S)	Analytical reagent	NA
Ammonium Chloride (S)	Kjeldahl Ammonia methods	NA
Ammonium Dichromate (S)	Electrochemical solution	NA*
Ammonium Fluoride (L, S)	Fluoride ion standard	NA
Ammonium Hydroxide (L, S)	Liquid pH adjustment	NA*
Ammonium Molybdate (L, S)	Oxidizing acid, may be disposed in liquid waste stream	NA*
Ammonium Oxalate (L, S)	Chelating agent	NA
Ammonium Phosphate, dibasic (S)	Process chemical	NA
Ammonium Thiocyanate (S)	Process chemical possibly used in Cs scavenging not from electroplating	NA
Ammonium Vanadate (S)	Used as reagent in potentiometric methods.	NA
Arsenic Oxide (S)	Laboratory reagent	D004
Arsenious Acid (L)	Electrochemical methods.	D004
Asbestos (S)	Flame protection for glove box floors, and lab ware	NA
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in Gas Chromatography	NA
Ascorbic Acid (L)	Electrolytic solutions	NA*
Barium Carbonate (S)	Laboratory reagent	D005
Barium Chloride (L)	Precipitating reagent.	D005*
Barium Hydroxide (L, S)	PH adjustments in solutions.	D005*
Barium Nitrate (S)	Laboratory reagent	D005*
Benzene (L)	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium (S)	Standard materials	NA
Black Sealing Wax (S)	Sealant for gas line testing	NA
Boric Acid (L, pH=5)	Sample preparation	NA
Boron Carbide (S)	Laboratory reagent	NA
Bromocresol purple (S)	Titrations	NA
Butyl Alcohol, n- (L)	Solvent and used in microscopy with paraffin	F003*
Cadmium (S)	Emission spectrometric standard	D006*

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
	material, neutron sheilding	
Cadmium Nitrate (S)	Emission spectrometric standard material	D006*
Calcium Carbonate (S)	Buffering agent	NA
Calcium Chloride (S)	Chloride standard material (solution)	NA
Calcium Hydroxide (S, pH=11.4)	PH adjustment in solution	NA
Calcium Nitrate (S)	Spectrometric standard material	NA*
Calcium Sulfate (S)	Laboratory reagent	NA
Calcium Tartrate (S)	Laboratory Reagent	NA
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	NA
Carbon Tetrachloride (L)	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine (S)	Complexing Agent	NA
Carboxymethylimine-bis-Ethylenenitrile-tetraacetic acid (L)	Complexing Agent	NA
Ceric Ammonium Nitrate (S)	Process chemical	NA
Ceric Nitrate (S)	Spectrometric standard material	NA
Ceric Sulfate (S)	Laboratory Reagent	NA
Ceric Oxide (S)	Work with metals and glass	NA
Cerous Nitrate/Cesium Nitrate (S)	Spectrometric standard material	NA*
Chromic Acid (L)	Used in Chrome plating.	D007*
Chromium Chloride (S)	Spectrometris standard material	D007
Chromium Trioxide (L)	Oxidant and hardening agent	D007*
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	NA*
Chloroform/trichloromethane (L)	Used as cleaning agent, and as an organic solvent.	D022
Citric Acid (L, S)	PH adjustment and chelating agent	NA*
Corn Oil Mist (G)	Used in radiological clean up	NA
Copper (S)	Tubing and used in sulfur combustion methods.	NA
Copper Nitrate (S)	Spectrometric standard material	NA*
Copper Oxide (S)	Combustion Gas Chromatography	NA
Cresols (L)	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine -N,N,N',N'-tetraacetic acid, monohydrate	Chelating agent	NA
Cyclohexane (L)	Extractant	NA*
Devarda's Alloy (Al, Cu, Zn)	Metal work	NA
D-19 [Kodak] Developer (L)	Photographic work (emission spectrometry)	NA
Diatomateous Earth (S)	Absorbent material	NA
Dibutyl butyl phosphonate	Reagent	NA*
1,2-dichloroethane, ethylene dichloride (L)	Reagent, metal cleaning	D028*
Diethylhexylorthophosphoric Acid (L)	Chelating and pH adjustment	NA*
Dimethyldichlorosilane (L)	Gas chromatography agent	NA*
Dimethylglyoxime (S)	Chelating agent	NA
2,4-dinitrophenol (S)	Reagent	NA*

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Dithiol (3,4-dimercaptotoluene) (S)	Tungsten extractant	NA
Dithiol-Amyl Acetate (L)	Tungsten extractant	NA*
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) Resin	Anion exchange chromatography	NA
Dowex 50 (IX Resin) (Sulfonate Polystyrene Divinyl Benzene)	Ion Exchange Resin	NA
Drierite (S, Calcium sulfate)	Combustion gas chromatography	NA
Ethanol (L)	Cleaning filaments and glassware	NA*
Ether (G, L, S)	Laboratory reagent	NA*
Ethylenedinitridotetraacetic acid (L)	Chelating agent	NA*
Ethyleneoxyethylenenitrilotetraacetic Acid (L)	Complexing agent	NA*
Ferric Ammonium Sulfate (S)	Ion Specific Electrode methods for Chloride	NA
Ferric Chloride (S)	Laboratory Regent	NA
Ferric Nitrate (S)	Spectrometric standard material	NA*
Ferric Oxide (S)	Laboratory reagent	NA
Ferric Sulfate (S)	Laboratory reagent	NA
Ferrous Ammonium Sulfate (S)	Determination of Pu by potentiometry and sample preparation	NA
Ferrous Chloride (S)	Electrolytic solution	NA
Ferrous Sulfate (S)	U by Potentiometry	NA
Formic Acid (L)	Reagent	NA*
Gallium oxide (S)	Impurities by Emission spectrometry	NA
Gluconic Acid (L)	Metal cleaning, bottle washing	NA*
Glycerin (L)	Used in particle size determinations	NA
Gold (S)	Microelectrodes	NA
Graphite (S)	Crucibles, electrodes	NA
Hexane (L)	Liquid extraction and solvent	NA*
Hydrazine (L)	Process chemical (PUREX)	NA*
Hydrochloric Acid (L)	Electrochemical solution and sample preparation	NA*
Hydrofluoric Acid (L)	Oxidizing reactions, sample preparation	NA*
Hydrogen Peroxide (L, S)	Oxidizing agent	NA*
Hydroiodic Acid (G)		NA*
Hydroxylamine Hydrochloride (S)	Organic synthesis, photographic developer	NA*
Hydroxylamine Nitrate (L)	Laboratory reagent	NA
Iodine (S)	Laboratory reagent	NA
Iron (S)	Standard material	NA*
Kerosene (L)	Process Chemical (PUREX)	NA*
Kodak Developer D-1 (L)	Photographic plate development	NA
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcohol (L)	Dispersant and wetting agent	NA
Kodak Solubilizing Agent SA-2 (L)	Solubilizing Agent	NA
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Isopropyl Alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	NA*
Lanthanum Nitrate (S)	Laboratory Reagent	NA*
Lanthanum-Neodynium Nitrate	Laboratory Reagent	NA*
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead Acetate (S)	Laboratory Reagent	D008
Lead Chloride (S)	Laboratory Reagent	D008
Lead Nitrate (S)	Spectrometric standard material	D008
Lead Oxide (S)	Laboratory reagent	D008
Linde AW-500 Resin (S, Aluminum Silicate)	Ion Exchange Resin	NA
Lithium Sulfate (S)	Spectrometric standard material	NA
Magnesium (S)	Spectrometric standard material	NA*
Magnesium Nitrate (S)	Spectrometric standard material	NA*
Magnesium Oxide (S)	Laboratory reagent	NA
Magnesium Perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	NA*
Manganese Dioxide (S)	Laboratory reagent	NA*
Manganous Chloride (S)	Laboratory reagent	NA
Manganous Nitrate (S)	Spectrometric standard material	NA*
Manganous Sulfate (S)	Reagent	NA
Mannitol (L)	Reagent	NA*
Mercury (L)	Electrodes, thermometers, batteries	D009
Mercuric Iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric Nitrate (S)	Laboratory reagent	D009*
Mercuric Oxide (S)	Laboratory reagent	D009*
Mercuric Thiocyanate (S)	Ion Selective Electrode reagent.	D009
Mercurous Sulfate (S)	Reference Electrodes	D009
Metaldi Fluid (L, propylene glycol)	Dispersing agent	NA
Methanol (L)	Cleaning and drying glassware	F003*
Methylene Chloride (L)	Reagent, solvent	F001/F002
Methyl Ethyl Ketone (L)	Reagent, solvent	F005
Methyl Isobutyl Ketone (L)	Reagent, solvent	F003*
Methyl Lactic Acid (L)	Laboratory reagent	NA*
Mineral Oil (L)	Reagent	NA
Molybdenum (S)	Spectrometric standard material	NA*
Molybdic Acid (L, S)	Laboratory reagent	NA*
Naphthalene (S)	Laboratory reagent	NA
Natrasorb, clay	Container material, dessicant, used in oil absorption	NA
Neodymium Nitrate (S)	Spectrometric standard material	NA*
Neodymium Oxide (S)	Spectrometric standard material	NA
Nickel Bromide (S)	Reagent	NA
Nickelous Chloride (S)	Spectrometric standard material	NA
Nickelous Nitrate (S)	Laboratory reagent	NA*
Nitric Acid (L)	Sample dissolution, eluant for ion exchange	NA*

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Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Nitrous Acid (L)	Eluant for ion exchange	NA*
Nitrilotriacetic Acid (L, NTA)	Chelating acid	NA*
Normal Paraffin Hydrocarbon (S)	PUREX Process chemical used for liquid-liquid extraction	NA
Oleic Acid (L)	Lubricant	NA
Oxalic Acid (L)	Chelating acid	NA*
Pentachlorophenol (S)	Herbicide, wood preservative	D037
Pentasodium Diethylene Triamine Pentaactate (DPTA)	Chelating acid	NA
Perchloric Acid (L)	Sample preparation for emission spectrometry	NA*
Periodic Acid (S)	Laboratory reagent	NA*
Phenol (L, S)	Reagent	NA*
Phosphoric Acid (L)	Used in potentiometric methods	NA*
Phosphorous Pentoxide (S)	Used in sample preparation and for gas chromatography	NA*
Platinum (S)	Crucibles, sample boats	NA
Portland Cement (S, pH=11.4)	Solidifying agent for liquid wastes	NA
Potassium Acetate (S)	Buffer solution, dehydration	NA
Potassium Bicarbonate (S)	Neutralization, reagent	NA
Potassium Carbonate (S)	Dehydrating agent	NA
Potassium Chlorate (S)	Laboratory reagent	NA
Potassium Chloride (S)	Used as a control standard for Ion Selective Electrode methods.	NA
Potassium Dichromate (S)	Used in potentiometric methods, photochemical processing.	D007
Potassium Ferrocyanide (S)	Fixative in photography, metal cleaner.	NA
Potassium Fluoride (S)	Organic Synthesis	NA
Potassium Hydroxide (S)	Electrolyte fuel cells	NA
Potassium Iodate (S)	Used in Iodometry	NA
Potassium Iodide (S)	Used in Iodometry	NA
Potassium Permanganate (S)	Lab reagent, decontamination agent	NA
Potassium Phosphate, tribasic (S)	Process Chemical, lab reagent	NA
Potassium pyrosulfate (S)	Sample preparation flux	NA
Potassium Sodium Tartrate (S)	Laboratory reagent	NA
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory reagent	NA
Silica Gel (S)	Chromatographic separations, dehydrating agent.	NA
Silver Cleaning Paste (S)	Cleaning electrodes	D011
Silver Cyanide (S)	Plating	D011
Silver Nitrate (S)	Spectrometric standard material	D011
Silver Oxide (S)	Reagent for amperometric Pu determination	D011
Silver Sulfate (S)	Laboratory reagent	D011
Sodium Acetate (S)	Laboratory reagent	NA
Sodium Aluminate (S)	Cleaning compound	NA
Sodium Arsenite (S)	Dying reagent	NA
Sodium Bicarbonate (S)	Buffer solutions	NA
Sodium Bisulfate (S)	Dying agent	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
Sodium Bisulfite (S)	Reducing agent	NA
Sodium Borate (S)	Flame retardant	NA
Sodium Carbonate (S)	Cleaning prep	NA
Sodium Chloride (S)	Precipitation agent	NA
Sodium Citrate (S)	Chelating agent	NA
Sodium Dichromate (S)	Electrochemical reagent	D007
Sodium Fluoride (S)	Standard material for Ion Selective Electrode methods and carrier for emission spectrometry	NA
Sodium Formaldehydesulfoxylate (S)	Laboratory reagent	NA
Sodium Hydroxide (S)	Solution preparation and pH adjustments	NA*
Sodium Hypochlorite (L)	Laboratory reagent	NA*
Sodium Iodide (S, L)	Laboratory reagent	NA
Sodium Nitrate (S)	Process chemical	NA*
Sodium Nitrite (S)	Process chemical	NA*
Sodium Oxalate (S)	Chelating agent, lab reagent	NA
Sodium Phosphate (S)	Reagent, metal cleaner	NA
Sodium Phosphite (S)	Laboratory reagent	NA
Sodium Pyrophosphate (S)	Reagent, metal cleaner	NA
Sodium Selenate (S)	Laboratory reagent	D010
Sodium Silicate (S)	Laboratory reagent	NA
Sodium Sulfate (S)	Calibration standard material	NA
Sodium Tartrate (S)	Water determination by coulometry	NA
Sodium Tungstate (S)	Reagent	NA
Stainless Steel (S)	Tubing ,standard materials, and alpha spectrometry sample disks	NA
Stannic Chloride (S)	Reagent	NA
Stannous Chloride (S)	Spectrometric standard material	NA
Strontium Nitrate (S)	Laboratory reagent	NA*
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	NA
Sulfur (S)	Mercury clean up reagent	NA
Sulfuric Acid (L)	Sample preparation	NA*
Sulfur Dioxide (G)	Laboratory reagent	NA
Tetrasodium Ethylene Diaminetetraacetate (EDTA)	Chelating agent	NA
Tetraphenyl Boron (S(	Laboratory reagent	NA
Thenoyltrifluoroacetone (L)	Laboratory reagent	
Thorium Nitrate (S)	Laboratory reagent	NA*
Tin (S)	Capsules, spectrometric standard material	NA
Tide Detergent (S)	Cleansing solution	NA
TISAB III	Buffer solution	NA
Titanium Chloride (S, L)	Spectrometric standard material	NA*
Titanium (di)oxide (S)	Standard, ceramics, decontamination	NA
Toluene (L)	Extractant and cleaning for mass spectrometer filaments.	F005
Tributyl Phosphate (L)	Liquid-liquid extraction and studies of	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Codes
	PUREX processes.	
Trichloroethane,-1-1-1 (L)	Reagent, solvent	F001,F002
1,1,2-trichloro-1,2,2-trifluoroethane (L)	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	NA
Tri-n-octylamine	Liquid-liquid extraction	NA
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	NA
Trisodium Hydroxyethyl Ethylene-Diamine Triacetate (HEDTA)	Chelating agent	NA
Turco Alkaline (Rust Remover) (NaOH and Kerosene)	Rust remover	NA*
Tungstun Oxide	Spectrometric standard material	NA
Turco Deseal Zit 2 (Methylene Chloride and Acetic Acid)	Decontamination	F001/F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)	Decontamination paint	F005, F003*
Turco Plaudit (No hazardous compounds)	Decontamination	NA
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	NA*
Turco 4518 (Sodium Dodecyl Benzene Sulfonate)	Decontamination paint	NA
Uranyl Nitrate (S)	Extractant	NA*
Uranium Oxide (S)	Accelerator for pyrohydrolysis	NA
Urea (S)	Electrolytic solution	NA
Vanadium (S)	Spectrometric standard material	NA
Vanadium Pentoxide (S)	Sample preparation flux	NA
Vanadyl Sulfate (S)	U by potentiometric titration	NA
Vinyl Chloride (L)	Sludge contaminant	D043
Xylene (L)	Liquid-Liquid extraction, solvent	F003*
Yttrium Nitrate(S)	Laboratory reagent	NA
Zeolon 900 Resin (Aluminum Silicate)	Ion Exchange Resin	NA
Zinc Chloride (S)	Spectrometric standard material	NA
Zinc Nitrate (S)	Spectrometric standard material	NA
Zinc Oxide (S)	Laboratory reagent	NA
Zirconium	Cladding material	NA
Zirconyl Nitrate	Spectrometric standard material	NA*

* These chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure, liquid, solid, or powder form. Based on the Hanford waste management practices no pure or unused chemicals would have been introduced into the waste stream. In addition, all liquids and reactive materials would have been solidified, evaporated, neutralized, and/or deactivated prior to disposal (Reference C002 and P043). Radiography and/or visual examination will verify the absence of free liquids and reagents during confirmation and will segregate containers with materials for further characterization and/or processing as appropriate.

In addition to the chemicals used by 325 Building process, EPA hazardous waste codes were assigned to the containers based on the characterization of the samples received by the laboratory (i.e., tank sludge) and chemicals treated in the HWTU. Table 6 lists the codes identified in the Hanford's Solid Waste Information Tracking System and on the Waste Disposal Records and Contents Inventory Sheets (Reference C001, U001, and U002).

Table 6. Hanford Hazardous Waste Code Assignments

EPA Hazardous Waste Codes	Characteristic/Compounds
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
D018	benzene (F005 solvent)*
D019	carbon tetrachloride (F001 solvent)*
D022	Chloroform
D027	1,4-dichlorobenzene
D028	1,2-dichlorobenzene
D029	1,1-dichloroethlylene
D030	2,4-dinitrotoluene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D035	methyl ethyl ketone (F005 solvent)*
D036	nitrobenzene (F004 solvent)*
D038	pyridine (F005 solvent)*
D039	tetrachloroethylene (F002 solvent)*
D040	trichloroethylene (F002 solvent)*
D041	2,4,5-trichlorophenol
D043	vinyl chloride
F001	Spent halogenated degreasing solvents (specific solvent not identified)
F002	Spent halogenated solvents (specific solvent not identified)
F003	Spent non-halogenated solvents (specific solvent not identified)
F004	Spent non-halogenated solvents (specific solvent not identified)
F005	Spent non-halogenated solvents (specific solvent not identified)

* The more specific F-listed code for hazardous wastes from non-specific sources is assigned to waste stream RLM325D.001.

Hanford waste management operations conservatively assigned D001 and D002 to containers in this waste stream. These codes were associated with the conservative characterization assigned to tank sludge samples and are not applicable to final debris stream in the absence of free liquids. As discussed in Section 5.4.3.3, even though ignitable and corrosive reagents were used in the 325 Building or potentially present in samples, waste management practices required the neutralization, absorption, deactivation, and/or solidification of these compounds prior to packaging, as applicable.

5.4.3.1 RCRA Listed Chemicals

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 may contain or be mixed with hazardous wastes from non-specific sources listed in 40 CFR 261.31. Even though these codes were not assigned historically to all of the containers in the inventory; F001, F002, F003, F004, and F005 (See Tables 5 and 6) will be conservatively assigned based on the interviews, review of procedures, and the waste management practices in use when the waste was generated. F003 was conservatively applied for acetone, n-butly alcohol, methanol, and methyl isobutyl ketone, listed solely because these solvents are ignitable in the liquid form. Even though the waste stream will not exhibit the characteristic of ignitability without the presence of free liquids, F003 solvents may have been commingled with the wastes.

Waste materials from operations performed in the 325 Radiochemistry Laboratory were determined not to be mixed with hazardous waste from specific sources (40 CFR 261.32), a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). P- and U-listed reagents including acetone (U002), benzene (U019), beryllium (P015), chloroform (U044), hydrazine (U134), methanol (U154), toluene (U220), 1,1,1-trichloroethane (U226), and xylene (U239) were managed by the laboratory. However, no pure product or unused chemicals would have been placed into the TRU waste stream (Reference C001, C002, D001, P001, and U001). Therefore, waste stream RLM325D.001 is not a U-, K-, or P-listed waste stream.

5.4.3.2 Toxicity Characteristic Compounds

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D.001 may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

Based on the review of chemical usage in the 325 Building, potential sources for all of the characteristic metals (D004 through D011) were identified. The Waste

Disposal Records identify the presence of lead, fluorescent bulb, circuit boards, alkaline batteries, and mercury items in the waste, and also assign all of the RCRA metals D004 through D011. Table 5 and 6 identify the characteristic organic chemicals identified during the review of chemical usage and the Waste Disposal Records. The following codes will be assigned for these chemicals; D022, D027, D028, D029, D030, D033, D034, D037, D041, and D043.

Waste stream RLM325D.001 may be contaminated with benzene (D018), carbon tetrachloride (D019), cresols (D023, D024, and D025), methyl ethyl ketone (D035), nitrobenzene (D036), pyridine (P038), tetrachloroethylene (D039), and trichloroethylene (D040). It is assumed that these chemicals were used for their solvent properties and therefore the more specific F-listed codes (F001 through F005) are assigned (Reference D001).

5.4.3.3 Ignitables, Reactives, and Corrosives

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed by the laboratory; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. (Reference C001, P004, P047, and P051).

The debris materials in this waste group do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials in this waste stream are therefore not corrosive wastes (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. (Reference C001, P004, P047, and P051).

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. The materials do not contain cyanides or sulfides, and are not capable of detonation or explosive reaction. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The materials in this waste group are therefore not reactive (D003) wastes (References C001, P004, and P051).

5.4.3.4 Washington State Dangerous Waste Codes

Based on the review of the Solid Waste Disposal Records and Contents Inventory Sheets, the following Washington State Dangerous Waste Code have been assigned to containers in waste stream RLM325D.001; WT01, WT02, WP01, WP02, WSC2. The waste codes are defined in Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (Reference 9 and U001).

5.4.3.5 Polychlorinated Biphenyls

Based on the review of waste management practices and container documentation, waste containers from 325 Building operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB bearing material such as transformers and light ballasts were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. One container (drum 0000572) identified grouted PCB oil (1 part per million) in 5-quart cans. There were no other PCBs identified within the absorbed organics as indicated by the burial compliance checklist for initial acceptance by the Hanford Site (Reference C001, P004 and U001).

5.4.4 Prohibited Items

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D.001. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment (Reference C001, C002, P002, P003, P031, P037, and U001).

5.5 Waste Packaging

TRU waste materials were removed from the gloveboxes and hot cells using plastic bag-out bags that had 8- and 15-inch diameter openings. These bags were filled with waste and then pig-tailed with white plastic tape and placed in 55-gallon drums. None of the bags were heat-sealed before loading into the drums. The drums met United States Department of Transportation (DOT) 17 C or UN1A2 specifications. If externally contaminated, the bagged out waste would have been placed in an additional plastic bag before being placed in the drum. Each drum was lined with a 0.010-inch or a 0.090-inch thick polyethylene drum liner. When the drums were full, 0.010-inch drum liners were horse-tailed and taped. All waste packaging was in accordance with the version of HNF-EP-0063 for the time. Containers were sent to the TRUSAF or CWC where they went through RTR prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the CWC (Reference C001, C002, P037, and P051).

Aqueous and organic liquids were absorbed in absorbents including Cleanup-IV, vermiculite, kitty litter and diatomaceous earth. Large Items were secured in containers by bracing, blocking or other means to prevent damage to container during handling and transportation. Items with sharp projections or edges were taped and padded, as necessary. Waste cans (4-gallon) were loaded out of hot cells into 5-gallon cans and loaded into 55-gallon drums using transfer casks (Reference C001, C002, P031, P047, P051, and U001).

Following the packaging, RTR, and assay of the waste containers, they were transferred to a storage facility. Prior to this transfer, waste storage/disposal records were generated for each container. These records included packaging information such as date packaged, PIN, container type, gross and tare weight, volume, date packaged; waste information such as generator, origin, waste material, volume, weight, and radionuclides (e.g., fission/activation, TRU/fissile/source material), and storage location. These records included or referenced the RTR and assay information as well. A hazardous waste manifest also had to be filled out for TRU mixed waste (Reference C001, P051, and U001).

TRUCON Code RH225 is assigned to waste stream RLM325D.001 assuming that organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The SPM will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate.

5.5.1 Layers of Confinement

Based on the waste management practices described in the AK documentation, waste drums from operations and maintenance of the 325 Building will have a maximum of four layers of confinement. Radiological wastes were unloaded from hoods into double bags and the materials that were loaded from hoods may have been placed into doubled bags if they contained materials such as asbestos (Reference P039 and P042). The containers have been assigned a TRUCON code of RH225 A through AM.

5.5.2 Filter Vents

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities (Reference P039). By 1980 each container accepted for storage at Hanford was required to be fit for vacuum hoses or a gaseous diffusion vent (Reference P042). Drums were fitted with Nucfil 013 filters if radiolitic decomposition was a possibility (Reference P051).

5.5.3 Waste Identifiers

Refer to Section 4.6 for waste identification and categorization schemes implemented for 325 Radiochemistry Building waste.

6.0 Supplemental Waste Stream Information

Numerous sources of supplemental AK information were collected for 325 Radiochemistry Building waste. These sources are referenced throughout this document and listed in Attachment 1. The types of supplemental information include:

- Standard operating procedures related to packaging of waste items and process operations in the 325 Radiochemistry Laboratory (Reference P001 through P040).
- Waste Disposal Records and Contents Inventory Sheets for each waste container described in this document (Reference U001).
- MSDSs related to products identified (Reference P058).
- Technical reports describing historical operations of the 325 Radiochemistry Laboratory
- AK documents describing Hanford Site TRU Waste operations and management (Reference P041).
- Waste generator interviews (References C001, C002).

7.0 Container Specific Information

Waste Disposal Records and Contents Inventory Sheets have been completed by the 325 Radiochemistry Laboratory waste generators for each waste container in the waste stream described in this AK document. The list of containers included in this stream, including current information relating to the radiological, physical, and chemical characterization of these containers is included in the current Waste Containers list.

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Attachment 1
References

1. CCP-TP-005, *CCP Acceptable Knowledge Documentation*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
2. *Waste Isolation Pilot Plant Hazardous Waste Facility Permit,* NM4890139088-TSDF. New Mexico Environment Department, Santa Fe, New Mexico.
3. CCP-PO-001, *CCP TRU Waste Characterization Quality Assurance Project Plan*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
4. CCP-PO-002, *CCP Transuranic Waste Certification Plan*, Carlsbad, New Mexico, Westinghouse TRU Solutions, LLC.
5. DOE/LLW-217, *DOE Waste Treatability Group Guidance,* Idaoh Falls, Idaho, INEL-Lockheed Idaho Techologies.
6. DOE/WIPP-02-3122, *Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant*, Carlsbad, New Mexico, U.S. Department of Energy.
7. *Interim Guidance on Ensuring that Waste Qualifies for Disposal at the Waste Isolation Pilot Plant*, U.S. DOE Carlsbad, 1997.
8. *Waste Isolation Pilot Plant Land Withdrawal Act* (as amended), Public Law 102-579.
9. *Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code (WAC)*, Olympia, Washington, Washington State Department of Ecology.
10. 42 U.S.C 10141, *Nuclear Waste Policy Act.*
11. DOE/CAO, *Transuranic Waste Baseline Inventory Report*, Revision 2, U.S. DOE Carlsbad, 1995.
12. DOE Order 435.1, *Radioactive Waste Management*, U.S. DOE, 1999.

AK Sourced Documents

Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
C001	Hanford-Building 325 Interview with Wayne Larson	B. Crawford			9/11/03	LANL-CO
C002	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)			10/16/03	LANL-CO
C003	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin			Oct 10/03	LANL-CO
C004	Isotopic Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes Assays	D. Guerin			10/03	LANL-CO
C005	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	James E. Rasmussen to Mr. Moses N. Jaraysi	97-EAP-589		Jul 28 1997	
D001	AK Source Document Discrepancy Resolution-Evaluation of RCRA chemicals	B. Craford and D. Guerin			November 2003	LANL-CO
P001	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	HW 73112		9/15/62	General Electric, Hanford Atomic Products Operation, Richland, WA

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
P002	Removal of High Dose Low Level Waste	R.T. Steele	SAL-325-HDLLW-1		9/30/1994	PNNL
P003	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	SAL-84-5		4/13/1994	PNNL
P004	Routine Research Operations	G.J. Lumetta	RPL-OP-001	0 and 1	March 2000	PNNL
P005	Handling and Opening Radioactive Material Shipments	R.T. Steele	SAL-84-7		4/13/94	PNNL
P006	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	13 644 5			LAZAR Research Laboratories Inc.
P007	Ross pH Electrodes Instruction Manual	Orion Research Inc.	227296-001	C	1999	Orion Research Inc.
P008	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	502700-031	C	1991	Orion Research Inc.
P009	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	502700-078	D	1999	Orion Research, Inc.
P010	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	325-PU-Purify-1	0	6/12/98	PNNL
P011	Leaching Tests using the PCT Method	K.H. Olson	MCC-TP-19		April 1993	PNNL
P012	Evaluation of Monolithic Radioactive Material Immobilization Form behavior in Fume Hoods	R. D. Scheele	RPL-PIP-Ceramic Test-1	0	May 2001	PNNL
P013	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	RPL-EMSP-1	0	Nov. 2000	PNNL
P014	Standard Test Method for Fluoride Ion in Water		D 1179-99		Feb. 1999	ASTM
P015	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL-RPG-268	1	Feb. 2000	PNNL
P016	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	ASTM C1220-98		Nov. 2000	PNNL
P017	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermogravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R. D. Scheele	ICN-PNL-ALO-508R0.2	0	Jan 1998	PNNL
P018	Preparation, Processing and Testing of Radioactive Glass and Ceramics	R.D. Scheele	RPL-PIP-1	2	July 2001	PNNL
P019	Fabrication of Ceramic Samples	W.C. Buchmiller	RPL-PIP-2	0	April 1998	PNNL
P020	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	RPL-PIP-3	0	June 2001	Procedure used by PIP to measure ion concentrations with a specific ion electrode.
P021	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	RPL-PIP-4	2 and 3	Aug. 2002	PNNL
P022	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	RPL-PIP-5	0	June 2001	PNNL
P023	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	APEL-PIP-1	1	Jan. 1999	PNNL
P024	Geometric Density Determination of Consolidated Solids	R. D. Scheele	APEL-PIP-2	3	May 2001	PNNL
P025	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	APEL-PIP-5	2	Jan. 2000	PNNL
P026	Profiling Ovens and Furnaces	W.C. Buchmiller	APEL-PIP-6	0	June 2000	PNNL
P027	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	Virginia L. LeGore	RPL-PIP-SPFT-1	0	May 8,	PNNL

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
					2000	
P028	Preparation of Nondispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	RPL-MAS-NMR	0	August 2003	PNNL
P029	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	RPL-XRD-PIP	2	02/01/2003	PNNL
P030	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	Edgar Buck	GDSP-01-BET	0	1/272003	PNNL
P031	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	SAL-84-8		4/13/94	PNNL
P032	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	511-4	0	Jan 1996	PNNL
P033	Operation of Single Pass Flow Through Experiment	D.M. Wellman	RPL-PIP-SPFT	1	May 2003	PNNL
P034	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W. C. Buchmiller	APEL-PIP-3	1	Jan 1999	PNNL
P035	Gas Pycnometry Method for Apparent Specific Grabity Determinations of Consolidated Solids	R.D. Scheele	APEL-PIP-4	2	Aug 2001	PNNL
P036	Response to Vacuum Alarms in RPL Gloveboxes and Use of RPL Glovebox Airlock	R.D. Scheele	RPG-94-1	1	July 16, 1999	PNNL
P037	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	325-A-20	0	Nov. 1995	PNNL
P038	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	RPL-PIP-SPFT-3	0	Dec 2001	PNNL
P039	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste	W.B. Larson	GEN-325-WM1	1	03/27/96	PNNL
P040	Transmittal of Variance RAD-00006	R. D. Scheele	RAD-00006		2/2000	
P041	Past Practices Technical Characterization Study-300 Area- Hanford Site	M. S. Gerber	WHC-MR-0388		Dec. 1992	Westinghouse Hanford Company
P042	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D. I. Weyns-Rollosson, J.A. Pottmeyer, T.J. Stratton	WHC-SA-2772-FP		Feb. 1995	Westinghouse Hanford Company
P043	Safety Analysis Report for 325 Building	Pacifica Northwest Laboratory	PNL-7748		Jan. 1992	Pacific Northwest Laboratory Richland, Washington
P044	TRU Waste Packaging Requirements and Certification	R. C. McDowell	WHC-EP-0063/RHO-MA-222/PNL-MA-70/SD-WM-TI-202			PNNL and Waste Management
P045	Characterization of Past and Present Waste Streams from the 325 Radiochemisty Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	WHC-EP-0696		12/93	Westinghouse Hanford Company, Richland Washington
P046	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	PNL-MA-661		11/94	Battelle Pacific Northwest Laboratories, Richland, WA
P047	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	DOE/RL-92-35	1	07/97	Pacific Northwest National Laboratory, Richland, WA

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Source Document Number	Title	Author	Document Number	Rev.	Date	Publisher
P048	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	HNF-EP-0649		October 1997	Waste Management Federal Services, Inc.
P049	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	PNL-10743 AD-940		September 1995	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington
P050	Analytical Chemistry Labaratory Manual	W.L. Delvin	MG-28	Revision 2	10/78	Hanford Engineering Development Laboratory, Richland WA
P051	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	HNF-EP-0063	8	May 2003	Fluor Hanford
P052	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste		HNF-3461	7		Fluor Hanford
P053	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers	PNNL-13341		Dec 1999	PNNL
P054	Organic Analysis Progress Report FY 1997	S. A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL-11738		April 1998	PNNL
P055	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas, T.L. Trang-Le, M.W. Urie, J.J. Wagner	PNNL-13364/WTP-RPT-007	0	October 2000	CH2M Hill Hanford Group and PNNL
P056	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL-12157		March 1999	PNNL
P057	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M. W. Urie	CSS 325-1	4	1/5/2000	
P058	MSDS for commercial products	Various				
U001	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel			Various	
U002	Solid Waste Information Tracking System (SWITS)- Container Assay Data Dump for the Building 325 Radiochemisty Labratory					
U003	Notes on Waste Stream Descriptions for Pu oxide characterization studies	Cal Delegard				PNNL-325

Attachment 2
Figures

Figure 1. Location of the Hanford Site

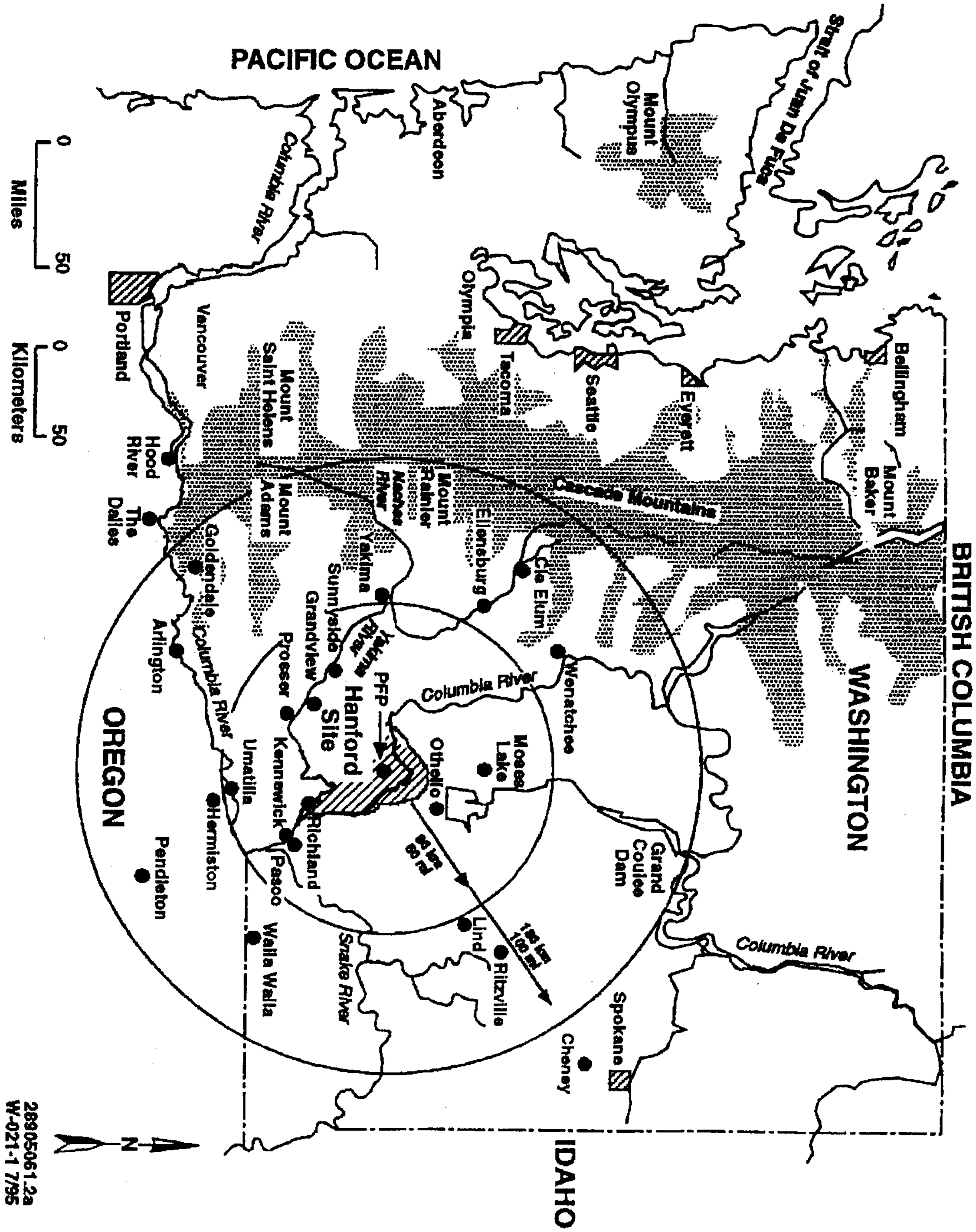

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Figure 2. Location of the Major Areas at the Hanford Site

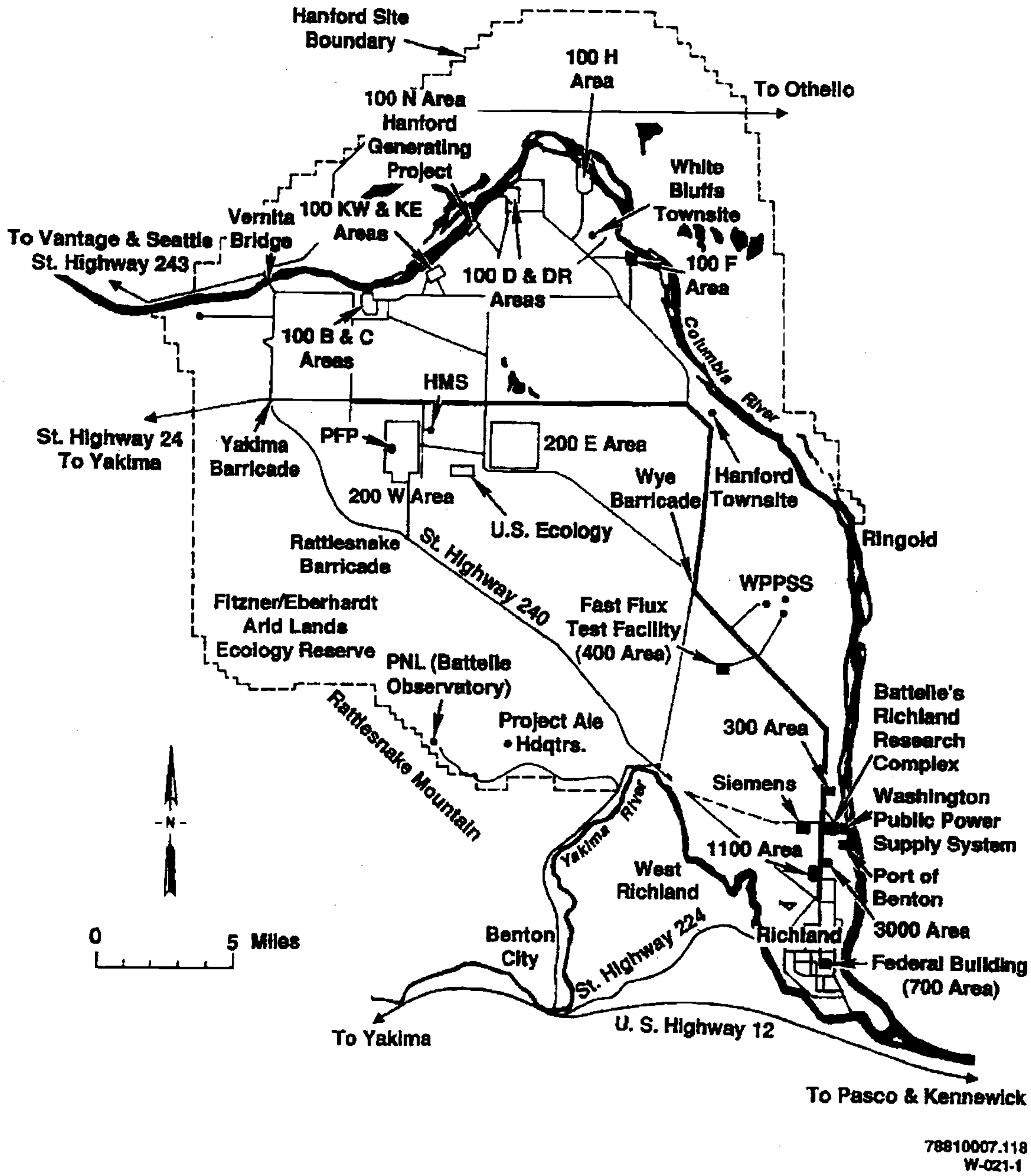

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Figure 3. 300 Area Layout

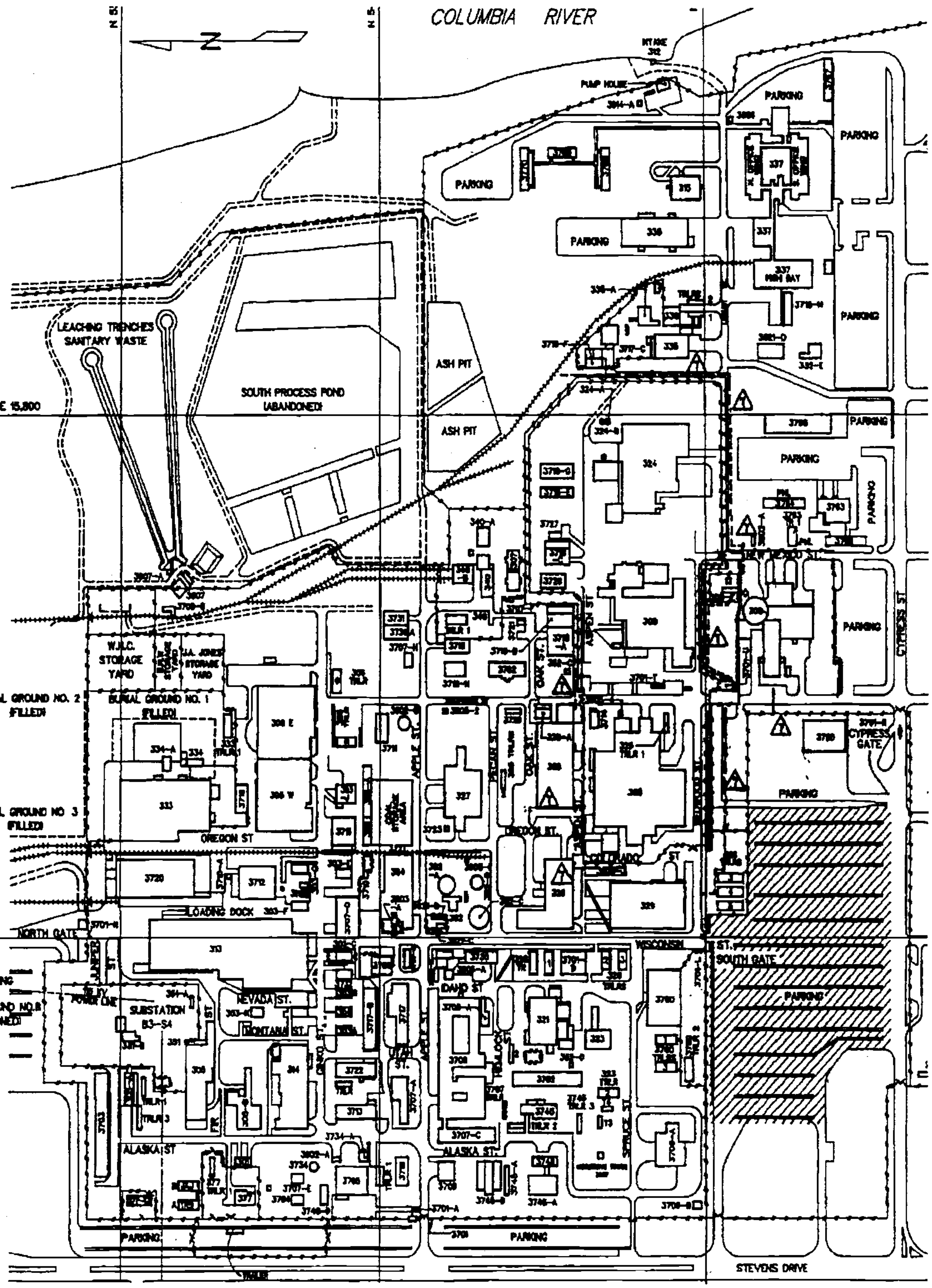

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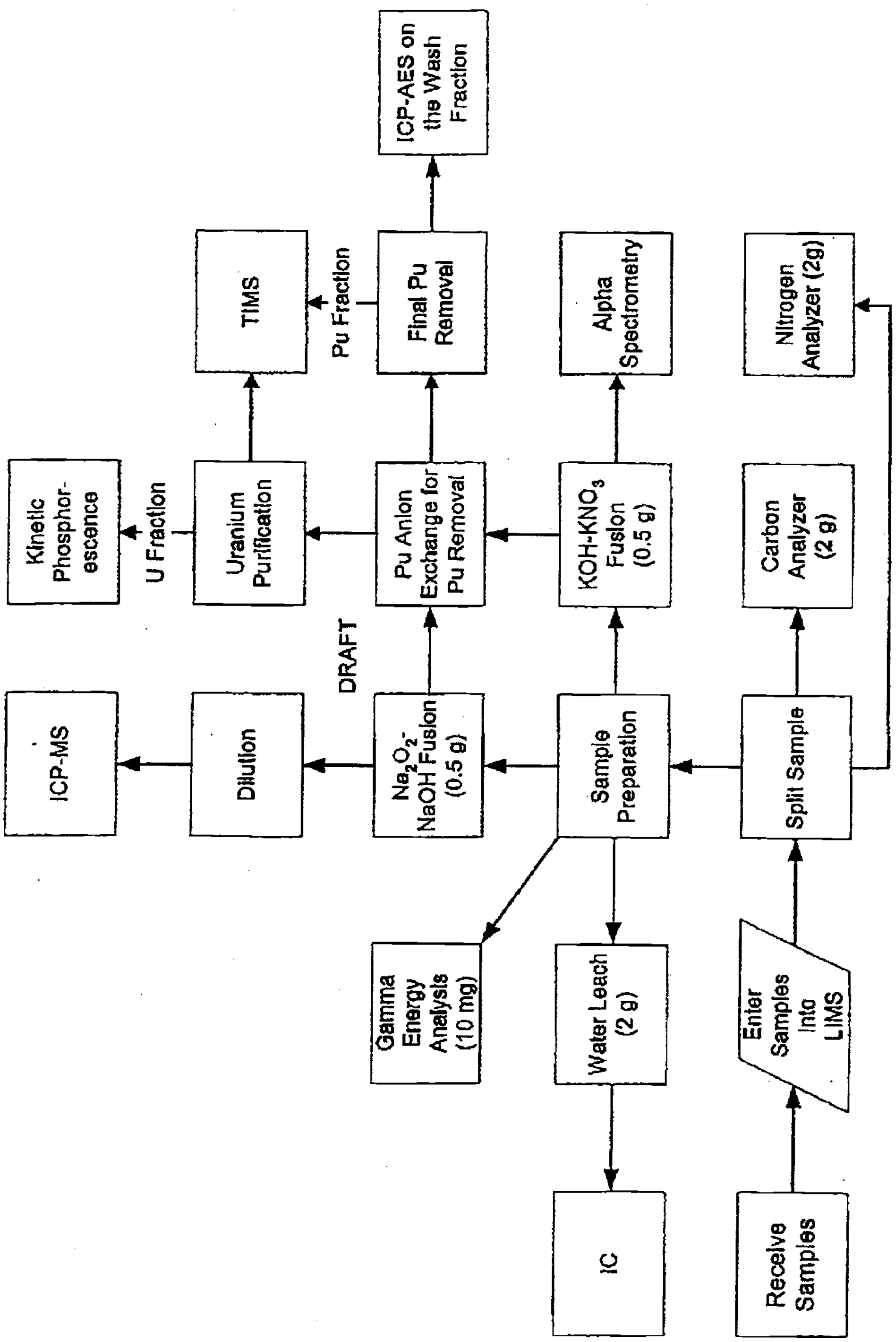
Figure 4. Typical Laboratory Analysis Flow



DON'T SAY IT — *Write It!*

TO: Cynthia Girres

cc:

DATE: July 27, 2004

FROM: Melvin E. Lakes

Telephone: 373-0043

SUBJECT: 325 Facility Debris Waste Stream Designation

This DSI summarizes the Waste Services review of CCP-AK-RL-003 *Document for the Central Characterization Project Acceptable Knowledge Summary Report for Hanford Site 325 Radiochemistry Building Transuranic Debris Rev. 0, dated November 26, 2003* and the subsequent waste designation requirements discussed in the "Draft" M-91-03-01 Hanford Federal Facility Agreement and Consent Order change package, dated October 13, 2003 (Settlement Agreement). A waste designation performed in accordance with WAC 173-303 shall be provided by a Waste Management Representative from within the Waste Services Group (Attachment 1).

Acceptable Knowledge Review

Two questions were posed during the acceptable knowledge review. First, does the acceptable knowledge provide enough chemical characterization information to meet the requirements of the Settlement Agreement? Second, does the acceptable knowledge provide enough chemical characterization information to meet the requirements of HNF-EP-0063, Rev, 10, Sec. 2.4 and treatment, storage, and disposal unit administrative control requirements?

The Settlement Agreement indicates that, "*retrievably stored waste will be managed as mixed waste unless and until it is designated as non-mixed through the designation process (WAC 173-303-070 through 100).*" Further, "designation", as used in the Settlement Agreement, "*is defined as the process for determining: (1) which containers of low-level waste are mixed low-level waste; and (2) which containers of transuranic (TRU) waste are mixed TRU. Designation of waste will be performed pursuant to WAC 173-303-070 through 100. These regulations allow the use of acceptable knowledge, surrogate sampling and other measures for designation to minimize worker radiation exposure and to reduce costs.*"

In accordance with WAC 173-303-070(3)(c), "*For the purposes of determining if a solid waste is a dangerous waste as identified in WAC 173-303-110, a person must either:*

(i) *Test the waste according to the methods, or an approved equivalent method, set forth in WAC 173-303-110; or*

(ii) *Apply knowledge of the waste in light of the materials or the processes used when:*

(A) Such knowledge can be demonstrated to be sufficient for determining whether or not it designated and/or designated properly; and

(B) All data and records supporting this determination in accordance with WAC 173-303-210(3) are retained on-site."

Characteristic (D001, D002, D003)
The debris materials in the 325 TRU waste stream does not meet the definition of ignitability as defined in 40 CFR 261.21. The materials in this waste stream are not liquid and therefore not ignitable (D001) waste. The debris materials do not meet the definition of corrosivity as defined in 40 CFR 261.22. The debris materials in this waste stream are not liquid and therefore not corrosive (D002) wastes. The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials do not contain cyanides or sulfides in the form which is capable of detonation or explosive reaction. The materials in this waste stream are therefore not reactive (D003) waste.

Toxicity Characteristic Metal (D004-D011)
The TRU debris waste stream may contain debris contaminated with toxicity characteristic compounds defined in 40 CFR 261.24. The waste stream contains potential sources for all of the characteristic metals (D004 – D011). Therefore, the metal waste codes (D004 – D011) were conservatively assigned to this waste stream at the regulatory limits.

Toxicity Characteristic Organics (D012-D043)
The following toxicity characteristic chemical waste codes D022, D027, D028, D029, D030, D034, D037, and D043 were assigned to this waste stream. The burial records for the waste containers (Attachment 2) listed for trench 218-W-4C did not identify the toxicity chemicals or concentrations and therefore the chemicals were assigned to this waste stream at or above the regulatory limits. The chemical 2, 4, 5-Trichlorophenol (DO41) was used to treat raw water at the 325 facility. Also, hydrazine identified in the AK documentation was based on a PUREX process. Hydrazine was not part of the TRU debris was stream for the PUREX TRU debris designation. Based on process knowledge, documentation review and discussion with the TRU organization, hydrazine and 2, 4, 5-Trichlorophenol were not associated with 325 TRU debris processes. The chemicals hydrazine and 2, 4, 5-Trichlorophenol is not part of this designation.

Based on the review of chemical usage in the 325 Facility non-specific sources listed in 40 CFR 261.31were conservatively assigned. The F001, F002, F003, F004 and F005 chemicals were used as solvents and assigned to this waste stream at the regulatory limits.

The waste stream may contain batteries, and lead gloves. A conservative designation was performed for the batteries and lead gloves. The acceptable knowledge documentation identified that the debris waste may contain polychlorinated biphenyl (PCB) contaminated material such as transformers and light ballast. The designation identifies PCB at one part per million based on the acceptable knowledge documentation.

CCP-AK-RL-003, table 5, listed several liquid chemicals and compounds. This waste stream is TRU debris waste and therefore do not contain liquids. If small quantities of liquids were present prior to packaging, they were absorbed. The liquid chemicals and compounds were conservatively designated as residue on the debris materials at 4 grams based on process knowledge and discussions with the TRU program.

Although the term "sufficient" is not defined in WAC 173-303, Webster's Dictionary of Law defines "sufficient" as, *"enough to meet the needs under the law of a situation or a proposed end."* The 325 Facility mixed debris acceptable knowledge meets the requirements of WAC 173-303-070(3)(c)(ii)(A), and thereby the Settlement Agreement, because it is sufficient to determine whether the waste is regulated under the dangerous waste lists, WAC 173-303-080 through 082; or characteristics, WAC 173-303-090; or criteria, WAC 173-303-070.

The AK documentation was reviewed to identify whether or not U.S. Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) and Washington State dangerous waste codes should be assigned. This documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. The following are the assigned HWNs for the waste stream: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043 and WSC2 (Washington State corrosive). Washington State toxicity was not considered, because federal characteristic codes are assigned to the waste. Land disposal will be met for the TRU mixed debris through disposal at the Waste Isolation Pilot Plant (WIPP).

The 325 TRU debris acceptable knowledge provided information for waste code assignment. However, several constituents were not readily apparent from the acceptable knowledge paperwork review. Varies electronic databases, discussions with the TRU program, process knowledge, and MSDSs were the primary sources used for determining waste stream chemical constituent concentrations. A conservative designation was used for several chemical constituent concentrations. This conservative designation was used to generate a "representative" 325 TRU debris designation to characterize the retrievable stored containers buried in the 200 West 218-W-4C trench. This designation does not cover the 325 waste produced by Babcock and Wilcox (B&W). A separate designation will cover the B&W 325 TRU debris waste containers.

Methodology and Chemical Constituent Concentration Determination

The 325 Facility debris container list (Attachment 2), provided in the acceptable knowledge documentation, was used to generate a representative 325 Facility waste designation to characterize the retrievably stored 325 debris containers in Trench 218-W-4C in the 200 West Area. Approximately seven hundred and thirteen containers were chosen for review from the one thousand and fifty-three waste containers in retrievable storage 218-W-4C trench. The waste containers were reviewed as a "representative" sample for this waste stream. The waste containers (Attachment 2) were chosen by their TSD acceptance dates, waste accumulation dates, burial records information, and container package identification numbers.

The 325 Facility debris chemical constituent concentrations were developed from 325 debris acceptable knowledge source documents, discussions with the TRU program , SWITS, burial records, Record Management Information System (RMIS) electronic database searches, material safety data sheets (MSDS), analytical lab procedures, and analytical and scientific information from the internet.

A 75.0 kg waste weight was assumed for designation purposes. This is a very conservative waste weight for the 325 TRU debris waste containers. Assumptions were used for several chemical constituent concentrations. A waste matrix parameter category evaluation table from the 325 debris acceptable knowledge documentation is provided as Attachment 3. The chemical constituent assignment basis and the concentrations used for waste designation are summarized in Attachment 4. MSDSs and several calculations are provided in attachment 5.

Table 1.0 Summary of Product Information for CCP-AK-RL-003, Table 5 for the 325 TRU Debris Waste Stream

Chemical/Compound	Description/Use/Source	Concentration
Acetic acid (L)	Coulometry Solution, Sample Preparation	0.0069
Acetone	Rinsing Electrodes, cleaning filaments and glassware	.016
Adiponitrile	Organic synthesis	0.04
AG MP-1 (trimethylamine)	Ion Exchange Resin	MSDS
Aluminum	Heating blocks, capsules and standard solutions	0.31
Aluminum Chloride (s)	Electrolytic Solutions	0.01
Aluminum Nitrate Nonahydrate (s)	Standard Solutions	0.16
Aluminum Oxide (s)	Laboratory Reagent (refractory)	0.13
Aluminum Sulfate (s, l)	Electrochemical solutions	0.04
Alundum (S, aluiminum oxide)	Chromatography columns	0.13
Ammonia (S, anhydrous)	Commonly ammonia hydroxide in water (pH adjustment)	0.33
Ammonium Acetate (L,S)	Analytical reagent	0.002
Ammonium Chloride (S)	Kjeldahl Ammonia Methods	0.01
Ammonium Dichromate (S)	Electrochemical solutions	0.06
Ammonium Fluoride (L,S)	Fluoride ion standard	0.33
Ammonium Hydroxide (L,S)	Liquid pH adjustment	0.66
Ammonium Molbdate (L,S)	Oxidizing acid, may be disposed in liquid form	0.37
Ammonium Oxalate (L,S)	Chelating Agent	0.37

Ammonium Phosphate, dibasic (S)	Process Chemical	0.2
Ammonium Thiocyanate (S)	Process chemical possibly used in Cs scavenging not form elctroplating	0.2
Ammonium Vanadate (S)	Used as reagent in potentiometirc methods	0.13
Arsenic Oxide (S)	Laboratory Reagent	0.13
Arsenious Acid (L)	Electrochemical solutions	0.04
Asbestos (S)	Flame protection for glove box floors, and lab ware	0.5
Ascarite (sodium hydroxide silica)/Macosorb	Remove of CO2 in gas chromatography	MSDS
Ascorbic Acid (L)	Electrolytic solutions	0.04
Barium Carbonate (S)	Laboratory Reagent	0.013
Barium Chloride (L)	Precipitating reagent	0.13
Barium Hydroxide (L,S)	PH adjustments in solutions	0.37
Barium Nitrate (S)	Laboratory Reagent	0.13
Benzene (L)	Carbonizaton of mass spectrometric filaments, cleaning agent	0.001
Beryllium (S)	Standard material	0.16
Boric Acid (L,pH=5)	Sample preparation	0.0053
Boron Carbide (S)	Laboratory Reagent	0.13
Bromocresol purple (S)	Titrations	0.0013
Butyl Alcohol, n-(L)	Solvent and used in microscopy with parriffin	0.0026
Cadmium (S)	Emission spectrometric standard material, neutron shielding	0.0001
Cadmium Nitrate (S)	Emission spectrometric standard material	0.13

Calcium Carbonate (S)	Buffering agent	0.66
Calcium Chloride (S)	Chloride standard material (solution)	0.16
Calcium Hydroxide (S.pH=11.4)	PH adjustments in solutions	0.33
Calcium Nitrate (S)	Spectrometric standard material	0.13
Calcium Sulfate (S)	Laboratory Reagent	0.13
Calcium Tartrate (S)	Laboratory Reagent	0.13
Calgon (soduim hexametaphosphate)	Used to reduce surface tension for particle size analysis	0.13
Carbon Tetrachloride (L)	Metal and sample cleaning	0.0006
N-Carboxymethyl-N'-(2-hydroxyethly)-N,N'-ethylenediglycine (S)	Complexing agent	0.04
Carboxymethylimine-bis-Ethylenenitrile-tetracetic acid (L)	Complexing agent	0.04
Ceric Ammonium Nitrate (S)	Process Chemical	0.13
Ceric Nitrate (S)	Spectrometric standard material	0.13
Ceric Sulfate (S)	Laboratory Reagent	0.13
Ceric Oxide (s)	Work with metal	0.66
Cerous Nitrate/Cesium Nitrate (S)	Spectrometric standard material	0.16
Chromic Acid (L)	Used in chrome plating	0.053
Chromium Chloride (S)	Spectrometric standard material	0.13
Chromic Trioxide (L)	Oxidant and hardening agent	0.13
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	0.2

Chloroform/trichloromethane	Used as a cleaning agent, and as an organic solvent	0.0006
Citric Acid (L,S)	PH adjustments and cleaning agent	0.04
Corn Oil Mist (G)	Used in radiological clean-up	0.0053
Copper (S)	Tubing and used in sulfur combustion	0.33
Copper Nitrate (S)	Spectrometric standard material	0.16
Copper Oxide (S)	Combustion gas chromatography	0.06
Cresols (L) (o,m,p)	Sludge contaminants	.00056
CyDTA, trans-1.2-Cyclohexanediamine-N,N,N',N'-trtraacetic acid, monohydrate	Chelating Agent	0.04
Cyclohexane (L)	Extractant	0.04
Devarda's Alloy (AL,CU,Zn	Metal work	MSDS
D-19 [Kodak] developer (L)	Photographic work (emission spectrometry)	MSDS
Diatomaceous Earth (S)	Absorbent material	6.66
Dibutyl butyl phosphonate	Reagent	0.13
1,2-dichoroethane, ethylene dichloride (L)	Reagent, metal cleaning	0.00005
Diethylhexylorthorphosphric Acid (L)	Chelating and pH adjustment	0.04
Dimethyldichlorosilane/Trimethylchlorosilane (L)	Gas chromatography agent	0.0053
Dimethylglyoxime (S)	Chelating agent	0.33
2,4-dinitrophenol (S)	Reagent	0.0053
Dithiol (3,4-dimercaptotoluene (S)	Tungsten extractant	No Information Found
Dithiol-Amyl Acetate (L)	Tungsten extractant	No Information Found

Dowex-1X-3,X-4 (Trimethyl ammonium functional grouping chlorid form) Resin	Anion echange chromatography	MSDS
Dowex 50 (IX Resin) (Sulfonate Polystyrene Divinyl Benzene)	Ion Exchange Resin	MSDS
Drierite (S, Calcium sulfate)	Combustion gas chromatography	0.13
Ethanol (L)	Cleaning filaments and glassware	0.04
Ether (G,L,S)	Laboratory Reagent	0.04
Ethylenedinitridotetraacetic acid (L)	Chelating agent	0.04
Ethyleneoxyethlyenenitrilotetraacetic Acid (L)	Complexing agent	0.04
Ferric Ammonium Sulfate (S)	Ion Specific electrode methods for Chloride	0.33
Ferric Chloride	Laboratory Reagent	0.13
Ferric Nitrate (S)	Spectrometric standard material	0.13
Ferric Oxide (S)	Laboratory Reagent	0.13
Ferric sulfate (S)	Laboratory Reagent	0.13
Ferrous Ammonium Sulfate (S)	Determination of PU by potentiometry and sample prep.e	0.33
Ferrous Chloride (S)	Electrolytic solution	0.2
Ferrous Sulfate (S)	U by Potentiometry	0.2
Formic Acid (L)	Reagent	0.04
Gallium oxide (S)	Impurities by emission spectrometry	0.13
Gluconic Acid (L)	Metal cleaning, bottle washing	0.04
Glycerin (L)	Used inparticle size determinations	0.04

Gold (S)	Microelectrodes	0.00001
Graphite (S)	Crucibles, electrodes	0.66
Hexane (L)	Liquid extraction, solvent	0.04
Hydrazine (L)	Process Chemical (PUREX)	0.04
Hydrochloric Acid (L)	Electrochemical solutions and sample preparation	0.04
Hydrofluoric Acid (L)	Oxidizing reactions, sample prep.	0.04
Hydrogen Peroxide (L,S)	Oxidizing agent	0.37
Hydroxylamine Hydrochloride (S)	Organic synthesis, photographic developer	0.033
Hydroxylamine Nitrate (L)	Laboratory Reagent	0.04
Iodine (S)	Laboratory Reagent	0.13
Iron (S)	Standard material	0.16
Kerosene (L)	Process Chemical (PUREX)	0.04
Kodak developer D-1 (L)	Photographic plate development	MSDS
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octyphenoxy polyethoxyethyl alcohol (L)	Dsipersant and wetting agent	MSDS
Kodak Solubilizing Agent SA-2 (L)	Solubilizing agent	MSDS
KP-140 (paint w/ZnO/halogeneated hydrocarbons)	Resin solvent, pain	MSDS
Isopropyl Alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample prep.	0.04
Lanthanum Nitrate/Lanthanum-Neodynium Nitrate (S)	Laboratory Reagent	0.13
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	0.0005

Lead Acetate (S)	Laboratory Reagent	0.26
Lead Chloride (S)	Laboratory Reagent	0.26
Lead Nitrate (S)	Spectrometric standard material	0.13
Lead Oxide (S)	Laboratory Reagent	0.26
Linde AW-500 Resin (S, Aluminum Silicate)	Ion Exchange Resin	0.13
Lithium Sulfate (S)	Spectrometric standard material	0.16
Mangesium (S)	Spectrometric standard material	0.16
Magnesium Nitrate (S))	Spectrometric standard material	0.16
Magnesium Oxide	Laboratory Reagent	0.13
Magnesium Perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	0.13
Manganese Dioxide (S)	Laboratory Reagent	0.13
Manganous Chloride (S)	Laboratory Reagent	0.13
Maganous Nitrate (S)	Spectrometric standard material	0.16
Maganous Sulfate (S)	Reagent	0.13
Mannitol (L)	Reagent	0.04
Mercury (L)	Electrodes, thermometers, batteries	0.00002
Mercuric Iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	0.13
Mercuric Nitrate (S)	Laboratory Reagent	0.13
Mercuric Oxide (S)	Laboratory Reagent	0.13
Mercuric Thiocyanate (S)	Ion Selective Electrode reagent	0.13

Mercuric Sulfate (S)	Reference Electrodes	0.13
Metaldi fulid (L, propylene glycol)	Dispersing agent	MSDS
Methanol (L)	Cleaning and drying glassware	0.000075
Methylene Chloride (L)	Reagent, solvent	0.04
Methyl Ethyl Ketone (L)	Reagent, solvent	0.0036
Methyl Isobutyl Kentone (L)	Reagent, solvent	0.0033
Methyl Lactic Acid (L)	Laboratory Reagent	0.04
Mineral Oil (L)	Reagent	0.04
Molybdenum (S)	Spectrometric standard material	0.16
Molybdic Acid (L,S)	Laboratory Reagent	0.17
Naphthalene (S)	Laboratory Reagent	0.13
Natrasorb, clay	Container material, dessicant, used in oil absorption	.12
Neodymium Nitrate (S)	Spectrometric standard material	0.13
Neodymium Oxide (S)	Spectrometric standard material	0.16
Nickel/Nickel Bromide (S)	Reagent	0.07
Nickelous Chloride (S)	Spectrometric standard material	0.16
Niclelous Nitrate (S)	Laboratory Reagent	0.13
Nitric Acid (L)	Sample dissolution, eluant for ion exchange	0.04
Nitrous Acid (L)	Eluant for ion exchange	0.04
Nitriltracetic Acid (L, NTA)	Chelating acid	0.04

Normal Paraffin Hydrocarbon (S)	PURX Process chemical used for liquid-liquid extraction	0.33
Oleic Acid (L)	Lubricant	0.04
Oxalic Acid (L)	Chelating Acid	0.04
Pentachorophenol (S)	Herbicide, wood preservative	0.01
Pentasodium Diethylene Triamine Pentaactate (DPTA)	Chelating Acid	0.04
Perchloric Acid (L)	Sample prep for emission spectrometry	0.04
Periodic Acid (S)	Laboratory Reagent	0.13
Phenol (L,S)	Reagent	0.17
Phosphoric Acid (L)	Used in potentiometric methods	0.04
Phosphorous Pentoxide (S)	Used in sample prep and for gas chromatography	0.13
Platinum (S)	Crucibles, sample boats	0.13
Portland Cement (S,pH=11.4)	Soldifying agent for liquids	13.33
Potassium Acetate (S)	Buffer solution, dehydration	0.06
Potassium Bicarbonate (S)	Neutralization reagent	0.000013
Potassium Carbonate (S)	Dehydrating agent	0.13
Potassium Chlorate (S)	Laboratory Reagent	0.33
Potassium Chloride (S)	Used as a control standard for Ion Selective Electrode method	0.33
Potassium Dichromate (S)	Used in potentiometric methods, photochemical processing	0.04
Potassium Ferrocyanide(S)	Fixative in photography, metal cleaner	0.66
Potassium Fluoride (S)	Organic systhesis	0.03

Potassium Hydroxide (S)	Electrolyte fuel cells	0.33
Potassium Iodate (S)	Used in Iodometry	0.33
Potassium Iodide (S)	Used in Iodometry	0.33
Potassium Permanganate (S)	Lab reagent, decontamination agent	0.2
Potassium Phosphate, tribasic (S)	Process chemical, lab reagent	0.13
Potassium pyrosulfate (S))	Sample prep flux	0.2
Potassium Sodium Tartrate (S	Laboratory Reagent	0.13
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory Reagent	MSDS
Silica Gel (S)	Chromatographic separations, dehydrating agent.	0.13
Silver Cynide (S)	Plating	0.13
Silver Nitrate (S)	Spectrometric standard material	0.16
Silver Oxide (S)	Reagent for amperometric Pu determination	0.13
Silver Sulfate (S)	Laboratory Reagent	0.13
Sodium Acetate (S)	Laboratory Reagent	0.02
Sodium Aluminate(S)	Cleaning Compound	0.26
Sodium Arsenite (S)	Dying agent	0.13
Sodium Bicarbonate(S)	Suffer solution	0.004
Sodium Bisulfate (S)	Dying agent	0.13
Sodium Bisulfite (S)	Reducing agent	0.1
Sodium Borate(S)	Flame retardant	0.33

Sodium Carbonate (S)	Cleaning prep	0.13
Sodium Chloride (S)	Precipitation agent	0.13
Sodium Citrate(S)	Chelating Agent	0.33
Sodium Dichromate (S)	Electrochemical reagent	0.13
Sodium Fluoride (S)	Standard material for Ion selective Electrode methods and carries for emission spectrometry	0.2
Sodium Hydroxide (S)	Solution preparation and pH adjustment	0.32
Sodium Hypochlorite (L)	Laboratory Reagent	0.13
Sodium Iodide (S,L)	Laboratory Reagent	0.17
Sodium Nitrate (S)	Process Chemical	0.2
Sodium Nitrite (S)	Process Chemical	0.2
Sodium Oxalate (S)	Chelating Agent, Lab Reagent	0.33
Sodium Phosphate (S)	Reagent, metal cleaner	0.13
Sodium Phosphite (S)	Laboratory Reagent	0.13
Sodium Pyrophosphate (S)	Reagent, metal cleaner	0.13
Sodium Selenate (S)	Laboratory Reagent	0.13
Sodium Silicate (S)	Laboratory Reagent	0.13
Sodium Sulfate (S)	Calibration standard materials	0.196
Sodium Tartrate (S)	Water determination by coulometry	0.06
Sodium Tungstate (S)	Reagent	0.13
Stainless Steel (S)	Tubing, standard material, and alpha spectrometry sample disks	1.0

Stannic Chloride (S)	Reagent	0.13
Stannous Chloride (S)	Spectrometric standard material	0.33
Strontium Nitrate (S)	Laboratory Reagent	0.13
Sugar (sucrose, glucose)(S)	Use in mass spec for Pu/U and test of ammonia destruction for the PUREX process	0.16
Sulfur (S)	Mercury clean up reagent	0.13
Sulfuric Acid (L)	Sample preparation	0.04
Tetrasodium Ethylene Diaminetrtraacetate (EDTA)	Chelating Agent	0.13
Tetraphenyl Boron (S)	Laboratory Reagent	0.13
Thenoyltrifluoroacetone (L)Thorium Nitrate (S)	Laboratory Reagent	0.0053
Tin (S)	Capsules, Spectrometric standard material	0.04
Tide Detergent(S)	Cleaning solution	Na2CO3,Na3PO4, Na2OSiO2
TISAB III	Buffering agent	MSDS
Titanium Chloride (S,L)	Spectrometric standard material	0.17
Titanium (di)oxide(S)	Standard, ceramics , decontamination	0.26
Toluene (L)	Extractant and cleaning of mass spectrometer filament	0.001
Tributyl Phosphate (L)	Liquid-Liquid extraction and studies of PUREX process	0.04
Trichloroethane,-1-1-1 (L)	Reagent, solvent	0.04
1,1,2-trichlor-1,2,2-trifluoroethane (L)	Reagent, solvent	0.005
Tri-iso-octylamine	Liquid-Liquid extraction	0.04

Tri-n-octylamine	Liquid-Liquid extraction	0.04
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	0.04
Trisodium Hydroxyethyl Ethylene-Diamine Triacetate (HEDTA)	Chelating Agent	0.33
Turco Alkaline (Rust Remover) (NaOH and Kersene)	Rust remover	Attachment 2
Tungsun Oxide	Spectrometric standard material	0.16
Turco deseal Zit 3 (Methylene Chloride and Acetic Acid)	Decontamination paint	Attachment 2
Turco Plaudit (No hazardous compounds)	Decontamination	0.0
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	Attachment 2
Turco 4518 (Sodium Dodecyl Benzene Sulfonate)	Decontamination paint	Attachment 2
Uranyl Nitrate (S)	Extractant	0.06
Uranium Oxide(S)	Accelerator for pyrochydrolysis	0.13
Urea (S)	Electroylic solution	0.06
Vanadium (S)	Spectrometric standard material	0.16
Vanadium Pentoxide (S)	Sample preparation flux	0.06
Vanadyl Sulfate(S)	U by potentiometric titration	0.13
Vinyl Chloride (L)	Sludge contaminant	0.00002
Xylene (L)	Liquid-Liquid extraction, solvent	0.04
Yttrium Nitrate (S)	Laboratory Reagent	0.13
Zeolon 900 Resin (Aluminum Silicate)	Ion Exchange Resin	0.13

Zinc Chloride (S)	Spectrometric standard material	0.16
Zine Nitrate(S)	Spectrometric standard material	0.16
Zinc Oxide (S)	Laboratory Reagent	0.13
Zirconium	Cladding mateial	0.16
Ziconyl Nitrate	Spectrometric standard material	0.16

WAC 173-460 Small Quantity Emissions Rates

A small quantity emission rate (SQER) review is required as a Central Waste Complex (CWC) administrative control under the State of Washington Department of Ecology, Notice of Construction Approval Order No. DE00NWP-002. SQER thresholds are defined in WAC 173-460. This will be provided by the Waste Services group (Attachment 5).

The SQER air review was performed for the representative 325 TRU designation chemical constituents in accordance with WMP-370, Sec. 2.27, Rev. 1 procedure. The representative debris designation contains chemical constituents below toxic air permitting thresholds. Due to the variability in containers actually waste weights, a SQER review should be performed on containers requiring storage at CWC during the facility transfer process in accordance with WMP-370 level procedures.

Conclusions

In conclusion, the 325 TRU debris waste has been designated with D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043 and WSC2 (solid corrosive caustic) in accordance with WAC 173-303. Acceptable knowledge, MSDS, shipping documentation, and appropriate assumptions were used to complete the designation. Land disposal restrictions will be met through WIPP disposal.

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

Sum of Weight%: 100.1308610

Characteristic WAC-173-303-090-5-7

Flashpoint < 60C IGNITABLE	D001 DW	N/A
* OXIDIZER	D001 DW	N/A
pH <=2 or >= 12.5 (Liquids)	D002 DW	N/A
(Solids Only)	WSC2 DW	N/A
Reactive	D003 DW	N/A

*Oxidizer defined in 49CFR 173.127 & 173.128

Toxic Dangerous Waste WAC 173-303-100

Total EC %: .3771122

No data or EC% < .001	Non-Reg	
EC% >=.001 & <1	WT02 DW	✓ 6b
EC% >= 1	WT01 EHW	

Persistent Dangerous Waste WAC-173-303-100

Total HOC%: .3951900 **Total PAH%:** .0000000

No HOC/PAH or below limits Non-Reg		
HOC% > 1	WP01 EHW	
HOC% 0.01 to 1	WP02 DW	✓ 6d
PAH% > 1%	WP03 EHW	

Toxicity Characteristic WAC 173-303-090-8

TC CODES D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043

MATERIAL USED AS SOLVENTS: F001, F002, F003, F004, F005

APPLICABLE WASTE CODES: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043, F001, F002, F003, F004, F005

APPLICABLE LDR CODES: D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043, F001, F002, F003, F004, F005 WASTE CLASS: DW

COMMENTS:
waste will be treated to meet Alternative Treatment Standard for Debris, if not going WIPP

Designation Specialist: M.E. Lakes (Print Name) [signature] (Signature) 9/7/04 (Date)

** Federally Listed waste, WSC2 code will not apply.

PCB -- 1ppm

* note: Solid Debris Waste, pH do not apply

DA 11-15-04

Designation # 325 TRU Debris

Designation Codes

(1) **Not a discarded chemical product (old/unused or sole active ingredient) (WAC 173-303-9903)** M 9/7/04

(2) **Not a dangerous waste source (used/spent) (WAC 173-303-9904)**

(3) **Does not exhibit dangerous waste characteristic / criteria per:**

a) MSDS
b) Lab analysis
c) Generator knowledge M 9/7/04
d) Insufficient concentration 9/7/04
e) Not in this waste form M 9/7/04

(4) **Federal listed waste code takes precedence (40 CFR 268.9)** M 9/7/04

(5) **Underlying Hazardous Constituent(s) not applicable per:**

a) Alternative treatment standard - hazardous debris (40 CFR 268.45)
b) Transuranic waste
c) Federal waste code assigned that does not specify meeting 40 CFR 268.48 universal treatment standards
d) Federal listed waste code assigned M 9/7/04
e) Federal characteristic waste code assigned M 9/7/04
f) Federal characteristic waste code not assigned
g) Insufficient concentration (40 CFR 268.48) M 9/7/04
h) Not an UHC in characteristic wastes, according to the definition at 40 CFR 268.2(i)

(6) ****Exclude:**

a) WT01 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) M 9/7/04
b) WT02 DW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) M 9/7/04
c) WP01 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5) M 9/7/04
d) WP02 DW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5)
e) WP03 EHW Washington State waste code, because Federal listed and/or characteristic waste code(s) assigned. Additional designation not required in accordance with WAC 173-303-070(5)
f) Exclude Washington State waste code, waste regulated under CERCLA and/or TSCA, not RCRA or WAC 173-303

WASTE DESIGNATION WORKSHEET

For Designation # 325 TRU DEBRIS

Description: ACCEPTABLE KNOWLEDGE BASIS: CCP-AAK-RL-003 CENTRAL CHARACTERIZATION PROJECT ACCEPTANCE KNOWLEDGE SUMMARY REPORT FOR HANFOD SITE 325 RADIOCHEMISTRY BUILDING TRANSURANIC DEBRIS RE. 0 NOVEMBER 26, 2003

Entry Date: 07/09/04 **Physical State:** Solid **pH:** ~~>8-12~~ >2-<12.5 ML 1/7/04 **Flashpoint:** N/A C

Designator: ME LAKES **Old/Spill/Used:** Used

Comments:

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10022-31-8	BARIUM NITRATE	~~Ø~~ 3e	NA	NA	~~Y~~ 5e	1.2 mg/1	21 mg/1 TCLP	~~D001~~ 3e; D005 (100.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10022-31-8	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10025-73-7	CHROMIC CHLORIDE	NA	NA	NA	~~Y~~ 5e	2.77 mg/1	.6 mg/1 TCLP	D007 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10025-73-7	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10028-22-5	FERRIC SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10028-22-5	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10034-81-8	MAGNESIUM PERCHLORATE	~~Ø~~ 3e,c	NA	NA	N			~~D001~~ 3e,c

Source	ID#	Weight %	EC %	TOX
WC	10034-81-8	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10042-76-9	STRONTIUM NITRATE	~~G~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	
WC	10042-76-9	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10043-01-3	ALUMINUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	10043-01-3	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10043-35-3	BORIC ACID	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10043-35-3	.0053000	.0000005	TOX: D
Totals per CAS #:		.0053000	.0000005	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10043-52-4	CALCIUM CHLORIDE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10043-52-4	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10045-89-3	FERROUS AMMONIUM SULFATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	10045-89-3	.3300000	.0000330	TOX: D
Totals per CAS #:		.3300000	.0000330	

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10045-94-0	MERCURIC NITRATE	~~D~~ 3e	NA	NA	~~Y~~ 5e	.15 mg/1	.025 mg/1 TCLP	~~D001~~; D009 (.2000); ~~WT01~~ 3e 6a

Source	ID#	Weight %	EC %	TOX: B
WC	10045-94-0	.1300000	.0013000	
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10045-95-1	NEODYMIUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3c, e

Source	ID#	Weight %	EC %	TOX: D
WC	10045-95-1	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10099-59-9	LANTHANUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~; ~~WT02~~ 3e 6b

Source	ID#	Weight %	EC %	TOX: D
WC	10099-59-9	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10099-74-8	LEAD NITRATE	~~D~~ 3e	NA	NA	~~Y~~ 5e	.69 mg/1	.75 mg/1 TCLP	~~D001~~; D008 (5.0000) 3e

Source	ID#	Weight %	EC %	TOX: N
WC	10099-74-8	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10101-41-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10102-06-4	URANYL NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	10102-06-4	.0600000	.0000000	TOX: N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10108-73-3	CEROUS NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	10108-73-3	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10124-37-5	CALCIUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	10124-37-5	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10138-04-2	FERRIC AMMONIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10138-04-2	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10192-30-0	AMMONIUM BISULFITE, SOLID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	10192-30-0	.0004000	.0000000	TOX: N
Totals per CAS #:		.0004000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10213-10-2	SODIUM TUNGSTATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10213-10-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10294-26-5	SILVER SULFATE	NA	NA	NA	~~Y~~ 5e	.43 mg/1	.14 mg/1 TCLP	D011 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	10294-26-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10294-41-4	CERIUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	10294-41-4	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10325-94-7	CADMIUM NITRATE	~~D~~ 3c,e	NA	NA	~~Y~~ 5e	.69 mg/1	.11 mg/1 TCLP	~~D001~~; D006 (1.0000); ~~WT02~~ 3c,e 66

Source	ID#	Weight %	EC %	TOX: C
WC	10325-94-7	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10361-03-2	SODIUM METAPHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	10361-03-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10361-37-2	BARIUM CHLORIDE	NA	NA	NA	~~Y~~ 5e	1.2 mg/l	21 mg/l TCLP	D005 (100.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10361-37-2	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10361-93-0	YTTRIUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10361-93-0	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10377-48-7	LITHIUM SULFATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	10377-48-7	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10377-60-3	MAGNESIUM NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10377-60-3	.1600000	.0000000	TOX: N
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
10377-66-9	MANGANESE NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	10377-66-9	.1600000	.0000000	TOX: N
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)	6 3e	NA	NA	N			~~D001~~; ~~WT02~~ 3e 6b

Source	ID#	Weight %	EC %	TOX: D
WC	10421-48-4	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10450-60-9	PERIODIC ACID	6 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	10450-60-9	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
10588-01-9	SODIUM DICHROMATE	6 3e	NA	NA	~~Y~~ 5e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; D007 ([illegible].0000); ~~WT02~~ 3e 6b

Source	ID#	Weight %	EC %	TOX: C
WC	10588-01-9	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
106-44-5	P-CRESOL	NA	NA	NA	~~Y~~ 5d	.77 mg/l	5.6 mg/kg	~~D025~~ (200.0000) F004; ~~U052~~; ~~WT01~~ 4 6A 1

Source	ID#	Weight %	EC %	TOX: B
WC	106-44-5	.0005600	.0000056	
Totals per CAS #:		.0005600	.0000056	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
106-46-7	P-DICHLOROBENZENE	NA	NA	HOC	~~Y~~ 5e	.09 mg/l	6 mg/kg	D027 (7.5000); ~~U072~~; ~~WP01~~; ~~WT02~~ 6b 1 6c

Source	ID#	Weight %	EC %	TOX: C
WC	106-46-7	.0007500	.0000008	
Totals per CAS #:		.0007500	.0000008	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
107-06-2	1,2-DICHLOROETHANE	~~FL~~ 3c,e	NA	HOC	~~Y~~ 5e	.21 mg/kg	6 mg/kg	3 c,e ~~D001~~; D028 (.5000); ~~U077~~; ~~WP01~~; ~~WT02~~ 6c 6b

Source	ID#	Weight %	EC %	
WC	107-06-2	.0000500	.0000000	TOX: D
Totals per CAS #:		.0000500	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
107-21-1	ETHYLENE GLYCOL	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	107-21-1	.0002000	.0000000	TOX: D
Totals per CAS #:		.0002000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
107-66-4	DIBUTYL PHOSPHATE	NA	~~A~~ 3c,d,e	NA	N			~~D002~~ 3c,e,d

Source	ID#	Weight %	EC %	
WC	107-66-4	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-10-1	4-METHYL-2-PENTANONE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.14 mg/kg	33 mg/kg	~~D001~~; F003; ~~U161~~; ~~WT02~~ 3c,E 6b

Source	ID#	Weight %	EC %	
WC	108-10-1	.0033000	.0000003	TOX: D
Totals per CAS #:		.0033000	.0000003	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-39-4	M-CRESOL	NA	NA	NA	~~Y~~ 5d	.77 mg/kg	5.6 mg/kg	4 ~~D024~~ (200.0000); F004; ~~U052~~; ~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	108-39-4	.0005600	.0000006	TOX: C
Totals per CAS #:		.0005600	.0000006	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-88-3	TOLUENE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.08 mg/kg	10 mg/kg	~~D001~~; F005; ~~U220~~; ~~WT02~~ 3c,e 1 6b

Source	ID#	Weight %	EC %	
WC	108-88-3	.0010000	.0000001	TOX: D
Totals per CAS #:		.0010000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
108-95-2	PHENOL	NA	NA	NA	Y	.039 mg/1	6.2 mg/kg	~~U188~~; ~~WT01~~ 1 6a

Source	ID#	Weight %	EC %	
WC	108-95-2	.1700000	.0017000	TOX: B
Totals per CAS #:		.1700000	.0017000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-54-3	N-HEXANE	~~FL~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	
WC	110-54-3	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-82-7	CYCLOHEXANE	~~FL~~ 3e	NA	NA	N			~~D001~~; ~~U056~~ 3e 1

Source	ID#	Weight %	EC %	
WC	110-82-7	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
110-86-1	PYRIDINE	~~FL~~ 3e	NA	NA	~~Y~~ 5d	.014 mg/kg	16 mg/kg	3e 4 ~~D001~~; ~~D038~~ (5.0000); F005; ~~U196~~; ~~WT02~~ 1 6b

Source	ID#	Weight %	EC %	
WC	110-86-1	.0016000	.0000016	TOX: C
Totals per CAS #:		.0016000	.0000016	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
111-69-3	ADIPONITRILE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: B
WC	111-69-3	.0400000	.0004000	
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
11138-49-1	SODIUM ALUMINATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	11138-49-1	.2600000	.0000000	
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1116-76-3	TRIOCTYLAMINEINE	NA	B	NA	N			~~D002~~ 3c, d, e

Source	ID#	Weight %	EC %	TOX: N
WC	1116-76-3	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
112-80-1	OLEIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	112-80-1	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
115-40-2	BROMOCRESOL PURPLE	NA	NA	HOC	N			~~WP01~~ 6c

Source	ID#	Weight %	EC %	TOX: N
WC	115-40-2	.0013000	.0000000	
Totals per CAS #:		.0013000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
117-10-2	1,8-DIHYDROXYANTHRAQUINONE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	117-10-2	.0053000	.0000000	TOX: N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12024-21-4	GALLIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	12024-21-4	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12044-50-7	ARSENIC (V) OXIDE, HYDRATE	NA	NA	NA	/se	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); ~~P011~~; ~~WT01~~ 1, 69

Source	ID#	Weight %	EC %	TOX
WC	12044-50-7	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12054-48-7	NICKEL HYDROXIDE	NA	NA	NA	Y	3.98 mg/l	11 mg/l TCLP	

Source	ID#	Weight %	EC %	TOX
WC	12054-48-7	.0480000	.0004800	TOX: B
Totals per CAS #:		.0480000	.0004800	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
12069-32-8	BORON CARBIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	12069-32-8	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
121-14-2	2,4-DINITROTOLUENE	NA	NA	NA	~~Y~~ 5e	.32 mg/kg	140 mg/kg	D030 (.1300); ~~U105~~; ~~WT02~~ 1 6b

Source	ID#	Weight %	EC %	TOX
WC	121-14-2	.0000130	.0000000	TOX: C
Totals per CAS #:		.0000130	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12125-01-8	AMMONIUM FLUORIDE	NA	~~A~~ 3c	NA	N			~~D002~~ 3c

Source	ID#	Weight %	EC %	TOX
WC	12125-01-8	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12125-02-9	AMMONIUM CHLORIDE	NA	NA	NA	N			WT02

Source	ID#	Weight %	EC %	TOX
WC	12125-02-9	.0100000	.0000010	TOX: D
Totals per CAS #:		.0100000	.0000010	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	12179-04-3	.0003000	.0000000	TOX: N
Totals per CAS #:		.0003000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
123-31-9	HYDROQUINONE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	123-31-9	.0004000	.0000004	TOX: C
Totals per CAS #:		.0004000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
12428-46-5	ALUMINUM HYDROXIDE SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	12428-46-5	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
126-73-8	TRIBUTYL PHOSPHATE (TBP)	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	126-73-8	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	127-08-2	.0600000	.0000060	
Totals per CAS #:		.0600000	.0000060	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
127-18-4	TETRACHLOROETHYLENE	NA	NA	HOC	~~Y~~ 5d	.056 mg/kg	6 mg/kg	4 ~~D039~~ (.7000); F001; F002; ~~U210~~; ~~WP01~~; WT02 1 6c 6b

Source	ID#	Weight %	EC %	TOX: D
WC	127-18-4	.0006000	.0000001	
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1303-96-4	SODIUM BORATE, DECAHYDRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	1303-96-4	.3300000	.0000330	
Totals per CAS #:		.3300000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1305-62-0	CALCIUM HYDROXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1305-62-0	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1306-38-3	CERIC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1306-38-3	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1309-37-1	FERRIC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1309-37-1	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1309-48-4	MAGNESIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1309-48-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1309-60-0	LEAD DIOXIDE	Ø	NA	NA	Y 5e	.69 mg/l	.75 mg/l TCLP	~~D001~~ D008 (5.0000) 3c,e

Source	ID#	Weight % 3c,e	EC %	TOX: N
WC	1309-60-0	.2600000	.0000000	
Totals per CAS #:		.2600000	.0000000	

WASTE DESIGNATION WORKSHEET

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-58-3	POTASSIUM HYDROXIDE	* NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	
WC	1310-58-3	.3300000	.0003300	TOX: C
Totals per CAS #:		.3300000	.0003300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-65-2	LITHIUM HYDROXIDE	* NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	
WC	1310-65-2	.0016000	.0000160	TOX: B
Totals per CAS #:		.0016000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1310-73-2	SODIUM HYDROXIDE	* NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	
WC	1310-73-2	.3200000	.0000000	TOX: N
Totals per CAS #:		.3200000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13106-76-8	AMMONIUM MOLYBDATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	13106-76-8	.3700000	.0000000	TOX: N
Totals per CAS #:		.3700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1313-13-9	MANGANESE DIOXIDE	~~O~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	
WC	1313-13-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1313-97-9	NEODYMIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1313-97-9	.1600000	.0000000	TOX: N
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13138-45-9	NICKEL (II) NITRATE (1:2)	~~O~~ 3ce	NA	NA	Y	3.98 mg/l	11 mg/1 TCLP	~~D001~~ 3ce

Source	ID#	Weight %	EC %	TOX
WC	13138-45-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-13-2	ZINC OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1314-13-2	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-35-8	TUNGSTEN TRIOXIDE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1314-35-8	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-56-3	PHOSPHORUS PENTOXIDE	NA	~~X~~ 3ce	NA	N		Reactivity	~~D003~~ 3cde; ~~WSC2~~ 3ce; ~~WT01~~ 6a
		Compatibility					WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX
WC	1314-56-3	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC	NA	NA	NA	N			~~P120~~; ~~WT01~~ 1 69

Source	ID#	Weight %	EC %	TOX: B
WC	1314-62-1	.0600000	.0006000	
Totals per CAS #:		.0600000	.0006000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-38-0	COPPER OXIDE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: C
WC	1317-38-0	.0600000	.0000600	
Totals per CAS #:		.0600000	.0000600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-65-3	CALCIUM CARBONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1317-65-3	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1317-99-3	URANIUM OCTAOXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1317-99-3	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1318-00-9	VERMICULITE, EXFOLIATED	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	1318-00-9	5.0000000	.0000000	
Totals per CAS #:		5.0000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	13291-61-7	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1330-20-7	XYLENE (MIXED ISOMERS)	~~FL~~ 3 9 e	NA	NA	~~Y~~ 5d	.32 mg/l	30 mg/kg	~~D001~~; F003; ~~U239~~; ~~WT02~~ 1 1 6b

Source	ID#	Weight %	EC %	TOX
WC	1330-20-7	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1331-17-5	PROPYLENE GLYCOL	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1331-17-5	.0053000	.0000053	TOX: C
Totals per CAS #:		.0053000	.0000053	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1332-21-4	ASBESTOS	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	1332-21-4	.5000000	.0000000	TOX: N
Totals per CAS #:		.5000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1333-82-0	CHROMIUM TRIOXIDE	3c(e ~~O~~) 3c(e	~~X~~	NA	~~Y~~ 5e	2.77 mg/l	.6 mg/l TCLP	3e dt 3ce ~~D001~~; ~~D002~~; D007 (5.0000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	1333-82-0	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1335-30-4	ALUMINUM SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	1335-30-4	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1336-21-6	AMMONIUM HYDROXIDE	NA	B	NA	N			~~D002~~ 3 cpe

Source	ID#	Weight %	EC %	
WC	1336-21-6	.6600000	.0006600	TOX: C
Totals per CAS #:		.6600000	.0006600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13410-01-0	SODIUM SELENATE	NA	NA	NA	N			D010 (1.0000)

Source	ID#	Weight %	EC %	
WC	13410-01-0	.1300000	.0130000	TOX: A
Totals per CAS #:		.1300000	.0130000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1344-28-1	ALUMINUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	1344-28-1	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
1344-64-5	VANADYL SULFATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	
WC	1344-64-5	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13463-67-7	TITANIUM OXIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	13463-67-7	.2600000	.0000000	
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13464-37-4	ARSENOUS ACID, TRISODIUM SALT	NA	NA	NA	~~Y~~ 5e	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); ~~WT01~~ 69

Source	ID#	Weight %	EC %	TOX: B
WC	13464-37-4	.0400000	.0004000	
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13465-08-2	HYDROXYLAMINE NITRATE	NA	~~A~~ 3c,e	NA	N			~~D002~~ 3e,c

Source	ID#	Weight %	EC %	TOX: N
WC	13465-08-2	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13478-10-9	FERROUS CHLORIDE	NA	~~A~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	13478-10-9	.2000000	.0000000	
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13590-82-4	CERIUM SULFATE	~~O~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	13590-82-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13708-85-5	SODIUM PHOSPHITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	13708-85-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13746-66-2	POTASSIUM FERROCYANIDE	NA	NA	NA	Y	.86 mg/l	30 mg/kg	

Source	ID#	Weight %	EC %	TOX: N
WC	13746-66-2	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13778-30-8	ZINC NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	13778-30-8	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13823-29-5	THORIUM NITRATE (RADIOACTIVE)	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	13823-29-5	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13826-66-9	ZIRCONYL NITRATE	~~D~~ 3e	NA	NA	N			~~D001~~ 3e

Source	ID#	Weight %	EC %	TOX: D
WC	13826-66-9	.1600000	.0000160	
Totals per CAS #:		.1600000	.0000160	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
13870-30-9	SODIUM SILICATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	13870-30-9	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
139-13-9	NITRILOTRIACETIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	139-13-9	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
140-01-2	PENTASODIUM PENTETATE (DTPA)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	140-01-2	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
14258-49-2	AMMONIUM OXALATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	14258-49-2	.3700000	.0000000	
Totals per CAS #:		.3700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
143-19-1	SODIUM OLEATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	143-19-1	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
143-66-8	SODIUM TETRAPHENYL BORON POWDER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	143-66-8	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-33-2	SODIUM CITRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	144-33-2	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-55-8	SODIUM BICARBONATE	NA	B	NA	N			~~D002~~ 3e

Source	ID#	Weight %	EC %	TOX
WC	144-55-8	.0040000	.0000000	TOX: N
Totals per CAS #:		.0040000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
144-62-7	OXALIC ACID	NA	~~A~~ 34e	NA	N			~~D002~~ 34e

Source	ID#	Weight %	EC %	TOX
WC	144-62-7	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	149-44-0	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETI C ACID, 2,N-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	150-39-0	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
17194-00-2	BARIUM HYDROXIDE	~~NA~~	B	NA	~~Y~~ 5e	1.2 mg/l	21 mg/kg	~~D002~~; D005 (100.0000); ~~WT02~~ 3e,e 6b

Source	ID#	Weight %	EC %	TOX: C
WC	17194-00-2	.3700000	.0003700	
Totals per CAS #:		.3700000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
1762-95-4	AMMONIUM THIOCYANATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX: D
WC	1762-95-4	.2000000	.0000200	
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
19004-19-4	COPPER (II) NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX: D
WC	19004-19-4	.1600000	.0000160	
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
20667-12-3	SILVER (1+) OXIDE	~~D~~ 3c,e	NA	NA	~~Y~~ 5e	.43 mg/l	.14 mg/l TCLP	~~D001~~; D011 (5.0000); ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX: D
WC	20667-12-3	.1300000	.0000130	
Totals per CAS #:		.1300000	.0000130	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
21041-95-2	CADMIUM HYDROXIDE	~~NA~~	B	NA	~~Y~~ 5e	.69 mg/l	.11 mg/l TCLP	~~D002~~; D006 (1.0000) 3 4 e

Source	ID#	Weight %	EC %	TOX: N
WC	21041-95-2	.1100000	.0000000	
Totals per CAS #:		.1100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
21908-53-2	MERCURIC OXIDE	NA	NA	NA	~~Y~~ 5e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT01~~ 6 9

Source	ID#	Weight %	EC %	TOX: B
WC	21908-53-2	.1300000	.0013000	
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
2466-09-3	DIPHOSPHORIC ACID	NA	~~A~~ 3 c, e	NA	N			~~D002~~ 3 c, e

Source	ID#	Weight %	EC %	TOX: N
WC	2466-09-3	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
25155-30-0	SODIUM DODECYLBENZENESULFONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: C
WC	25155-30-0	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
25322-68-3	POLYETHYLENE GLYCOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	25322-68-3	.0012000	.0000000	
Totals per CAS #:		.0012000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	2757-28-0	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE	NA	~~X~~ 3c1e	NA	N			~~D002~~; ~~WT02~~ 3ce 6b

Source	ID#	Weight %	EC %	TOX: C
WC	298-07-7	.0400000	.0000400	
Totals per CAS #:		.0400000	.0000400	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
298-14-6	POTASSIUM BICARBONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	298-14-6	.0000130	.0000000	
Totals per CAS #:		.0000130	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
301-04-2	LEAD ACETATE	NA	NA	NA	~~X~~ 5e	.69 mg/l	.75 mg/l TCLP	D008 (5.0000); ~~U144~~

Source	ID#	Weight %	EC %	TOX: N
WC	301-04-2	.2600000	.0000000	
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
304-59-6	POTASSIUM SODIUM TARTRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	304-59-6	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
326-91-0	THENOYLTRIFLUOROACETONE	NA	NA	HOC	N			

Source	ID#	Weight %	EC %	TOX
WC	326-91-0	.0053000	.0000000	TOX: N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
3811-04-9	CHLORIC ACID, POTASSIUM SALT	~~O~~ 3e	NA	NA	N			~~D001~~; ~~D003~~
			Compatibility				Reactivity 3e 3c,e	
							OTHER	

Source	ID#	Weight %	EC %	TOX
WC	3811-04-9	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	482-54-2	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
496-74-2	TOLUENE-3,4-DITHIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	496-74-2	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
497-19-8	SODIUM CARBONATE	NA	B	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	497-19-8	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
50-00-0	FORMALDEHYDE	~~FL~~ 3c,e	~~Y~~ 3c,e	NA	N			~~D001~~; ~~D002~~; ~~U122~~; ~~WT02~~ 3c,e 3c,e 1 6b

Source	ID#	Weight %	EC %	TOX: B
WC	50-00-0	.0370000	.0003700	
Totals per CAS #:		.0370000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
50-81-7	ASCORBIC ACID	NA	~~Y~~ 3e	NA	N			~~D002~~ 3e

Source	ID#	Weight %	EC %	TOX: N
WC	50-81-7	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
506-64-9	SILVER CYANIDE	NA	NA	NA	~~Y~~ 5e	.43 mg/l	.14 mg/l TCLP	3c,e ~~D003~~; D011 (5.0000); ~~P104~~; WT02 1 6b
			Compatibility				Reactivity	CYANIDE BEARING WASTE

Source	ID#	Weight %	EC %	TOX: C
WC	506-64-9	.1300000	.0001300	
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
51-28-5	DINITROPHENOL, 2,4-	~~FS~~ 3c,e	NA	NA	~~Y~~ 5e	.12 mg/l	160 mg/kg	~~D001~~; ~~D003~~; ~~P048~~; ~~WT01~~ 3c,e 3c,e 1 6a
			Compatibility				Reactivity	EXPLOSIVE

Source	ID#	Weight %	EC %	TOX: B
WC	51-28-5	.0053000	.0000530	
Totals per CAS #:		.0053000	.0000530	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
513-77-9	BARIUM CARBONATE	NA	NA	NA	Y 5e	1.2 mg/1	21 mg/1 TCLP	D005 (100.0000)

Source	ID#	Weight %	EC %	TOX: C
WC	513-77-9	.0130000	.0000130	
Totals per CAS #:		.0130000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
526-95-4	GLUCONICACID 50% IN WATER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	526-95-4	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	NA	A 3c,d,e,	NA	N			D002 3c,d,e

Source	ID#	Weight %	EC %	TOX: C
WC	5470-11-1	.0330000	.0000330	
Totals per CAS #:		.0330000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
55-55-0	P-METHYLAMINOPHENOL SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	55-55-0	.0004000	.0000000	
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
56-23-5	CARBON TETRACHLORIDE	NA	NA	HOC	Y 5d	.057 mg/1	6 mg/kg	4 D019 (.5000); F001; U211; WP01; WP02 6c 6b

Source	ID#	Weight %	EC %	TOX: D
WC	56-23-5	.0006000	.0000001	
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
56-40-6	GLYCINE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	56-40-6	.0013000	.0000000	
Totals per CAS #:		.0013000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	56-81-5	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
5646-85-7	ZINC CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	5646-85-7	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
57-13-6	UREA	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	57-13-6	.0600000	.0000000	
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
57-50-1	SUCROSE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	57-50-1	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
57-55-6	1,2-PROPANEDIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	57-55-6	.0120000	.0000000	TOX: N
Totals per CAS #:		.0120000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
584-08-7	POTASSIUM CARBONATE	NA	B	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX
WC	584-08-7	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
592-85-8	MERCURIC THIOCYANATE	NA	NA	NA	~~N~~ 5e	.15 mg/l	.025 mg/l TCLP	D009 (200); ~~WT01~~ 6g

Source	ID#	Weight %	EC %	TOX
WC	592-85-8	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	60-00-4	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
6131-90-4	SODIUM ACETATE	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	6131-90-4	.0200000	.0000020	TOX: D
Totals per CAS #:		.0200000	.0000020	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	62-76-0	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
62625-29-0	CERSOL RED, WATER SOLUBLE, INDICATOR GRADE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	62625-29-0	.0004000	.0000000	TOX: N
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
631-61-8	AMMONIUM ACETATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	631-61-8	.0020000	.0000000	TOX: N
Totals per CAS #:		.0020000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
63231-67-4	SILICA GEL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	63231-67-4	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE	NA *	B	NA	N			~~D002~~ 3 C, E

Source	ID#	Weight %	EC %	TOX
WC	64-02-8	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-17-5	ETHANOL	FL 3c,e	NA	NA	N			D001 3c,e

Source	ID#	Weight %	EC %	TOX
WC	64-17-5	.0400000	.0000040	TOX: D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-18-6	FORMIC ACID	NA	A 3c,e	NA	N			D002; U123; WT02 3c,e 1 6b

Source	ID#	Weight %	EC %	TOX
WC	64-18-6	.0400000	.0000400	TOX: C
Totals per CAS #:		.0400000	.0000400	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64-19-7	ACETIC ACID	FL 3e,e	N 3c,e	NA	N			~~D001; D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	64-19-7	.0069000	.0000069	TOX: C
Totals per CAS #:		.0069000	.0000069	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-38-7	NORMAL PARAFFINS	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	64742-38-7	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-41-2	MINERAL OIL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	64742-41-2	.0400000	.0000000	TOX: N
Totals per CAS #:		.0400000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
64742-81-0	HYDRODESULFERIZED KEROSENE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	64742-81-0	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
65997-15-1	PORTLAND CEMENT	NA	~~B~~ 3e, de	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX
WC	65997-15-1	13.3300000	.0000000	N
Totals per CAS #:		13.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	67-43-6	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-56-1	METHANOL	~~FL~~ 3c, e	NA	NA	~~Y~~ 5d	5.6 mg/l	.75 mg/l TCLP	~~D001~~; F003; ~~U154~~; ~~WT02~~ 3c, e 1 6b

Source	ID#	Weight %	EC %	TOX
WC	67-56-1	.0000750	.0000000	D
Totals per CAS #:		.0000750	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
67-63-0	ISOPROPYL ALCOHOL	~~FL~~ 3c, e	NA	NA	N			~~D001~~ 3c, e

Source	ID#	Weight %	EC %	TOX
WC	67-63-0	.0400000	.0000040	D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
67-64-1	ACETONE	~~FL~~ 3c,e	NA	NA	~~Y~~ 5d	.28 mg/kg	160 mg/kg	~~D001~~; F003; ~~U002~~ 3c,e 1

Source	ID#	Weight %	EC %	TOX
WC	67-64-1	.0160000	.0000000	N
Totals per CAS #:		.0160000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
67-66-3	CHLOROFORM	NA	NA	HOC	~~Y~~ 5e	.046 mg/l	6 mg/kg	D022 (6.0000); ~~U044~~; ~~WP01~~; ~~WT02~~ 6b 1 6c

Source	ID#	Weight %	EC %	TOX
WC	67-66-3	.0006000	.0000001	D
Totals per CAS #:		.0006000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
67-72-1	HEXACHLOROETHANE	NA	NA	HOC	~~Y~~ 5e	.055 mg/l	30 mg/kg	D034 (3.0000); ~~U131~~; ~~WP01~~; ~~WP02~~ 6b 1 6c

Source	ID#	Weight %	EC %	TOX
WC	67-72-1	.0003000	.0000000	D
Totals per CAS #:		.0003000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
69-65-8	D-MANNITOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	69-65-8	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	69011-19-4	.2300000	.0000000	N
Totals per CAS #:		.2300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	69011-20-7	.1900000	.0000000	
Totals per CAS #:		.1900000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	69011-22-9	.2000000	.0000000	
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-36-3	BUTYL ALCOHOL	~~FL~~ 3ce	NA	NA	~~Y~~ 5d	5.6 mg/kg	2.6 mg/kg	~~D001~~; F003; ~~U031~~; ~~WP02~~ 3ce 1 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-36-3	.0002600	.0000000	
Totals per CAS #:		.0002600	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-43-2	BENZENE	~~FL~~ 3ce	NA	NA	~~Y~~ 5d	.14 mg/l	10 mg/kg	3ce 4 ~~D001~~; ~~D018~~ (.5000); F005; ~~U019~~; ~~WT02~~ 1 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-43-2	.0010000	.0000001	
Totals per CAS #:		.0010000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
71-55-6	1,1,1-TRICHLOROETHANE	NA	NA	HOC	~~Y~~ 5d	.054 mg/l	6 mg/kg	F001; F002; ~~U226~~; ~~WP01~~; ~~WT02~~ 1 6c 6b

Source	ID#	Weight %	EC %	TOX: D
WC	71-55-6	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7429-90-5	ALUMINUM	~~FS~~ 3e,c	NA	NA	N			~~D001; D003~~
		Compatibility					Reactivity	3c,e 3c,e
							WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX: N
WC	7429-90-5	.3100000	.0000000	
Totals per CAS #:		.3100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7439-89-6	IRON	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7439-89-6	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7439-92-1	LEAD	NA	NA	NA	~~Y~~ 5e	.69 mg/1	.75 mg/1 TCLP	D008 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7439-92-1	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7439-95-4	MAGNESIUM	~~FS~~ 3c,e	NA	NA	N			~~D001; D003~~
		Compatibility					Reactivity	3c,e
							WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX: N
WC	7439-95-4	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7439-97-6	MERCURY	NA	NA	NA	Se	.15 mg/1	.025 mg/1 TCLP	D009 (.2000); U151

Source	ID#	Weight %	EC %	TOX: N
WC	7439-97-6	.0000200	.0000000	
Totals per CAS #:		.0000200	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7439-98-7	MOLYBDENUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7439-98-7	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-02-0	NICKEL	NA	NA	NA	Y	3.98 mg/1	11 mg/1 TCLP	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-02-0	.0700000	.0000000	
Totals per CAS #:		.0700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-06-4	PLATINUM	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-06-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-22-4	SILVER	NA	NA	NA	Se	.43 mg/1	.14 mg/1 TCLP	D011 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7440-22-4	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-31-5	TIN	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-31-5	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-38-2	ARSENIC	NA	NA	NA	~~N~~ Se	1.4 mg/l	5 mg/l TCLP	D004 (5.0000); ~~WT02~~ 66

Source	ID#	Weight %	EC %	TOX: D
WC	7440-38-2	.0005000	.0000001	
Totals per CAS #:		.0005000	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-39-3	BARIUM	~~FS~~ 3c,e	NA	NA	Y/Se	1.2 mg/l	21 mg/l TCLP	~~D001, D003~~; D005 (100.0000) 3c,e
		Compatibility					Reactivity	
							WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-39-3	.0100000	.0000000	
Totals per CAS #:		.0100000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-41-7	BERYLLIUM	~~FS~~ 3c,e	NA	NA	Y	.82 mg/l	1.22 mg/l TCLP	~~D001~~; ~~P015~~ 3c,e /

Source	ID#	Weight %	EC %	TOX: N
WC	7440-41-7	.0160000	.0000000	
Totals per CAS #:		.0160000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7440-43-9	CADMIUM	NA	NA	NA	~~Y~~ Se	.69 mg/l	.11 mg/l TCLP	D006 (1.0000); ~~WT01~~ 69

Source	ID#	Weight %	EC %	TOX: A
WC	7440-43-9	.0001000	.0000100	
Totals per CAS #:		.0001000	.0000100	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-44-0	CARBON	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-44-0	.0053000	.0000000	
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-47-3	CHROMIUM	NA	NA	NA	Yse	2.77 mg/l	.6 mg/l TCLP	D007 (5.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7440-47-3	.0005000	.0000000	
Totals per CAS #:		.0005000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-50-8	COPPER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-50-8	.3300000	.0000000	
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-57-5	GOLD	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7440-57-5	.0000100	.0000000	
Totals per CAS #:		.0000100	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7440-62-2	VANADIUM	NA	NA	NA	Y	4.3 mg/l	1.6 mg/l TCLP	

Source	ID#	Weight %	EC %	TOX: N
WC	7440-62-2	.1600000	.0000000	
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
7440-66-6	ZINC	~~FS~~ 3 c,e	NA	NA	Y	2.61 mg/l	4.3 mg/l TCLP	~~D001, D003~~

Compatibility

Reactivity 3 c,e

PYROPHORIC, WATER REACTIVE

Source	ID#	Weight %	EC %	TOX
WC	7440-66-6	.3400000	.0000000	TOX: N
Totals per CAS #:		.3400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
7440-67-7	ZIRCONIUM	~~FS~~ 3 c,e	NA	NA	N			~~D001~~ 3 c,e

Source	ID#	Weight %	EC %	TOX
WC	7440-67-7	.1600000	.0000000	TOX: N
Totals per CAS #:		.1600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
7446-70-0	ALUMINUM CHLORIDE	NA	~~R~~ 3 c,e	NA	N			~~D003; WSC2~~ 3 c,e 3 c,e

Compatibility

Reactivity

WATER REACTIVE

Source	ID#	Weight %	EC %	TOX
WC	7446-70-0	.0600000	.0000060	TOX: D
Totals per CAS #:		.0600000	.0000060	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes (limit mg/l)
7447-40-7	POTASSIUM CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7447-40-7	.3300000	.0000330	TOX: D
Totals per CAS #:		.3300000	.0000330	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)	FL 3c,e	NA	HOC	Y 5e	.27 mg/kg	6 mg/kg	3ce D001; D043 (.2000); U043; WP01; WT02 6c 6b 1

Source	ID#	Weight %	EC %	TOX
WC	75-01-4	.0000200	.0000000	D
Totals per CAS #:		.0000200	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
75-09-2	DICHLOROMETHANE	NA	NA	HOC	Y 5d	.089 mg/1	30 mg/kg	F001; F002; U080; WP01; WT02 1 6c 6b

Source	ID#	Weight %	EC %	TOX
WC	75-09-2	.1300000	.0000130	D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
75-35-4	1,1-DICHLOROETHYLENE	FL 3c,e	NA	HOC	Y 5e	.025 mg/1	6 mg/kg	3c,e D001; D003; D029 (.7000); U078; WP01; WT02 1 6c 6b
		Compatibility					Reactivity	
							PEROXIDIZABLE	

Source	ID#	Weight %	EC %	TOX
WC	75-35-4	.0000700	.0000001	C
Totals per CAS #:		.0000700	.0000001	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
75-77-4	TRIMETHYL CHLOROSILANE	FL 3c,e	X 3c,e	NA	N			D001; D002; D003; WT02 3c,e 6b
		Compatibility					Reactivity	
							WATER REACTIVE	

Source	ID#	Weight %	EC %	TOX
WC	75-77-4	.0053000	.0000053	C
Totals per CAS #:		.0053000	.0000053	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7553-56-2	IODINE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7553-56-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7558-79-4	SODIUM PHOSPHATE DIBASIC	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7558-79-4	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	NA	NA	HOC	~~Y~~ 5d	.057 mg/1	30 mg/kg	~~F001~~; F002; ~~WP01~~; ~~WT01~~ 5d 6c 6q

Source	ID#	Weight %	EC %	TOX: B
WC	76-13-1	.0050000	.0000500	
Totals per CAS #:		.0050000	.0000500	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7601-90-3	PERCHLORIC ACID	~~O~~	~~X~~	NA	N			~~D001; D002; D003~~
	3 c, e	Compatibility					Reactivity	3 c, d, e
							UNSTABLE	

Source	ID#	Weight %	EC %	TOX: D
WC	7601-90-3	.0400000	.0000040	
Totals per CAS #:		.0400000	.0000040	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7631-90-5	.1000000	.0000100	TOX: D
Totals per CAS #:		.1000000	.0000100	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7631-99-4	SODIUM NITRATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7631-99-4	.2000000	.0000200	TOX: D
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7632-00-0	SODIUM NITRITE	~~D~~ 3,c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7632-00-0	.2000000	.2000000	TOX: X
Totals per CAS #:		.2000000	.2000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7646-78-8	STANNIC CHLORIDE	NA	~~X~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7646-78-8	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-01-0	HYDROCHLORIC ACID	NA	~~X~~ 3c,e	NA	N			~~D002~~: ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	7647-01-0	.0400000	.0000400	TOX: C
Totals per CAS #:		.0400000	.0000400	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-14-5	SODIUM CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	7647-14-5	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7647-15-6	SODIUM BROMIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	7647-15-6	.0026000	.0000003	TOX: D
Totals per CAS #:		.0026000	.0000003	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-39-3	HYDROFLUORIC ACID	NA	3c,e	NA	N			D002; U134; WT01 3c,e 1 69

Source	ID#	Weight %	EC %	
WC	7664-39-3	.0400000	.0004000	TOX: B
Totals per CAS #:		.0400000	.0004000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-41-7	AMMONIA	NA	NA	NA	N			

Source	ID#	Weight %	EC %	
WC	7664-41-7	.3300000	.0033000	TOX: B
Totals per CAS #:		.3300000	.0033000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7664-93-9	SULFURIC ACID	NA	3c,e	NA	N			D002 3c,e

Source	ID#	Weight %	EC %	
WC	7664-93-9	.0400000	.0004000	TOX: B
Totals per CAS #:		.0400000	.0004000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7681-11-0	POTASSIUM IODIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7681-11-0	.3300000	.0000000	N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7681-38-1	SODIUM BISULFATE	NA	~~N~~ 3,c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7681-38-1	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7681-49-4	SODIUM FLUORIDE	NA	NA	NA	N			~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX
WC	7681-49-4	.2000000	.0020000	B
Totals per CAS #:		.2000000	.0020000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7681-52-9	SODIUM HYPOCHLORITE	NA	~~D~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7681-52-9	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7681-82-5	SODIUM IODIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7681-82-5	.1700000	.0000170	D
Totals per CAS #:		.1700000	.0000170	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7697-37-2	NITRIC ACID	~~D~~	~~A~~ 3c,d,e	NA	N			~~D001; D002~~; WT01 3c,d,e 6 ?

Source	ID#	Weight %	EC %	TOX
WC	7697-37-2	.0400000	.0040000	A
Totals per CAS #:		.0400000	.0040000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	77-86-1	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
77-92-9	CITRIC ACID	NA	~~A~~ 3 c,e	NA	N			~~D002~~; ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	77-92-9	.0400000	.0000040	D
Totals per CAS #:		.0400000	.0000040	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7704-34-9	SULFUR	~~FS~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7704-34-9	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7705-07-9	TITANIUM TRICHLORIDE	~~FL~~	~~A~~	NA	N			~~D001; D002; D003~~

3c,e Compatibility

Reactivity 3c,e

WATER REACTIVE

Source	ID#	Weight %	EC %	TOX
WC	7705-07-9	.1700000	.0000000	N
Totals per CAS #:		.1700000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7705-08-0	FERRIC CHLORIDE	NA	~~C~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7705-08-0	.1300000	.0001300	C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7718-54-9	NICKEL (II) CHLORIDE (1:2)	NA	NA	NA	Y	3.98 mg/l	11 mg/kg	~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7718-54-9	.1600000	.0001600	C
Totals per CAS #:		.1600000	.0001600	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7720-78-7	FERROUS SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7720-78-7	.2000000	.0002000	C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7722-64-7	POTASSIUM PERMANGANATE	~~O~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7722-64-7	.2000000	.0000200	D
Totals per CAS #:		.2000000	.0000200	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7722-84-1	HYDROGEN PEROXIDE	~~O~~	~~O~~ 3c,e	NA	N			~~D001, D002, WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	7722-84-1	.3700000	.0003700	C
Totals per CAS #:		.3700000	.0003700	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7727-43-7	BARIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7727-43-7	.0320000	.0000000	
Totals per CAS #:		.0320000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7732-18-5	WATER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7732-18-5	6.0000000	.0000000	
Totals per CAS #:		6.0000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7738-94-5	CHROMIC (VI) ACID	~~D~~ 3c,e	~~X~~	NA	~~Y~~ 5e	2.77 mg/1	.6 mg/1 TCLP	~~D001, D002,~~ D007 (5.0000) 3c,e

Source	ID#	Weight %	EC %	TOX: N
WC	7738-94-5	.0053000	.0000000	
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7757-82-6	SODIUM SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7757-82-6	.1960000	.0000000	
Totals per CAS #:		.1960000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7757-83-7	SODIUM SULFITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: D
WC	7757-83-7	.0040000	.0000004	
Totals per CAS #:		.0040000	.0000004	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7758-02-3	POTASSIUM BROMIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7758-02-3	.0004000	.0000000	TOX: D
Totals per CAS #:		.0004000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7758-05-6	POTASSIUM IODATE	~~D~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7758-05-6	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT	NA	~~X~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7758-16-9	.1300000	.0000000	TOX: N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)	NA	NA	NA	~~Y~~ 5e	.69 mg/l	.75 mg/l TCLP	D008 (5.0000)

Source	ID#	Weight %	EC %	TOX
WC	7758-95-4	.2600000	.0000000	TOX: N
Totals per CAS #:		.2600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7761-88-8	SILVER NITRATE	~~D~~ 3c,e,	NA	NA	~~Y~~ 5e	.43 mg/l	.14 mg/l TCLP	~~D001~~, D011 (5.0000); ~~WT02~~ 7c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	7761-88-8	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7772-99-8	STANNOUS CHLORIDE	NA	~~N~~ 3c,e	NA	N			~~D002~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7772-99-8	.3300000	.0000330	D
Totals per CAS #:		.3300000	.0000330	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7773-01-5	MANGANESE CHLORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7773-01-5	.0130000	.0000130	C
Totals per CAS #:		.0130000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7774-29-0	MERCURIC IODIDE	NA	NA	NA	~~Y~~ 15e	.15 mg/l	.025 mg/l TCLP	D009 (.2000); ~~WT01~~ 6q

Source	ID#	Weight %	EC %	TOX
WC	7774-29-0	.1300000	.0013000	B
Totals per CAS #:		.1300000	.0013000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7778-18-9	CALCIUM SALT SULFURIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7778-18-9	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7778-50-9	DIPOTASSIUM DICHROMATE	~~D~~ 3c,e	NA	NA	~~Y~~ 15e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; D007 (5.0000); ~~WT01~~ 3c,e 6q

Source	ID#	Weight %	EC %	TOX
WC	7778-50-9	.0400000	.0040000	A
Totals per CAS #:		.0400000	.0040000	

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7778-53-2	POTASSIUM PHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7778-53-2	.1300000	.0000000	
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7782-42-5	GRAPHITE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7782-42-5	.6600000	.0000000	
Totals per CAS #:		.6600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7782-49-2	SELENIUM	NA	NA	NA	~~Y~~ 5e	.82 mg/l	5.7 mg/l TCLP	D010 (1.0000)

Source	ID#	Weight %	EC %	TOX: N
WC	7782-49-2	.0001000	.0000000	
Totals per CAS #:		.0001000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7782-77-6	NITROUS ACID	NA	~~Y~~ 3c, e	NA	N			~~D002~~ 3c, e

Source	ID#	Weight %	EC %	TOX: N
WC	7782-77-6	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7782-91-4	MOLYBDIC ACID (NO RTECS INFO)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	7782-91-4	.1700000	.0000000	
Totals per CAS #:		.1700000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7783-18-8	AMMONIUM THIOSULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7783-18-8	.0040000	.0000004	TOX: D
Totals per CAS #:		.0040000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7783-28-0	AMMONIUM PHOSPHATE DIBASIC	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7783-28-0	.2000000	.0002000	TOX: C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7783-36-0	MERCUROUS SULFATE	NA	NA	NA	~~Y~~ 5e	.15 mg/1	.025 mg/1 TCLP	D009 (.2000); ~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	7783-36-0	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7784-27-2	ALUMINUM NITRATE	~~O~~ 3c,e	NA	NA	N			~~D001~~ 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7784-27-2	.1600000	.0000160	TOX: D
Totals per CAS #:		.1600000	.0000160	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/1)
7784-46-5	SODIUM ARSENITE	NA	NA	NA	~~Y~~ 5e	1.4 mg/1	5 mg/1 TCLP	D004 (5.0000); ~~WT01~~ 6a

Source	ID#	Weight %	EC %	TOX
WC	7784-46-5	.1300000	.0013000	TOX: B
Totals per CAS #:		.1300000	.0013000	

WASTE DESIGNATION WORKSHEET
For Designation # 325 TRU DEBRIS

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7785-87-7	MANGANOUS SULFATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7785-87-7	.1300000	.0000130	TOX: D
Totals per CAS #:		.1300000	.0000130	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7788-98-9	AMMONIUM CHROMATE	~~O~~ 3c,e	NA	NA	~~Y~~ 5e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; D007 (5.0000) 3c,e

Source	ID#	Weight %	EC %	TOX
WC	7788-98-9	.0600000	.0000000	TOX: N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/~~TC~~ Codes(limit mg/l)
7789-00-6	POTASSIUM CHROMATE	~~O~~ 3c,e	NA	NA	~~Y~~ 3c,e	2.77 mg/l	.6 mg/l TCLP	~~D001~~; D007 (5.0000); ~~WT02~~ 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	7789-00-6	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7789-23-3	POTASSIUM FLUORIDE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	7789-23-3	.0300000	.0000300	TOX: C
Totals per CAS #:		.0300000	.0000300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7790-62-7	POTASSIUM PYROSULFATE	NA	~~Y~~ 3c,e	NA	N			~~D002~~ 3c,f

Source	ID#	Weight %	EC %	TOX
WC	7790-62-7	.2000000	.0000000	TOX: N
Totals per CAS #:		.2000000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-38-6	DIETHYL ETHYLPHOSPHONATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	78-38-6	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-51-3	2-BUTOXYETHANOL, PHOSPHATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	78-51-3	.0053000	.0000005	D
Totals per CAS #:		.0053000	.0000005	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
78-93-3	METHYL ETHYL KETONE	FL 3c,e	NA	NA	Y 5d	.28 mg/l	36 mg/kg	3c e 4 D001; D035 (200.0000; F005; U159; WT02 1 6b

Source	ID#	Weight %	EC %	TOX
WC	78-93-3	.0036000	.0000004	D
Totals per CAS #:		.0036000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
7803-55-6	AMMONIUM VANADATE	NA	NA	NA	N			P119; WT01 1 6a

Source	ID#	Weight %	EC %	TOX
WC	7803-55-6	.1300000	.1300000	X
Totals per CAS #:		.1300000	.1300000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
79-01-6	TRICHLOROETHYLENE	NA	NA	HOC	Y 5d	.054 mg/l	6 mg/kg	4 D040 (.5000); F001; F002; U228; WP01; WT02 1 6a 6b

Source	ID#	Weight %	EC %	TOX
WC	79-01-6	.0006000	.0000001	D
Totals per CAS #:		.0006000	.0000001	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
79-11-8	CHLOROACETIC ACID	NA	~~A~~ 3 c, e	HOC	N			~~D002~~ 3 c, e

Source	ID#	Weight %	EC %	TOX
WC	79-11-8	.2000000	.0002000	C
Totals per CAS #:		.2000000	.0002000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
80-55-7	METHYL LACTIC ACID (ETHYLESTER)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	80-55-7	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
8001-30-7	CORN OIL	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	8001-30-7	.0053000	.0000000	N
Totals per CAS #:		.0053000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
8008-20-6	KEROSENE	~~EX~~ 3 c, e	NA	NA	N			~~D001~~ 3 c, e

Source	ID#	Weight %	EC %	TOX
WC	8008-20-6	.0400000	.0000000	N
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
868-18-8	SODIUM TARTRATE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	868-18-8	.0600000	.0000000	N
Totals per CAS #:		.0600000	.0000000	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
87-69-4	TARTARIC ACID	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	87-69-4	.1300000	.0000000	N
Totals per CAS #:		.1300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
87-86-5	PENTACHLOROPHENOL	NA	NA	HOC	Y 5e	.089 mg/l	7.4 mg/kg	D037 (100.0000); ~~F027~~; ~~WP01~~; ~~WT02~~ 6b 6c

Source	ID#	Weight %	EC %	TOX
WC	87-86-5	.0100000	.0001000	B
Totals per CAS #:		.0100000	.0001000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	90-80-2	.0600000	.0000000	N
Totals per CAS #:		.0600000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9002-93-1	TRITON X-100	NA	NA	NA	N			~~WT02~~ 6b

Source	ID#	Weight %	EC %	TOX
WC	9002-93-1	.0040000	.0000004	D
Totals per CAS #:		.0040000	.0000004	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	9036-19-5	.0390000	.0000039	D
Totals per CAS #:		.0390000	.0000039	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	9052-95-3	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
91-20-3	NAPHTHALENE	ES 3c,e	NA	NA	Y	.059 mg/l	5.6 mg/kg	D001; U165; WT02 3c,e 6b

Source	ID#	Weight %	EC %	TOX
WC	91-20-3	.1300000	.0001300	TOX: C
Totals per CAS #:		.1300000	.0001300	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
95-45-4	DIMETHYLGLYOXIME	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX
WC	95-45-4	.3300000	.0000000	TOX: N
Totals per CAS #:		.3300000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
95-48-7	O-CRESOL	NA	NA	NA	Y 5d	.11 mg/l	5.6 mg/kg	D023 (200.0000); F004; U052; WT02 4 6b

Source	ID#	Weight %	EC %	TOX
WC	95-48-7	.0005600	.0000006	TOX: C
Totals per CAS #:		.0005600	.0000006	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
98-95-3	NITROBENZENE	NA	NA	NA	Y 5d	.068 mg/l	14 mg/kg	D036 (2.0000); F004; U169; WT02 4 6b

Source	ID#	Weight %	EC %	TOX
WC	98-95-3	.0014000	.0000014	TOX: C
Totals per CAS #:		.0014000	.0000014	

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CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN049	ABSORBENTS (NON-SPECIFIED)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN049	.1200000	.0000000	
Totals per CAS #:		.1200000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, RAD ONLY)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN055	42.3550000	.0000000	
Totals per CAS #:		42.3550000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN113	ACRYLIC EMULSION/POLYMER	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN113	.0076000	.0000000	
Totals per CAS #:		.0076000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCN126	ETHERS (NON-SPECIFIED)	NA	NA	NA	N			

Source	ID#	Weight %	EC %	TOX: N
WC	GCN126	.0400000	.0000000	
Totals per CAS #:		.0400000	.0000000	

CAS#	Chemical Name	IGNT	CORR	PERS	UHC	WW Limit	NWW Limit	Listed/TC Codes(limit mg/l)
GCNPCBOIL	PCB OIL							

Source	ID#	Weight %	EC %	TOX:
WC	GCNPCBOIL	.0001000		
Totals per CAS #:		.0001000		

Updating Overpack Container Checklist ADDENDUM

CIN\PIN: 0031161

Inner Container: HEDL-63

U381

NDA Required-	☐ ~~Yes~~ ☑ ~~No~~
Comments- Added reason for overpacking	☑ ~~Yes~~
Add PIN	☑ ~~Yes~~ ☐ No

U310

Packaging Components: • Added inner container • Liner • Absorbent • Wedges (Blocking & Bracing) • Other Clam shell (4)	 ☑ ~~27kg~~ ☐ 29kg ☐ Other — kg ☑ ~~No~~ ☐ Yes — kg ☑ ~~No~~ ☐ Yes — kg ☐ No ☑ ~~Yes~~ .23 kg 5.44 kg
Added weights:	Gross: 251 kg Packaging: 32.67 kg Waste: 182.93 kg 5/30/06
-Updated shielding per SWSDR	☑ ~~Yes~~
Comments:	N/A

U307

-Entered exit date (date update completed)	Date: N/A
Sign & date ACMP form (if applicable)	☐ Yes

Name/Signature Mark Kerns *Mark Kerns*	Date 4/18/06

RECORD COPY

1

704.4

ADDENDUM

Attachment 1 - Overpack Data Sheet

PIN (if available): HEDL-63	Overpack CIN: CO 31161	Seal No. (if available): —	Identification Date: 3/30/06
SECTION I			
Container Type (size drum)	85 gallon	Overpack Vent Type	019DS
Is Assay Required? (✓check one) DW	☐ YES ☒ NO	Reason for Overpacking	Corrosion
New Gross Weight	251 Kg	Dose Rate or Contamination Levels [1]	—
Wedges Installed (✓check one)	☒ YES ☐ NO	Scale/Load CCU Number	815-29-06-076
Absorbent (type, estimated weight)		Scale/Load CCU Calibration Due Date	08-09-06

SECTION II - Container Conditions (Not Applicable for Low-Risk Work)

☒ Corrosion (circle one): Light / Medium / Heavy Location (circle all that apply): ~~Lid / Upper Half~~ / Lower Half / Bottom

☒ Breached Hole Size: > 3/8 Location (circle all that apply): Lid / Upper Half / Lower Half / Bottom

SECTION III - Engineered Controls & Handling Methods

A. Containment	B. Structural Integrity
☒ Tape ☐ with NucFil 036A filter ☐ Plastic Bag ☐ with NucFil 036A filter # Used ____ ☐ Shower Cap ☐ with NucFil 036A filter # Used ____	☐ Metal Patch # Used ____ ☒ Clamshell # Used 4 ☐ Full Metal Jacket # Used ____

SECTION IV - Signatures

Lead NCO (Print/Sign/Date): K Patterson K Patterson 3/31/06

(1) Required only if overpacking due to high dose rate or contamination.

2

ADDENDUM

Addendum to TSD Record

This addendum describes revised data for transuranic waste retrieved from the Low-Level Burial Grounds. This form, along with any attachments, documents official changes to the TSD Operating Record for the solid waste package referenced below.

Package ID: HEDL-63
Date: February 23, 2005
Attachments: SWSDR
Name: Joelle Stamm

Signature: Joelle Stamm 2-28-05

Description of Changes: The isotopic inventory was revised in accordance with procedure WMP-370, Section 1.15, using the following information.
Pu Distribution: Nominal 12% Pu-240 (Fuels-Grade) Plutonium

Decay Time (y): 20
Pu mass (g): 61.000

Isotope	Weight Percent	Mass (g)	Activity (Ci)	DE-Ci Value
Pu-238	0.08%	4.8800E-02	8.356E-01	7.688E-01
Pu-239	83.95%	5.1210E+01	3.176E+00	3.176E+00
Pu-240	12.97%	7.9117E+00	1.795E+00	1.795E+00
Pu-241	1.10%	6.7100E-01	6.911E+01	1.244E+00
Pu-242	0.03%	1.8300E-02	7.236E-05	6.947E-05
Am-241	1.75%	1.0675E+00	3.659E+00	3.073E+00

Total DE-Ci	10.1

REFERENCE MATERIAL

Non- Combustible 0 OK A

SOLID WASTE BURIAL RECORD

200 AREA PLATEAU DISPOSAL SITE OPERATED FOR RL - ERDA
BY ATLANTIC RICHFIELD HANFORD COMPANY

(34)

W.H. - 744A

DISPOSAL SITE THIS PORTION OF FORM TO BE COMPLETED BY ARHCO REPRESENTATIVE AT DISPOSAL SITE.

AREA: 200-W

BURIAL GARDEN NO.: 4C

TRENCH NO.: 4

[redacted] NO.: Module 4

BEGINNING COORDINATES: N 40070 W 77588

ENDING COORDINATES: N 40070 W 77561

REMARKS: HEDL-63

DATE: 5-16-79

TIME:

SIGNATURE: R. W. Eiks

ORIGINATOR 325-WH C-79-267-193

PACKAGE NO.: See TDWS Record #WH-744

ERDA AUTHORIZATION NO:

COMPANY: HEDL (B&W Waste)

BUILDING: 324

AREA: 300

ADDRESS (OFF SITE):

I certify that no capital property is included in this burial unless documented by a Property Disposal Request, and that the contents are packaged in ARHCO approved containers per ARH-3032 Rev. and described below;

SIGNATURE: J. L. Jewett 5-17-79 ~~5-10-79~~

PHYSICAL DESCRIPTION

MATERIAL CONTENTS (NOTE ANY SPECIAL CONDITIONS, E.G., DISSOLVER, PUMP, SAMPLING OR LABORATORY PAPER WASTE, TIMBERS, RESIN. INCLUDE PDL NUMBERS AND PROPERTY CONTROL NUMBERS)

[redacted] and non-combustible analytical wastes.

Hedl- WH - 78-05 - 58 + 160 + 163 + 169 + 113 + 116 + 118 + 120 + 123
137 + 153 + 267 + 375 + 203 + 273 + 62 + 73 + 77 + 108 + 111
148 + 155 + 167 + 182 + 254 + 262 + 342

CONTAINER					
BOX	NO.	LENGTH	WIDTH	HEIGHT	☐ HANFORD STANDARD CARDBOARD
DRUM	NO. AND SIZE: [redacted]2) 55 Gal.				
OTHER	NO. AND SIZE				

TOTAL VOLUME (FT³) 7.35 CU FT/drum 198.45 [redacted]

Gross Weight 7250 ☒ Pounds ☐ Kilograms

ACTIVITY DESCRIPTION

GENERAL ACTIVITY DESCRIPTION (E.G., LONG-LIVED ISOTOPES SUCH AS Pu, Co, Sr, Cs; MIXED FISSION PRODUCTS; ACTIVATION PRODUCTS)

Pu

PLUTONIUM: 907 ~~964~~ GRAMS

URANIUM: Neg. Quan GRAMS Depleted ENRICHMENT

ACTIVITY (IF PU OR U, ONLY UNITS IN GRAMS REQUIRED): ——— CURIES

DOSE RATE: 13 mR/hr at Contact ☒ SURFACE ☐ INCHES ☐ FEET

DISTRIBUTION:

BY SHIPPER: WHITE, YELLOW, PINK — WITH SHIPMENT; GOLDENROD — RETAIN

BY ARHCO: WHITE — S & WH. 322-B; YELLOW — NUCLEAR MATERIALS, 2704-E; PINK — RETURN TO SHIPPER

54-3000 881 (3-77) 15

Atlantic Richfield Hanford Company

CB-1-a 7.4 TRANSURANIC DRY WASTE STORAGE

NON-COMBUSTIBLE MATERIALS					COMBUSTIBLE MATERIALS				
DRUM NO.	GRAMS PU	MEASUREMENT METHOD	OPERATOR	TRENCH	DRUM NO.	GRAMS PU	MEASUREMENT METHOD	OPERATOR	TRENCH
58	26	NDA		+					
100	26	"	[illegible]	+					
103	20	"	[illegible]	+					
109	9	"		+					
113	27	"	[illegible]	+					
116	12	"		+					
118	8	"	[illegible]	+					
120	33	"		+					
123	12	"	[illegible]	+					
127	32	"		+					
153	9	"	[illegible]	+		NON COMBUSTIBLE MATERIALS			
267	9	"	[illegible]	+	262	76	NDA	[illegible]	+
275	19	"	[illegible]	+	342	65	"		+
303	67	"		+					
273	57	"	no seal	+					
63	[illegible]	"	[illegible]	+					
73	1	"		+					
77	67	"		+					
108	45	"	[illegible]	+					
111	0	"	[illegible]	+					
148	1	"	no seal	+					
155	74	"		+					
169	73	"	[illegible]	+					
182	77	"	[illegible]	+					
254	2	"	[illegible]	+					

CERTIFIED BY (SUPERVISOR) J. L. Jewett

DATE ~~5-16-76~~ 5-17-76

DISPOSAL SITE:			DISPOSAL SITE:		
AREA 200-W	BURIAL GARDEN NO. 4C	TRENCH NO. 4	AREA 200-W	BURIAL GARDEN NO. 4C	TRENCH NO. 4
CRIBBING NO. Module 4	COORDINATES NORTH: 40070 WEST: 77588		CRIBBING NO. Module 4	COORDINATES NORTH: 40070 WEST: 77568	
REMARKS: N-40070 W 77561			REMARKS: N-40070 W 77561		
SIGNATURE R. W. Corder	DATE 5-16-76		SIGNATURE R. W. Corder	DATE 5-16-76	

BEST AVAILABLE COPY

DRUMS ARE ACCEPTED PER SOP 300.8

SIGNATURE: R. W. Corder DATE: 5-17-76

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BC-6000-078 (10-73)

7 9 1 5 0 7 1 1 7 0 3

Form NRC/ERDA 741 (6-76) ERDAM 7401/10 CFR 3[illegible]70, 150

U.S. NUCLEAR REGULATORY CO

NUCLEAR MATERIAL TRANSACTION REPORT

Approved by GAO B-180225 Expires 12-31-[illegible]

Previous editions are obsolete

DOCUMENTATION (Only if document is classified SECRET)

PAGE 1 OF 1 PAGES COPY / OF 8 COPIES, SERIES

1. 14
2. TRANSFER CODE
3. TRANSFER SERIES: HUA VRA 35
4. NUMBER OF LINES: 04
5. NATURE OF TRANSACTION
10. IMPORT OR EXPORT TRANSFERS — LICENSE NO. — U.S. PORT ENTRY/EXIT

6. NAME AND ADDRESS OF SHIPPER — LIC NO.

Hanford Engineering Development Lab.
P.O. Box 1970
Richland, Washington 99352
ATTENTION TELEPHONE: DW Engel/942-3202

7. NAME AND ADDRESS OF RECEIVER — LIC NO.

Rockwell Hanford Operations
P.O. Box 800
Richland, Washington 99352
ATTENTION TELEPHONE: GB Kuklinski/942-2680

8. SHIPPED FOR ACCOUNT OF

9. SHIPPED TO ACCOUNT OF

325-WHC-79-2 (34)

11. TRANSPORTATION PROFILE / 12. PACKAGE IDENTIFICATION

SEQ	CARRIER IDENTIFICATION	TRANSFER POINT	MODEL ID	NO.
1	GOT2		55	28
2				
3				
4				
5				

NO.	DISTRIBUTION OF COPIES
1	VRA HUA
2	VRA
3	VRA HAA
4	HAA
5	VRA VAA
6	VAA
7	HUA File
8	HUA Cost
9	

13. TRANSFER AUTHORITY, CONTRACT, AID DRAFT, OR OTHER NUMBER: WR-623

14. MATERIAL TYPE AND DESCRIPTION: Waste to Burial (B&W)

15. MISCELLANEOUS: 780506

TDWS #HH-744 & all other backup sheets sent with Shipping-Receiving Report

16. SHIPPER'S DATA

A. DATE SHIPPED OR CORRECTION ENTERED: 5 17 78

B. SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED: DW Engel [signature] 5/17/78

LINE NO. C	ERDA PROJECT NUMBER AND IDENTIFICATION D	MATERIAL TYPE E	COMPOSITION CODE F	OWNER CODE G	USE CODE H	NUMBER OF ITEMS I	GROSS WEIGHT J	NET WEIGHT K	ELEMENT WEIGHT L	WEIGHT % ISOTOPE M	ISOTOPE WEIGHT N	LIMITS OF ERROR ELEMENT O	LIMITS OF ERROR ISOTOPE P
01	H-AG-0303-008	10	E40	G		27	7,250#		* kg	.22	*		
01	H-AG-0303-008	50	E40	G		27			917 g	11.70	810	±229	±203
02	H-AG-0303-008	10	D40	G		1			* kg	.22	*		
02	H-AG-0303-008	50	D40	G		1			47 g	11.70	42		

16. Q. TOTAL GROSS WEIGHT: 7,250#

16. R. TOTAL VOLUME (Burial transfers only): 206 CU. FT.

17. RECEIVER'S DATA

A. DATE RECEIVED OR CORRECTION ENTERED

B. SIGNATURE OF AUTHORIZED OFFICIAL AND DATE SIGNED

LINE NO. C	ERDA PROJECT NUMBER AND IDENTIFICATION D	MATERIAL TYPE E	COMPOSITION CODE F	OWNER CODE G	USE CODE H	NUMBER OF ITEMS I	GROSS WEIGHT J	NET WEIGHT K	ELEMENT WEIGHT L	WEIGHT % ISOTOPE M	ISOTOPE WEIGHT N	LIMITS OF ERROR ELEMENT O	LIMITS OF ERROR ISOTOPE P

325-WHC-79-2 (34)

ADDENDUM

Shipment: **FY06RET124**

The containers listed below were designated per the approved AK package for the appropriate waste stream:

Container	Waste Stream	Designation Number	Rev #	Designation Date	Ship Date
0030935	231Z	231Z-DES-01	0	5/23/06	6/5/06
0030982	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0031091	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0031130	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0031161	325	325-DES-01	0	5/23/06	6/5/06
0031193	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0031216	325	325-DES-01	0	5/23/06	6/5/06
0031238	340	300-DES-01	0	5/23/06	6/5/06
0031482	325	325-DES-01	0	5/23/06	6/5/06
0032053	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032074	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032090	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032092	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032110	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032116	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032212	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0032219	2345Z	PFP-DES-01	2	5/23/06	6/5/06
0033063	2345Z	PFP-DES-01	2	5/23/06	6/5/06

Prepared By: E. T. Zscheile E.T. Zscheile Date: 12/19/06

Additional changes to PINS associated with this shipment may include:

Changes to Gross Weights provided by Operations
Changes to Dose Rates provided by Operations
Changes to the Vent Status are uploaded by Operations
Any other changes are documented on a per PIN basis and are attached to the Burial Record

RECORD COPY

TRU Retrieval Acceptance Checklist, Rev. 1

Shipment # FY06RET124

PINs: 0031161, 0031216, 0031238, 0031482, 0030935, 0030982, 0031091, 0031130, 0031193, 0032053, 0032074, 0032090, 0032092, 0032110, 0032116, 0032212, 0032219, 0033063

Criterion (Applicable section of HNF-EP-0063)	Notes	Action (check in box indicates action complete and result acceptable)
	General Requirements	
Prohibited Waste (2.3)	Review to ensure the waste is not prohibited. The following waste types are not accepted • Dangerous waste not having dangerous waste numbers listed on the TSD unit's approved Part A, Form 3, permit application (DOE/RL-88-21).	☒
	• Explosive waste (HNF-1886, HNF-2165, HNF-5841, WHC-SD-EN-WAP-005).	
	• Shock sensitive waste (HNF-1886, HNF-2165, HNF-5841, WHC-SD-EN-WAP-005).	
	• Pyrophoric waste (HNF-1886 HNF-2165, HNF-5841, WHC-SD-EN-WAP-005,).	
	• Class IV oxidizer (see definitions) waste (HNF-1886, HNF-2165, HNF-5841, WHC-SD-EN-WAP-005).	
	• Flag for **Compatibility Review (XR)** if the waste is regulated and is in Liquid, Lab Pack, Sorbed Liquid, or Solid Chemical Product form.	☒ XR
	• Waste that is readily capable of detonation, explosive decomposition, reaction at anticipated pressures and temperatures, or explosive reaction with water. Prior to storage, pyrophoric materials shall be treated, prepared, and packaged to be nonflammable (DOE M 435.1-1, Chapters III and IV, N.1).	
	• Containers packaged such that toxic air pollutants exceed small quantity emission rates in WAC 173-460. Flag for Air Permit Review (AR) if waste: 1) contains chemical constituents and 2) container is vented or will be opened at the TSD for processing.	☐ AR
	• Infectious waste.	
Physical/chemical characterization meets acceptable knowledge requirements (2.4)		☒
	General Radiological Requirements	
If asbestos is present, asbestos is packaged correctly (2.11.2)		☒
Waste meets heat generation requirements (2.11.3)	Flag for **Heat Generation Review (HG)** if thermal power exceeds 3.5 W/m^3	☒ HG
Waste meets gas generation requirements (2.11.4)	Flag for **Gas Generation Review (GR)** if the container is not vented and either: • Thermal power exceeds 0.007 W/m^3 , or • Readily biodegradable matter exceeds 5 wt.%	☒ GR

2

PINs: 0031161, 0031216, 0031238, 0031482, 0030935, 0030982, 0031091, 0031130, 0031193, 0032053, 0032074, 0032090, 0032092, 0032110, 0032116, 0032212, 0032219, 0033063

Criterion (Applicable section of HNF-EP-0063)	Notes	Action (check in box indicates action complete and result acceptable)
Waste meets criticality safety limits (Appendix B)	Flag for **Criticality Review (CR)** if greater than 1 FGE (natural & depleted Uranium is exempt)	☐ CR
Waste must have less than 82.5 ICRP 71 DECi's (2.12.2)	Quantities greater than 82.5 ICRP DECi's may be accepted with a Criticality Review	☒ CR
Waste packages shall not exceed 100 mRem /hr at 30 cm, and 200 mRem/hr at any point on the surface (2.12.4)	LLBG can accept remote handled waste is 3.4.2 is met. Flag for Operations Review (OR) if remote handled waste for the LLBG	☒ OR
	Packaging Characteristics	
Waste package must meet 49 CFR container requirements for the hazard class/division or if no hazard class/division must meet 49 CFR 173.410 (2.13.1)	Onsite transfers may be allowed under an approved package-specific safety document	
Package can be off-loaded, stored and/or disposed without special handling provisions (3.5 – 7.5)	If special unloading procedures are required, flag for **Operational Review (OR)**	☒ OR
	CWC	
Waste codes limited to state only, U, P, or D code, F001 – F005, F020 – F023, F026 – F028, F039 (5.1)		☒
Waste does not contain free liquids (except lab packs and overpacked liquids up to 57 liters) (5.2)		☒
Lab packed and overpacked liquids meet packaging requirements (5.5.3)	If waste is liquid, flag **for Receipt Report Comment (RC)** (Liquid waste – orientation arrow label required)	☒ RC
Provide advance email notification to CWC Ops for >100 mrem containers (SW-100-129 requirement)	email to D. Harder identifying containers and include email hardcopy in file	☒
Provide advance email notification to CWC Ops for containers >100 FGE (SW-100-129 requirement)	email to D. Harder identifying containers and include email hardcopy in file	☐ Email sent 5/30/06
Container type meets CWC requirements (5.5.1 – 5.5.4, 5.5.7); must be noncombustible		☒
Container has 0.057m3 (15 gal) free or absorbed liquid and liquids flashpoint is 37.8 C ≤ flashpoint > 93.3 C	If meets criteria flag for **Receipt Report Comment (RC)**="NFPA Labpack with flashpoint between 100° F and 200° F"	☒
Container has 0.057m3 (15 gal) free or absorbed liquid and liquids flashpoint is < 37.8 C	If meets criteria flag for **Receipt Report Comment (RC)** = NFPA Labpack with flashpoint less than 100° F	☒
Containers do not exceed size and floor loading limits of Table 5-1 (5.5.6)		☒
TRU waste is vented (2.11.4)		☒

PINs: 0031161, 0031216, 0031238, 0031482, 0030935, 0030982, 0031091, 0031130, 0031193, 0032053, 0032074, 0032090, 0032092, 0032110, 0032116, 0032212, 0032219, 0033063

TSD Acceptance Representative Review
TSD Acceptance Representative Notes and Comments: AR: CHEMICAL CONSTITUENTS ARE BELOW TOXIC AIR PERMITTING THRESHOLDS. CR: Criticality Review Required on packages > 1 FGE: 9 containers >1 FGE: 0031161, 0031238, 0031130, 0031193, 0032090, 0032092, 0032116, 0032212, 0033063 Criticality Review Required on packages>100 FGE: 1 container >100 FGE: 0033063. Email sent to Daryl Harder on 5/30/06.
Results of Specialty Reviews performed: AR: CHEMICAL CONSTITUENTS ARE BELOW TOXIC AIR PERMITTING THRESHOLDS. CR: Criticality Review Required on packages > 1 FGE: 9 containers >1 FGE: 0031161, 0031238, 0031130, 0031193, 0032090, 0032092, 0032116, 0032212, 0033063 Criticality Review Required on packages>100 FGE: 1 container >100 FGE: 0033063. Email sent to Daryl Harder on 5/30/06.
TSD Acceptance Rep. Certification **Print name, sign and date:** Carolyn M. Lee , CMLee 5/30/06

Lee, Carolyn M

To:	Harder, Daryl D
Cc:	Slettene, Brad L; Gilmore, Thomas F; Ramirez, Amanda J; Lee, Carolyn M
Subject:	NOTIFICATION OF CONTAINER >100 FGE ON SHIPMENT FY06RET124

Daryl,

This is notification that the following container is >100 FGE for TRU Retrieval shipment FY06RET124 shipping to CWC:
0033063

Carolyn M. Lee
Waste Services
(509) 373-7500 T4-09

5

MRK
SWIR356

Solid Waste Information and Tracking System
Receipt Report

Shipment Document Number : FY06RET124

ok L. Day G 5-22-06

Source Facility 231Z

Primary PIN	Inner PIN	Secondary PIN	Type	Size	Vent	Gross Wt	ACMP	RAD	TSCA PCB	DW/ EHW	Waste Codes	Dose Rate Contact	Dose Rate 30 cm	FGE	ICRP 71 DE-Ci	Lab Pk?	NFPA <93C	Stor Loc.
0030935 ok 4-26-06	Z4-78-5		DM	85 GALLON	07L	117.3000	None	TRU	N			5.0000E-01		8.6766E-04	1.6488E-04	N		

Group Total DE-Ci ICRP 71: 1.6488E-04

Solid Waste Information and Tracking System

Receipt Report

Shipment Document Number : FY06RET124

Source Facility 2345Z

Primary PIN	Inner PIN	Secondary PIN	Type	Size	Vent	Gross Wt	ACMP	RAD	TSCA PCB	DW/ EHW	Waste Codes	Dose Rate Contact	Dose Rate 30 cm	FGE	ICRP 71 DE-Ci	Lab Pk?	NFPA <93C	Stor Loc.
0030982 4-25-06 ok	Z80A-6739		DM	85 GALLON	07L	68.7000	None	TRU	N			5.0000E-01		8.6766E-04	1.6488E-04	N		
0031091	Z80A-6110 VCl	Z80A-6110	DM	85 GALLON	19D	76.2000	None	TRU	N			5.0000E-01		2.4661E-02	4.6860E-03	N		
0031130 4-25-06 ok	Z79A-5733		DM	85 GALLON	07L	83.0000	None	TRU	N			5.0000E-01		6.9403E+00	1.3189E+00	N		
0031193	Z80A-6105 VCl	Z80A-6105	DM	85 GALLON	19D	92.7000	None	TRU	N			5.0000E-01		1.1069E+00	2.0676E-01	N		
0032053	Z80A-6106 VCl	Z80A-6106	DM	85 GALLON	19D	97.3000	None	TRU	N			5.0000E-01		3.3993E-01	6.4591E-02	N		
0032074	Z80A-6161 VCl	Z80A-6161	DM	85 GALLON	19D	92.9000	None	TRU	N			5.0000E-01		4.3335E-02	9.6673E-03	N		
0032090 4-26-06 ok	Z80A-6093		DM	85 GALLON	07L	70.0000	None	TRU	N			5.0000E-01		2.6028E+00	4.9460E-01	N		
0032092 4-26-06 ok	Z81743103		DM	85 GALLON	07L	68.0000	None	TRU	N			4.6000E+01		6.4203E+01	1.2201E+01	N		
0032110	Z80A-6071 VCl	Z80A-6071	DM	85 GALLON	19D	84.9000	None	TRU	N			5.0000E-01		3.8896E-02	7.4099E-03	N		
0032116 4-26-06 ok	Z80A-6095		DM	85 GALLON	07L	70.0000	None	TRU	N			5.0000E-01		3.4709E+00	6.5951E-01	N		
0032212	Z79-A5539 VCl		DM	85 GALLON	19D	86.0000	None	TRU	N			7.0000E+00		6.9403E+00	1.3189E+00	N		
0032219	Z79-A5666 VCl	Z79-A5666	DM	85 GALLON	19D	92.1000	None	TRU	N			5.0000E-01		3.6493E-01	6.9341E-02	N		
0033063	Z80A-6802 VCl		DM	85 GALLON	19D	87.0000	None	TRU	N			1.0300E+02		1.2059E+02	2.2918E+01	N		

Group Total DE-Ci ICRP 71: 3.9273E+01

05/18/2006 15:59

Solid Waste Information and Tracking System

Receipt Report

Shipment Document Number : FY06RET124

Source Facility 325

A VOC

Primary PIN	Inner PIN	Secondary PIN	Type	Size	Vent	Gross Wt	ACMP	RAD	TSCA PCB	DW/ EHW	Waste Codes	Contact	30 cm	FGE	ICRP 71 DE-Ci	Lab Pk?	NFPA <93C	Stor Loc.
3.3 0031161 4-25-06 DL	HEDL-63		DM	85 GALLON	07L	251.0000	None	TRU	N			4.0000E+00		5.2923E+01	1.0057E+01	N		
0031216	WH79-224 OTY		DM	85 GALLON	19D	75.0000	None	TRU	N			2.0000E+00		8.6766E-04	1.6488E-04	N		
0031482	WH79-244 OTY		DM	85 GALLON	19D	71.7000	None	TRU	N			1.0000E+00		8.6766E-04	1.6488E-04	N		

Group Total DE-Ci ICRP 71: 1.0058E+01

Solid Waste Information and Tracking System

Receipt Report

Shipment Document Number : FY06RET124

Source Facility 340

H_2 VOC

Primary PIN	Inner PIN	Secondary PIN	Type	Size	Vent	Gross Wt	ACMP	RAD	TSCA PCB	DW/ EHW	Waste Codes	Contact	30 cm	FGE	ICRP 71 DE-Ci	Lab Pk?	NFPA <93C	Stor Loc.
0031238	WH80-335		DM	85 GALLON	07L	124.0000	None	TRU	N			5.0000E-01		1.3969E+00	2.6546E-01	N		

Container Information: Type, Size, Vent, Gross Wt. Waste Type Information: ACMP, RAD, TSCA PCB, DW/ EHW, Waste Codes. Dose Rate: Contact, 30 cm.

4-15-06 ok

Group Total DE-Ci ICRP 71: 2.6546E-01

Report Total DE-Ci ICRP 71: 4.9597E+01

ADDENDUM

Shipment: 124 Date: 5-16-06

PIN #	TRU/LLW	Dose	GW KGs
TSCA 0030939	L	<.5	117.3
0031482 ~~IP~~	L	1	71.7
0032092	T	46	68
0032090	T	<.5	70
0030982 IA	T	<.5	68.7
0032219	T	<.5	92.1
TSCA 0031238	T	.5	124
0031091	T	<.5	76.2
0031161	T	4	251
0032116	T	<.5	70
0032053	T	<.5	97.3
0031193	T	<.5	92.7
0032110	T	<.5	84.9
0032074	T	<.5	92.9
0031130	T	<.5	83
0032212	T	7	86
0033063	T	81.5	103
0031216	T	2	75

INFORMATION CLEARANCE FORM

Date Received for Clearance Process (MM/DD/YYYY)
11/13/2006

A. Information Category

☐ Abstract ☐ Journal Article
☐ Summary ☐ Internet
☐ Visual Aid ☐ Software
☐ Full Paper ☐ Report
☒ Other

B. Document Number HNF-30810, Rev 0

C. Title
Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

D. Internet Address

E. Required Information (MANDATORY)

1. Is document potentially Classified? ◉ No ○ Yes

Kurt McDonald
Manager Required (Print and Sign)

If Yes ____ ○ No ○ Yes Classified
ADC Required (Print and Sign)

2. Official Use Only ◉ No ○ Yes Exemption No. ___
3. Export Controlled Information ◉ No ○ Yes OUO Exemption No. 3
4. UCNI ◉ No ○ Yes
5. Applied Technology ◉ No ○ Yes
6. Other (Specify)

7. Does Information Contain the Following:
   a. New or Novel FH (Patentable) Subject Matter? ◉ No ○ Yes
      If "Yes", OUO Exemption No. 3
      If "Yes", Disclosure No.:
   b. Commercial Proprietary Information Received in Confidence, Such as Proprietary and/or Inventions?
      ◉ No ○ Yes If "Yes", OUO Exemption No. 4
   c. Corporate Privileged Information? ◉ No ○ Yes
      If "Yes", OUO Exemption No. 4
   d. Government Privileged Information? ◉ No ○ Yes
      If "Yes", Exemption No. 5
   e. Copyrights? ◉ No ○ Yes If "Yes", Attach Permission.
   f. Trademarks? ○ No ◉ Yes If "Yes", Identify in Document.
8. Is Information requiring submission to OSTI? ◉ No ○ Yes
9. Release Level? ◉ Public ○ Limited

F. Complete for a Journal Article

1. Title of Journal

G. Complete for a Presentation

1. Title for Conference or Meeting
2. Group Sponsoring
3. Date of Conference
4. City/State
5. Will Information be Published in Proceedings? ○ No ○ Yes
6. Will Material be Handed Out? ○ No ○ Yes

H. Author/Requestor
M. H. Conilogue [signature]
(Print and Sign)

Responsible Manager
K. M. McDonald Kurt McDonald
(Print and Sign)

Approval by Direct Report to FH President (Speech/Articles Only)
(Print and Sign)

I. Reviewers	Yes	Print	Signature	Public Y/N (If N, complete J)
General Counsel	☐			Y / N
Office of External Affairs	☐			Y / N
DOE-RL	☐			Y / N
Other	☒	T. S. Vail, DC	(See e-mail Pg. 2)	Y / N
Other	☒	J. D. Aardal	Janis Aardal	Y / N

Information Clearance Approval

APPROVED FOR RELEASE
OFFICIAL DOCUMENT
Date 11/14/2006

J. If Additional Comments, Please Attach Separate Sheet 1 of 2

A-6001-401 (02/06)

ADMINISTRATIVE DOCUMENT PROCESSING AND APPROVAL

DOCUMENT TITLE:
Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

OWNING ORGANIZATION/FACILITY:
TRU Program

Document Number: HNF-30810

Revision/Change Number: 0

DOCUMENT TYPE *(Check Applicable)*

☐ Plan ☒ Report ☐ Study ☐ Description Document ☐ Other

DOCUMENT ACTION ◉ New ○ Revision ○ Cancellation

RESPONSIBLE CONTACTS

	Name	Phone Number
Author:	M. H. Conilogue	373-2038
Manager:	R. P. Dunn	373-9574

DOCUMENT CONTROL

Does document contain scientific or technical information intended for public use? ○ Yes ◉ No

Does document contain controlled-use information? ○ Yes ◉ No

("Yes" requires information clearance review in accordance with HNF-PRO-184)

DOCUMENT REVISION SUMMARY

NOTE: Provide a brief description or summary of the changes for the document listed.

REVIEWERS

Others

Name *(print)*	Organization
D. A. Arrenholz	Acceptable Knowledge
M. J. Horhota	SQAO

APPROVAL SIGNATURES

Author: M H Conilogue 11/8/06

Name: (Print) M. H. Conilogue Date

Responsible Manager: Kurt McDonald 11/10/06

Name: (Print) K. M. McDonald Date

Other: Site Quality Assurance Manager

Name: (Print) M. J. Horhota M J Horhota Date 11/9/06

RELEASE / ISSUE

NOV 14 2006

DATE:

STA: 15

HANFORD RELEASE

ID: 20

A-6003-789 (04/04)

HNF-30810
Revision 0

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management
Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

FLUOR®
P.O. Box 1000
Richland, Washington

HNF-30810
Revision 0

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream RLM325D

Document Type: TR   Program/Project: TRU PROGRAM

M. H. Conilogue
Fluor Hanford, Inc.

Date Published
October 2006

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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EXECUTIVE SUMMARY

This report provides the acceptable knowledge (AK) information required by the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit and the *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* to support the characterization and disposition of transuranic (TRU) waste at the WIPP in Carlsbad, New Mexico. The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the Bldg 325 Radiochemistry Building and currently consists of approximately 4,455 containers for a total waste stream volume of approximately 1197 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWB's) 4305 55-gallon drums, and 129 wood or metal crates of various sizes. These containers are currently stored in the Central Waste Project (CWC) and the 218W3A, 218W4B, and 218W4C Burial Grounds in retrievable storage trenches. The waste stream characterization presented in this document is based on the review of container-specific documentation for those containers listed in the most current AK Waste Containers list. This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for the characterization of waste generated by the 325 Radiochemistry Building operations. The AK source documents used to prepare this report are listed in Section 5.0. Each waste container in the RLM325D waste stream will contain greater than 100 nCi/g of TRU nuclides before being certified for disposal. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0706200426745]

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets (MSDSs), and interviews with facility personnel.

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ACRONYMS AND ABBREVIATIONS

AK	Acceptable Knowledge
Am	Americium
BBI	Best Basis Inventory
CCP	Central Characterization Project
CEPOD	Catalyzed Electrochemical Plutonium Oxide Dissolver
CFR	Code of Federal Regulations
CH	Contact-handled
Cm	Curium
Cs	Cesium
CWC	Central Waste Complex
DOE	United States Department of Energy
EPA	United States Environmental Protection Agency
FFTF	Fast Flux Test Facility
HEPA	High Efficiency Particulate Air
HWFP	Hazardous Waste Facility Permit
HWTU	Hazardous Waste Treatment Unit
ICP-AES	Inductively Coupled Plasma – Atomic Emission Spectroscopy
ICP-MS	Inductively Coupled Plasma – Mass Spectrometry
m^3	cubic meters
MAS-NMR	Magnetic Angle Spinning Nuclear Magnetic Resonance Spectrometry
MBA	Material Balance Area
MSDSs	Materials Safety Data Sheets
Np	Neptunium
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PFP	Plutonium Finishing Plant
PRF	Plutonium Recovery Facility
Pu	Plutonium
R&D	Research and Development
RH	Remote Handled
RCRA	Resource Conservation and Recovery Act
RMS	Records Management System
RTR	Real-Time Radiography
SAL	Shielded Analytical Laboratory
SEM	Scanning Electron Microscopy
SWB	Standard Waste Box
Sr	Strontium
TIMS	Thermal Ionization Mass Spectrometry
TRU	Transuranic
TRUSAF	Transuranic Storage and Assay Facility
TWBIR	Transuranic Waste Baseline Inventory Report
TWINS	Tank Waste Inventory Network System
U	Uranium
WAC	Waste Acceptance Criteria

WIPP	Waste Isolation Pilot Plant
WIPP-WAC	Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant

1.0 INTRODUCTION

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the "*Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant*" (HWFP). This document and supporting references provide the mandatory waste program management and waste stream-specific Acceptable Knowledge (AK) information for the 325 Radiochemistry Building TRU waste generated from 1970 to present. This AK document contains a description of the TRU waste generating facilities and the waste management practices at the time of waste generation.

The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the Bldg 325 Radiochemistry Building and currently consists of approximately 4,455 containers for a total waste stream volume of approximately 1197 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWBs) 4305 fifty-five-gallon drums, and 129 wood or metal crates of various sizes. The wood or metal crates will be repacked resulting in an additional 1270 55-gallon drums. The repackaging effort will result in an approximate 35 percent increase in volume of the waste stream (e.g., due to splitting of drums based on fissile gram equivalent loading, addition of absorbents). Thus the total RLM325D waste stream consists of 21 SWBs and 7526 fifty-five gallon drums. TRU-SPO-11.9-0706200426745

A tracking number is assigned to each AK document through the Records Management System (RMS) database. Tracking numbers issued to documents originating under the Hanford TRU Waste Program will be identified with an "SPO" (i.e., Site Project Office) modifier. Documents are also entered into the RMS by the Hanford Waste Services organization and are identified by the "WST" OR "TS" modifiers. Tracking number prefixes identify the type of document entered into the database, as follows:

- TRU-SPO-11.4.1 designates correspondence
- TRU-SPO-11.4.2 designates internal procedures
- TRU-SPO-11.4.3 designates published documents
- TRU-SPO-11.4.4 designates unpublished documents
- TRU-SPO-19 or TRU-SPO-11.9 designate Project Office memos

Other tracking numbers may be assigned as needed. The documents used to characterize a waste stream will be scanned into the Integrated Document Management System (IDMS) when characterization is complete. These documents, and documents submitted by other organizations or for other waste streams, will be accessible by IDMS or the Records Management Information System (RMIS). The waste in this waste stream will be characterized in accordance with the *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan (HNF-2599)* and certified in accordance with the *Hanford Site Transuranic Waste Certification Plan (HNF-2600)*. TRU-SPO-11.4.3-0606200628302, TRU-SPO-11.4.3-0606200628721

The primary sources of AK used for determining the physical and chemical characterization for the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared by the Hanford site for each container. The documentation for each container includes all or part of the following information:

- Estimated plastic and metal content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- A Hanford WIPP Certification Checklist for each Waste Acceptance Criteria (WAC) requirement
- A Contents Inventory Sheet identifying the composition of each package placed into the drum

2.0 BACKGROUND AND PROCESS DESCRIPTION

This debris waste stream was generated in support of a wide variety of Hanford site operations including 100 West, 200 West, and 300 West Areas, including laboratory examinations and studies, including analyses of fuel reactor samples, characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200450893, TRU-SPO-11.9-0708200431216]

The Hanford Site is divided into several areas where defense and nuclear weapons production took place. Operations generating TRU waste were conducted primarily at the 100, 200, and 300 areas at the site. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184]

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were all light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water. N Reactor was also a dual-purpose reactor that was capable of making electrical power and weapon-grade plutonium, or electric power and fuel-grade plutonium and was used for domestic power production from 1966 until 1986. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building and a Bulk Reduction Building. These facilities performed chemical dissolution of irradiated fuel from the 100 Area reactors and plutonium recovery using the bismuth phosphate separation process. The final step of plutonium recovery operations was housed in the Plutonium Finishing Plant (PFP) at 200 West. Ancillary buildings that existed to support the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

In 200 West, the Reduction and Oxidation (REDOX) Plant began operations in 1951, using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium. In

1953, the 224-U Building was converted from a training facility to the Uranium Oxide (UO_3) Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the Plutonium Finishing Plant (PFP) was converted to a research and development facility for plutonium processes and nuclear device development for testing at the Nevada Test Site. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

Also located in 200 West, the PFP began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal in the remote mechanical lines, performed casting and machining operations for weapons components, and recovered plutonium from waste and scrap generated at other Hanford facilities. The PFP remote mechanical lines began processing Pu nitrate to create buttons in 1952, and in the late 1960's participated in extended programs that prepared plutonium oxides for commercial nuclear experiments and development. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115]

Waste such as incinerator ash, scrap and crucible, and dissolver heels, were run through the solvent extraction process at the Plutonium Reclamation Facility (PRF) a larger, safer and more flexible version of the Recovery of Uranium and Plutonium by Extraction (RECUPLEX) Facility.

Facilities in the 300 Area of the Hanford Site have been diverse in their missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. These facilities were not designed for handling TRU materials therefore, were not generators of TRU waste. Other facilities, such as Building 308, were designed to manufacture plutonium oxide and/or mixed oxide fuels for the research reactors in the 300 and 400 Areas of the Hanford Site. Some facility missions such as Buildings 324 and 325 hot cells were the focus of research and development (R&D) for fuel element performance evaluation and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. The TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. Twenty-three 300 Area facilities were generators of, or had the potential for generating, TRU waste. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115]

Since the 1960s, the Hanford Site has accepted waste generated from numerous offsite facilities. It is estimated that 20 volume percent of the defense TRU waste generated in the United States is stored at the Hanford Site. Approximately half of the retrievably stored Contact Handled (CH)-TRU waste was stacked in modules on asphalt pads or aboveground buildings in the 200 East and 200 West areas and the other half was placed in gravel earthen trenches. TRU waste unsuitable for asphalt pad storage because of size, chemical composition, security requirements, or surface radiation was packaged in reinforced wood, concrete, or metal boxes and stored in dry waste trenches. The trenches were covered with plywood and plastic-reinforced nylon sheeting and backfilled with dirt. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184]

2.1 Facility Description:

The Hanford Site is located in southeastern Washington State near the Tri Cities area of Richland, Kennewick, and Pasco as shown in Figure 1. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemistry Building is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figure 2 and Figure 3. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0622200241184

The 325 Radiochemistry Building was built in 1953 to safely house and handle multi-curie and high activity chemical development work. The High-Level Radiochemistry Annex was added to the facility in 1959 and 1960. Combined these two analytical operations were the largest among Hanford's laboratories. Analyses were performed in glove boxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests. The 325 Facility has had a transient operating history, first operated by General Electric from 1953 until 1965 when operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970 operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire laboratory was transferred to the current contractor Pacific Northwest National Laboratories (PNNL) in1987. TRU-SPO-11.9-0708200436028

The 325 Facility contains approximately 140,000 square feet of laboratory space. In the 1960s, the building operated as many as 50 laboratories and 11 hot cells. The laboratories were furnished with hoods and glove boxes designed for handling radioactive materials. The 325 Facility was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four-foot thick concrete walls with steel liners surrounded these larger cells. All eleven hot cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank. Section 4.0 provides a summary of the operations associated with TRU waste generation. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431216

Generation of radioactive solid waste at Hanford was coincident with nuclear weapons production that first began in 1944. The Hanford Site was constructed to produce plutonium for the weapons program during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. The primary mission of the 300 Area of the Hanford Site was reactor fuels development and fabrication. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184

Initial 325 Facility missions included production and process improvement support for the REDOX and Uranium Metal Recovery operations. Actinide separation studies that were conducted focused on development techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Facility mission also included support to the Plutonium – Uranium Extraction (PUREX) plant, the RECUPLEX Facility and Plutonium Recovery Facility production processes. TRU-SPO-11.9-0708200431216

In the 1960s the 325 Facility supported NASA and medical isotope development campaigns. A number of new techniques were developed involving separation and fractionation technology. Specific isotopes, including strontium-90, cesium-137, curium-244, americium-241 (Am-241), and promethium-147, were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During these years, Hanford was the only supplier in the world of promethium-147, which was used in the development of the artificial heart. Also, during the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell. TRU-SPO-11.9-0708200431216

The 325 Facility was involved in Fast-Flux Test Facility (FFTF) fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory performed analyses on Exxon Enriched Uranium samples. These samples were submitted as sweepings from the process line glove boxes in the Exxon facility located adjacent to the site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste. 325 Facility personnel in the shielded analytical facility worked on samples from these processes.

After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

Characterization of tank waste started in the late 1980s and continued through the 1990s. Many of the sampling and analytical techniques used during tank waste characterization at the Hanford site were developed by the 325 Facility operations. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and mixed oxide (MOX) materials using electrochemical, spectrophotometric and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 Facility has been operated as a Treatment Storage and Disposal (TSD) facility since 1993 and has operated as part of an overall Hazardous Waste Treatment Unit (HWTU) for the Hanford site since that time TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200440020

3.0 WASTE STREAM DISCRIPTION

Analyses performed in glove boxes, fume hoods, and hot cells included a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic (e.g., aluminum- and iron-based metal, glass, ceramics, and asbestos) and organic debris (e.g., plastic, rubber, paper, cloth, wood) waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth). Typically, 70 to 80% of waste in drums is combustible items such as wood, plastics, paper, absorbents, rubber, rags. Approximately 20 to 30% of waste in drums is non-combustible waste, such as failed machinery, tools, glass, concrete, plumbing and fixture and soil. Boxes typically contain whole and sectioned glove boxes, hoods, ducting, conduit, lathes, pumps, piping, fans, light fixture, instrumentation, tools, conveyor sections, wire, etc. The combustible materials in boxes may include cotton rags and clothing, plastic sheeting, plastic pipe, tape, ladders, plexiglass, step benches, polyethylene bottles, gloves and rubber. Absorbed combustible liquids such as oils, sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans, have also been placed in some drums and boxes. Drums and boxes are also used for disposal of high-efficiency particulate air filters, while others contain these filters and other waste forms. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200430656, TRU-SPO-16-0630200149652

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents, however, liquids were neutralized, absorbed, and cemented and may be present in residual quantities due to dewatering or condensation. The AK documents identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. These containers will be evaluated for TRU Remote-Handled (RH) designation and removed from the RLM325D container list. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated, treated, and/or repackaged to remove the prohibited items or conditions prior to certification and shipment. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656

3.1 Defense Determination

Hanford's solid waste legacy can be traced back to early weapons production activities in 1944. As discussed above, the 325 Facility has had an ongoing history of supporting production reactor and reprocessing activities at the Hanford site, including the following processes:

REDOX, - Plutonium nitrate solution processed in 233-S Facility was derived from defense-related plutonium activities; specifically, defense nuclear materials production. Plutonium originating from Hanford production reactors was recovered (as nitrate solutions) from irradiated fuel in separation facilities such as REDOX. The nitrate solutions from REDOX were further concentrated at the 233-S Facility and transferred to the Plutonium Finishing Plant, where the plutonium nitrates were purified and converted to plutonium metal or oxide. TRU-WST-11.4.3-0306200647097

PUREX - The PUREX product stream was used to produce plutonium metal and plutonium oxides to support national defense activities. The plutonium nitrate and plutonium oxide materials produced were used for weapons production and mixed-oxide reactor fuel production. The PUREX received aluminum-clad uranium metal fuel and zirconium alloy clad fuel from Hanford production reactors to reprocess and to recover weapons-grade and fuels-grade plutonium. [TRU-TS-11.4.30423199953594, TRU-TS-11.4.3-0427199915823]

PRF- Pu was received from DOE (e.g. Hanford, Rocky Flats, and Savannah River) and other (i.e., West Valley) sources under the Pu Recycling Program, conducted by DOE's predecessor organization, the AEC, to reclaim economically valuable Pu for use in research or for fueling Pu breeder reactors, such as FFTF and EBR-II. Oxides that were blended to develop the MOX used in the fuels were processed in the PRF and PFP using the same process lines and equipment used for processing of Pu generated from defense-related activities and the materials were not segregated. The Pu in the MOX fuel fabricated at the commercial facilities was supplied by and had been produced in reactors at Hanford and Savannah River operated by the U. S. Government for defense-related purposes (i.e., production of Pu for weapons production). The U. S. Government produced and acquired approximately 93% of its inventory from government defense reactors located at Hanford and Savannah River. [TRU-SPO-11.4.3-1127200254744, TRU-SPO-11.9-1112200350054]

N-Reactor - Designed to be a dual purpose reactor (i.e. producing both plutonium and steam to be used to generate power), N-Reactor started producing plutonium in March of 1964 and electrical power sometime later. From 1965 to 1967, tritium was produced at N-Reactor using fuel elements manufactured in the 333 facility. This Reactor was shut down in 1987. [TRU-SPO-11.4.3-0314200658459]

In recent years, the 325 facility has continued to support defense activities associated with defense nuclear waste and by-product management. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649, TRU-SPO-11.9-0708200441084]

The Contact Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant (WIPP-WAC) requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU "defense" waste. Based on guidance from Department of Energy (DOE), a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the *atomic energy defense activities* listed in section 10101(3) of the *Nuclear Waste Policy Act of 1982.* TRU waste generated in the 325 Facility are contaminated with radiological isotopes that are part of defense waste clean up and other activities supporting weapons process development and reactor research. Based on the review of AK, TRU waste generated by 325 Facility operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following functions: [TRU-SPO-11.9-0630200449685]

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management

- Defense research and development
- Weapons activities, including defense inertial confinement fusion

This waste stream contains waste that was generated in part from studies that were part of the DOE Nuclear Waste Vitrification Project (NWVP) program and support to defense nuclear waste management, including characterization of tank sludges resulting from years of processing weapons materials at the Hanford site. In addition, support to processes at N-Reactor such as examination of boron thermal shielding, iodine control and uranium dissolution took place in the hot-cells and additional characterization was performed in support of PUREX reprocessing and waste characterization. Other projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. Due to the nature of the analytical work performed in the laboratory, all defense project work was carried out in conjunction with other projects supporting analytical characterization needs across the Hanford site. [TRU-SPO-11.9-0701200437194 TRU-SPO-11.9-0708200431216]

Due to the waste management practices and analytical nature of the operations conducted in the 325 Building, no attempt was made to segregate the waste originating from non-defense (e.g. promethium-147 used in the artificial heart) from defense-related campaigns. Since segregation of the waste is no longer feasible, by definition this waste is eligible for disposal at the WIPP facility. [TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0708200431216]

3.2 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal of spent nuclear fuel and high-level waste, as defined by the Nuclear Waste Policy Act (NWPA), at WIPP. According to the NWPA, spent nuclear fuel is "fuel that has been withdrawn from a nuclear reactor following irradiation, the constituent elements of which have not been separated by reprocessing." High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." [TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0919200631754]

Pursuant to this definition the DOE has identified waste resulting from reprocessing spent nuclear fuel, that is determined to be incidental to reprocessing, is not high-level waste. The determination of waste incidental to reprocessing shall be made using a citation process or evaluation process as explained in DOE Manual 435.1-1: [TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0906200639182]

The citation process refers to those reprocessing waste items of the type that were discussed in the Statement of Proposed Policy for Appendix D, 10 Code of Federal Regulations (CFR) Part 50, as not being high level waste. These radioactive wastes are the result of reprocessing plant operations, such as, but not limited to contaminated job wastes including laboratory items such as clothing, tools and equipment. Examples include:

- Contaminated job wastes, a general category of wastes that are generated during high-level waste transfer, pretreatment, treatment, storage and disposal activities. Included is protective clothing, personal protective equipment (PPEs), work tools, ventilation filter media and other job-related materials necessary to complete high-level waste management activities;

- Sample media (eg. Sampling vials, crucibles, other hardware);
- Decontamination media and decontamination solutions (eg. Swabs, other decon work-related materials);
- Laboratory clothing, tools and equipment

The RLM325D waste stream, as described in Sections 3.0 and 4.0, contains laboratory wastes, including diaper paper, wipes, towels, protective clothing, cardboard, metal cans, High Efficiency Particulate Air (HEPA) filters, stainless steel tubing, plastic pipe, lead (bricks and sheeting), sheet metal, polyethylene bottles, failed machinery, alkaline batteries, circuit boards, incandescent bulbs, light ballasts, used lab ware (beakers, pipettes, vials, and tubing), gloves (leaded, cloth, leather, rubber, and Hypalon), lab equipment (balances, drying ovens, heating mantles, pumps, and reaction vessels), thermometers, tape, concrete, non-asbestos insulation, soil, plumbing fixtures, ladders, step benches, and tools (screw drivers, wrenches, and shears). Absorbed liquids include sample residues from fuel pellets, tank waste, ceramics and grouted plutonium in cans. Also included are wastes resulting from spill clean-up and decontamination activities.

It is apparent that the RLM325D waste stream contains the types of waste items that are described in the Statement of Proposed Policy for Appendix D, 10 CFR Part 50, as not being high level waste. Therefore a waste incidental to reprocessing determination can be made for this waste stream using the citation process, as described in DOE M 435.1-1.

3.3 Waste Matrix Code

The Summary Category Group is S5000 and the Waste Matrix Code Group is *Heterogeneous Debris*.

The waste matrix code of S5490 is assigned to this waste stream based on the evaluation of AK information relating to the physical form of the waste, packaging procedures, waste generating activities, and the Waste Disposal Records and Contents Inventory Sheets completed by the waste generator for each container. [TRU-SPO-11.9-0701200437024]

The waste material parameters and physical content descriptions for 211 containers were reviewed. The waste material parameters and estimated volume percentages were tabulated in an Excel spreadsheet. When volume percentages of organic materials (i.e., paper, wood, cloth) were listed as a single value, these percentages were evenly distributed in the spreadsheet between each identified waste matrix parameter. This assumption was also applied to the inorganic materials. Once the material composition was tabulated, the relative volumes for organic debris, inorganic debris, homogenous organic solids, and homogenous inorganic solids were estimated for the waste stream to assign the waste matrix code. [TRU-SPO-11.9-0701200437024] Based on the container-specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris such as iron-based alloys, plastics, cellulosics, concrete, lead, glass, ceramics, diatomaceous earth, and asbestos. The balance of the waste stream consists of homogenous inorganic and organic solids such as absorbed liquids and cemented materials. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories, including absorbed and solidified liquids. Therefore, Waste Matrix Code S5490, Unknown / Other Heterogeneous Debris is assigned to waste stream RLM325D. The Summary Category Group, Waste Matrix Code Group and Waste Matrix Code are based upon process knowledge of the waste. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0708200431216

3.4 Waste Material Parameters

Waste material parameters were identified and assessed as described in Section 3.3. Based on the information obtained from the Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D contains the waste material parameters identified in Table 1. TRU-SPO-11.9-0701200437024 TRU-SPO-11.9-0706200430656

Table 1 – Waste Material Parameters Found in RLM325D Waste Stream

Waste Material Parameter	Description	Present?	Estimated percent
Iron-based Metals/Alloys	Iron and steel alloys in the waste (does not include the waste container materials)	Y	40.53
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials	Y	0.091[a]
Other Metals	All other metals found in the waste materials	Y	1.32
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbent	Y	11.63
Cellulosics	Materials generally derived from high-polymer plant carbohydrates (e.g., paper, cardboard, wood, and cloth)	Y	6.68
Rubber	Natural or man-made elastic latex materials (e.g., surgeons' gloves, and leaded rubber gloves)	Y	3.37
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene and polyvinylchloride)	Y	27.67
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges	Y	0.92
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents (e.g., wastewater treatment sludge, cemented	Y	7.79

Waste Material Parameter	Description	Present?	Estimated percent
	aqueous liquids, and inorganic particulates)		
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials	N	
Steel (packaging materials)	55-gallon drums	Y	
Plastics (packaging materials)	12-mil and 90-mil polyethylene drum liners and plastic bags	Y	

[a] This figure was arrived at by adding together all other percentages and subtracting from one hundred. The source documents did not contain a percentage for aluminum-based metals / alloys.

3.5 Prohibited Items

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents; however liquids were neutralized, absorbed, and cemented and may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. Drums containing prohibited items or unused reagents identified during confirmation activities will be segregated then treated and/or repackaged to remove the items prior to certification and shipment. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656]

Waste containers in this waste stream will be certified in accordance with the *Hanford Site Transuranic Waste Certification Plan.* [TRU-SPO-11.4.3-0606200628721]

4.0 DESCRIPTION OF WASTE GENERATING PROCESS

This section provides descriptions of historical operations conducted in the 325 Radiochemistry Laboratory and High-Level Radiochemistry Annex. These descriptions discuss the major activities performed in the laboratory and are representative of the analytical, process development, R&D, and waste management capabilities provided by the facility. Due to the number and R&D nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document.

The 325 Radiochemistry Laboratory remains in operation. On-going research and development of defense related activities and facility operations will typically generate waste from fume hoods, glove box and hot cell operations, at bench tops, and at step off pads. Processes generating waste include, but are not limited to: TRU-SPO-11.4.3-1013200649581

- Treatability Studies
- Sample separation or dilution
- Analytical measurements
- Tank waste pilot scale testing

In addition, Milestone M-094-00 of the *Hanford Federal Facility Agreement and Consent Order* requires completion of all 300 Area facilities D&D activities by September of 2015. Newly generated waste containers supporting Hanford site process operations will be characterized and packaged appropriately TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200430731 TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050 TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431008 TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649 TRU-SPO-11.9-0708200448468 TRU-WST-11.4.3-1017200543795

During laboratory operations, the office of Laboratory Operations was designated as the administrator of control procedures overseeing nuclear safety specification and was cognizant of control area classifications and material transfers. The laboratory supervisor was also responsible for maintenance of a written record of the quantity and location of plutonium held in Plutonium control areas based upon data submitted by chemical research and development personnel. Material Balance Points were established through incorporation of Material Balance Areas (MBAs). These MBAs were used to control plutonium materials in the 325 Building. Cans of plutonium were tracked in specific areas by unique identification numbers and quantity of plutonium present. Log sheets were maintained for each of these areas until the material was used or disposed of as waste. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0708200435233

After the completion of a given project, contaminated liquids were disposed of through the retention process sewer and the radioactive liquid waste systems. Radioactive liquid waste was routed to the 340 Building and then transferred by cask to the 200 area tank farms. Solid and liquid waste treated at the HWTU in the facility were segregated into low-level, TRU, and mixed waste streams prior to disposition, and solid waste was packaged, shipped, and stored in accordance with the Hanford specific waste acceptance criteria Free liquids were solidified using cement and vermiculite mixtures in a 1 to 2 ratio prior to disposal. If the liquids were corrosive they were neutralized prior to solidification. In the early 1980s, aerosol cans were required to be punctured and ballasts were segregated from TRU waste prior to disposal. TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440354

Waste materials from operations were not segregated based on the physical form or chemical content at the time of generation. Containers were sent to be assayed in the 300 area. TRU containers were sent to the Transuranic Storage and Assay Facility (TRUSAF) or CWC for Real-time Radiography (RTR) prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generators for remediation. In the case of drums containing free liquids, additional vermiculite or kitty litter was added to the container after the drum was returned from the TRUSAF or CWC.

In general, waste materials were bagged out of glove boxes and placed in 55 gallon containers and Standard Waste Boxes (SWBs) that were lined with 10-mil plastic liners. TRU waste materials were removed from the glove boxes and hot cells using plastic bag out bags that had 8- and 15-inch openings. These bags were filled with waste and then horse-tailed and placed in the appropriate container. If externally contaminated, the bagged out waste would have been placed in an additional plastic bag before being placed in the drum. If the waste was packaged between 1983 and 1987 a single heat-sealed bag may have been used to bag out some glove box waste prior to insertion of the waste item into the lined 55-gallon container. Heat sealed bags were a minimum of five feet in length, which easily complies with the surface area requirement contained in Appendix 6.13 of the CH-TRAMPAC Document. Waste Services profiles generated after 6/5/02 allowed for the use of up to five inner bags and one 10-mil liner bag and a 90-mil liner. Four gallon slip-lid cans were loaded out of hot cells into 5-gallon cans and loaded into lined 55-gallon drums. Four and five quart paint cans were also used in hot cell waste load out operations. Lids on the 4-gallon cans were held in place with tape in both an "X" taping configuration and / or a circumferential configuration. Five gallon can designs were typical of those found in any commercial paint supply store. Bend type tabs ran around the circumference of the lid and a rubber gasket seal was in place on the underside. 5-gallon lids were attached using either a screw driver or a crimper to bend the tabs down around the lid. Four and five quart paint can lids were hammered in place. Circumferentially taped four gallon slip-lid cans, 5-gallon paint cans, and 5-quart paint cans (with hammered lids) will be remediated prior to shipment to WIPP. When the drums were full the 10-mil plastic liners were horse tailed. Mixed waste from the hot cells was packaged in sheet metal liners with a Cellutex plug prior to being placed in the drum. All waste packaging was in accordance with the version of HNF-EP-0063 in place at the time. The bounding condition for waste generated post-1987 will be five inner bags and one liner bag. Maximum six layers of confinement.[TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640, TRU-SPO-11.4.3-1013200649581, TRU-SPO-11.4.3-1013200649840, TRU-SPO-11.4.3-1013200650165, TRU-SPO-11.4.1-1025200656684, TRU-SPO-11.4.1-1026200645819]

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities. By 1980 each container accepted for storage at Hanford was required to be capable of being fitted with an air or vacuum hose or a gaseous diffusion vent. Drums were fitted with Nucfil 013 filters if radiolitic decomposition was a possibility. [TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0708200430448, TRU-SPO-11.9-0708200431435]

Following the packaging, RTR, and assay of the waste containers, they were transferred to a storage facility. Prior to this transfer, waste storage/disposal records were generated for each container. These records included packaging information such as date packaged, Package Identification Number (PIN), container type, gross and tare weight, volume, date packaged; waste information such as generator, origin, waste material, volume, weight, and radionuclides (e.g., fission/activation, TRU/fissile/source material), and storage location. These records included or referenced the RTR and assay information as well. A hazardous waste manifest also was prepared for TRU mixed waste. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0706200430656]

Prior to 1985, chemists controlled all containers of waste from their own individual projects. The waste was tracked in laboratory notebooks but was disposed according to hazard. For drums generated at this time to be stored at the TRUSAF or the CWC, documentation was provided on checklists to document that waste was TRU or TRU mixed as generated from the processes described in these notebooks. Though Resource Conservation Recovery Act (RCRA)-regulated chemicals and metals were identified and documented in the Solid Waste Storage/Disposal Record forms and Contents Inventory Sheets, waste management practices did not require the segregation of these materials. TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200430521, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0706200430656

TRUCON Code RH125/225 is assigned to waste stream RLM325D. All organic solvents and oil/solvent mixtures do not exceed 1 percent by weight of the total weight of the waste in the drum (Type III.I). An assessment of all containers will be performed during AK evaluation to determine if the weight of these compounds (solidified or absorbed) that could exceed 1 percent (Type IV) in a given drum. The Site Project Manager (SPM) will be notified of the containers that may exceed the 1 percent limit. In the event that this limit could be exceeded in a given container, these drums will be assessed and segregated during reconciliation for shipment under the appropriate TRUCON shipping category, as appropriate. Content Code(s) assigned to the waste are indicated in Table 2. TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640

Table 2 – Content Code Assignments

Packaging Variations		
Date/Container Type	**Typical Packaging Configuration**	**Default assignment Bounding Case without container specific information**
Waste packaged pre1983	RH125F/RH225F	Two inner bags packaged inside one unvented liner bag
Waste packaged 1983- 1987	RH125BE/RH225BE	Maximum of 3 plastic bag layers, one of which is a heat-sealed bag and one of which is a liner bag. Rigid drum liner is not present.
Waste packaged post 1987	RH125I/RH225I	Five inner bags and one liner bag
Waste re-packaged at T-Plant	RH125B/RH225B	One inner bag and one 90-mil liner
Waste re-packaged at WRAP	RH125J/RH225J	Zero layers of confinement
This table is not all inclusive of acceptable content codes that may be assigned to containers in this waste stream. In the event additional information is obtained for another packaging configuration, the content code will be assigned by a TRU program WCO or TCO using approved Richland Hanford content codes in DOE/WIPP 01-3194, CH-TRU Waste Content Codes Document		

Beryllium was present in standards used at the 325 Building; however, in this form it would be present in trace amounts (i.e., < 1 weight percent) and in forms other than as a pure metal or oxide. Therefore, it is considered to be present in trace amounts in this waste stream. TRU-SPO-11.9-0828200638735

4.1 Sample Preparation and Analyses

Sample preparation included sample fabrication, sample dissolution, mounting, and cleaning required for studies and analyses. Samples were prepared for analysis by doping chemicals and powders with plutonium, uranium and thorium then making immobilized plutonium forms. Ceramic samples were fabricated in glove boxes and fume hoods. In order to prepare samples for analysis, they were fused and dissolved in acids and when necessary plutonium containing solutions were purified using ion separation and liquid-liquid extraction methods. Solid samples were mounted after coring for magnetic angle spinning nuclear magnetic resonance spectrometry (MAS-NMR) in glove boxes and fume hoods. TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0707200431874, TRU-SPO-11.9-0707200438443, TRU-SPO-11.9-0707200438660, TRU-SPO-11.9-0708200426725, TRU-SPO-11.9-0706200427171

Once prepared, the samples were analyzed using a variety of chemical and physical methods. These methods included: MAS-NMR, gamma spectrometry, scanning electron microscopy (SEM), x-ray diffraction, and ion specific electrode methods. In addition spark source emission spectroscopy, potentiometric and amperometric electrochemical analyses, inductively coupled plasma-mass spectrometry (ICP-MS), thermal ionization mass spectrometry (TIMS), inductively coupled plasma-atomic emission spectroscopy (ICP-AES), kinetic phosphorescence, and thermogravimetric analysis-mass spectrometry were performed on solid and liquid samples. Figure 4 provides a typical flow diagram of these analyses performed on plutonium oxide materials. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431037, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431579, TRU-SPO-11.9-0707200437469, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200427171

4.2 Process Development Support, Research and Development

Many of the sampling and analytical methods used for tank waste characterization at the Hanford site were developed at the 325 Facility. These methods involved extruding and sub-sampling of tank slurries and sludges followed by analysis of these materials for inorganic and organic constituents. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-0708200441405

R&D support was conducted for studies relating to the immobilization of radioactive waste forms. The studies produced vitrified waste materials such as ceramics. These studies included leach testing the immobilized waste forms under differing temperature and pH environments. Other projects included the Catalyzed Electrochemical Plutonium Oxide Dissolver (the CEPOD project), evaluation of treatment methods, assessments of the removal of radionuclides from dissolved light water reactor fuels, process improvement support for PUREX processing, evaluation of potential exothermic reactions in tank waste, testing of ion exchange resins, and determination of the feed specifications for West Valley waste vitrification project. Physical examinations performed in support of Hanford process development included leach testing, radiation damage examinations by SEM, determination of specific gravity of solids, and thermogravimetric analysis. TRU-SPO-11.9-0707200428969, TRU-SPO-11.9-0707200432171, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200438233, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431008, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0706200427171

4.3 Hazardous Waste Treatment Unit

Several treatment methods were also developed as part of the HWTU located in the Shielded Analytical Laboratory (SAL) and room 528. Small bench scale treatment methods were used to treat hazardous waste for disposal or disposition to eliminate reactive and corrosive hazards not allowed by Hanford site storage facilities. Examples of the types of treatment methods employed at the HWTU include: molten salt destruction, pyrolysis, wet air oxidation, calcinations, microwave discharge, chemical fixation chlorination, chlorinolysis, cyanide destruction, degradation, detoxification, ion exchange, neutralization, filtration, crystallization, reverse osmosis, and evaporation. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0701200437361, TRU-SPO-11.9-0708200438206, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.4 General Laboratory Operations and Spill Cleanup

Laboratory operations involved maintenance to glove boxes and equipment in glove boxes and fume hoods as well as disposal and shipment of radioactive materials. Equipment and materials were moved into and out of containment areas using a variety of methods to minimize room contamination. TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0707200430521, TRU-SPO-11.9-0708200429446, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200430448

The AK documents identified events that resulted in wide spread laboratory contamination. Glove box and hot cell floods created ruptures in gloves and seals causing contamination to be spread across laboratory floors. One incident was due to improper wiring of the laboratory vacuum system which caused the hoods and other containment systems to blow contamination across the laboratory. These releases resulted in major cleanup efforts by laboratory personnel involving the decontamination of equipment, flooring, and other surfaces. The spill liquids were collected and packaged with vermiculite and cement. Terry cloth towels were also used to mop up liquids and a corn oil mist was used to control the release of airborne radioactive materials. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200440354

4.5 Chemical Content Identification / Waste Regulatory Characterization

The following sections describe the characterization rationale for the assignment of Environmental Protection Agency (EPA) Hazardous Waste Numbers to waste stream RLM325D. Table 3 summarizes the waste codes assigned to this waste stream. To assign EPA HWNs and Washington Dangerous Waste Codes the available AK documentation was reviewed to identify chemical usage and potentially hazardous materials (including commercially available products) that may have been introduced into the waste stream. AK was collected from analytical procedures, chemical inventories, interviews, SWITS, Waste Disposal Records, Contents Inventory Sheets, and process studies. In addition, MSDSs were obtained for the commercial products to determine the presence of potentially regulated compounds. As described below, several of the Hazardous Waste Numbers were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from any container in the waste stream. No Washington State Dangerous Waste Codes have been assigned to waste stream RLM325D. These waste codes are defined in Dangerous Waste Regulations, Chapter 173-303 Washington Administrative Code. TRU-SPO-11.9-0828200638735

Table 3 - Waste Stream Hazardous Waste Characterization summary

Waste Stream	EPA Hazardous Waste Numbers
RLM325D	F001, F002, F003, F004, F005, D004, D005, D006, D007, D008, D009, D010, D011, D022, D027, D028, D029, D030, D034, D037, D043

Table 4 summarizes the chemicals, compounds, and commercial products identified during the AK process. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, , TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431874, SPO-11.9-0707200432171, TRU-SPO-11.9-0707200433058, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200439643, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200438206, TRU-SPO-11.4.3-0414200630007, TRU-SPO-11.9-0708200440020 TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0706200430656 TRU-SPO-11.9-0706200426745

Table 4 - Chemical and Commercial Product Usage

Chemical/Compound (L=liquid, S=solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Acetic acid (L)	Coulometry solution, sample preparation	NA*
Acetone (L)	Rinsing electrodes, cleaning filaments and glassware	F003*
Adiponitrile (L)	Organic synthesis	NA
AG MP-1 (trimethylamine)	Ion exchange resin	NA
Aluminum (S)	Heating blocks, capsules and standard solutions	NA
Aluminum chloride (S)	Electrolytic solutions	NA*
Aluminum nitrate nonahydrate (S)	Standard solutions	NA*
Aluminum oxide (S)	Laboratory reagent (refractory)	NA
Aluminum sulfate (S, L)	Electrochemical solutions	NA
Alundum (S, aluminum oxide)	Chromatography columns	NA
Ammonia (S, anhydrous)	Commonly ammonium hydroxide in water (pH adjustment)	NA*
Ammonium acetate (L, S)	Analytical reagent	NA
Ammonium chloride (S)	Kjeldahl Ammonia methods	NA
Ammonium dichromate (S)	Electrochemical solution	NA*
Ammonium fluoride (L, S)	Fluoride ion standard	NA
Ammonium hydroxide (L, S)	Liquid pH adjustment	NA*
Ammoniummolybdate (L, S)	Oxidizing acid, may be disposed in liquid waste stream	NA*
Ammonium oxalate (L, S)	Chelating agent	NA
Ammonium phosphate, dibasic (S)	Process chemical	NA
Ammoniumthiocyanate (S)	Process chemical possibly used in Cs scavenging not from electroplating	NA
Ammoniumvanadate (S)	Used as reagent in potentiometric methods.	NA
Arsenic oxide (S)	Laboratory reagent	D004
Arsenious acid (L)	Electrochemical methods.	D004
Asbestos (S)	Flame protection for glove box floors,	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
	and lab ware	
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in gas chromatography	NA
Ascorbic acid (L)	Electrolytic solutions	NA*
Barium carbonate (S)	Laboratory reagent	D005
Barium chloride (L)	Precipitating reagent.	D005*
Barium hydroxide (L, S)	PH adjustments in solutions.	D005*
Barium nitrate (S)	Laboratory reagent	D005*
Benzene (L)	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium (S)	Standard materials	NA
Black sealing wax (S)	Sealant for gas line testing	NA
Boric acid (L, pH=5)	Sample preparation	NA
Boron carbide (S)	Laboratory reagent	NA
Bromocresol purple (S)	Titrations	NA
Butyl alcohol, n- (L)	Solvent and used in microscopy with paraffin	F003*
Cadmium (S)	Emission spectrometric standard material, neutron shielding	D006*
Cadmium nitrate (S)	Emission spectrometric standard material	D006*
Calcium carbonate (S)	Buffering agent	NA
Calcium chloride (S)	Chloride standard material (solution)	NA
Calcium hydroxide (S, pH=11.4)	PH adjustment in solution	NA
Calcium nitrate (S)	Spectrometric standard material	NA*
Calcium sulfate (S)	Laboratory reagent	NA
Calcium tartrate (S)	Laboratory Reagent	NA
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	NA
Carbon tetrachloride (L)	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine (S)	Complexing agent	NA
Carboxymethylimine-bis-ethylenenitrile-tetraacetic acid (L)	Complexing agent	NA
Ceric ammonium nitrate (S)	Process chemical	NA
Cericnitrate (S)	Spectrometric standard material	NA
Cericsulfate (S)	Laboratory Reagent	NA
Ceric oxide (S)	Work with metals and glass	NA
Cerous nitrate/Cesium Nitrate (S)	Spectrometric standard material	NA*
Chromic acid (L)	Used in chrome plating.	D007*
Chromium chloride (S)	Spectrometris standard material	D007
Chromium trioxide (L)	Oxidant and hardening agent	D007*
Chloroacetic acid (S)	Used in sulfur analysis and as laboratory chemical	NA*
Chloroform/trichloromethane (L)	Used as cleaning agent, and as an organic solvent.	D022
Citric Acid (L, S)	PH adjustment and chelating agent	NA*
Corn Oil Mist (G)	Used in radiological clean up	NA
Copper (S)	Tubing and used in sulfur combustion methods.	NA

Chemical/Compound (L=liquid, S=solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Copper Nitrate (S)	Spectrometric standard material	NA*
Copper Oxide (S)	Combustion gas chromatography	NA
Cresols (L)	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine - N,N,N',N'-tetra acetic acid, monohydrate	Chelating agent	NA
Cyclohexane (L)	Extractant	NA*
Devarda's Alloy (Al, Cu, Zn)	Metal work	NA
D-19 [Kodak] Developer (L)	Photographic work (emission spectrometry)	NA
Diatomaceous earth (S)	Absorbent material	NA
Dibutyl butyl phosphonate	Reagent	NA*
1,2-dichloroethane, ethylene dichloride (L)	Reagent, metal cleaning	D028*
Diethylhexylorthophosphoric acid (L)	Chelating and pH adjustment	NA*
Dimethyldichlorosilane (L)	Gas chromatography agent	NA*
Dimethylglyoxime (S)	Chelating agent	NA
2,4-dinitrophenol (S)	Reagent	NA*
Dithiol (3,4-dimercaptotoluene) (S)	Tungsten extractant	NA
Dithiol-amyl acetate (L)	Tungsten extractant	NA*
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) resin	Anion exchange chromatography	NA
Dowex 50 (IX Resin) (Sulfonate polystyrene divinyl benzene)	Ion Exchange Resin	NA
Drierite (S, Calcium sulfate)	Combustion gas chromatography	NA
Ethanol (L)	Cleaning filaments and glassware	NA*
Ether (G, L, S)	Laboratory reagent	NA*
Ethylenedinitridotetraacetic acid (L)	Chelating agent	NA*
Ethyleneoxyethylenenitrilotetraacetic acid (L)	Complexing agent	NA*
Ferric ammonium sulfate (S)	Ion specific electrode methods for chloride	NA
Ferric chloride (S)	Laboratory Regent	NA
Ferric nitrate (S)	Spectrometric standard material	NA*
Ferric oxide (S)	Laboratory reagent	NA
Ferric sulfate (S)	Laboratory reagent	NA
Ferrous ammonium sulfate (S)	Determination of Pu by potentiometry and sample preparation	NA
Ferrous chloride (S)	Electrolytic solution	NA
Ferrous sulfate (S)	U by potentiometry	NA
Formic acid (L)	Reagent	NA*
Gallium oxide (S)	Impurities by Emission spectrometry	NA
Gluconic acid (L)	Metal cleaning, bottle washing	NA*
Glycerin (L)	Used in particle size determinations	NA
Gold (S)	Microelectrodes	NA
Graphite (S)	Crucibles, electrodes	NA
Hexane (L)	Liquid extraction and solvent	NA*
Hydrazine (L)	Process chemical (PUREX)	NA*
Hydrochloric acid (L)	Electrochemical solution and sample preparation	NA*
Hydrofluoric acid (L)	Oxidizing reactions, sample	NA*

Chemical/Compound (L=liquid, S=solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
	preparation	
Hydrogen peroxide (L, S)	Oxidizing agent	NA*
Hydroiodic acid (G)		NA*
Hydroxylamine hydrochloride (S)	Organic synthesis, photographic developer	NA*
Hydroxylamine nitrate (L)	Laboratory reagent	NA
Iodine (S)	Laboratory reagent	NA
Iron (S)	Standard material	NA*
Kerosene (L)	Process chemical (PUREX)	NA*
Kodak Developer D-1 (L)	Photographic plate development	NA
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcohol (L)	Dispersant and wetting agent	NA
Kodaksolubilizingagent SA-2 (L)	Solubilizing agent	NA
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	NA
Isopropyl alcohol (L)	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	NA*
Lanthanum nitrate (S)	Laboratory reagent	NA*
Lanthanum-neodymium nitrate	Laboratory reagent	NA*
Lead (S)	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead acetate (S)	Laboratory reagent	D008
Lead chloride (S)	Laboratory reagent	D008
Lead nitrate (S)	Spectrometric standard material	D008
Lead oxide (S)	Laboratory reagent	D008
Linde AW-500 resin (S, Aluminum silicate)	Ion exchange resin	NA
Lithium sulfate (S)	Spectrometric standard material	NA
Magnesium (S)	Spectrometric standard material	NA*
Magnesium nitrate (S)	Spectrometric standard material	NA*
Magnesium oxide (S)	Laboratory reagent	NA
Magnesium perchlorate (S)	Thermogravimetric methods and water determinations by coulometry	NA*
Manganese dioxide (S)	Laboratory reagent	NA*
Manganous chloride (S)	Laboratory reagent	NA
Manganous nitrate (S)	Spectrometric standard material	NA*
Manganous sulfate (S)	Reagent	NA
Mannitol (L)	Reagent	NA*
Mercury (L)	Electrodes, thermometers, batteries	D009
Mercuric iodide (S)	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric nitrate (S)	Laboratory reagent	D009*
Mercuric oxide (S)	Laboratory reagent	D009*
Mercuricthiocyanate (S)	Ion Selective Electrode reagent.	D009
Mercurous sulfate (S)	Reference Electrodes	D009
Metaldi fluid (L, propylene glycol)	Dispersing agent	NA
Methanol (L)	Cleaning and drying glassware	F003*

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Methylene chloride (L)	Reagent, solvent	F001/F002
Methyl ethyl ketone (L)	Reagent, solvent	F005
Methyl isobutyl ketone (L)	Reagent, solvent	F003*
Methyl lactic acid (L)	Laboratory reagent	NA*
Mineral Oil (L)	Reagent	NA
Molybdenum (S)	Spectrometric standard material	NA*
Molybdic acid (L, S)	Laboratory reagent	NA*
Naphthalene (S)	Laboratory reagent	NA
Natrasorb, clay	Container material, desiccant, used in oil absorption	NA
Neodymium nitrate (S)	Spectrometric standard material	NA*
Neodymium oxide (S)	Spectrometric standard material	NA
Nickel bromide (S)	Reagent	NA
Nickelous chloride (S)	Spectrometric standard material	NA
Nickelous nitrate (S)	Laboratory reagent	NA*
Nitricacid (L)	Sample dissolution, eluant for ion exchange	NA*
Nitrous acid (L)	Eluant for ion exchange	NA*
Nitrilotriaceticacid (L, NTA)	Chelating acid	NA*
Normal paraffin hydrocarbon (S)	PUREX process chemical used for liquid-liquid extraction	NA
Oleic acid (L)	Lubricant	NA
Oxalic acid (L)	Chelating acid	NA*
Pentachlorophenol (S)	Herbicide, wood preservative	D037
Pentasodium diethylene triamine pentaactate (DPTA)	Chelating acid	NA
Perchloric acid (L)	Sample preparation for emission spectrometry	NA*
Periodic acid (S)	Laboratory reagent	NA*
Phenol (L, S)	Reagent	NA*
Phosphoric acid (L)	Used in potentiometric methods	NA*
Phosphorous pentoxide (S)	Used in sample preparation and for gas chromatography	NA*
Platinum (S)	Crucibles, sample boats	NA
Portland cement (S, pH=11.4)	Solidifying agent for liquid wastes	NA
Potassium acetate (S)	Buffer solution, dehydration	NA
Potassium bicarbonate (S)	Neutralization, reagent	NA
Potassium carbonate (S)	Dehydrating agent	NA
Potassium chlorate (S)	Laboratory reagent	NA
Potassium chloride (S)	Used as a control standard for Ion Selective Electrode methods.	NA
Potassium dichromate (S)	Used in potentiometric methods, photochemical processing.	D007
Potassium ferrocyanide (S)	Fixative in photography, metal cleaner.	NA
Potassium fluoride (S)	Organic Synthesis	NA
Potassium hydroxide (S)	Electrolyte fuel cells	NA
Potassiumiodate (S)	Used in Iodometry	NA
Potassium iodide (S)	Used in Iodometry	NA
Potassium permanganate (S)	Lab reagent, decontamination agent	NA
Potassium phosphate, tribasic (S)	Process chemical, lab reagent	NA
Potassium pyrosulfate (S)	Sample preparation flux	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Potassium sodium Tartrate (S)	Laboratory reagent	NA
Primafloc A10 (S, acrylic polymers, monomers, water)	Laboratory reagent	NA
Silica gel (S)	Chromatographic separations, dehydrating agent.	NA
Silver cleaning Paste (S)	Cleaning electrodes	D011
Silver cyanide (S)	Plating	D011
Silver nitrate (S)	Spectrometric standard material	D011
Silver oxide (S)	Reagent for amperometric Pu determination	D011
Silver sulfate (S)	Laboratory reagent	D011
Sodium acetate (S)	Laboratory reagent	NA
Sodium aluminate (S)	Cleaning compound	NA
Sodium arsenite (S)	Dying reagent	NA
Sodium bicarbonate (S)	Buffer solutions	NA
Sodium bisulfate (S)	Dying agent	NA
Sodium bisulfite (S)	Reducing agent	NA
Sodium borate (S)	Flame retardant	NA
Sodium carbonate (S)	Cleaning prep	NA
Sodium chloride (S)	Precipitation agent	NA
Sodium citrate (S)	Chelating agent	NA
Sodium dichromate (S)	Electrochemical reagent	D007
Sodium fluoride (S)	Standard material for Ion Selective Electrode methods and carrier for emission spectrometry	NA
Sodium formaldehyde sulfoxylate (S)	Laboratory reagent	NA
Sodium hydroxide (S)	Solution preparation and pH adjustments	NA*
Sodium hypochlorite (L)	Laboratory reagent	NA*
Sodium iodide (S, L)	Laboratory reagent	NA
Sodium nitrate (S)	Process chemical	NA*
Sodium nitrite (S)	Process chemical	NA*
Sodiumoxalate (S)	Chelating agent, lab reagent	NA
Sodium phosphate (S)	Reagent, metal cleaner	NA
Sodium phosphite (S)	Laboratory reagent	NA
Sodiumpyrophosphate (S)	Reagent, metal cleaner	NA
Sodium selenate (S)	Laboratory reagent	D010
Sodiumsilicate (S)	Laboratory reagent	NA
Sodiumsulfate (S)	Calibration standard material	NA
Sodium tartrate (S)	Water determination by coulometry	NA
Sodium tungstate (S)	Reagent	NA
Stainless steel (S)	Tubing ,standard materials, and alpha spectrometry sample disks	NA
Stannic chloride (S)	Reagent	NA
Stannous chloride (S)	Spectrometric standard material	NA
Strontium nitrate (S)	Laboratory reagent	NA*
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	NA
Sulfur (S)	Mercury clean up reagent	NA

Chemical/Compound (L=liquid, S=solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Sulfuric acid (L)	Sample preparation	NA*
Sulfur dioxide (G)	Laboratory reagent	NA
Tetrasodium ethylene diaminetetraacetate (EDTA)	Chelating agent	NA
Tetraphenyl boron (S(	Laboratory reagent	NA
Thenoyltrifluoroacetone (L)	Laboratory reagent	
Thorium nitrate (S)	Laboratory reagent	NA*
Tin (S)	Capsules, spectrometric standard material	NA
Tide detergent (S)	Cleansing solution	NA
TISAB III	Buffer solution	NA
Titaniumchloride (S, L)	Spectrometric standard material	NA*
Titanium (di)oxide (S)	Standard, ceramics, decontamination	NA
Toluene (L)	Extractant and cleaning for mass spectrometer filaments.	F005
Tributylphosphate (L)	Liquid-liquid extraction and studies of PUREX processes.	NA
Trichloroethane,-1-1-1 (L)	Reagent, solvent	F001,F002
1,1,2-trichloro-1,2,2-trifluoroethane (L)	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	NA
Tri-n-octylamine	Liquid-liquid extraction	NA
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	NA
Trisodium hydroxyethyl ethylene-diamine triacetate (HEDTA)	Chelating agent	NA
Turco alkaline (rust remover) (NaOH and kerosene)	Rust remover	NA*
Tungstun oxide	Spectrometric standard material	NA
Turco Deseal Zit 2 (methylene chloride and aceticacid)	Decontamination	F001/F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)	Decontamination paint	F005, F003*
Turco Plaudit (No hazardous compounds)	Decontamination	NA
Turco 4502 D (KOH, K2CrO4, KMnO4)	Decontamination	NA*
Turco 4518 (Sodiumdodecyl benzene sulfonate)	Decontamination paint	NA
Uranyl nitrate (S)	Extractant	NA*
Uranium oxide (S)	Accelerator for pyrohydrolysis	NA
Urea (S)	Electrolytic solution	NA
Vanadium (S)	Spectrometric standard material	NA
Vanadium pentoxide (S)	Sample preparation flux	NA
Vanadyl sulfate (S)	U by potentiometric titration	NA
Vinyl chloride (L)	Sludge contaminant	D043
Xylene (L)	Liquid-liquid extraction, solvent	F003*
Yttrium nitrate(S)	Laboratory reagent	NA
Zeolon 900 Resin (Aluminum silicate)	Ion exchangeresin	NA
Zinc chloride (S)	Spectrometric standard material	NA

Chemical/Compound (L=liquid, S= solid, G=gas)	Description/Use/Source	EPA Hazardous Waste Numbers
Zinc nitrate (S)	Spectrometric standard material	NA
Zincoxide (S)	Laboratory reagent	NA
Zirconium	Cladding material	NA
Zirconyl nitrate	Spectrometric standard material	NA*

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*These chemicals may exhibit the characteristic of ignitability, corrosivity, or reactivity in their pure, liquid, solid, or powder form. Based on the Hanford waste management practices no pure or unused chemicals would have been introduced into the waste stream.

In addition, all liquids and reactive materials would have been solidified, evaporated, neutralized, and/or deactivated prior to disposal. Radiography and/or visual examination will verify the absence of free liquids and reagents during confirmation and will segregate containers with materials for further characterization and/or processing as appropriate. TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0828200638735

In addition to the chemicals used by 325 Facility process, EPA hazardous waste numbers for 1,4-dichlorobenzene (D027), 1,1-dichloroethlylene (D029), 2,4-dinitrotoluene (D030), and hexachloroethane (D034) were assigned to the containers based on the characterization of the samples received by the facility (i.e., tank sludge) and chemicals treated in the HWTU.

Based on the review of waste management practices in the 325 Facility, all waste has been conservatively determined to exhibit toxic characteristics (D codes) per 40 CFR 261.30 and F-listed per 40 CFR 261.31. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.

4.5.1 Listed Hazardous Waste Numbers

Based on the review of chemical usage in the 325 Facility and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain or be mixed with hazardous waste from non-specific sources listed in 40 CFR 261.31. Non-specific hazardous constituents include: benzene, carbon tetrachloride, cresols, methyl ethyl ketone, nitrobenzene, pyridine, tetrachloroethylene, and trichloroethylene. Even though HWN's from non-specific sources were not assigned historically to all of the containers in the inventory; F001, F002, F003, F004, and F005 are conservatively assigned based on the interviews, review of procedures, and the waste management practices in use when the waste was generated. F003 was conservatively applied for acetone, n-butyl alcohol, methanol, and methyl isobutyl ketone, listed solely because these solvents are ignitable in the liquid form. Even though the waste stream will not exhibit the characteristic of ignitability without the presence of free liquids, F003 solvents may have been commingled with the wastes.

Waste materials from operations performed in the 325 Facility were determined not to be mixed with hazardous waste from specific sources (40 CFR 261.32), a discarded commercial chemical product, an off-specification commercial chemical product, or a container residue or spill residue thereof (40 CFR 261.33). P- and U-listed reagents including acetone (U002), benzene (U019), beryllium (P015), chloroform (U044), hydrogen fluoride (U134), methanol (U154), toluene (U220), 1,1,1-trichloroethane (U226), and xylene (U239) were managed by the laboratory. However, no pure product or unused chemicals would have been placed into the TRU waste stream. Therefore, U-, K-, and P- listed are not applied to waste stream RLM325D. TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0701200436839 TRU-SPO-11.9-0707200428969 TRU-SPO-11.9-0706200430656

4.5.2 Toxicity Characteristic

Based on the review of chemical usage in the 325 Facility and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

Based on the review of chemical usage in the 325 Facility, potential sources for all of the characteristic metals (D004 through D011) were identified. The Waste Disposal Records identify the presence of lead, fluorescent bulbs, circuit boards, alkaline batteries, and mercury items in the waste, and also assign all of the RCRA metals D004 through D011.

Table 5 identifies the characteristic organic chemicals identified during the review of chemical usage and the Waste Disposal Records. The following codes will be assigned for these chemicals: D022, D027, D028, D029, D030, D034, D037, and D043. TRU-SPO-11.9-0828200638735

4.5.3 Characteristic of Ignitability

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40CFR261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed by the Facility; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.5.4 Characteristic of Corrosivity

The debris materials in this waste group do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials in this waste stream are therefore not corrosive wastes (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

4.5.5 Characteristic of Reactivity

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. Debris materials in this waste stream which came in contact with cyanide materials are not capable of detonation or explosive reaction. Sulfides were not used in the 325 Facility. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The materials in this waste group are therefore not reactive (D003) wastes. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200440354

4.5.6 Toxic Substances Control Act

Based on the review of waste management practices and container documentation, waste containers from 325 Facility operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB bearing material such as transformers and light ballasts were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0706200430656

4.6 RADIONUCLIDES

Weight percentages listed in Table 5 are the result of Tank Waste Inventory Network System (TWINS) Best Basis Inventory (BBI). data from PUREX facility tanks. Virtually all uranium processing / plutonium recovery at the Hanford Site occurred at the PUREX facility. Additionally, the Building 325 Facility provided radiochemistry support to the entire Hanford site. Thus, samples from the PUREX facility tanks would have been analyzed in Building 325, and waste from the 325 Building would be contaminated with radionuclides arising from the PUREX tanks. A query was pulled consisting of radionuclides analyzed at the Building 325 Facility based upon AK source documents. Weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes (as well as Am243, Pu241, U232, U235, and U236) were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope family to obtain the weight percent. TRU-SPO-11.9-1010200634280,, TRU-SPO-11.4.1-1010200654350, TRU-TS-11.4.3-0422199949473

Table 5 - Plutonium and Uranium Isotopic Distributions

Plutonium and Associated Distributions		Uranium Distributions	
Isotope	Wt % Distribution	Isotope	Wt % Distribution
^{238}Pu	0.024	^{232}U	Trace
^{239}Pu	93.2	^{233}U	0.004
^{240}Pu	6.46	^{234}U	0.007
^{241}Pu	0.21	^{235}U	0.80
^{242}Pu	0.036	^{236}U	0.05
^{241}Am	99.16	^{238}U	99.10

Pu-239 and Pu-240 are the two most prevalent TRU isotopes in the waste stream. Trace amounts Cesium (Cs)-137 and Sr-90 were reported with a mean ratio of 1.1 TRU-SPO-11.9-0622200456967

Acceptable knowledge was needed to quantify the amount of U-234 expected in individual containers to comply with CH-WAC reporting requirements. Scaling factors were determined or developed using historical data. The scaling factors for these activity relationships are as follows: TRU-SPO-11.9-0429200249094

- U-234/U-235 ~ 30
- U-234/U-238 ~ 2

Isotopic analysis will be attempted on every drum in this waste stream and those results will be used to determine the activity in each drum. In the event that the waste matrix does not allow NDA to obtain acceptable results, the relative isotopic ratios above may be used to support assay determinations, as appropriate. The values obtained will be compared to assay results on a lot basis as waste containers undergo data reconciliation prior to certification for disposal.

In addition, because of the nature of the processes conducted and analysis performed in the 325 Facility, a range of other radionuclides may also be present in trace amounts. These radionuclides may be measured in future characterization testing. These radionuclides are present in trace amounts and do not contribute significantly to the radiological hazard. Other radionuclides that may be present include:

- I-131/132
- Ru-103/106
- Y-90
- Pm-137
- Radioactive lanthanum
- Radioactive mercury
- Ce-144
- Mn-54
- Co-60

- Sb-125
- Cs-134
- K-40
- Am-243
- Ba-137m
- Np-237
- Na-22

4.7 TRANSURANIC BASELINE INVENTORY REPORT

The RLM325D waste stream is identified in Revision 2 of the Transuranic Waste Baseline Inventory Report (TWBIR) under code numbers RL-T110, RL-W338, RL-W339, RL-W340, RL-W341, RL-W342, RL-W343, RL-W393, RL-W394, RL-W395, RL-W396, RL-W397, and RL-W398 TRU-SPO-16-0630200149652

As described in the TWBIR, the waste source consists of contact-handled TRU waste from the Chemicals Engineering Laboratory and Post Irradiation Test Laboratory.

5.0 ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT REFERENCE LIST

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0701200436625	Hanford-Building 325 Interview with Wayne Larson	B. Crawford	LANL-CO	N/A	PR4, PR6, WS9, WS12	All	Describes mission, waste packaging and waste streams.
TRU-SPO-11.9-0701200436839	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)	LANL-CO	N/A	PR7, WS2, WS4, WS12, WS6,	All	Describes waste packaging, waste management and waste characterization.
TRU-SPO-11.9-0701200437024	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin	LANL-CO	N/A	WS1, WS6, WS7	All	Provides weight percent / volume percent values of iron based metals/alloys, other inorganic materials, inorganic matrix, cellulosics, plastic rubber, and organic matrix. Describes waste material parameters including paper, rubber, plastic, metal, lead, etc. etc.
TRU-SPO-11.9-1010200634280	Excerpt from Tank Waste Information Network system Best Basis Inventory	M. H. Conilogue	Fluor Hanford	N/A	WS9	All	The BBI contains tank-by-tank waste inventories which are the chemical and radiochemical component inventories by tank for each of the 177 single- and double-shell tanks on the Hanford Site. Of the 177 tanks, a query of radionuclide

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							concentrations was pulled from the 35 tanks which support the PUREX facility. Weight percentages of WIPP tracked radionuclides were calculated using Ci/gm data taken from the TWINS.
TRU-TS-11.4.3-0422199949473	A Brief History of the PUREX and UO3 Facilities	M. S. Gerber	Westinghouse-Hanford Company	WHC-MR-0437	WS2, WS9	All	Gives a general history of the PUREX and UO_3 facilities. Provides some information on production.
TRU-SPO-11.4.5-1011200647978	AK Source Document Deficiency	M. H. Conilogue	Fluor Hanford	N/A	WS9	All	This document describes the discrepancy between Central Characterization Project (CCP) isotopic analysis memos: TRU-SPO-11.9-0701200437194 & TRU-SPO-11.4.1-1011200635570 As a resolution an Isotopic Analysis White Paper was generated by Hanford TRU Programs AK using the Tank Waste Inventory Network System (TWINS).
TRU-SPO-11.4.1-1010200648961	Record of Communication regarding Isotopic Analysis RLM325D	M. H. Conilogue	Flour Hanford	N/A	WS9	All	Record of Communication between AK Engineer and Central Characterization Program contact involving discrepancy in weight percentages listed in TRU-SPO-11.9-0701200437194. Information in record copy of

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							CCP memo does not match that supplied by CCP on 9/27/06
TRU-SPO-11.4.3-0314200658459	ORAU Team, NIOSH Dose Reconstruction Project, Technical Basis Document for the Hanford Site – Site Description	J. Selby	Oak Ridge Associated Universities	ORAUT-TKBS-006-2, Rev. 00 PC-1	PR2	7-9	Document provides timeframe for plutonium and tritium generation at N Reactor and gives a general description of the design of the reactor.
TRU-WST-11.4.3-0306200647097	Historic American Engineering Record Reduction-Oxidation Complex Plutonium Concentration Facility (Building 233-S)	M.S. Gerber D.W. Harvey	U. S. DOE	DOE/RL-96-29	PR2, PR3, PR4, WS2, WS9, WS10	All	Discusses Historical Timeline and processes used in the production of plutonium at 233-S.
TRU-TS-11.4.3-0427199945823	Characterization of Past and Present Solid Waste Streams from the Plutonium-Uranium Extraction Plant	J.A. PottmeyerD. R. Duncan	Westinghouse Hanford Company	WHC-EP-0646, Rev. 0	WS2, WS12	3-4, 3-4,5	Describes the past and current solid waste streams from the PUREX Plant.
TRU-TS-11.4.3-0423199953594	Characterization of Past and Present Waste Streams from the Plutonium Finishing Plant	D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0621	WS4	2-1	Characterization of PFP waste since 1947, including PFP history, waste stream, maintenance, housekeeping, waste handling and packaging, and actual waste container characterization data.
TRU-SPO-11.4.3-1127200254744	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items	Lini, D. C. and Rodgers, L. H	Science Applications International Corp.	HNF-10919 Rev. 0, Oct. 8, 2002	PR2, PR4, PR5,	All	Document provides a discussion of PFP plutonium oxide material. Information

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
	with <30 Weight Percent Plutonium				PR7, WS1, WS2, WS6, WS9, WS10, WS12		includes process history, history of material origins, potential contaminants, material specifications and waste designation rationale, and process flow diagrams, building diagrams. Details of RCRA characteristic and listed constituents present, Washington state toxic waste designation and radionuclide information.
TRU-SPO-11.9-1112200350054	Origin of Plutonium	D.C. Lini	Fluor Hanford		WS9	1 - 8	Document excerpt provides estimate of the amounts of Pu received from various sources as compared to the entire estimated U.S. inventory of Pu. Provides justification for assuming a defense origin for the Pu in MOX waste.
TRU-SPO-11.4.1-1010200654350	White Paper: Calculation of Isotopic Weight Percentages Using Tank Waste Information Network System data for the PUREX Facility	M. H. Conilogue	Fluor - Hanford	N/A	WS9	All	This white paper provides weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes using TWINS data from PUREX tanks.
TRU-SPO-11.9-0701200437194	Isotopic Analysis for Containers Generated from	D. Guerin	LANL-CO	N/A	WS9	All	Container specific assay results fo2 211 Building 325

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	the Building 325 Radiochemistry Lab and HLW Annexes Assays						containers. Provides weight % for U and Pu
TRU-SPO-11.9-0429200249094	U-234 To U-235 and U-238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	M4T00-PJC-02-077	WS11	All	This letter documents an uranium 234 to uranium 235 and uranium 238 ratio based on an analysis of historical concentration data from Hanford wastes and theoretical information. Uranium 234 concentrations can be derived from a NDA measured uranium 235 and/or uranium 238 concentration using the scaling factor based on the documented relationship.
TRU-SPO-11.9-0622200456967	Sr-90 to Cs-137 Ratio For Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	N/A	WS9	All	Ltr from R. Clinton to P. Crane to document analysis of historical data of Hanford Site Tank Waste. The purpose was to find a correlation between Cs-137 and Sr-90 using data from the Tank Waste information Network System (TWINS). A Sr-90 value can be derived from a concentration of Cs-137 using a scaling factor or ratio based on known, documented relationships or correlations. Since a

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							consistent ratio could not be established, a default ratio of 1.1:1 was used. This is because there is a 1.1:1 ratio of Cs-137 to Sr-90 after the fission process.
TRU-SPO-11.9-0701200437361	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	James E. Rasmussen to Mr. Moses N. Jaraysi	Pacific Northwest National Laboratories	97-EAP-589	PR2	3	Identifies specific locations which define the HWTU and describes small bench treatment operations: molten salt destruction, pyrolysis, wet air oxidation, etc. etc.
TRU-SPO-11.9-0707200428969	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	General Electric, Hanford Atomic Products Operation, Richland, WA	HW 73112	WS12	5-8, 14, 25-28	Describes minimum critical concentrations for Pu solutions; minimum planer array: etc. and various other controls dealing with criticality safety. Describes packaging procedures, precautions for acid – soaked waste, collection of radioactive liquid waste and restrictions on the use of lab sinks.
TRU-SPO-11.9-0707200429376	Removal of High Dose Low Level Waste	R.T. Steele	PNNL	SAL-325-HDLLW-1	PR8, WS5, WS6	3, 4	Describes use of 4 and 5 quart cans during hot cell waste packaging and load out of TRU waste.
TRU-SPO-11.9-0707200429979	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	PNNL	SAL-84-5	PR4	All	Describes steps for the removal of low level dry waste, glove box waste, high level dry waste and alpha

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							radiation free liquid waste.
TRU-SPO-11.9-0707200430240	Routine Research Operations	G.J. Lumetta	PNNL	RPL-OP-001 / Rev 0 and 1	PR3, PR4, PR5,	All	Procedure provides direction for routine chemical research operations in laboratories within the Bldg 325 Radiochemical Processing Laboratory
TRU-SPO-11.9-0707200430521	Handling and Opening Radioactive Material Shipments	R.T. Steele	PNNL	SAL-84-7	PR4	All	Provides instructions for the safe handling and opening of radioactive material shipments.
TRU-SPO-11.9-0707200430731	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	LAZAR Research Laboratories Inc.	13 644 5	WS12	5	Describes the proper use of the PHR-146 Micro Combination pH Electrode. States to use acetone to clean the connector.
TRU-SPO-11.9-0707200431037	Ross pH Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc	227296-00 / Rev C	WS12	All	Instructions for the ROSS series of pH electrodes.
TRU-SPO-11.9-0707200431225	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc.	502700-031 / Rev C	WS12	All	Describes Standard and Electrode filling solutions: glacial acetic acid, sodium hydroxide, TRIS (hydroxymethyl) aminmethane, etc. etc.
TRU-SPO-11.9-0707200431579	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	Orion Research, Inc.	502700-078 / Rev D	WS12	2	Describes Standard and Electrode filling solutions
TRU-SPO-11.9-0707200431874	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	PNNL	325-PU-Purify-1 / Rev 0	WS12	All	Procedure provides a method to chemically purify plutonium by ion exchange. Lists chemicals used:

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							Reagent Grade NH4F, HNO3, Al(NO3)3, H202, La(NO3)3, 85% Hydrazine, Ascorbic acid, Oxalic acid
TRU-SPO-11.9-0707200432171	Leaching Tests using the PCT Method	K.H. Olson	PNNL	MCC-TP-19	WS12	All	Procedure describes the techniques and methods for performing static leaching tests of crushed glass specimens. Describes various chemicals used to clean vessels and gaskets: HNO3, acetone and ethanol
TRU-SPO-11.9-0707200432378	Evaluation of Monolithic Radioactive Material Immobilization Form behavior in Fume Hoods	R. D. Scheele	PNNL	RPL-PIP-Ceramic Test-1 / Rev 0	WS6	All	Test Plan details the activities that will be performed to determine the behavior of radioactive material immobilized in a monolithic matrix form during routine operations. Describes various waste forms discarded after use during cleaning.
TRU-SPO-11.9-0707200432862	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	PNNL	RPL-EMSP-1 / Rev 0	WS12	7	Procedure supplements Procedure RPL-PIP-1 and is used for mounting and viewing samples. Describes chemicals used: ethanol, acetone
TRU-SPO-11.9-0707200433058	Standard Test Method for Fluoride Ion in Water		ASTM	D 1179-99	WS12	All	Test methods for the determination of fluoride in water. Describes chemicals used: silver sulfate, sodium arsenate, sodium fluoride,

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							sulfuric acid, etc. etc.
TRU-SPO-11.9-0707200437469	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL	PNNL-RPG-268 / Rev 1	WS6, WS12	All	Procedure applies to operation of the Scintag PAD V X-ray diffractometer located in Room 409 of Building 325. Metals that may be examined include (but not limited to): metals, non-metals, powders, sludge or paste, wires, etc. etc.
TRU-SPO-11.9-0707200437869	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	PNNL	ASTM C1220-98	WS12	All	Test method evaluates the relative chemical durability of simulated and radioactive monolithic waste forms in various test solutions at < 100C under low surface-to-area-to-volume radio conditions. Prior to 10/12/00 specimens were cleaned using an ultrasonic cleaner and ethanol. After 10/12/00 specimens were cleaned using dionized water.
TRU-SPO-11.9-0707200438233	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermo gravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R. D. Scheele	PNNL	ICN-PNL-ALO-508R0.2 / Rev 0	WS6	All	Procedure is applicable to compounds and mixtures which undergo changes due to reaction, thermal decomposition or phase changes. Procedure describes various waste forms that are generated and how they the waste is managed.
TRU-SPO-11.9-	Preparation, Processing and	R.D. Scheele	PNNL	RPL-PIP-1 /	WS9	6	Procedure provides general

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RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
0707200438443	Testing of Radioactive Glass and Ceramics			Rev 2			approaches and requirements for preparing, processing, testing, and characterizing radioactive calcines, glasses, and ceramics – which may contain plutonium, uranium, thorium, or any other radionuclides.
TRU-SPO-11.9-0707200438660	Fabrication of Ceramic Samples	W.C. Buchmiller	PNNL	RPL-PIP-2 / Rev 0	WS4, WS9, WS12	All	Procedure provides direction for the production of radioactive and non-radioactive ceramic pellets for the Plutonium Immobilization Project. Procedure provides chemicals used (oleic acid) specific processes and specific radioisotopes used during hot ceramic slurry spiking.
TRU-SPO-11.9-0707200438880	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	Procedure used by PIP to measure ion concentrations with a specific ion electrode.	RPL-PIP-3 / Rev 0	WS6, WS12, WS10,	All	Procedure describes methods to measure pH, fluoride, and chloride of radioactive samples with ion-specific electrodes. Procedure describes waste materials and chemicals that may be in the waste: KCl, NaCl, Kim Wipes, squirt bottles, acetic acid, etc. etc.
TRU-SPO-11.9-0707200439209	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	PNNL	RPL-PIP-4 / Rev 2 and 3	WS6, WS10, WS12	2-11	PNNL operating procedure which describes the process for mounting radioactive and non-radioactive solid and

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							powdered samples form the Pu Immobilization Project and other Projects. Describes chemicals used and waste form: ethanol, propanol, tape, rags, etc. etc.
TRU-SPO-11.9-0707200439457	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	PNNL	RPL-PIP-5 / Rev 0	WS6, WS10, WS12	All	Procedure provides direction in how to measure release rates from radioactive materials into aqueous systems. Describes chemicals used and waste form: pipettes, thermometers, ultra high purity nitric acid, acetone. Directs user to discard rinsate, sodium hydroxide solution and used solvent.
TRU-SPO-11.9-0707200439643	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-1 / Rev 1	WS6, WS10, WS12	2-4	Procedure provides instructions for density, porosity, and specific gravity using gas pycnometery and geometric measurements. Describes potential waste materials and waste forms: approved solvent, moistened towels, Kodak Photoflo, etc. etc.
TRU-SPO-11.9-0707200446123	Geometric Density Determination of Consolidated Solids	R. D. Scheele	PNNL	APEL-PIP-2 / Rev 3	WS6, WS10, WS12	2-5	Procedure provides direction in the measurement of the dimensions and geometric densities of candidate

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RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
							plutonium immobilization forms prepared for the Plutonium Immobilization Project. Procedure describes potential waste forms and chemicals used / discarded.
TRU-SPO-11.6-0707200446381	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	PNNL	APEL-PIP-5 / Rev 2	WS4, WS6, WS10, WS12	2, 3, 4,	Procedure provides direction for polishing or size reducing radioactive or non-radioactive materials for the Plutonium Immobilization Project as well as other programs. Procedure describes potential waste forms and chemicals to be used a discarded.
TRU-SPO-11.9-0707200450552	Profiling Ovens and Furnaces	W.C. Buchmiller	PNNL	APEL-PIP-6 / Rev 0	WS6	2,3	Procedure provides direction in the determination of the temperature profile in ovens and furnaces used by the Plutonium Immobilization Project. Procedure describes potential waste forms that may be generated.
TRU-SPO-11.9-0707200450893	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	Virginia L. LeGore	PNNL	RPL-PIP-SPFT-1 / Rev 0	WS6, WS12	All	Procedure used for packaging and transfer of Single Pass Flow leach Test and Pressurized Unsaturated Flow Leach Test vessels containing Pu- or Pu-238 between labs in the Bldg 325 Radiochemical Processing Laboratory. Procedure describes possible

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							waste form and chemicals to be discarded.
TRU-SPO-11.9-0708200426725	Preparation of No dispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	PNNL	RPL-MAS-NMR / Rev 0	WS12	All	Procedure provides direction in preparing non-dispersible solid monolith samples for Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy experiments. Describes chemicals and materials used in preparation and cleansing.
TRU-SPO-11.9-0708200426986	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	PNNL	RPL-XRD-PIP / 2	WS6, WS12	1.2, 1.3, 1.5, 1.6	PNNL operating procedure for the Scintag Pad-V X-Ray Diffractometer. Describes potential waste item generation points: water form cooling water system; spent x-ray tubes; shielding
TRU-SPO-11.9-0708200427207	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	Edgar Buck	PNNL	GDSP-01-BET / Rev 0	WS4, WS6, WS12	1-5, 7	Bldg 325 operating procedure for the determination of surface area for calcination of release rates for spent fuel flow. Procedure identifies potential waste forms such as: tygon tubing, gas syringes, etc. etc.
TRU-SPO-11.9-0708200427461	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	PNNL	SAL-84-8	WS6	1	Procedure provides direction and safe handling during bag in / bag out operations in a shielded analytical laboratory glove box. Describes potential physical waste

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							forms.
TRU-SPO-11.9-0708200428050	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	PNNL	511-4 / 0	WS2, WS9	2, 3, 14	Procedure used for handling radioactive samples in Room 511 of Bldg 325. Procedure states instrument may be calibrated using Cs-137, Am-241 or Co-60.
TRU-SPO-11.9-0708200428240	Operation of Single Pass Flow Through Experiment	D.M. Wellman	PNNL	RPL-PIP-SPFT / Rev 1	PR4, WS4, WS6, WS9	2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14	Procedure describes the operation of the Single Pass flow Through experiment used to test radioactive and non-radioactive glass and ceramic materials under pH and temperature specific conditions. Procedure described specific radionuclides contained in materials tested, equipment and materials used, and waste forms and chemicals that have the potential to be discarded as waste.
TRU-SPO-11.9-0708200428483	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W. C. Buchmiller	PNNL	APEL-PIP-3 / Rev 1	PR3, WS10, WS12	2, 3, 4	Procedure used for density, porosity, and specific gravity measurements of structural properties or ceramic samples. Provides examples of materials used and potential waste forms / chemicals to be discarded: ultrasonic cleaners and water baths, desiccant, Kodak Photoflo

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TRU-SPO-11.9-0708200429257	Gas Pycnometry Method for Apparent Specific Gravity Determinations of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-4 / Rev 2	WS6, WS10, WS12	2, 3, 4	Procedure used for density and specific gravity determination in a fume hood. Describes potential waste forms and chemicals used.
TRU-SPO-11.9-0708200429446	Response to Vacuum Alarms in RPL Glove boxes and Use of RPL Glove box Airlock	R.D. Scheele	PNNL	RPG-94-1 / Rev 1	WS2	2	Procedure describes responses to vacuum alarms in RPL glove boxes and the use of the RPL glove box airlock. Describes specific area where waste mat be generated.
TRU-SPO-11.9-0708200429642	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	PNNL	325-A-20 / Rev 0	WS11	6, 7, 8, 9	Describes the use of 4-gallon and 5-gallon cans. Waste packaged in inner can was covered with lid and placed in outer can. Cans may have been packed with lead shielding.
TRU-SPO-11.9-0708200429856	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	PNNL	RPL-PIP-SPFT-3 / Rev 0	WS5	3, 4, 5, 6	Procedure describes direction in the installation of in-line back flow preventors and/or in-line isolation valves on the Single Pass Flow Through systems and the performance of minor syringe pump maintenance.
TRU-SPO-11.9-0708200430448	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste			WM1	PR5, WS6, WS12	1.3-1.7	Describes hazards associated with radiological exposure, contamination and chemical contact. Describes packaging procedure in which waste bagged out of hoods were

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							double bagged
TRU-SPO-11.9-0708200431008	Transmittal of Variance RAD-00006	R. D. Scheele	Battelle	RAD-00006	WS4, WS5, WS9	All	Provides description of needed variance allowing radionuclide limits to be exceeded in order to perform bench top experiments on ceramic Pu and U immobilization forms.
TRU-WST-11.4.3-1017200543795	Data Quality Objectives Summary Report for D&D Waste Characterization of the 300 Area Buildings	R. A. Thoren	CH2M Hill Hanford, Inc	BHI-01750 Rev. 0	PR3, WS9, WS10	All	Provides site background. Indicates radionuclides in the waste stream. Discusses hazardous constituents.
TRU-SPO-11.9-0708200431216	Past Practices Technical Characterization Study-300 Area- Hanford Site	M. S. Gerber	Westinghouse Hanford Company	WHC-MR-0388	PR2, PR3, WS2, WS9, WS12	137, 138, 140, 141	Describes facility history and configuration of high-level radiochemistry annex, original mission to support REDOX, and subsequent missions including bismuth phosphate process, radioactive lanthanum development, tritium production and plutonium chemistry. Describes particulate radionuclides that may be present in waste including I-131 and 132, Curium (Cm)-144, ruthenium-103 and 106, Sr-90 and Y-90
TRU-SPO-11.9-0708200431435	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D. I. Weyns-Rollosson,	Westinghouse Hanford Company	WHC-SA-2772-FP	PR3, PR4, PR5,	4, 5, 6, 7, 8, 9, 10	Provides defense link by stating solid radioactive waste generation at Hanford was

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		J.A. Pottmeyer, T.J. Stratton			WS6, WS10, WS8, WS12		coincident with defense materials production initiated in 1944. Provides date (1974) as to when waste was separated per waste type. Describes design of steel and reinforced concrete burial containers. Color coding of drums to separate waste type. Hood wastes considered highly contaminated with Pu. Solid wastes segregated by color, combustible/non-combustible and hood/room waste. Describes when multiple containment layers (1978) and two containment layers for asbestos (1980) contaminated waste requirements were instituted. 1981 horse tailing of liners was instituted. 1978 to 1984 fill volume was not to exceed 80%. In 1987 exemption for packaging of HEPA filters was granted Documents the use of filler such as diatomaceous earth, soil, sand lava, etc. States wastes containing Class B poisons such as mercury, etc. were packed in double

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							containment. In 1992 PNNL packaged metallic mercury in poly or glass bottles with screw type lids. Restriction on unreacted alkali metals. Restriction on packaging corrosives with combustibles after the 1960's. In 1984 neutralization of corrosive waste was instituted. Tritiated waste was absorbed on silica gel and packaged ion to leak-tight metal cans.
TRU-SPO-11.9-0708200435233	Safety Analysis Report for 325 Building	Pacific Northwest Laboratory	Pacific Northwest Laboratory Richland, Washington	PNL-7748	PR1, PR2, PR4, PR7, WS4, WS5, WS9, WS10, WS12	1.1, 2.1, 3.1, 3.2-3.4, 4.4, 4.6-4.19, 4.19-4.23, 4.33-4.35, 7.3, 7.8, 7.9, A.5, A.11, A.14, B.6, B.15-B.18, B.33, B.89, D.5-D.26, F.3-F.5	Document gives facility description and purpose, location, specific processes by location within the facility, maximum container volume and radionuclide limit of Pu-239, flammable and toxic materials storage locations, relative amounts of At Risk inventory, 10/1989 Chemical Inventory, Expected Radionuclide source terms for resins in ion-exchange columns, Radionulides identified for dose determinations
TRU-SPO-11.4.3-0809200628265	TRU Waste Packaging Requirements and Certification	L.D. Schwartz	PNNL and Waste Management	WHC-EP-0063/RHO-MA-	PR4	All	Document provides an overview of WIPP requirements and how these

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				222/PNL-MA-70/SD-WM-TI-202			requirements are applicable to and are satisfied by the Hanford TRU Waste Certification Program
TRU-SPO-11.9-0708200436028	Characterization of Past and Present Waste Streams from the 325 Radiochemistry Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	Westinghouse Hanford Company, Richland Washington	WHC-EP-0696	PR1, PR2, PR4, PR6, PR7, WS2, WS3, WS5, WS9, WS12	All	Document provides a location of the Bldg 325 Radiochemistry Lab, descriptions of historical and current TRU waste generating operations, map of the Hanford site, types and quantities of TRU waste generated including historical and future projections, correlation of waste streams generated and description of time generated, etc. etc.
TRU-SPO-11.9-0708200438206	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	Battelle Pacific Northwest Laboratories, Richland, WA	PNL-MA-661	PR2, WS2, WS4, WS5, WS9, WS12	Iii, B.1, C.1, 2.5, 4.5, Appendix A	Document lists specific process locations, chemical inventories, and specific waste generating processes
TRU-SPO-11.9-0708200438712	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	Pacific Northwest National Laboratory, Richland, WA	DOE/RL-92-35 / Rev 1	PR1, PR2, PR3, PR4, PR5, PR7, PR8, WS2, WS4,	All	Contains treatment options (i.e. molten salt destruction, chlorination, etc.), liquid waste management, Hazardous Waste Treatment Unit description, EPA codes, hazardous material release scenarios and emergency response, facility mission and

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
					WS5, WS9, WS10, WS12		location, HWTU waste analysis plan , and facility hazard characterization
TRU-SPO-11.9-0708200439517	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	Waste Management Federal Services, Inc.	HNF-EP-0649	PR1, PR2, PR3, PR4, WS6	2-2, 3-2, 3-10, 3-14, 3-19, 6-2	Document provides maps of the Hanford Site. Document characterizes the 618-11 solid waste burial ground, the wastes generated at Hanford, and describes the facilities and activities that generated the wastes.
TRU-SPO-11.4.3-0414200630007	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington	PNL-10743 AD-940	PR3, WS5, WS6, WS10, WS12	1.1, Chapters 2, 3, 7 Pg 7.3	Document provides a detailed description of Hanford's solid waste system including treatment, storage and disposal strategy for managing Hanford's solid low-level waste, low-level mixed waste, TRU and TRU mixed waste and greater than Class III waste.
TRU-SPO-11.9-0708200440020	Analytical Chemistry Laboratory Manual	W.L. Delvin	Hanford Engineering Development Laboratory, Richland WA	MG-28 / Rev 2	WS5	30.0.1-30.8.12, 40.0.1-40.19.9, and 50.0.1-50.3.16	Compendium of Hanford Engineering Development Laboratory analytical methods. These analytical methods were used for analysis of mixed oxide Uranium-Plutonium fuels. They were grouped into three categories: 1) analytical methods to detect the

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							composition of the U/Pu MOX fuels; 2) analytical methods to detect the impurities in the U/Pu MOX fuels; 3) analytical methods to determine the physical characteristics of the MOX fuels.
TRU-SPO-11.9-0708200440354	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	Fluor Hanford	HNF-EP-0063 / Rev 8	PR3, PR4, PR5, PR8	All	Describes solid waste acceptance criteria for the: Central Waste Complex; T Plant Complex; Waste Receiving and Processing Facility
TRU-SPO-11.4.3-080920627933	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	R. Clinton	Fluor Hanford	HNF-3461 / Rev 7	PR1, PR2, PR4, PR6, PR7, PR8, WS2, WS3, WS4, WS9	All	Contains waste management program information for defense-related, retrievably stored, contact-handled TRU and TRU mixed wastes at the Hanford Site. Historical and current Site information is presented relative to Site location, description, mission, and waste certification procedures.
TRU-SPO-11.9-0708200440649	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers.	PNNL	PNNL-13341	WS4, WS6, WS12	1-32	This report describes the testing performed on KE Basin consolidated sludge samples by PNNL in May through November, 1999. Report provides potential waste forms and chemicals

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							used and also describes waste generating processes.
TRU-SPO-11.9-0708200441084	Organic Analysis Progress Report FY 1997	S. A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL	PNNL-11738	WS4, WS6, WS10, WS12	All	Report describes work performed on the optimization of analysis techniques for identifying organic components in Hanford waste tank samples by PNNL during FY 1997. Document provides potential waste forms to be discarded as well as chemicals used during the analytical process.
TRU-SPO-11.9-0708200441405	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas,	CH2M Hill Hanford Group and PNNL	PNNL-13364/WTP-RPT-007 / Rev 0	WS4, WS9, WS10, WS12	All	Document provides analytical results of C-104 Tank waste which included cadmium, chromium mercury and lead in amounts greater than regulatory limits.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
		T.L. Trang-Le, M.W. Urie, J.J. Wagner					
TRU-SPO-11.9-0708200447679	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL	PNNL-12157	WS2, WS4, WS9, WS10, WS12	All	Document was prepared to meet DOE Order 5400.i and other Environmental Protection Agency programs. Document provides chemical usage, areas in which chemicals will be used and waste generating processes.
TRU-SPO-11.9-0708200448468	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M. W. Urie	Bldg 325 Operations / Criticality Safety Organization	CSS 325-1 / Rev 4	WS9	1, 2	Document provides a variance to existing Criticality controls in Bldg 325 glove box 283. Also provides a description of what radionuclides are allowed in a specific area.
TRU-SPO-11.9-0708200448678	MSDS for commercial products	Various	N/A	N/A	WS12	All	Material Data Safety Sheets form various manufacturers of various commercial chemicals products used in Bldg 325.
TRU-SPO-11.9-0706200430656	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel	N/A	N/A	PR2, PR5, PR4, PR7 WS1, WS6, WS8, WS9, WS10, WS12	All	Includes individual Solid Waste Disposal Records, Contents Inventory Sheets, and Waste Acceptance Criteria checklists for the TRU debris generated from Bldg 325

Site: Hanford							
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris							
Waste Stream/Waste Stream Lot Number: RLM325D							
RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
TRU-SPO-11.9-0706200426745	Solid Waste Information Tracking System (SWITS)-Container Assay Data Dump for the Building 325 Radiochemistry Laboratory	N/A	N/A	N/A	PR7, WS3, WS9	All	Radionuclide data dump from Hanford's Solid Waste information System for Building 325 containers stored at the Central Waste complex.
TRU-SPO-11.9-0706200427171	Notes on Waste Stream Descriptions for Pu oxide characterization studies	Cal Delegard	PNNL	PNNL-325	PR2, WS4, WS5, WS9, WS10, WS12	1, 2, 4, 5	Describes analytical methods used for characterization of Pu oxide in MOX. Identified chemical content of oxidized samples – includes 0.5% hexavalent chromium. Describes expected amount of Pu oxide generated after leaching. Describes expected waste form output. Provides flow diagram of analytical process.
TRU-SPO-11.9-0818200640189	AK Summary -Record of Communication Interview with Gary Lanham and Stan Bos	Mike Conilogue / Molly Anderson	AK	N/A	WS4	All	Documents Record of Communication between AK Engineer and Bldg 325 operators which involves the use of heat sealed bags in bldg 325 during a time frame between 1983-1987.
TRU-SPO-11.9-0818200639640	AK Summary – AK Source Document Deficiency / Use of Heat Sealed Bags	M. Conilogue	AK	N/A	WS4	All	Documents and resolves deficiency between Record of Communication of Wayne Larsen (TRU-SPO-11.4.3-0701200463325) and Record Of Communication of Gary Lanham (TRU-WST-11.4.3-

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
							1219200555145) regarding the use of single heat sealed bags in Bldg 325. Deficiency resolved by re-interviewing Gary Lanham (TRU-SPO-11.4.1-0816200647976) on 8/3/06 and also Stan Bos (TRU-SPO-11.4.1-0816200648116) on 8/15/06, both of which confirmed the use of single heat sealed bags in Bldg 325 for a time period of 1983-1987.
TRU-SPO-11.4.3-0606200628721	Hanford Site Transuranic Waste Certification Plan		Fluor Hanford	HNF-2600	PR8	All	Document controls certification activities for TRU waste at the Hanford Site that will be sent to the WIPP for disposal.
TRU-SPO-11.4.1-1026200645819	Record of Communication	M. Conilogue	AK	N/A	WS4	All	Heat-sealed bags used in the 325 Facility were five feet in length and typically 8" in diameter.
TRU-SPO-11.9-0828200638735	325 Facility Debris Waste Stream Designation	M. E. Lakes	Waste Services/ Hanford	N/A	WS1	All	Provides hazardous waste characterization rationale and designation based upon chemical inventory in the Building 325 Facility. Attachments such as MSDS's, etc. provide supporting documentation.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.3-0423199947115	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	M.S. Gerber	Fluor Daniel Hanford	HNF-EP-0924	WS2, WS3	9-7	PFP project and process descriptions including photographs
TRU-SPO-11.4.3-0606200628302	Hanford Site Transuranic Waste Quality Assurance Project Plan		Fluor Hanford	HNF-2599	PR5	All	Document controls transuranic waste characterization activities at the Hanford Site for waste that will be sent to WIPP for disposal.
TRU-SPO-11.9-0919200631754	35 FR 17530-17533, 52 FR 5992-6001, 53 FR 17709, 58 FR 12342-12347, 58 FR 64783, 59 FR 10439	United States Government	United States Government		WS4	All	Provides history of the decision making process by which waste incidental to the reprocessing of spent nuclear fuel can be designated as TRU / LLW using the Citation process and/or the Evaluation process as explained in Notice of Proposed Rulemaking 34 FR 8712
TRU-SPO-11.9-0906200639182	Low Level or Transuranic Waste Classification of Hanford Tank Waste Sample Test Residues	T.L. Moore		99-WPD-219, Rev 0	PR5	All	Documents the classification of Hanford tank sample residues as not high-level waste by listing / satisfying the three requirements of the Evaluation process.
TRU-SPO-11.4.5-	AK Source Document	M. Anderson	Fluor Hanford	Document Deficiency	WS4	All	Document presents the resolution to CCP issued

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
0914200649458	Deficiency			# 009			NCRs resulting from Central characterization Program (CCP) characterization of Hanford waste containers.
TRU-SPO-11.4.1-1025200656684	Record of Communication	M. H. Conilogue	N/A	N/A	WS4	All	5-gallon paint cans are typical of those found in any paint supply store. Lids were fastened using either a screwdriver or crimper. Four-gallon slip lid cans were fastened with no tape; cross taped; or cylindrically taped
TRU-SPO-16-0630200149652	Transuranic Waste Baseline Inventory Report	DOE	DOE	DOE/CAO-95-1121, Rev. 2, Dec 1995		All	Establishes the methodology of grouping wastes of similar physical and chemical properties into waste profiles. Provides currently stored and projected contact handled and remote handled TRU mixed and non-mixed waste volumes throughout the DOE complex.
TRU-SPO-11.4.3-1013200649581	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-220-0001-00, -01, -02, -03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200649840	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-01, PNNL-230-0001-02	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement

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Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-1013200650165	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0002-03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.10-1030200634971	Acceptable Knowledge Reevaluation Checklist RLM325D	TRU AK Program	Fluor Hanford	N/A	WS10	All	PNL-186034 [D7203158] & BP-188024 [D7197756] have been assigned EPA Hazardous Waste Number's (HWN's) D001 & D002. Container # BP-191004 [D198014006] has been assigned HWN D002 and Washington State Waste Toxicity Number WT02. The Waste Stream Designation and Acceptable Knowledge does not agree with nor attach these Waste Numbers. This reevaluation provides rationale removing these HWN's, direction to repack PNL-186034 to facilitate removal of the D002 HWN and the rationale to remove Washington State Toxicity Waste Number from Container # BP-191004

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0906200638861	DOE Manual 435.1, Radioactive Waste Management	Office of Environmental Management	Department of Energy	DOE M 435.1-1	PR5		Describes both the Evaluation Process and Citation Process which waste incidental to reprocessing may be classified as non-high level waste.
TRU-SPO-11.9-0630200449685	Nuclear Waste Policy Act	DOE	Department of Energy	42 U.S.C 10141	N/A	N/A	Act provides for the development of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, including establishing a program of research, development, and demonstration regarding the disposal of high-level radioactive waste and spent nuclear fuel.

Figure 1 – Location of Hanford Site

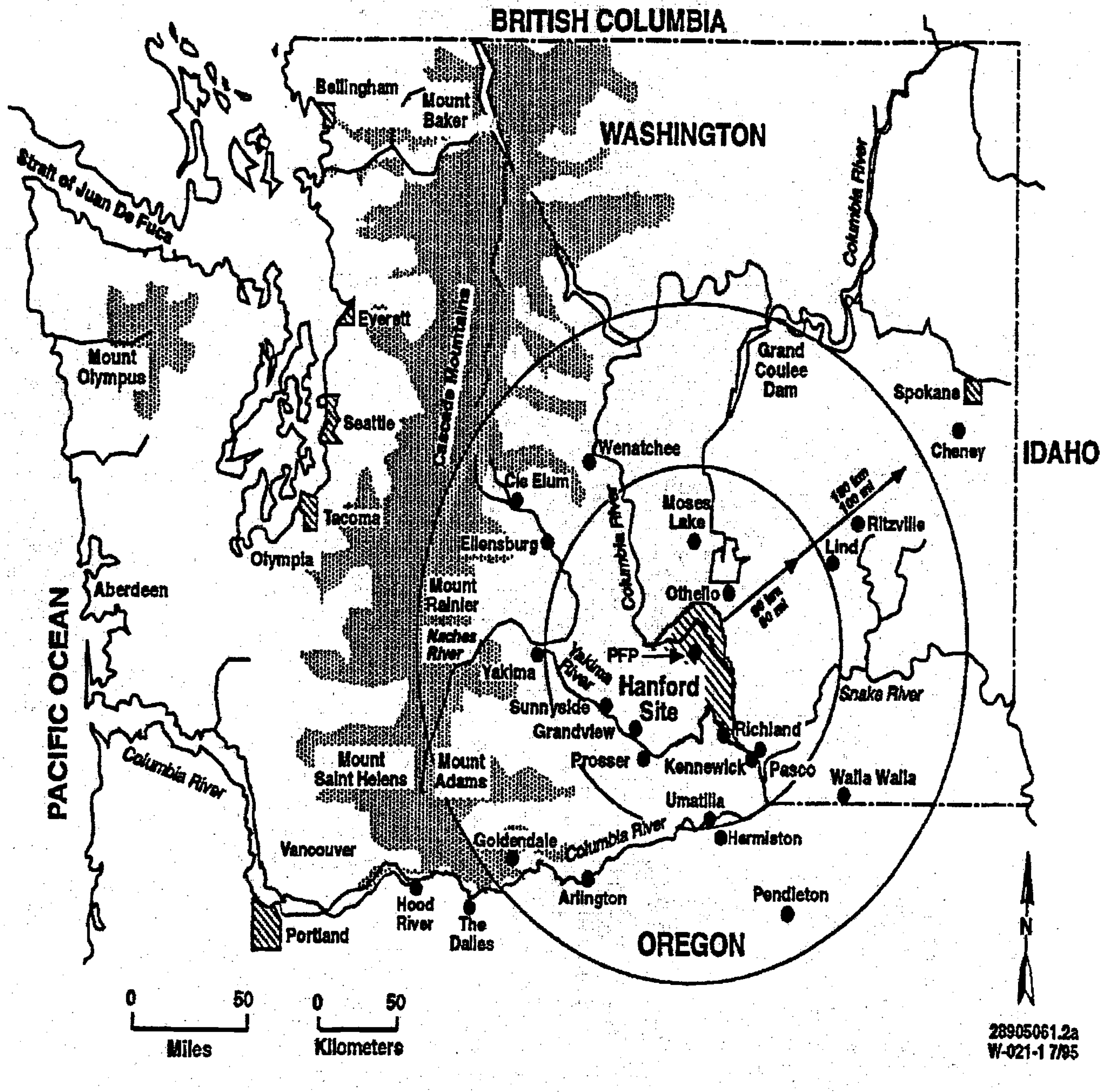
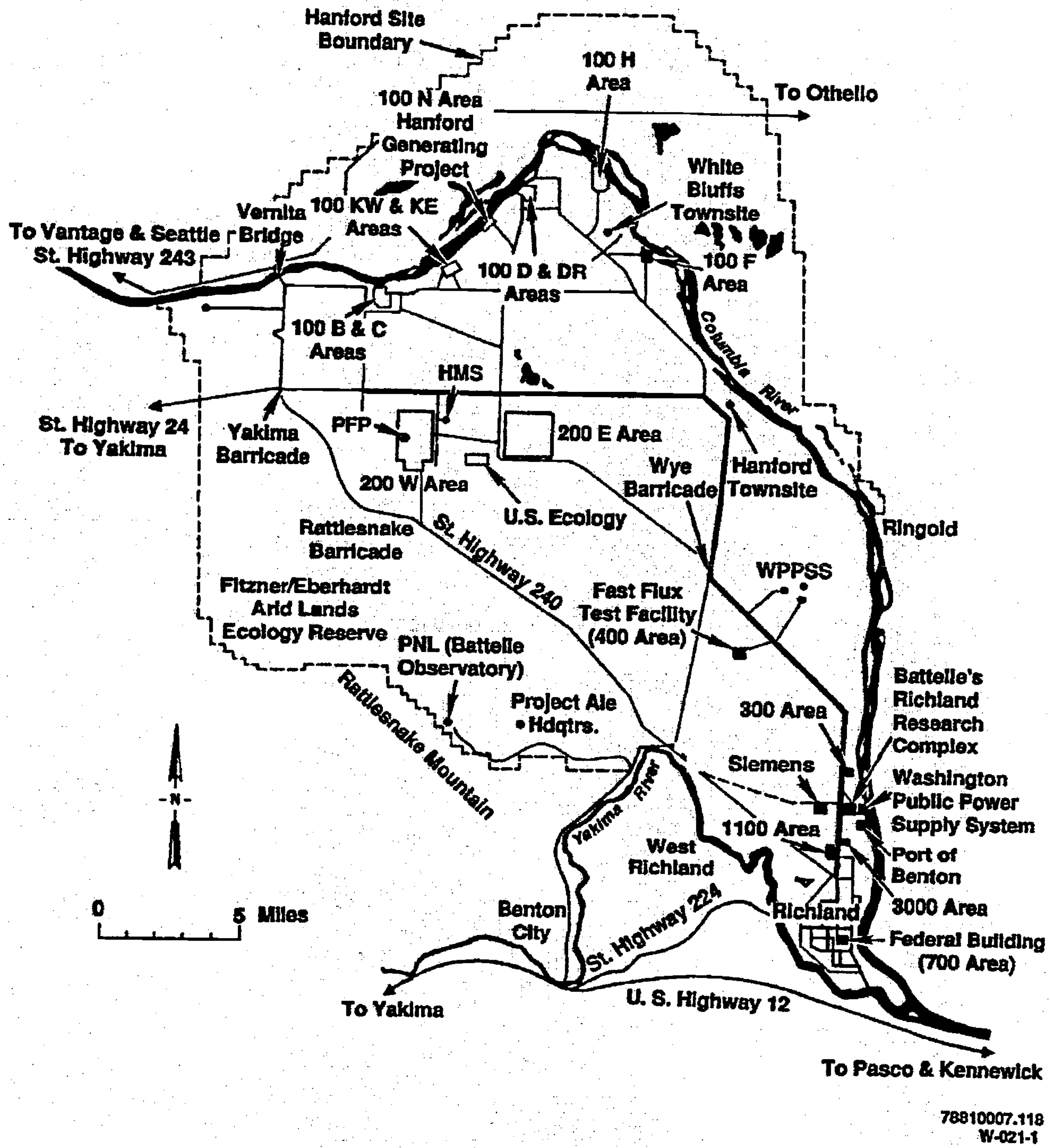


Figure 2 – Location of Major Areas at the Hanford Site



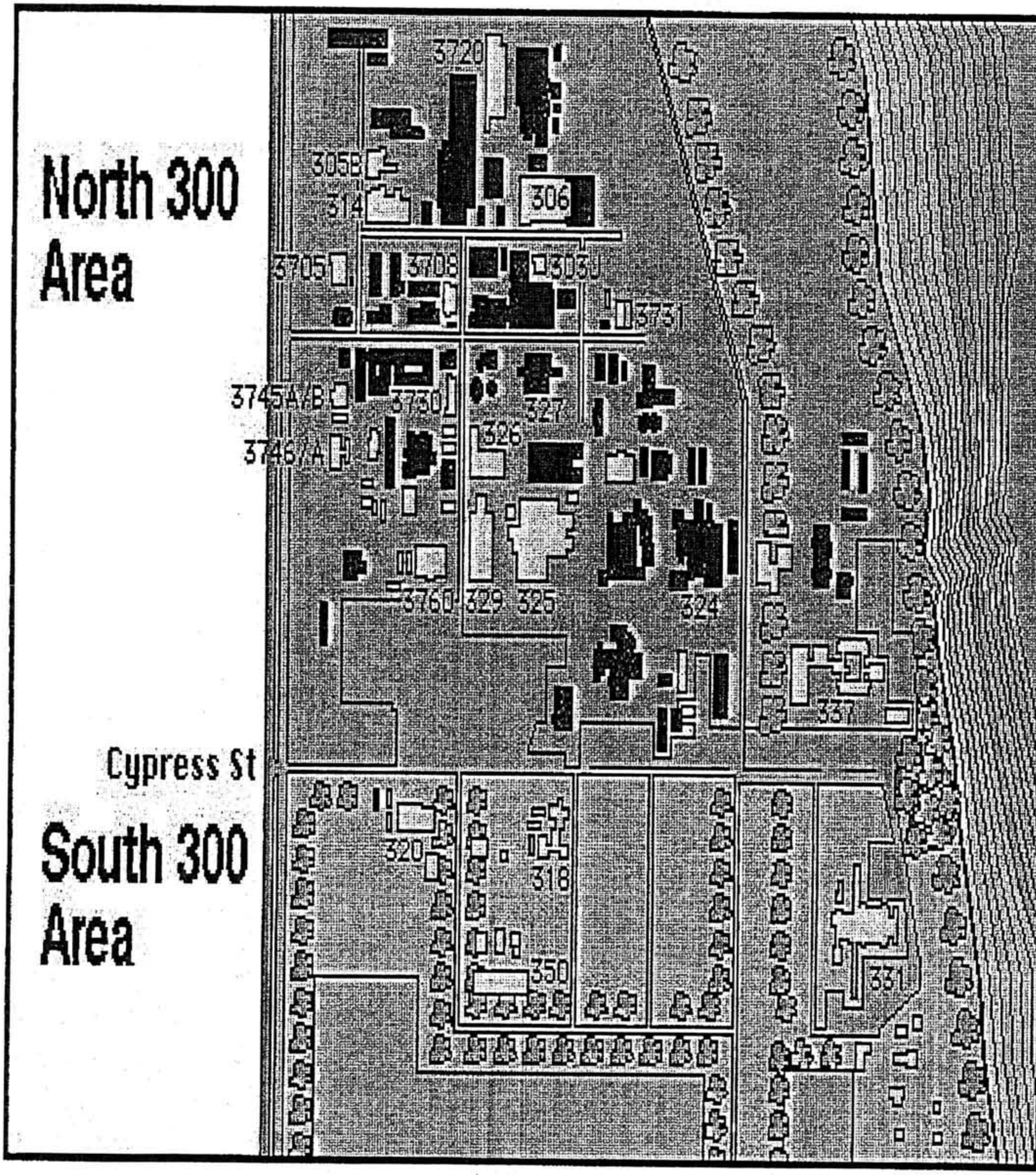
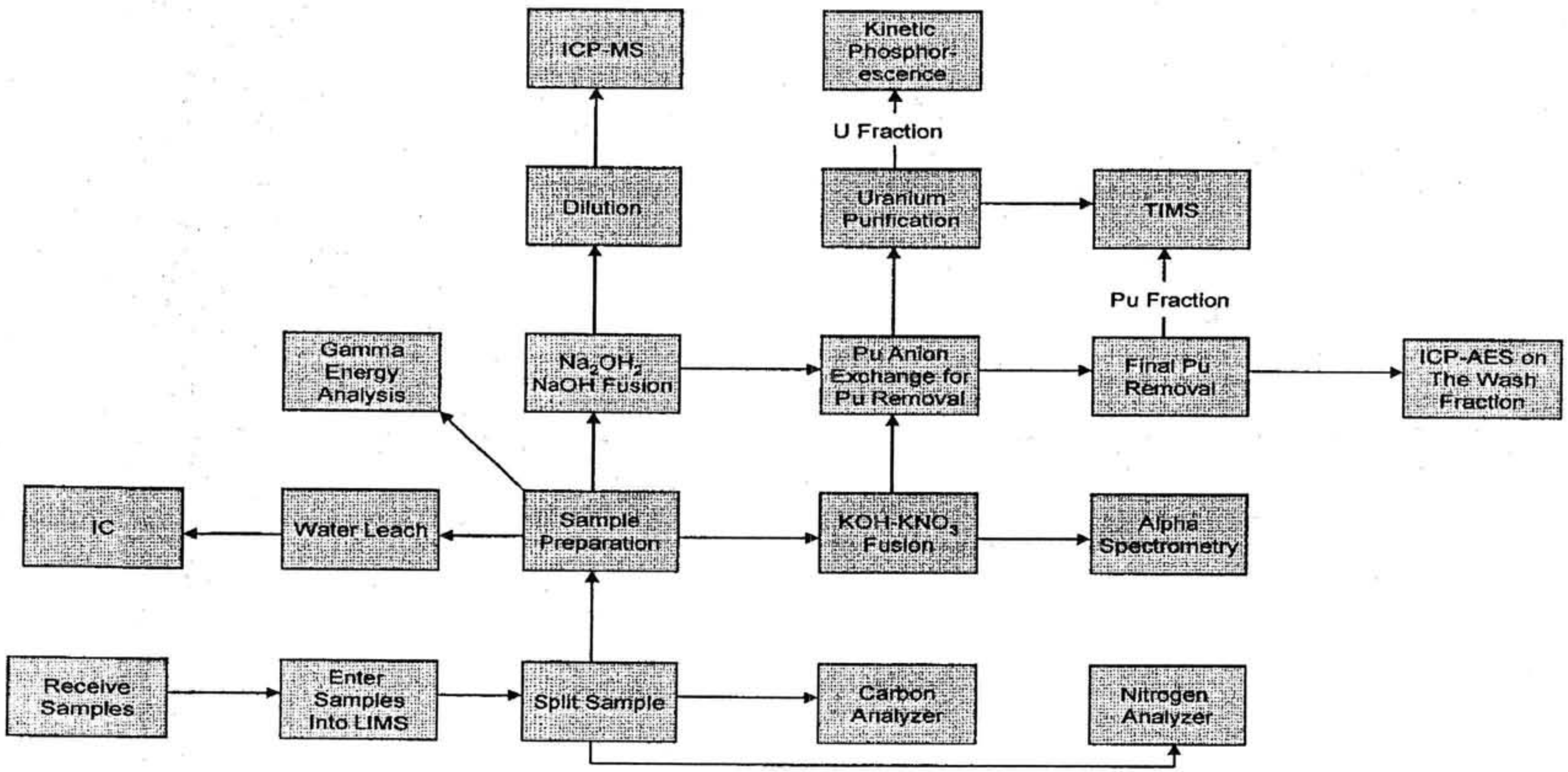


Figure 3 – 300 Area Layout

Figure 4 – Typical Laboratory Analysis Flow



Calendar for August 2011 (United States)

August						
Sun	Mon	Tue	Wed	Thu	Fri	Sat
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
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INFORMATION CLEARANCE FORM

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B. Document Number HNF-30810, Rev. 1

C. Title
Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

D. Internet Address

E. Required Information (MANDATORY)

1. Is document potentially Classified? (●) No ( ) Yes

Kurt McDonald K.M. McDonald
Manager Required (Print and Sign)

If Yes ______
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2. Official Use Only (●) No ( ) Yes Exemption No. ____
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A-6001-401 (REV 1)

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Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D	
Document Number: HNF-30810	**Revision/Change Number:** 1

DOCUMENT TYPE *(Check Applicable)*

☐ Plan ☒ Report ☐ Study ☐ Description Document ☐ Other

DOCUMENT ACTION ○ New ⦿ Revision ○ Cancellation

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NOTE: Provide a brief description or summary of the changes for the document listed.

Document revised throughout to incorporate changes resulting from recent WIPP hazardous waste permit modifications and from CBFO review and approval of waste stream profile form and AK summary.

REVIEWERS Others

Name *(print)*	Organization
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APPROVAL SIGNATURES

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HNF-30810
Revision 1

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management
Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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HNF-30810
Revision 1

Acceptable Knowledge Document for the 325 Building Radiochemistry Laboratory Mixed Debris Waste Stream, RLM325D

Document Type: TR Program/Project: TRU PROGRAM

M. H. Conilogue
Fluor Hanford, Inc.

Date Published
July 2007

Prepared for the U.S. Department of Energy
Assistant Secretary for Environmental Management

Project Hanford Management Contractor for the
U.S. Department of Energy under Contract DE-AC06-96RL13200

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J. D. Aardal 07/17/2007
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After 1980, the hot cells were used for materials characterization associated with leach testing of vitrified wastes, spent nuclear fuel examination, post-irradiation examination of the boron thermal shield from N Reactor, and characterization of neutralized cladding removal waste. Waste solidification tests were performed in A-Cell and other work in support of the Nuclear Waste Vitrification Project (NWVP) were performed in the A-, B- and C- cells from 1977 to 1980.

In the late 1980s, operations to characterize tank waste began and continued through the 1990s. Many of the sampling and analytical techniques used for tank waste characterization at the Hanford Site were developed by the 325 Building personnel. Other radiochemical work conducted in the cells included tests of fuel for iodine control, uranium dissolution methods for N Reactor, and experiments in strontium recovery. Analyses of fuel and mixed oxide (MOX) materials using electrochemical, spectrophotometric, and physical tests were performed in the 1980s and continued into the early 1990s. The studies associated with leach testing of immobilized Pu-containing waste forms, tank waste characterization, and ion-exchange were conducted in the Shielded Analytical Laboratory and the A- and B-Cell from the mid 1980s to the beginning of 2000. In addition, the 325 Building has been operated as a Treatment Storage and Disposal (TSD) facility since 1993 and has operated as part of an overall Hazardous Waste Treatment Unit (HWTU) for the Hanford Site since that time [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240. TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0708200427207, TRU-SPO-11.9-0708200428050, TRU-SPO-11.9-0708200428240, TRU-SPO-11.9-0708200428483, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200429856, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200440020]

2.4 Waste Generating Process

Over its operational history, the 325 Building has supported a wide range of activities and projects. Due to the number and nature of the specific projects conducted, development of a comprehensive process flow diagram is not feasible; however, process inputs and waste stream specific outputs are described in this document. The following processes contributed to this waste stream. Figure 4 provides a typical process flow involved in characterizing a specific waste form (i.e., mixed oxide materials).[TRU-SPO-11.9-0706200427171]

The 325 Building houses several laboratories and hot cells (used for high activity samples containing fission products). The laboratories are furnished with hoods and glove boxes designed for handling radioactive materials. Hot cells are used for examination of radioactive materials, including those associated with leach testing of vitrified wastes from the tank farms, spent nuclear fuel and characterization of neutralized cladding removal waste, and post-irradiation examination of the boron thermal shield from N Reactor.[TRU-SPO-11.9-0708200431216, TRU-SPO-11.4.3-0613200740651, TRU-SPO-11.4.3-0613200440171, TRU-SPO-11.4.3-0613200740388]

The 325 Building housed, and continues to house, a wide range of laboratory and research and development projects at the Hanford Site. Examples of the types of projects supported include: TRU-SPO-11.4.3-0613200740651, TRU-SPO-11.4.3-0613200440171, TRU-TS-11.4.2-0503199943148, TRU-SPO-11.4.3-0613200739512, TRU-SPO-11.4.3-0613200739801, TRU-SPO-11..4.3-0613200740836

- isolation and separation of plutonium and other radionuclides (including tritium, Am-241, Pu-239, Cm-244, Cs-137, Sr-90, and Pm-147) from irradiated fuel and target materials

- evaluating the chemical durability of ceramic, glass, and cemented monolithic waste forms
- evaluating and testing physical properties and pretreatment and vitrification of tank waste
- characterization leach testing of waste glass and spent fuel
- performing spent nuclear fuel characterization and performance testing
- process control studies for plutonium recovery
- supporting decontamination and decommissioning (D&D) activities across the Hanford Site.

Operations in the 325 Building can be divided into two general types: laboratory operations and hazardous waste treatment operations. These operations will be described separately in the following sections.

2.4.1 Laboratory Operations

Laboratory operations performed at the 325 Building encompassed four broad areas of activity: sample preparation, analytical operations, process development support (research and development), and general laboratory operations (i.e., maintenance, radiological surveys and control, and spill cleanup).

A wide range of samples and waste materials are evaluated in the 325 Building. Samples are accompanied by an internal documentation form that provides waste characterization information from the sample generating unit. Chemical characterization provided in these forms is based on previous chemical analysis and/or process knowledge.[TRU-SPO-11.4.3-0612200739127]

Typical debris waste items from laboratory operations include stainless steel vessels, Teflon gaskets, glassware, wipes, plastic, sample residues, thermometers, glovebox gloves, and hand tools (such as tweezers and forceps). Laboratory operations generate liquid waste that may be highly acidic and/or contain a high level of chlorine. This liquid waste is neutralized, and heavy metals that may be present are precipitated as hydroxides and are filtered from the solution. Chlorine, if present above 0.01 M limit, may be removed through silver nitrate precipitation. The liquids thus treated are then discharged to the Radioactive Liquid Waste System (before 1998) or the 325 Building Hazardous Waste Treatment Units (after 1998), as described below. Organic waste is segregated from the aqueous waste prior to neutralization to minimize treatment requirements.[TRU-SPO-11.9-0707200431874, TRU-SPO-11.9-0707200432171, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0706200427171, TRU-SPO-1.9-0707200438880, TRU-SPO-11.9-0708200441405, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-0707200437869]

2.4.1.1 Sample Preparation

Sample preparation includes a variety of activities preparatory to the actual examination of samples. These steps may include:[TRU-SPO-11.9-0707200431874, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0706200427171, TRU-SPO-1.9-0707200438880, TRU-SPO-11.9-0708200441405, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200426725]

- sample fabrication (for example, coring a mixed oxide pellet and then washing the core in deionized water)
- sample dissolution (dissolving the sample in hot, acid solutions (such as nitric, hydrofluoric, or sulfuric acid))
- sample mounting/cleaning (which may involve mounting the sample specimen using a combination of clay, paper and a weak adhesive and drying/cleaning the sample) with an organic solvent (e.g., ethanol, propanol, or acetone)
- pyrohydrolysis to remove fluoride and chloride from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets.

2.4.1.2 Analytical Operations

Analyses conducted at the 325 Building involved a variety of standard methods, including the following (note that chemicals identified as being used in the process are listed in parentheses): TRU-SPO-11.9-0707200432171, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0708200440020, TRU-SPO-0707200439457

- inductively coupled plasma-mass spectroscopy (ICP-MS) - used for bulk elemental chemical analysis of any material or substance (including water, biological materials, inorganic materials, environmental samples, and geological samples)
- inductively coupled plasma-atomic emission spectroscopy (ICP-AES) – used to determine trace elements in matrices (including unfiltered ground water, aqueous samples, toxicity characteristic leaching procedure (TCLP) and EP (extraction procedure) extracts, industrial and organic wastes, soils, sludges, sediments, and other solid wastes) following digestion (e.g., dissolution in nitric acid) prior to analysis
- kinetic phosphorescence – used to determine uranium and lanthanides in various matrices following digestion (e.g., dissolution)
- thermogravimetric analysis-mass spectrometry (TGA-MS) – used to simultaneously determine the change in weight of a material (either as a function of increasing temperature or isothermally as a function of time) and the identity and concentrations of vapors generated during heating
- coulometric titration of plutonium and uranium – used to measure plutonium and uranium concentrations in solution by measuring the concentration of specific ions using a constant electrical current flowing through the solution (hydrochloric acid)
- amperometric titration of plutonium – used to measure plutonium concentrations in solution by means of titration in which the equivalence (end) point is identified through measurement of an electric current (nitric acid, mercury, and silver oxide)
- thermogravimetry – used to measure the oxygen-to-metal ratio of plutonium and uranium oxides
- thermal ionization mass spectrometry (TIMS) – used to measure the isotopic abundances of plutonium and uranium in uranium oxide and nitrate, plutonium oxide powder and nitrate, and mixed oxide (to separate Pu and U - nitric acid, ammonium sulfate, and ion

exchange resins; to prepare the heating filament – acetone, toluene, isopropyl alcohol, and benzene)

- potentiometric titration – used to determine the concentration of uranium in uranium oxide powder and pellets, mixed oxide powder and pellets, and uranyl nitrate solutions (phosphoric acid, sulfamic acid, potassium dichromate titrant)
- ion-selective electrode measurement – used to quantify the concentration of fluoride removed from uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- constant current coulometry – used to quantify chloride and water uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- spectrophotometry - used to quantify chloride and tungsten in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (depends on the ion to be detected, for example mercuric thiocyanate for chloride; hydrochloric acid, hydrofluoric acid, and nitric acid for tungsten)
- gas chromatography – used to quantify the amount of carbon in uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets
- Kjeldahl spectrophotometry – used to quantify the amount of trace nitrogen (as nitride) in uranium oxide and mixed oxide powder and pellets (hydrochloric acid, hydrofluoric acid, sodium hydroxide)
- fusion and gas chromatography – used to determine total nitrogen in samples of uranium oxide, plutonium dioxide, and mixed oxide powder and pellets
- combustion and iodometry – used to determine sulfur in samples of uranium dioxide, plutonium oxide, and mixed oxide powder and pellets (hydrochloric acid)
- combustion and turbidimetry - used to determine sulfur in samples of uranium oxide powder and pellets, plutonium dioxide powder, and mixed oxide powder and pellets (hydrochloric acid)
- emission spectroscopy (direct read and photographic) - used to determine impurity elements in samples of uranium oxide, plutonium oxide, and mixed oxide
- emission spectrography – used to determine rare earth elements in samples of uranium oxide, mixed oxide, and plutonium oxide using solvent extraction (hydrofluoric acid, nitric acid, boric acid, hydrochloric acid, methanol, perchloric acid, xylene)
- spark source mass spectrography – used to determine impurities in samples of uranium oxide, plutonium oxide, and mixed oxide
- anion exchange and alpha analysis – used to determine Americium-241 in unirradiated and irradiated samples of uranium oxide, plutonium oxide, and mixed oxide
- gamma spectrometry – used to determine Americium-241 in unirradiated samples of plutonium oxide and mixed oxide (nitric acid)

- vacuum outgassing – used to determine gas content of uranium, plutonium, and mixed oxide in pellet form
- combustion and infrared spectrometry – used to measure carbon and sulfur in samples of uranium, plutonium, and mixed oxide powders and pellets
- modified Brunauer, Emmett, and Teller method – used to determine the surface area of uranium, plutonium, and mixed oxide powders
- sedimentation and x-ray scattering – used to determine particle size distributions of uranium oxide, plutonium oxide, and mixed oxide
- mercury displacement – used to determine the density and open porosity of uranium, plutonium, and mixed oxide as pellets and pellet fragments (mercury, isopropyl alcohol)
- X-ray diffraction – used to obtain various measures (e.g., lattice parameters, crystallite size, residual stress, orientation effects) a variety of solid materials, including metals, nonmetals, inorganic and organic materials in the form of powder, sludge or paste, monoliths, sheets, wires, and other forms
- leach testing – used to determine leaching rates of radioactive and non-radioactive constituents from solid materials (e.g., vitrified waste forms) (nitric acid, sodium hydroxide, solvent for cleaning/drying specimens [for example, acetone, ethanol], hydrofluoric acid)
- ion chromatography – a form of liquid chromatography that uses ion-exchange resins to separate atomic or molecular ions in aqueous samples based on their interaction with the resin

2.4.1.3 Process Development Support

Historically, the 325 Building supported a variety of plutonium recovery and purification processes as used at Hanford. These processes evolved as knowledge was gained throughout the production history of Hanford, and included the following processes (note that chemicals identified as being used in the process are listed in parentheses):[TRU-SPO-11.4.3-0613200740651, TRU-TS-11.4.2-0503199943148, TRU-SPO-11.4.3-0613200739512, TRU-SPO-11.4.3-0613200739801, TRU-SPO-11.4.3-0613200740836]

- Bismuth Phosphate Process (nitric acid, phosphoric acid, hydrofluoric acid, oxalic acid, and sodium dichromate)
- REDOX process (methyl isobutyl ketone, aluminum nitrate, ammonium nitrate, nitric acid, sulfuric acid, and oxalic acid)
- PUREX and Metal Recovery (processes are very similar) (tributyl phosphate, kerosene, nitric acid, oxalic acid, ammonium fluoride, sodium hydroxide, sulfuric acid, and ammonium nitrate)
- RECUPLEX process (tributyl phosphate, carbon tetrachloride, nitric acid, oxalic acid, and hydrofluoric acid)
- PRF process (tributyl phosphate, carbon tetrachloride, dibutyl butyl phosphonate, butanol, kerosene, and phosphoric acid).

In addition, the 325 Building laboratory supported other processes and facilities at Hanford from a research and development standpoint. For N-Reactor, for example, the laboratory supported tests of iodine control during fuel processing for Pu-238 recovery (involving normal paraffin hydrocarbon, nitric acid, mercuric nitrate, silver, aluminum, and elemental iodine) and post-irradiation examination of the boron thermal shield (made of boron carbon steel plate).[TRU-SPO-11.9-0708200431216, TRU-SPO-11.4.3-0613200740651]

2.4.1.4 Maintenance, Radiological Surveys and Control, and Spill Cleanup

Maintenance of the gloveboxes and equipment in the fume hoods resulted in the generation of various types of waste including gloves, damaged/worn out equipment, and filters. The primary constituent of this waste is Hypalon (synthetic rubber) gloves that are replaced from the gloveboxes. These materials were removed from the gloveboxes and packaged for disposal as described previously.[TRU-SPO-11.9-0701200436625]

Routine radiological surveys generated radioactively contaminated cotton swabs and other survey media. Cells were routinely decontaminated to control radiation levels and prevent cross-contamination. Chemicals used during this decontamination included nitric acid, ethanol, acetone, many commercial (non-hazardous) products from the Turco Corporation, and other cleansers.[TRU-SPO-11.9-0708200431216]

Spills occurred throughout the operating history of the facility. Liquids collected from these spills were neutralized, as necessary for corrosive materials (beginning in the late 1970s), and solidified with vermiculite and cement in a 2 to 1 ratio and placed in drums for disposal. In the case of high alpha activity spills, a corn oil mist may be used during clean up to prevent the spread of the alpha contamination. Terry cloth towels are used during spill clean up and are disposed of separately from the solidified liquids.[TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0701200436625]

2.4.2 Hazardous Waste Treatment Operations

Two hazardous waste treatment units (HWTUs) were permitted by the Washington State Department of Ecology in the 325 Building. The 325 Building HWTUs consist of Shielded Analytical Laboratory (SAL) and the HWTU (Figure 5), and began operations in 1991 (SAL) and 1995 (HWTU).

The SAL includes Rooms 32, 200, 201, 202, and 203 (all located on the main floor) and a double-walled tank, TK-1, located in Room 32 in the basement of the building (Figures 6 and 7). The SAL serves two purposes: sample preparation and analyses of mixed waste and highly radioactive materials for various clients and treatment of hazardous waste generated during analytical work within the SAL and potentially from other onsite and/or offsite facilities. Typical analytical operations in the SAL include weighing, sample dissolution, sample dilution and aliquoting, digestion, distillation, titrimetric analysis, solvent extraction, and ion exchange separations. Hazardous waste treatment conducted in the SAL includes pH adjustment, ion exchange, waste concentration by evaporation, precipitation and/or filtration, solvent extraction, solids washing, and solidification and/or stabilization.[TRU-SPO-11.4.3-0612200739127]

The HWTU consists of three rooms, Rooms 520, 524, and 528, located in the northeast corner of the main floor of the 325 Building. Room 520 is limited to treatment of non-radioactive hazardous waste, while Room 528 is used for treating TRU, low-level, and mixed hazardous waste. Within these rooms, wastes are stored in containers ranging from small laboratory glassware to 55-gal. drums. Treatment processes in the HWTU are typically bench-scale operations that are portable and conducted inside open-faced hoods or gloveboxes and involve small quantities of waste in each batch. Treatment process used in the unit include pH adjustment, ion exchange, carbon absorption, oxidation, reduction, waste concentration by evaporation, precipitation, filtration, phase separation, catalytic destruction, and solidification and/or stabilization.[TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200435233]

Waste contributed by HWTU operations to the RLM325D waste stream may include debris items (e.g., glassware, laboratory equipment) and small quantities of solidified liquids. Except for in-tank treatments, hazardous waste treatments performed at the 325 Building HWTUs are generally conducted as small bench-scale operations and may include:[TRU-SPO-11.4.3-0612200739127]

- molten salt destruction
- pyrolysis
- calcination
- chemical fixation, oxidation, precipitation, and reduction
- chlorination
- chlorinolysis
- cyanide destruction
- degradation
- ion exchange
- ozonation
- photolysis
- solvent recovery
- reverse osmosis
- liquid-liquid extraction
- liquid ion exchange

The HWTUs are used to treat hazardous waste materials generated from laboratory operations throughout the 325 Building, and may also be used to treat waste materials from other Hanford facilities, primarily other PNNL facilities. Samples (including tank waste, ground water, and solid matrices) from other facilities are received and analyzed at the 325 Building laboratories; consequently, analytical waste from the analysis of samples from these other facilities is included in waste stream RLM325D. Hazardous waste numbers (HWNs) in waste treated in the HWTUs are enveloped by the HWNs applied to other materials (for example, tank waste samples) processed through the 325 Building laboratories, as described in the RCRA Hazardous Waste Characterization section.

Since the time the HWTUs were established at the 325 Building, materials for processing through the HWTUs were received from other PNNL facilities that performed, and continue to perform, various defense research activities. The majority of the materials are low level waste and will not be part of this waste stream. It is not possible to identify the individual research projects from the facilities that have sent materials to the 325 Building for processing. However, all materials to be processed meet the HWTU Permit requirements for receipt, treatment, and packaging. TRU waste generated from the HWTUs must meet the Hanford waste acceptance criteria, and, per the Hanford waste acceptance criteria, can only contain the HWNs included in the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit Table II.C.4. Typical hot cell analytical processes generate liquid waste that is highly acidic and/or may contain a high level of chlorine. The waste is segregated to minimize treatment needs, and is neutralized. If heavy metals are present in the liquids before neutralization, they are precipitated as hydroxides from the solution during neutralization and are filtered from the solution. Chlorine is removed through silver nitrate precipitation. Therefore, the remaining liquid waste is not ignitable, reactive, or incompatible when transferred to the SAL tank (TK-1). Precipitated metals and other solids are solidified and stabilized before being packaged with the other waste materials in 55-gal. drums. TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200440354

Some of the waste processed through and stored at the 325 Building HWTUs require that the waste be placed into modified (shielded) 55-gal. drums to reduce the radiological hazard of the waste and to be compliant with as low as reasonably achievable (ALARA) criteria. Shielding used may include concrete, lead, or other materials. These drums are modified to contain from 1 gal. to 14 gal. of waste depending on the shielding required. Waste within these containers is packaged in individual 1- to 1.25-gal. containers before placement into the 55-gal. drum. All containers will be screened using radiography to identify sealed containers greater than 4 L and impenetrable objects (such as shielding) and radiological surveys to ensure that the containers meet contact-handled (CH) requirements before certifying the waste for shipment. Payload container shielding will not be used to meet *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122, WIPP-WAC) requirements. TRU-SPO-11.4.3-0612200739127

3.0 WASTE STREAM DESCRIPTION

Analyses performed in glove boxes, fume hoods, and hot cells included a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic and organic debris waste materials. Materials associated with waste packaging include plastic liners and absorbents (e.g., kitty litter, vermiculite, diatomaceous earth). TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0706200430656, TRU-SPO-16-0630200149652

3.1 Defense Determination

The WIPP-WAC requires generator sites to use AK to determine if the TRU waste streams to be disposed at WIPP meet the definition of TRU defense waste. Based on guidance from Department of Energy (DOE), a TRU waste is eligible for disposal at WIPP if it has been generated in whole or part by one of the atomic energy defense activities listed in Section 10101(3) of the Nuclear Waste Policy Act of 1982 (NWPA). Based on the review of AK, TRU waste generated by 325 Building operations are contaminated with materials from atomic energy defense activities conducted in the facility and contaminated with radiological materials examined in the laboratory from atomic energy defense activities for the following activities: TRU-SPO-11.9-0630200449685

- Defense nuclear materials production
- Defense nuclear waste and materials by-products management
- Defense research and development

The historical mission of the Hanford Site was to produce nuclear materials (i.e., plutonium) for defense purposes. As described previously, the 325 Building has provided support to a variety of defense nuclear materials production activities at Hanford, including the following:

- REDOX – Operations were conducted in the REDOX facility to recover plutonium (as plutonium nitrate) and to concentrate the plutonium for transfer to PFP, where the plutonium nitrates were purified and converted to plutonium metal or oxide. [TRU-WST-11.4.3-0306200647097]

- PUREX - The PUREX facility replaced earlier fuel dissolution and plutonium separation facilities and produced plutonium nitrate solutions for further processing at PFP. [TRU-TS-11.4.30423199953594, TRU-TS-11.4.3-0427199915823]

- PRF - Pu was received from DOE and other (i.e., West Valley) sources under the Pu Recycling Program, conducted to reclaim economically valuable Pu for use in weapons, research, or fueling breeder reactors, such as FFTF. Much of this plutonium had been produced in reactors at Hanford and Savannah River, which were operated for defense-related purposes. [TRU-SPO-11.4.3-1127200254744, TRU-SPO-11.9-1112200350054]

- N-Reactor - Designed to be a dual purpose reactor (i.e. producing both plutonium and electricity), N-Reactor began producing plutonium in March 1964 and electrical power sometime later. From 1965 to 1967, tritium (also used in nuclear weapons) was produced at N-Reactor using fuel elements manufactured in the 333 facility. [TRU-SPO-11.4.3-0314200658459]

More recently, the 325 Building has continued to support defense activities associated with defense nuclear waste and by-product management. Samples of tank waste (sludge and liquid), resulting from fuel dissolution and plutonium separation for defense purposes, have been and continue to be analyzed in the 325 Building laboratories. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440020, TRU-SPO-11.9-0708200440649, TRU-SPO-11.9-0708200441084]

The RLM325D waste stream also contains waste that was generated during defense research and development activities. In particular, studies were conducted in the 325 Building that were part of the Nuclear Waste Vitrification Project (NWVP) program, intended to treat tank sludges resulting from years of processing weapons materials at the Hanford Site. Other research projects involved work on the development of waste forms suitable for long term disposal (such as ceramics), and analysis of Rocky Flats oxides. [TRU-SPO-11.9-0701200437194 TRU-SPO-11.9-0708200431216]

Due to the nature of the analytical work performed, defense-related analyses were carried out concurrent with other, potentially non-defense, projects across the Hanford Site that required analytical characterization. During these analytical activities, and because of the waste management practices in place at the 325 Building, no attempt was made to segregate the waste originating from non-defense and defense-related processes. Because segregation of waste into defense and non-defense portions is not feasible, all TRU waste from the RLM325D waste stream is eligible for disposal at the WIPP. TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0708200431216

3.2 Spent Nuclear Fuel and High-Level Waste Assessment

The WIPP Land Withdrawal Act bans the disposal at WIPP of spent nuclear fuel and high-level waste as defined by the NWPA. High-level waste is defined by the NWPA as "the highly radioactive material resulting from the reprocessing of spent nuclear fuel, including liquid waste produced directly in reprocessing and any solid material derived from such liquid waste that contains fission products in sufficient concentrations, and other highly radioactive material that the Commission, consistent with existing law, determines by rule requires permanent isolation." TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0919200631754

Pursuant to this definition the DOE has identified that waste resulting from reprocessing spent nuclear fuel is incidental to reprocessing and is not high-level waste. The determination of waste incidental to reprocessing is made using either the citation process or evaluation process as explained in DOE Manual 435.1-1. TRU-SPO-11.9-0906200638861, TRU-SPO-11.9-0906200639182

The citation process refers to those reprocessing waste items of the type that were discussed in the Statement of Proposed Policy for Appendix D, 10 Code of Federal Regulations (CFR) Part 50, as not being high level waste. These radioactive wastes are the result of reprocessing plant operations, including:

- Contaminated job wastes - a general category of wastes generated during high-level waste transfer, pretreatment, treatment, storage, and disposal activities. Included are protective clothing, personal protective equipment (PPE), work tools, ventilation filter media, and other job-related materials necessary to complete high-level waste management activities
- Sample media (e.g., sampling vials, crucibles, other hardware)
- Decontamination media and decontamination solutions (e.g., swabs, other decontamination-related materials)
- Laboratory clothing, tools, and equipment.

The RLM325D waste stream contains laboratory wastes, such as paper, PPE, filters, used glass ware (beakers, pipettes, vials, and tubing), and other debris items. Absorbed liquids, including sample residues from fuel pellets, tank waste, ceramics and wastes resulting from spill clean-up and decontamination activities, are also present in the RLM325D waste stream. As such, the waste stream contains waste items that are described in the Statement of Proposed Policy for Appendix D, 10 CFR Part 50, as not being high-level waste. Therefore, this waste stream has been determined to be waste incidental to reprocessing in accordance with the citation process as described in DOE M 435.1-1. TRU-SPO-0606200735392, TRU-SPO-11.4.1-0606200735117

3.3 Material Disposition

In 1998, Section 308 of the fiscal year (FY) 1999 Energy and Water Development Appropriations Act prohibited disposal of waste containing concentrations of plutonium "in excess of 20 percent by weight for the aggregate of any material category" (this prohibition has

APPROVAL

This AK document is approved for distribution:

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EXECUTIVE SUMMARY

This report provides the acceptable knowledge (AK) information required by the Waste Isolation Pilot Plant (WIPP) Hazardous Waste Facility Permit and the *Contact-Handled Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* to support the characterization and disposition of transuranic (TRU) waste at the Waste Isolation Pilot Plant (WIPP) in Carlsbad, New Mexico. The subject TRU waste stream (Richland Mixed Building 325 Debris [RLM325D]) is generated at the 325 Radiochemical Processing Laboratory and currently consists of approximately 4,695 containers having a total volume of approximately 1,202.6 cubic meters (m^3) of TRU waste generated from May 1970 to present. This total includes 21 Standard Waste Boxes (SWBs), 3,723 55-gal. drums, and 951 other containers, including 85-gal. drums and variously sized wood and metal crates. These containers are currently retrievably stored in the Central Waste Complex (CWC) and the 218W3A, 218W4B, and 218W4C Burial Grounds.
TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0706200426745

The characterization information presented in this document is based on evaluation of container-specific documentation for containers listed in the most current container list. This document, along with the referenced supporting documentation, provides a defensible and auditable record of AK for waste generated by 325 Radiochemical Processing Laboratory operations. Each waste container in the RLM325D waste stream will contain greater than 100 nCi/g of TRU nuclides before being certified for disposal.

This AK report includes information relating to the facility's history, process operations, and Hanford waste management practices related to managing and certifying this waste. Information contained in this report was obtained from numerous sources, including facility safety basis documentation, historical documents, generator and storage facility waste records, materials safety data sheets, and interviews with facility personnel. The AK source documents used to prepare this report are listed in Section 4.0.

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ACRONYMS AND ABBREVIATIONS

AK	Acceptable knowledge
ALARA	As low as reasonably achievable
BBI	Best Basis Inventory
CFR	Code of Federal Regulations
CH	Contact-handled
D&D	Decontamination and decommissioning
DOE	U.S. Department of Energy
EP	Extraction procedure
EPA	U.S. Environmental Protection Agency
FFTF	Fast Flux Test Facility
FY	Fiscal year
HWFP	Hazardous Waste Facility Permit
HWN	Hazardous waste number
HWTU	Hazardous waste treatment unit
ICP-AES	Inductively coupled plasma – atomic emission spectroscopy
ICP-MS	Inductively coupled plasma – mass spectrometry
IDMS	Integrated Document Management System
MOX	Mixed plutonium-uranium oxide
MSDS	Materials Safety Data Sheet
NASA	National Aeronautics and Space Agency
NWVP	Nuclear Waste Vitrification Project
NWPA	Nuclear Waste Policy Act
PCB	Polychlorinated biphenyl
PFP	Plutonium Finishing Plant
PNNL	Pacific Northwest National Laboratory
PPE	Personal protective equipment
PRF	Plutonium Recovery Facility
PUREX	Plutonium-Uranium Extraction facility
RECUPLEX	Recovery of Uranium and Plutonium by Extraction facility
REDOX	Reduction Oxidation facility
RMIS	Records Management Information System
RMS	Records Management System
SAL	Shielded Analytical Laboratory
SPO	Site Project Office
SWB	Standard waste box
TCLP	Toxicity characteristic leaching procedure
TGA-MS	Thermogravimetric analysis - mass spectrometry
TIMS	Thermal ionization mass spectrometry
TRAMPAC	TRUPACT-II Authorized Methods for Payload Control
TRU	Transuranic
TSD	Treatment, storage, and disposal
TWBIR	Transuranic Waste Baseline Inventory Report
TWINS	Tank Waste Inventory Network System
WIPP	Waste Isolation Pilot Plant

WIPP-WAC *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (DOE/WIPP-02-3122)

1.0 INTRODUCTION

This report complies with the requirements of Section B4, "Acceptable Knowledge," of the *Hazardous Waste Facility Permit Issued to Waste Isolation Pilot Plant* (HWFP). This document and supporting references provide the mandatory waste program management and waste stream-specific acceptable knowledge (AK) information for transuranic (TRU) waste generated at the 325 Radiochemical Processing Laboratory from 1970 to present. This AK document contains a description of the TRU waste generating operations and the waste management practices at the time of waste generation.

The subject TRU waste stream (Richland Mixed 325 Building Debris [RLM325D]) is generated at the 325 Radiochemical Processing Laboratory and currently consists of approximately 4,695 containers for a total waste stream volume of approximately 1202.6 m^3. The total number of containers includes 21 standard waste boxes (SWBs), 3,723 55-gal. drums, and 951 other containers, including 85-gal. drums and variously sized wood and metal boxes and crates. The 85-gal. drums and wood and metal crates, and some of the 55-gal. drums, will require repackaging that will result in an approximate 35 percent increase in volume of the waste stream (e.g., due to splitting of drums based on fissile gram equivalent loading, addition of absorbents). Thus, the final RLM325D waste stream will consist of approximately 1,610.3 m^3 of TRU debris packaged in 21 SWBs and approximately 7,560 55-gal. drums. The annual volume of contact-handled waste estimated to be generated from the 325 Building is 6.6 m^3. [TRU-SPO-11.9-0706200426745, TRU-SPO-11.4.3-1013200649581, TRU-SPO-11.4.3-1013200650165, TRU-SPO-11.4.3-0621200728671]

A tracking number is assigned to each AK document through the Records Management System (RMS) database. Tracking numbers issued to documents originating under the Hanford TRU Waste Program will be identified with an "SPO" (i.e., Site Project Office) modifier. Documents are also entered into the RMS by the Hanford Waste Services organization and are identified by the "WST" or "TS" modifiers. Examples of tracking number prefixes used to identify the type of document entered into the database include:

- TRU-SPO-11.4.1 designates correspondence
- TRU-SPO-11.4.2 designates internal procedures
- TRU-SPO-11.4.3 designates published documents
- TRU-SPO-11.4.4 designates unpublished documents
- TRU-SPO-19 or TRU-SPO-11.9 designate Project Office memos

Other tracking numbers may be assigned as needed. The documents used to characterize a waste stream will be scanned into the Integrated Document Management System (IDMS). These documents, and documents submitted by other organizations or for other waste streams, will be accessible by IDMS or the Records Management Information System (RMIS). The waste in this waste stream will be characterized in accordance with the *Hanford Site Transuranic Waste Characterization Quality Assurance Project Plan* (HNF-2599) and certified in accordance with the *Hanford Site Transuranic Waste Certification Plan* (HNF-2600). [TRU-SPO-11.4.3-0606200628302, TRU-SPO-11.4.3-0606200628721]

The primary sources of AK used for determining the physical and chemical characteristics of the waste stream were the Solid Waste Disposal Records and Contents Inventory Sheets prepared for each container. The documentation for each container includes all or part of the following information:

- Estimated plastic and metal content
- Hazardous constituents
- Generation location(s)
- Radioactive material content (including isotopic distribution)
- Contents Inventory Sheet identifying the composition of each package placed into the drum

2.0 BACKGROUND AND PROCESS DESCRIPTION

The Hanford Site is located in southeastern Washington State near the Tri-Cities area of Richland, Kennewick, and Pasco as shown in Figure 1. The locations of the major areas of the Hanford Site are shown in Figure 2. The 325 Radiochemical Processing Laboratory is part of the 300 Area located in the southeast corner of the Hanford Site as illustrated in Figures 2 and 3. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0622200241184

Generation of radioactive solid waste at Hanford coincided with plutonium production for defense purposes that first began in 1944. The Hanford Site was constructed to produce plutonium for the Manhattan Project during World War II. The primary mission of the Hanford Site pertaining to national defense and nuclear weapons production included fuel and target fabrication; plutonium production reactor operations; chemical separations; component fabrication; and research, development, and testing. Since the plutonium production mission ended, the Hanford Site mission has changed to environmental management "to safely clean up and manage the site's legacy waste" and to develop and deploy science and technology. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184

The 325 Building supported a wide variety of Hanford Site operations, including those at the 100, 200, and 300 Areas, and consisting of laboratory examinations and studies, analyses of fuel reactor samples, and characterization of the chemical and physical properties of tank wastes and immobilized forms of plutonium. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200432378, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200450893, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0622200241184

2.1 Hanford Site Background

A total of nine plutonium production reactors operated at the 100 Area from September 1944 until December 1986. These reactors were light water cooled, graphite moderated, and fueled with solid or bored metal uranium rods. Eight of the reactors (B, D, F, H, DR, C, KE, and KW, in order of construction) were "single pass" reactors and used exclusively for defense purposes (i.e., plutonium production). "Single pass" refers to the use of cooling water taken from the Columbia River and passed through the reactor piles only once for cooling before being discharged back to the river. The ninth reactor (N Reactor) was unique in that it recycled cooling water and was also a dual-purpose reactor that was capable of making electrical power and weapon- or fuel-grade plutonium. N Reactor was used for domestic power production from 1966 until 1986. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

The 200 Area is separated into the 200 East and 200 West Areas. The 200 East and 200 West Areas were originally built as "twin" operations, with both areas containing a Cell Building (B Plant and T Plant, respectively) and a Bulk Reduction Building. These facilities chemically dissolved irradiated fuel from the 100 Area reactors and recovered the plutonium using the bismuth phosphate separation process. The final step of plutonium recovery operations was housed in the 231-Z Building at 200 West. Ancillary buildings supporting the plutonium recovery processes included analytical laboratories housed in Buildings 222-B and 222-T. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

In 200 West, the Reduction and Oxidation Plant (REDOX, also known as S Plant) began operations in 1951 using a methyl isobutyl ketone extraction process and ion exchange columns to recover uranium, plutonium, and neptunium. In 1953, the 224-U Building (U Plant) was converted from a training facility to the Uranium Oxide (UO_3) Plant, which converted uranyl nitrate hexahydrate from the REDOX Plant to uranium oxide. In 1956, the 231-Z Building was converted to a research and development facility for plutonium processing and nuclear device development for testing at the Nevada Test Site. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184

Also located in 200 West Area, the Plutonium Finishing Plant (PFP) began operations in several buildings in 1949. The PFP converted plutonium nitrate to metal, performed casting and machining operations for weapons components, and recovered plutonium from waste and scrap generated at other Hanford and offsite facilities. The PFP began processing Pu nitrate to create buttons in 1952, and in the late 1960s participated in extended programs that prepared plutonium oxides for commercial nuclear experiments and development. As the need for additional plutonium scrap recovery capabilities became greater, the Plutonium Recovery Facility (PRF) was established to replace the Recovery of Uranium and Plutonium by Extraction (RECUPLEX) facility for recovering plutonium through incineration and solvent recovery from a range of scrap items, including incinerator ash, crucibles, and dissolver heels. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

Facilities in the 300 Area of the Hanford Site have had diverse missions. Some facilities were dedicated to the manufacture of uranium fuels for the 100 Area production reactors. Most of these facilities were not designed for handling TRU materials and therefore are not TRU waste generators. Other facilities, such as the 308 Building, were designed to manufacture plutonium oxide and/or mixed plutonium-uranium oxide fuels for research reactors in the 300 and 400 Areas of the Hanford Site. Some facilities, such as the 324 Building and 325 Building hot cells, focused on research and development, fuel element performance evaluation, and high activity waste solidification studies. These facilities were (are) the principal generators of TRU waste in the 300 Area. TRU solid and liquid wastes from these facilities were shipped to the 200 Area for disposition. TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0622200241184, TRU-TS-11.4.3-0423199947115

2.2 Facility Description

The 325 Radiochemical Processing Laboratory was built in 1953 to house and handle multi-curie and high activity chemical development work. The laboratories were furnished with hoods and glove boxes designed for handling radioactive materials. The 325 Building was constructed in 1953 with eight 6' x 6' x 5.5' hot cells with 2.5 ft-thick concrete walls and stainless steel liners. Three additional hot cells were added when the High-Level Radiochemistry Annex was added to the facility in 1960. The largest (A-Cell) was 15' x 16' x 6'. The other two cells (B- and C-Cells) were 15' x 7' x 6'. Four-foot thick concrete walls with steel liners surrounded these larger cells. Combined, these two analytical facilities were the largest laboratories at Hanford. Analyses were performed in glove boxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests. [TRU-SPO-11.9-0708200436028]

The 325 Building contains a total of approximately 140,000 square feet of laboratory space. In the 1960s, the building operated as many as 50 laboratories and 11 hot cells. All eleven hot cells were equipped with remote manipulators, periscopes, and lead glass windows. Liquids generated in each hot cell drained to a holding and sampling tank. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200431216]

2.3 325 Building History

The 325 Building was first operated by General Electric (1953 until 1965), after which operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970 operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire facility was transferred to the current contractor, Pacific Northwest National Laboratories (PNNL), in 1987. Initial 325 Building missions included production and process improvement support for the REDOX and uranium metal recovery operations. Actinide separation studies were conducted to develop techniques to reduce activity in high-level waste prior to disposal. Other missions included production of radioactive lanthanum, temporary technical support to the bismuth phosphate ($BiPO_4$) process, support studies for tritium production, and basic investigations of plutonium chemistry. The 325 Building mission also included support to the Plutonium – Uranium Extraction (PUREX) plant, the RECUPLEX Facility, and PRF production processes. [TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200436028]

In the 1960s the 325 Building supported National Aeronautics and Space Agency (NASA) and medical isotope development campaigns. A number of new techniques were developed involving separation and fractionation technology. Specific isotopes, including strontium-90, cesium-137, curium-244, americium-241, and promethium-147, were isolated using ion exchange, carrier precipitation, solvent extraction, and combinations of these and other methods. The feed material was generally high-level waste from PUREX or waste from the Shippingport nuclear power plant. During these years, Hanford was the only supplier in the world of promethium-147, which was used in the development of the artificial heart. Also, during the same time period, experiments involving the recovery of plutonium-238 from irradiated neptunium-237/aluminum targets were conducted in the C-cell. [TRU-SPO-11.9-0708200431216]

The 325 Building was involved in Fast-Flux Test Facility (FFTF) fuels characterization during the 1970s and 1980s. In the late 1970s and early 1980s, the laboratory analyzed Exxon enriched uranium samples. These samples were submitted as sweepings from the process line glove boxes in the Exxon facility located adjacent to the Hanford Site. In approximately 1987, vitrification processes were being developed at other 300 area facilities for disposition of high-level waste, and 325 Building personnel in the shielded analytical facility worked on samples from these processes.

been promulgated in subsequent Appropriations Acts). RLM325D is a debris waste stream containing primarily waste materials associated with laboratory analysis. Because these materials were discarded as waste, they were identified as being contaminated with plutonium at levels below economic discard limits. Items above the economic discard limits would have been identified as scrap or residues, and would have been processed to recover the plutonium. Thus, the materials discarded as waste would not be contaminated with plutonium to 20 percent by weight.

3.4 Waste Matrix Code

The Summary Category Group of S5000 and heterogeneous debris Waste Matrix Code Group are assigned to the RLM325D waste stream. Based on the container-specific evaluations, the waste stream is comprised of greater than 50 percent of heterogeneous inorganic and organic debris. Although the waste stream as a whole is comprised of more than 50 percent heterogeneous debris, the waste packaging practices were such that any given waste container in this stream may include nearly any percentage of the identified waste material categories. However, any container identified as containing greater than 50 percent solidified organic or inorganic liquids will be assigned to an appropriate homogeneous solids waste stream. Thus, the waste matrix code of S5490 is assigned to the RLM325D waste stream. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200437024, TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0708200431216]

Using information obtained from Waste Disposal Records and Contents Inventory Sheets, the waste material parameters presented in Table 1 have been identified in the RLM325D waste stream. The waste material parameters and physical content descriptions for 211 containers were reviewed, and estimated volume percentages were tabulated and the relative volumes for the various waste material parameters were calculated; these volume percent estimates are also presented in Table 1. [TRU-SPO-11.9-0701200437024 TRU-SPO-11.9-0706200430656]

Table 1. Waste Material Parameters Found in the RLM325D Waste Stream

Waste Material Parameter	Description	Present?	Estimated percent
Iron-based Metals/Alloys	Iron and steel alloys in the waste (does not include the waste container materials)	Y	41
Aluminum-based Metals/Alloys	Aluminum or aluminum-based alloys in the waste materials	Y	<1
Other Metals	All other metals found in the waste materials	Y	1
Other Inorganic Materials	Nonmetallic inorganic waste including concrete, glass, firebrick, ceramics, sand, and inorganic sorbent	Y	12
Cellulosics	Materials generally derived from high-polymer plant carbohydrates (e.g., paper, cardboard, wood, and cloth)	Y	7
Rubber	Natural or man-made elastic latex materials (e.g., surgeons' gloves, and leaded rubber gloves)	Y	3

Waste Material Parameter	Description	Present?	Estimated percent
Plastics (waste materials)	Generally man-made materials, often derived from petroleum feedstock (e.g., polyethylene and polyvinylchloride)	Y	28
Organic Matrix	Cemented organic resins, solidified organic liquids and sludges	Y	<1
Inorganic Matrix	Any homogeneous materials consisting of sludge or aqueous-based liquids that are solidified with cement, calcium silicate, or other solidification agents (e.g., wastewater treatment sludge, cemented aqueous liquids, and inorganic particulates)	Y	8
Soils/gravel	Generally consists of naturally occurring soils that have been contaminated with inorganic waste materials	N	N/A
Steel (packaging materials)	55-gallon drums	Y	N/A
Plastics (packaging materials)	12-mil and 90-mil polyethylene drum liners and plastic bags	Y	N/A

The TRUPACT-II Content Code assigned to the waste is dependent on the layers of confinement in the containers. The containers have been assigned Content Codes of RH125/RH225, with the alpha designation assigned based on the packaging configuration (e.g., layers of confinement) at the time of certification. In accordance with Hanford procedures, layers of confinement may be reduced as necessary during processing of the waste as part of preparations for shipment.

3.5 Waste Packaging and Handling

The majority of waste is packaged in 55-gal. drums. Other containers were also used, such as 30-gal. drums, 110-gal. drums, and various waste box configurations (wooden and metal) suitable for waste storage at the Hanford Site. Those waste containers that do not meet the *Transuranic Waste Acceptance Criteria for the Waste Isolation Pilot Plant* (WIPP-WAC) and *TRUPACT-II Authorized Methods for Payload Control* (TRAMPAC) requirements will be processed and repackaged as necessary before shipment to WIPP. Packaging methods are discussed in the following sections.

From 1970 to 1978, waste containing contamination that easily became airborne and that was to be placed in 55-gal. drums was required to be placed in an "inner container" (e.g., sheet plastic). In 1978, a polyethylene drum liner was required. In 1981, the polyethylene drum liners were required to be "horsetailed" and taped shut before the drum lid was installed. From approximately 1983 through 1987, single heat-sealed bags approximately five feet in length were used. As necessary (i.e., due to the presence of contamination on the outside of the bag), additional bags may be placed around bags of waste bagged out of a glovebox. Containers in the RLM325D waste stream may therefore have up to six layers of confinement (i.e., five inner bags and one liner bag). TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0818200640189, TRU-SPO-11.9-0818200639640

Various sizes of metal cans, including 4-quart, 5-quart, and 5-gal. paint cans and 4-gal. slip lid cans, were used to remove TRU waste from hot cells. These cans will contain waste items, but empty containers (e.g., used to transfer items to the glove boxes and hot cells) may also be present in the waste. These metal cans were placed into lined 55-gal. drums. All waste containers will be screened for prohibited items (e.g., sealed containers greater than 4 L) and any non-compliant containers will be remediated. TRU-SPO-11.9-0708200431435

Until 1998, liquid waste from the hot cells and from designated laboratory sinks were disposed of to the Radioactive Liquid Waste system and routed to the 340 Building. Since 1998, liquid waste from the 325 Building has been processed through the 325 Building HWTUs, which are described in more detail in the Waste Generating Process section. However, small amounts of liquid waste from the hot cells may also have been solidified in 5-quart cans by evaporation or using diatomaceous earth or cement and vermiculite in a 1:2 ratio prior to packaging in a 55-gal. drums for storage and disposal. Corrosive liquids were neutralized prior to solidification. TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0701200436625, TRU-SPO-11.4.3-0612200739127, TRU-SPO-11.9-0708200431435, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200440354

Hanford waste management operations addressed hazards associated with gas evolution by equipping containers with pressure relief capabilities. By 1980 each container accepted for storage at Hanford was required to be capable of being fitted with an air or vacuum hose or a gaseous diffusion vent. Drums were fitted with Nucfil 013 filters if radiolytic decomposition was a possibility. TRU-SPO-11.9-0708200440354, TRU-SPO-11.9-0708200430448, TRU-SPO-11.9-0708200431435

3.6 Exclusion of Prohibited Items

Radiography and/or visual examination technique will be performed on each container in this waste stream to determine the presence of the following prohibited items:

- Liquids (waste shall contain as little residual liquid as is reasonably achievable by pouring, pumping and/or aspirating, and internal containers shall contain less than 1 inch or 2.5 centimeters of liquid in the bottom of the container. Total residual liquid in any payload container may not exceed 1 percent volume of that container. Residual liquids containing polychlorinated biphenyls (PCBs) are not allowed at the WIPP. This waste stream does not contain waste designated with the Hazardous Waste Number U134.)
- Corrosives
- Reactives
- Ignitables
- Pyrophorics
- Explosives
- Compressed gases
- Sealed containers > 4 L (excluding heat-sealed bags as identified in Appendix 3.8 of the CH-TRU Payload Appendices)
- Pressurized containers

- PCB waste not authorized under a U.S. Environmental Protection Agency (EPA) PCB disposal authorization
- Non-TRU hazardous wastes
- Wastes incompatible with backfill, seal, and panel closure materials, container and packaging materials, shipping container materials, or other wastes
- Waste that has ever been managed as high-level waste and waste from tanks specified in Table B-8 of HNF-2599, unless specifically approved through a Class 3 permit modification.

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream RLM325D. Waste management practices prohibited the packaging of free liquids or unused reagents; however, because liquids were neutralized, absorbed, and cemented, they may be present in residual amounts due to dewatering or condensation. The AK identified that cans greater than 4 liters in volume (e.g., 5-quart, 4-gallon, and 5-gallon cans) with crimped or taped lids may be present. Punctured aerosol cans are identified in the container documentation. No PCB ballasts were identified in the container documentation; however, unpunctured aerosol cans and PCB ballasts were not segregated from the waste until the early 1980s and may be present in containers generated prior to this time. The inventory may also contain lead, steel, and concrete shielded containers. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, TRU-SPO-11.9-0707200429376, TRU-SPO-11.9-0707200429979, TRU-SPO-11.9-0708200427461, TRU-SPO-11.9-0708200429642, TRU-SPO-11.9-0706200430656]

Any containers found during the characterization process to contain any prohibited items will be segregated and the nonconforming condition will be corrected before the container is certified for shipment. Because no prohibited articles are allowed for shipment to WIPP, the problem containers will have the prohibited articles treated and/or repackaged prior to certification. Only certified containers will be shipped to WIPP for disposal.

3.7 Waste Regulatory Characterization

The following sections describe the characterization rationale for the assignment of Environmental Protection Agency (EPA) HWNs to waste stream RLM325D. To assign EPA HWNs and Washington Dangerous Waste Codes, the available AK documentation (including analytical procedures, waste disposal records, site databases, material safety data sheets [MSDSs]) was reviewed to identify chemical usage and potentially hazardous materials that may be present in the waste stream. As described below, several of the HWNs were conservatively assigned due to lack of evidence that waste management practices would have segregated these compounds from the containers in the waste stream.

Because Washington State dangerous waste codes (Chapter 173-303 of the Washington Administrative Code) are only assigned in the absence of an applicable EPA HWNs, and because the EPA HWNs are assigned to the RLM325D waste stream, no Washington state dangerous waste codes are assigned to waste stream RLM325D. Table 2 summarizes the HWNs assigned to this waste stream. [TRU-SPO-11.9-0828200638735]

Table 2 - HWNs Assigned to the RLM325D Waste Stream

EPA Hazardous Waste Numbers	
F001	D010
F002	D011
F003	D022
F004	D027
F005	D028
D004	D029
D005	D030
D006	D034
D007	D037
D008	D043
D009	

Table 3 summarizes the chemicals and commercial products identified during the review of AK documentation. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0701200436839, , TRU-SPO-11.9-0707200430731, TRU-SPO-11.9-0707200431225, TRU-SPO-11.9-0707200431874, SPO-11.9-0707200432171, TRU-SPO-11.9-0707200433058, TRU-SPO-11.9-0707200437869, TRU-SPO-11.9-0707200439643, TRU-SPO-11.9-0708200429257, TRU-SPO-11.9-0708200431216, TRU-SPO-11.9-0708200435233, TRU-SPO-11.9-0708200436028, TRU-SPO-11.9-0708200438206, TRU-SPO-11.4.3-0414200630007, TRU-SPO-11.9-0708200440020 TRU-SPO-11.9-0706200430656, TRU-SPO-11.9-0701200436625 TRU-SPO-11.9-0706200430656 TRU-SPO-11.9-0706200426745

Table 3 - Chemical and Commercial Product Usage

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Acetic acid	Coulometry solution, sample preparation	N/A
Acetone	Rinsing electrodes, cleaning filaments and glassware	F003
Adiponitrile	Organic synthesis	N/A
AG MP-1 (trimethylamine)	Ion exchange resin	N/A
Aluminum	Heating blocks, capsules and standard solutions	N/A
Aluminum chloride	Electrolytic solutions	N/A
Aluminum nitrate nonahydrate	Standard solutions	N/A
Aluminum oxide	Laboratory reagent (refractory)	N/A
Aluminum sulfate	Electrochemical solutions	N/A
Alundum (aluminum oxide)	Chromatography columns	N/A
Ammonium acetate	Analytical reagent	N/A
Ammonium chloride	Kjeldahl ammonia methods	N/A
Ammonium dichromate	Electrochemical solution	D007
Ammonium fluoride	Fluoride ion standard	N/A
Ammonium hydroxide	Liquid pH adjustment	N/A
Ammonium molybdate	Oxidizing acid, may be disposed in liquid waste stream	N/A
Ammonium oxalate	Chelating agent	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Ammonium phosphate, dibasic	Process chemical	N/A
Ammonium thiocyanate	Process chemical possibly used in Cs scavenging not from electroplating	N/A
Ammonium vanadate	Used as reagent in potentiometric methods.	N/A
Arsenic oxide	Laboratory reagent	D004
Arsenious acid	Electrochemical methods.	D004
Asbestos	Flame protection for glove box floors, and lab ware	N/A
Ascarite (sodium hydroxide silica)/ Malcosorb	Removal of CO_2 in gas chromatography	N/A
Ascorbic acid	Electrolytic solutions	N/A
Barium carbonate	Laboratory reagent	D005
Barium chloride	Precipitating reagent.	D005
Barium hydroxide	PH adjustments in solutions.	D005
Barium nitrate	Laboratory reagent	D005
Benzene	Carbonization of mass spectrometric filaments, cleaning agent.	F005
Beryllium	Standard materials	N/A
Black sealing wax	Sealant for gas line testing	N/A
Boric acid	Sample preparation	N/A
Boron carbide	Laboratory reagent	N/A
Bromocresol purple	Titrations	N/A
Butyl alcohol, n-	Solvent and used in microscopy with paraffin	F003
Cadmium	Emission spectrometric standard material, neutron shielding	D006
Cadmium nitrate	Emission spectrometric standard material	D006
Calcium carbonate	Buffering agent	N/A
Calcium chloride	Chloride standard material (solution)	N/A
Calcium hydroxide	pH adjustment in solution	N/A
Calcium nitrate	Spectrometric standard material	N/A
Calcium sulfate	Laboratory reagent	N/A
Calcium tartrate	Laboratory Reagent	N/A
Calgon (sodium hexametaphosphate)	Used to reduce surface tension for particle size analysis.	N/A
Carbon tetrachloride	Metal and sample cleaning.	F001
N-Carboxymethyl-N'-(2-hydroxyethyl)-N,N'-ethylenediglycine	Complexing agent	N/A
Carboxymethylimine-bis-ethylenenitrile-tetraacetic acid	Complexing agent	N/A
Ceric ammonium nitrate	Process chemical	N/A
Ceric nitrate	Spectrometric standard material	N/A
Ceric sulfate	Laboratory reagent	N/A
Ceric oxide	Work with metals and glass	N/A
Cerous nitrate/Cesium nitrate	Spectrometric standard material	N/A
Chromic acid	Used in chrome plating.	D007
Chromium chloride	Spectrometris standard material	D007
Chromium trioxide	Oxidant and hardening agent	D007

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Chloroacetic acid	Used in sulfur analysis and as laboratory chemical	N/A
Chloroform/trichloromethane	Used as cleaning agent, and as an organic solvent.	D022
Citric acid	PH adjustment and chelating agent	N/A
Corn oil mist	Used in radiological clean up	N/A
Copper	Tubing and used in sulfur combustion methods.	N/A
Copper nitrate	Spectrometric standard material	N/A
Copper oxide	Combustion gas chromatography	N/A
Cresols	Sludge contaminants	F004
CyDTA, trans-1,2-Cyclohexanediamine - N,N,N',N'-tetra acetic acid, monohydrate	Chelating agent	N/A
Cyclohexane	Extractant	N/A
Devarda's alloy (Al, Cu, Zn)	Metal work	N/A
D-19 [Kodak] Developer	Photographic work (emission spectrometry)	N/A
Diatomaceous earth	Absorbent material	N/A
Dibutyl butyl phosphonate	Reagent	N/A
1,2-dichloroethane, ethylene dichloride	Reagent, metal cleaning	D028
Diethylhexylorthophosphoric acid	Chelating and pH adjustment	N/A
Dimethyldichlorosilane	Gas chromatography agent	N/A
Dimethylglyoxime	Chelating agent	N/A
2,4-Dinitrophenol	Reagent	N/A
Dithiol (3,4-dimercaptotoluene)	Tungsten extractant	N/A
Dithiol-amyl acetate	Tungsten extractant	N/A
Dowex-1 X-3, X-4 (Trimethyl ammonium functional grouping chloride form) resin	Anion exchange chromatography	N/A
Dowex 50 (IX Resin) (Sulfonate polystyrene divinyl benzene)	Ion exchange resin	N/A
Drierite (Calcium sulfate)	Combustion gas chromatography	N/A
Ethanol	Cleaning filaments and glassware	N/A
Ether	Laboratory reagent	N/A
Ethylenedinitridotetraacetic acid	Chelating agent	N/A
Ethyleneoxyethylenenitrilotetraacetic acid	Complexing agent	N/A
Ferric ammonium sulfate	Ion specific electrode methods for chloride	N/A
Ferric chloride	Laboratory reagent	N/A
Ferric nitrate	Spectrometric standard material	N/A
Ferric oxide	Laboratory reagent	N/A
Ferric sulfate	Laboratory reagent	N/A
Ferrous ammonium sulfate	Determination of Pu by potentiometry and sample preparation	N/A
Ferrous chloride	Electrolytic solution	N/A
Ferrous sulfate	U by potentiometry	N/A
Formic acid	Reagent	N/A
Gallium oxide	Impurities by emission spectrometry	N/A
Gluconic acid	Metal cleaning, bottle washing	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Glycerin	Used in particle size determinations	N/A
Gold	Microelectrodes	N/A
Graphite	Crucibles, electrodes	N/A
Hexane	Liquid extraction and solvent	N/A
Hydrazine	Process chemical (PUREX)	N/A
Hydrochloric acid	Electrochemical solution and sample preparation	N/A
Hydrofluoric acid	Oxidizing reactions, sample preparation	N/A
Hydrogen peroxide	Oxidizing agent	N/A
Hydroiodic acid		N/A
Hydroxylamine hydrochloride	Organic synthesis, photographic developer	N/A
Hydroxylamine nitrate	Laboratory reagent	N/A
Iodine	Laboratory reagent	N/A
Iron	Standard material	N/A
Kerosene	Process chemical (PUREX)	N/A
Kodak Developer D-1[a]	Photographic plate development	N/A
Kodak Photoflo propylene glycol or ethylene glycol and P-tert-octylphenoxy polyethoxyethyl alcohol[a]	Dispersant and wetting agent	N/A
Kodak solubilizing agent SA-2[a]	Solubilizing agent	N/A
KP-140 (paint w/ZnO/halogenated hydrocarbons)	Resin solvent, paint	N/A
Isopropyl alcohol	Cleaning mass spectrometer filaments and used in density and porosity sample preparation	N/A
Lanthanum nitrate	Laboratory reagent	N/A
Lanthanum-neodymium nitrate	Laboratory reagent	N/A
Lead	Spectrometric standard material, shielding, circuit boards, solder, leaded gloves	D008
Lead acetate	Laboratory reagent	D008
Lead chloride	Laboratory reagent	D008
Lead nitrate	Spectrometric standard material	D008
Lead oxide	Laboratory reagent	D008
Linde AW-500 resin (Aluminum silicate)	Ion exchange resin	N/A
Lithium sulfate	Spectrometric standard material	N/A
Magnesium	Spectrometric standard material	N/A
Magnesium nitrate	Spectrometric standard material	N/A
Magnesium oxide	Laboratory reagent	N/A
Magnesium perchlorate	Thermogravimetric methods and water determinations by coulometry	N/A
Manganese dioxide	Laboratory reagent	N/A
Manganous chloride	Laboratory reagent	N/A
Manganous nitrate	Spectrometric standard material	N/A
Manganous sulfate	Reagent	N/A
Mannitol	Reagent	N/A
Mercury	Electrodes, thermometers, batteries	D009

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Mercuric iodide	Nessler's reagent used in Kjeldahl ammonia determinations	D009
Mercuric nitrate	Laboratory reagent	D009
Mercuric oxide	Laboratory reagent	D009
Mercuricthiocyanate	Ion selective electrode reagent.	D009
Mercurous sulfate	Reference electrodes	D009
Metaldi fluid (Propylene glycol)	Dispersing agent	N/A
Methanol	Cleaning and drying glassware	F003
Methylene chloride	Reagent, solvent	F001, F002
Methyl ethyl ketone	Reagent, solvent	F005
Methyl isobutyl ketone	Reagent, solvent	F003
Methyl lactic acid	Laboratory reagent	N/A
Mineral oil	Reagent	N/A
Molybdenum	Spectrometric standard material	N/A
Molybdic acid	Laboratory reagent	N/A
Naphthalene	Laboratory reagent	N/A
Natrasorb, clay	Container material, desiccant, used in oil absorption	N/A
Neodymium nitrate	Spectrometric standard material	N/A
Neodymium oxide	Spectrometric standard material	N/A
Nickel bromide	Reagent	N/A
Nickelous chloride	Spectrometric standard material	N/A
Nickelous nitrate	Laboratory reagent	N/A
Nitricacid	Sample dissolution, eluant for ion exchange	N/A
Nitrous acid	Eluant for ion exchange	N/A
Nitrilotriaceticacid	Chelating acid	N/A
Normal paraffin hydrocarbon	PUREX process chemical used for liquid-liquid extraction	N/A
Oleic acid	Lubricant	N/A
Oxalic acid	Chelating acid	N/A
Pentachlorophenol	Herbicide, wood preservative	D037
Pentasodium diethylene triamine pentaactate (DPTA)	Chelating acid	N/A
Perchloric acid	Sample preparation for emission spectrometry	N/A
Periodic acid	Laboratory reagent	N/A
Phenol	Reagent	N/A
Phosphoric acid	Used in potentiometric methods	N/A
Phosphorous pentoxide	Used in sample preparation and for gas chromatography	N/A
Platinum	Crucibles, sample boats	N/A
Portland cement	Solidifying agent for liquid wastes	N/A
Potassium acetate	Buffer solution, dehydration	N/A
Potassium bicarbonate	Neutralization, reagent	N/A
Potassium carbonate	Dehydrating agent	N/A
Potassium chlorate	Laboratory reagent	N/A
Potassium chloride	Used as a control standard for ion selective electrode methods.	N/A
Potassium dichromate	Used in potentiometric methods, photochemical processing.	D007

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Potassium ferrocyanide	Fixative in photography, metal cleaner.	N/A
Potassium fluoride	Organic synthesis	N/A
Potassium hydroxide	Electrolyte fuel cells	N/A
Potassium iodate	Used in Iodometry	N/A
Potassium iodide	Used in Iodometry	N/A
Potassium permanganate	Lab reagent, decontamination agent	N/A
Potassium phosphate, tribasic	Process chemical, lab reagent	N/A
Potassium pyrosulfate	Sample preparation flux	N/A
Potassium sodium tartrate	Laboratory reagent	N/A
Primafloc A10 (acrylic polymers, monomers, water)	Laboratory reagent	N/A
Silica gel	Chromatographic separations, dehydrating agent.	N/A
Silver cleaning paste	Cleaning electrodes	D011
Silver cyanide	Plating	D011
Silver nitrate	Spectrometric standard material	D011
Silver oxide	Reagent for amperometric Pu determination	D011
Silver sulfate	Laboratory reagent	D011
Sodium acetate	Laboratory reagent	N/A
Sodium aluminate	Cleaning compound	N/A
Sodium arsenite	Dying reagent	D004
Sodium bicarbonate	Buffer solutions	N/A
Sodium bisulfate	Dying agent	N/A
Sodium bisulfite	Reducing agent	N/A
Sodium borate	Flame retardant	N/A
Sodium carbonate	Cleaning prep	N/A
Sodium chloride	Precipitation agent	N/A
Sodium citrate	Chelating agent	N/A
Sodium dichromate	Electrochemical reagent	D007
Sodium fluoride	Standard material for ion selective electrode methods and carrier for emission spectrometry	N/A
Sodium formaldehyde sulfoxylate	Laboratory reagent	N/A
Sodium hydroxide	Solution preparation and pH adjustments	N/A
Sodium hypochlorite	Laboratory reagent	N/A
Sodium iodide	Laboratory reagent	N/A
Sodium nitrate	Process chemical	N/A
Sodium nitrite	Process chemical	N/A
Sodium oxalate	Chelating agent, lab reagent	N/A
Sodium phosphate	Reagent, metal cleaner	N/A
Sodium phosphite	Laboratory reagent	N/A
Sodium pyrophosphate	Reagent, metal cleaner	N/A
Sodium selenate	Laboratory reagent	D010
Sodium silicate	Laboratory reagent	N/A
Sodium sulfate	Calibration standard material	N/A
Sodium tartrate	Water determination by coulometry	N/A
Sodium tungstate	Reagent	N/A
Stainless steel	Tubing ,standard materials, and alpha spectrometry sample disks	N/A

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Stannic chloride	Reagent	N/A
Stannous chloride	Spectrometric standard material	N/A
Strontium nitrate	Laboratory reagent	N/A
Sugar (sucrose, glucose)	Used in mass spec for Pu/U and test of ammonia destruction for the PUREX process	N/A
Sulfur	Mercury clean up reagent	N/A
Sulfuric acid	Sample preparation	N/A
Sulfur dioxide	Laboratory reagent	N/A
Tetrasodium ethylene diaminetetraacetate	Chelating agent	N/A
Tetraphenyl boron	Laboratory reagent	N/A
Thenoyltrifluoroacetone	Laboratory reagent	N/A
Thorium nitrate	Laboratory reagent	N/A
Tin	Capsules, spectrometric standard material	N/A
Tide detergent[b]	Cleansing solution	N/A
TISAB III	Buffer solution	N/A
Titanium chloride	Spectrometric standard material	N/A
Titanium (di)oxide	Standard, ceramics, decontamination	N/A
Toluene	Extractant and cleaning for mass spectrometer filaments.	F005
Tributylphosphate	Liquid-liquid extraction and studies of PUREX processes.	N/A
Trichloroethane,-1-1-1	Reagent, solvent	F001, F002
1,1,2-trichloro-1,2,2-trifluoroethane	Reagent, solvent	F002
Tri-iso-octylamine	Liquid-liquid extraction	N/A
Tri-n-octylamine	Liquid-liquid extraction	N/A
Tris(hydroxymethyl)aminomethane (THAM)	Buffer	N/A
Trisodium hydroxyethyl ethylene-diamine triacetate (HEDTA)	Chelating agent	N/A
Turco alkaline (rust remover) (NaOH and kerosene)	Rust remover	N/A
Tungsten oxide	Spectrometric standard material	N/A
Turco Deseal Zit 2 (methylene chloride and aceticacid)[c]	Decontamination	F001, F002
Turco Fabrifilm (toluene, butanol, isopropanol, acetone)[c]	Decontamination paint	F005, F003
Turco Plaudit[c]	Decontamination	N/A
Turco 4502 D (KOH, K2CrO4, KMnO4)[c]	Decontamination	N/A
Turco 4518 (Sodiumdodecyl benzene sulfonate)[c]	Decontamination paint	N/A
Uranyl nitrate	Extractant	N/A
Uranium oxide	Accelerator for pyrohydrolysis	N/A
Urea	Electrolytic solution	N/A
Vanadium	Spectrometric standard material	N/A
Vanadium pentoxide	Sample preparation flux	N/A
Vanadyl sulfate	U by potentiometric titration	N/A
Vinyl chloride	Sludge contaminant	D043

Chemical/Compound	Description/Use/Source	EPA Hazardous Waste Numbers
Xylene	Liquid-liquid extraction, solvent	F003
Yttrium nitrate	Laboratory reagent	N/A
Zeolon 900 Resin (Aluminum silicate)	Ion exchange resin	N/A
Zinc chloride	Spectrometric standard material	N/A
Zinc nitrate	Spectrometric standard material	N/A
Zinc oxide	Laboratory reagent	N/A
Zirconium	Cladding material	N/A
Zirconyl nitrate	Spectrometric standard material	N/A

[a]Kodak™ is a registered trademark of the Eastman Kodak Company
[b]Tide® is a registered trademark of the Proctor & Gamble Company
[c]Turco® is a registered trademark of the Purex Corporation

The RLM325D waste stream is not mixed with hazardous waste from specific sources (40 CFR 261.32), discarded commercial chemical products (e.g., U134 hydrofluoric acid), an off-specification species, container residue, or a spill residue thereof (40 CFR 261.33). Chemical products at the 325 Building were maintained outside of gloveboxes to avoid radiologically contaminating the material and to facilitate disposal. Therefore, the P, U, and K HWNs do not apply to this waste stream. TRU-SPO-11.9-0828200638735

In addition to the chemicals used by 325 Building process, EPA hazardous waste numbers for 1,4-dichlorobenzene (D027), 1,1-dichloroethlylene (D029), 2,4-dinitrotoluene (D030), and hexachloroethane (D034) were assigned to the containers based on their presence in samples (i.e., tank sludge) analyzed at the 325 Building and chemicals treated in the HWTU.

Based on the review of waste management practices in the 325 Building, all waste has been conservatively determined to exhibit toxic characteristics (D codes) per 40 CFR 261.30 and F-listed per 40 CFR 261.31. No container in this waste stream exhibits P, U, or K listed waste codes per 40 CFR 261.32 - 261.33.

3.7.1 Characteristic of Ignitability

The debris materials in this waste stream do not meet the definition of ignitability as defined in 40 CFR 261.21. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The materials are not capable of causing fire through friction or absorption of moisture. The materials in this waste stream are therefore not ignitable D001 wastes. Potentially ignitable compounds were managed at the facility; however, these materials were absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354

3.7.2 Characteristic of Corrosivity

The debris materials in this waste stream do not meet the definition of corrosivity as defined in 40 CFR 261.22. The materials are not liquid, and radiography and/or visual examination is performed to ensure the absence of free liquids. The material in this waste stream is therefore not corrosive waste (D002). Potentially corrosive reagents were managed by the laboratory; however, these materials were neutralized, absorbed, deactivated, and solidified, as necessary. Any drum identified with free liquids or reagents will be segregated from the waste stream during confirmation and will not be eligible for disposal at WIPP until further characterization and/or processing is conducted to remove the characteristic. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200438712, TRU-SPO-11.9-0708200440354]

3.7.3 Characteristic of Reactivity

The debris materials in this waste stream do not meet the definition of reactivity as defined in 40 CFR 261.23. The materials are stable and will not undergo violent chemical change. The materials will not react violently with water, form potentially explosive mixtures with water, or generate toxic gases, vapors, or fumes when mixed with water. Debris materials in this waste stream which came in contact with cyanide materials are not capable of detonation or explosive reaction. Sulfides were not used in the 325 Building. Numerous resins were used during operations in the facility; however only small (milliliter) quantities would have been placed into the waste. Reactive metals and alloys were reacted prior to disposal and potentially reactive reagents were not placed into the waste. The material in this waste stream are therefore not reactive (D003) waste. [TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0708200440354]

3.7.4 Toxicity Characteristic

Based on the review of chemical usage in the 325 Building and review of Waste Disposal Records and Contents Inventory Sheets, waste stream RLM325D may contain debris comprised of or contaminated with toxicity characteristic compounds as defined in 40 CFR 261.24.

This waste stream exhibits the characteristic of toxicty per 40 CFR 261.24. Table 4 identifies the toxicity characteristic chemicals used in 325 Building processes and their sources. These chemicals contaminate the waste, but the chemical itself was not discarded in this waste stream as commercial chemical product, an off specification commercial chemical product, or a container residue or spill residue thereof. [TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0706200430656, TRU-SPO-11.4.9-1019200652369, TRU-SPO-11.9-0708200441084, TRU-SPO-11.9-1026200650860]

Note that for constituents that carry both a D- and an F- HWN (for example, carbon tetrachloride carries both D019 and F001/F002 HWNs), the more conservative F- HWN is applied. These constituents are discussed in the listed waste section.

Table 4 - Toxicity Characteristic Chemicals Present in RLM325D Waste

Chemical	HWN	Source
Arsenic	D004	Used in some electrochemical processes and in laboratory reagents
Barium	D005	Used as a laboratory reagent, precipitating reagent, and used to adjust pH of laboratory solutions
Cadmium	D006	Used as an emission spectrometric standard material and neutron shielding
Chromium	D007	Used as a spectrometric standard material, for metal cleaning during fuel canning (as sodium dichromate), in laboratory reagents, as an oxidant for plutonium, and as a hardening agent
Lead	D008	Used as a spectrometric standard material, present in solder and in circuit boards, present in leaded rubber gloves, and used as shielding
Mercury	D009	Used in laboratory reagents, thermometers, fluorescent tubes, electrodes, and batteries
Selenium	D010	Present in laboratory reagents
Silver	D011	Used as a spectrometric standard material, in laboratory reagents, and used in batteries and electrodes
Chloroform	D022	Used as a cleaning agent and in metal cleaning, also identified in tank waste samples
1,4-Dichlorobenzene	D027	Identified in tank waste samples and in materials treated in the HWTU
1,2-Dichloroethane	D028	Used as a chemical reagent and in metal cleaning
1,1-Dichloroethylene	D029	Identified in tank waste samples and in materials treated in the HWTU
2,4-Dinitrotoluene	D030	Identified in tank waste samples and in materials treated in the HWTU
Hexachloroethane	D034	Identified in tank waste samples and in materials treated in the HWTU
Pentachlorophenol	D037	Used as a wood preservative and included in the 325 Building chemical inventory
Vinyl chloride	D043	Found as a contaminant in tank waste samples

Beryllium was present in standards used at the 325 Building, and some of these standards may have been disposed of in the RLM325D waste stream; however, in this form it would be present in trace amounts and in forms other than as a pure metal or oxide. Beryllium may be present in trace levels (i.e., < 1 weight percent) in the waste, as it was a trace constituent in tank waste samples analyzed in the 325 Building. Because beryllium may be present as a constituent of tank waste samples and not as a discarded commercial chemical product, the P015 HWN is not applied.[TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0708200436028, TRU-TS-11.4.3-0428199949492]

3.7.5 Listed Hazardous Waste Numbers

Waste stream RLM325D was mixed with or derived from F-listed hazardous wastes from non-specific sources listed in 40 CFR 261.31. Solvents were used in Building 325 and contributed to the F-listed HWNs applied to this stream. Based on the use of these chemicals during operations in the 325 Building, F-listed HWNs are assigned to this waste stream based on AK. These chemicals, the corresponding HWNs, and sources of the contamination are listed in Table 5.[TRU-SPO-11.9-0707200432862, TRU-SPO-11.9-0828200638735, TRU-SPO-11.9-0706200430656, TRU-SPO-11.4.9-1019200652369, TRU-SPO-11.9-0708200441084, TRU-WST-11.4.3-0531200633612, TRU-SPO-11.9-1026200650860]

Table 5 - Listed Waste Constituents Present in the RLM325D Waste Stream

Chemical	HWN	Source
Benzene	F005	Used as a cleaning agent
Carbon tetrachloride	F001	Used as a cleaning agent for metals and samples, also used in various plutonium separation processes
Cresols	F004	Used as a tank cleaning agent
Methylene chloride	F002	Used as a decontamination agent
Methyl ethyl ketone	F005	Used as a solvent in the REDOX facility and discharged to the tank farms
Toluene	F005	Used as an extractant and cleaning agent
1,1,1-Trichloroethane	F001, F002	Used in crane cleaning operations and discharged to the tank farms
1,1,2-Trichloro-1,2,2-trifluoroethane	F002	Used in laboratory operations
Acetone	F003	Used to dry glassware and rinse electrodes and as a cleaning agent
n-Butanol	F003	Used with paraffin in microscopy
Methanol	F003	Used as a cleaning and drying agent for glassware
Methyl isobutyl ketone	F003	Used as an extractant at the REDOX facility
Xylene	F003	Used to dry glassware and in liquid-liquid extraction

The F003 HWN is applied conservatively to the RLM325D waste stream on the basis of the F003-listed solvents used in the Building 325 Facility and potential presence in tank farms waste. Although this HWN is applied, neither contaminated waste items nor the RLM325D waste stream are ignitable as packaged for disposal.[TRU-SPO-11.9-0828200638735, TRU-WST-11.4.3-0531200633612]

3.7.6 Washington State Toxic and Dangerous Waste Determination

The Washington Administrative Code Dangerous Waste Regulations, Chapter 173-303-100(5), describe the approach for evaluating a toxic constituent(s) to determine whether the code for a Washington Toxic Waste should be assigned to the waste in the absence of assigned EPA HWNs. However, because corresponding EPA HWNs are applied to the RLM325D waste stream, the Washington state-specific waste codes are not applied.[TRU-SPO-11.9-0828200638735]

3.7.7 Toxic Substances Control Act

Based on the review of waste management practices and container documentation, waste containers from 325 Building operations may contain polychlorinated biphenyl (PCB) contaminated materials. Materials that indicate the presence of PCB contamination, such as transformers and light ballasts, were not specifically identified in the container documentation. However, light ballasts were not segregated from TRU waste until the early 1980s and may be present in the containers generated before this time. Containers that contain PCBs will be managed and shipped in accordance with the PCB disposal requirements in the WIPP-WAC. TRU-SPO-11.9-0701200436625, TRU-SPO-11.9-0707200430240, TRU-SPO-11.9-0706200430656

At the time the 325 Building was constructed, asbestos was a common constituent of floor tiles and pipe insulation, and was also used as insulation in laboratory heaters. Because of this, and because these items may have been placed in waste containers during glovebox cleanout, as failed equipment, or during facility maintenance, the RLM325D waste stream may contain asbestos.

3.8 Radionuclides

The Building 325 Facility provided radiochemistry support to the entire Hanford Site. A review was made of radionuclides analyzed at the Building 325 Facility based upon AK source documents. All of the WIPP-tracked radionuclides (i.e., Am-241, Pu-238, Pu-239, Pu-240, Pu-242, U-233, U-234, U-238, Cs-137, and Sr-90) are expected to be present in the RLM325D waste stream. Based on the 24 containers initially examined and the frequency and mass of the isotopes detected, the two most prevalent isotopes present in the waste stream are Pu-239 and Pu-240 (although the total mass of U-238 detected was greater than the mass of Pu-240 detected, U-238 was detected in less than 30 percent of the 24 containers initially evaluated and Pu-240 was detected in 100 percent of those containers).

Isotopic distributions for plutonium, uranium, and americium in waste from the 325 Building are presented in Table 6. These distributions were calculated on a weight percent basis using data results from samples collected from tanks at the PUREX facility as contained in the Tank Waste Inventory Network System (TWINS) Best Basis Inventory (BBI). This data was used because the majority of the uranium processing and plutonium recovery at the Hanford Site was performed at the PUREX facility and the 325 Building provided radiochemistry support (i.e., sample analysis) to the entire Hanford Site (including PUREX); thus waste from the 325 Building would be contaminated with radionuclides arising from the PUREX tanks.

The BBI database query included all radionuclides analyzed at the 325 Building. Weight percentages of the WIPP-tracked isotopes, and Am-243, Pu-241, U-232, U-235, and U-236) were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope "family" (i.e., plutonium, uranium, and americium) to obtain the weight percent for the individual isotopes. TRU-SPO-11.9-1010200634280, TRU-SPO-11.4.1-1010200654350, TRU-TS-11.4.3-0422199949473

Table 6 - Plutonium and Uranium Isotopic Distributions

Plutonium and Associated Distributions		Uranium Distributions	
Isotope	**Wt % Distribution**	**Isotope**	**Wt % Distribution**
^{238}Pu	0.024	^{232}U	Trace
^{239}Pu	93.2	^{233}U	0.004
^{240}Pu	6.46	^{234}U	0.007
^{241}Pu	0.21	^{235}U	0.80
^{242}Pu	0.036	^{236}U	0.05
^{241}Am	99.16	^{238}U	99.10
^{243}Am	0.84		

Acceptable knowledge was needed to quantify the amount of U-234 expected in individual containers to comply with WIPP-WAC reporting requirements. Scaling factors were determined or developed using historical data. The scaling factors for these activity relationships are as follows: TRU-SPO-11.9-0429200249094

- U-234/U-235 ~ 30
- U-234/U-238 ~ 2

Trace amounts of cesium (Cs)-137 and Sr-90 are also expected to be present in the waste stream. Because Sr-90 cannot be detected during nondestructive radioassay, additional AK was identified and reviewed to determine an appropriate scaling factor to be used to quantify the Sr-90 present in the waste. A scaling factor of 1.1 was identified as applicable to the RLM325D waste stream. TRU-SPO-11.9-0622200456967

In addition, because of the nature of the processes conducted and analyses performed in the 325 Building, a variety of other radionuclides may also be present in trace amounts. Because some processes performed in the 325 Building included separating these and other radionuclides (e.g., Am-241, Cs-137, Sr-90) from high level waste, these nuclides may be present in certain containers in greater than trace amounts. However, on a waste stream basis these radionuclides are present in trace amounts, do not contribute significantly to the radiological hazard, and are not the most prevalent isotopes in the waste. These radionuclides include:

- I-131/132
- Ru-103/106
- Y-90
- Pm-147
- Radioactive lanthanum
- Radioactive mercury
- Ce-144
- Mn-54
- Co-60

- Sb-125
- Cs-134
- Cm-244
- K-40
- Am-243
- Ba-137m
- Np-237
- Na-22

3.9 Transuranic Waste Baseline Inventory Report

The RLM325D waste stream is identified in the *Transuranic Waste Baseline Inventory Report-2004* (TWBIR) under the following code numbers: TRU-SPO-11.4.3-1012200649482

RL-T110	RLW635	RL-W641	RL-W647	RL-W659	RL-W668
RL-W630	RL-W636	RL-W642	RL-W648	RL-W660	RL-W669
RL-W631	RL-W637	RL-W643	RL-W649	RL-W661	RL-W670
RL-W632	RL-W638	RL-W644	RL-W653	RL-W662	RL-W671
RL-W633	RL-W639	RL-W645	RL-W654	RL-W665	RL-W672
RL-W634	RL-W640	RL-W646	RL-W657	RL-W666	RL-W673

4.0 ACCEPTABLE KNOWLEDGE SOURCE DOCUMENT REFERENCE LIST

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0701200436625	Hanford-Building 325 Interview with Wayne Larson	B. Crawford	LANL-CO	N/A	PR4, PR6, WS9, WS12	All	Describes mission, waste packaging and waste streams.
TRU-SPO-11.9-0701200436839	Hanford-Building 325 Radiochemistry Laboratory Interviews with Various Waste Management Personnel (J. Holland, T. Van Arsdale, E. Damberg, and G. Grohs)	B. Crawford and D. Guerin (LANL-CO)	LANL-CO	N/A	PR7, WS2, WS4, WS12, WS6,	All	Describes waste packaging, waste management and waste characterization.
TRU-SPO-11.9-0701200437024	Waste Material Parameter Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes	D. Guerin	LANL-CO	N/A	WS1, WS6, WS7	All	Provides weight percent / volume percent values of iron based metals/alloys, other inorganic materials, inorganic matrix, cellulosics, plastic rubber, and organic matrix. Describes waste material parameters including paper, rubber, plastic, metal, lead, etc. etc.

Site: Hanford
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris
Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-1010200634280	Excerpt from Tank Waste Information Network system Best Basis Inventory	M.H. Conilogue	Fluor Hanford	N/A	WS9	All	The BBI contains tank-by-tank waste inventories which are the chemical and radiochemical component inventories by tank for each of the 177 single- and double-shell tanks on the Hanford Site. Of the 177 tanks, a query of radionuclide concentrations was pulled from the 35 tanks which support the PUREX facility. Weight percentages of WIPP tracked radionuclides were calculated using Ci/gm data taken from the TWINS.
TRU-TS-11.4.3-0422199949473	A Brief History of the PUREX and UO3 Facilities	M.S. Gerber	Westinghouse-Hanford Company	WHC-MR-0437	WS2, WS9	All	Gives a general history of the PUREX and UO_3 facilities. Provides some information on production.
TRU-SPO-11.4.5-1011200647978	AK Source Document Deficiency	M.H. Conilogue	Fluor Hanford	N/A	WS9	All	This document describes the discrepancy between Central Characterization Project (CCP) isotopic analysis memos: TRU-SPO-11.9-0701200437194 & TRU-SPO-11.4.1-1011200635570 As a resolution an Isotopic Analysis White Paper was generated by Hanford TRU Programs AK using the Tank Waste Inventory Network System (TWINS).

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.1-1010200648961	Record of Communication Regarding Isotopic Analysis RLM325D	M.H. Conilogue	Flour Hanford	N/A	WS9	All	Record of Communication between AK Engineer and Central Characterization Program contact involving discrepancy in weight percentages listed in TRU-SPO-11.9-0701200437194. Information in record copy of CCP memo does not match that supplied by CCP on 9/27/06
TRU-SPO-11.4.3-0314200658459	ORAU Team, NIOSH Dose Reconstruction Project, Technical Basis Document for the Hanford Site – Site Description	J. Selby	Oak Ridge Associated Universities	ORAUT-TKBS-006-2, Rev. 00 PC-1	PR2	7-9	Document provides timeframe for plutonium and tritium generation at N Reactor and gives a general description of the design of the reactor.
TRU-WST-11.4.3-0306200647097	Historic American Engineering Record Reduction-Oxidation Complex Plutonium Concentration Facility (Building 233-S)	M.S. Gerber D.W. Harvey	U. S. DOE	DOE/RL-96-29	PR2, PR3, PR4, WS2, WS9, WS10	All	Discusses Historical Timeline and processes used in the production of plutonium at 233-S.
TRU-TS-11.4.3-0427199945823	Characterization of Past and Present Solid Waste Streams from the Plutonium-Uranium Extraction Plant	J.A. Pottmeyer, D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0646, Rev. 0	WS2, WS12	3-4, 3-4,5	Describes the past and current solid waste streams from the PUREX Plant.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.3-0423199953594	Characterization of Past and Present Waste Streams from the Plutonium Finishing Plant	D.R. Duncan	Westinghouse Hanford Company	WHC-EP-0621	WS4	2-1	Characterization of PFP waste since 1947, including PFP history, waste stream, maintenance, housekeeping, waste handling and packaging, and actual waste container characterization data.
TRU-SPO-11.4.3-1127200254744	Plutonium Finishing Plant Plutonium-Uranium Oxide: Characterization of Items with <30 Weight Percent Plutonium	Lini, D. C. and Rodgers, L. H	Science Applications International Corp.	HNF-10919 Rev. 0, Oct. 8, 2002	PR2, PR4, PR5, PR7, WS1, WS2, WS6, WS9, WS10, WS12	All	Document provides a discussion of PFP plutonium oxide material. Information includes process history, history of material origins, potential contaminants, material specifications and waste designation rationale, and process flow diagrams, building diagrams. Details of RCRA characteristic and listed constituents present, Washington state toxic waste designation and radionuclide information.

Site: Hanford
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris
Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-1112200350054	Origin of Plutonium	D.C. Lini	Fluor Hanford	N/A	WS9	1 - 8	Document excerpt provides estimate of the amounts of Pu received from various sources as compared to the entire estimated U.S. inventory of Pu. Provides justification for assuming a defense origin for the Pu in MOX waste.
TRU-SPO-11.4.1-1010200654350	White Paper: Calculation of Isotopic Weight Percentages Using Tank Waste Information Network System data for the PUREX Facility	M.H. Conilogue	Fluor - Hanford	N/A	WS9	All	This white paper provides weight percentages of Waste Isolation Pilot Plant (WIPP) tracked isotopes using TWINS data from PUREX tanks.
TRU-SPO-11.9-0701200437194	Isotopic Analysis for Containers Generated from the Building 325 Radiochemistry Lab and HLW Annexes Assays	D. Guerin	LANL-CO	N/A	WS9	All	Container specific assay results fo2 211 Building 325 containers. Provides weight % for U and Pu
TRU-SPO-11.9-0429200249094	U-234 To U-235 and U-238 Ratios for Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	M4T00-PJC-02-077	WS11	All	This letter documents an uranium 234 to uranium 235 and uranium 238 ratio based on an analysis of historical concentration data from Hanford wastes and theoretical information. Uranium 234 concentrations can be derived from a NDA measured uranium 235 and/or uranium 238 concentration using the scaling factor based on the documented relationship.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0622200456967	Sr-90 to Cs-137 Ratio For Appendix E of Hanford Site Transuranic Waste Certification Plan for NDA	R. Clinton	Fluor Hanford	N/A	WS9	All	Ltr from R. Clinton to P. Crane to document analysis of historical data of Hanford Site Tank Waste. The purpose was to find a correlation between Cs-137 and Sr-90 using data from the Tank Waste information Network System (TWINS). A Sr-90 value can be derived from a concentration of Cs-137 using a scaling factor or ratio based on known, documented relationships or correlations. Since a consistent ratio could not be established, a default ratio of 1.1:1 was used. This is because there is a 1.1:1 ratio of Cs-137 to Sr-90 after the fission process.
TRU-SPO-11.9-0701200437361	Transmittal of Hanford Facility Resource Conservation and Recovery Act (RCRA) Permit Part A	J.E. Rasmussen to M.N. Jaraysi	Pacific Northwest National Laboratories	97-EAP-589	PR2	3	Identifies specific locations which define the HWTU and describes small bench treatment operations: molten salt destruction, pyrolysis, wet air oxidation, etc. etc.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200428969	325 Building Standard Operating Procedure	E.A. Berreth-325 Building Custodian	General Electric, Hanford Atomic Products Operation, Richland, WA	HW 73112	WS12	5-8, 14, 25-28	Describes minimum critical concentrations for Pu solutions; minimum planer array: etc. and various other controls dealing with criticality safety. Describes packaging procedures, precautions for acid – soaked waste, collection of radioactive liquid waste and restrictions on the use of lab sinks.
TRU-SPO-11.9-0707200429376	Removal of High Dose Low Level Waste	R.T. Steele	PNNL	SAL-325-HDLLW-1	PR8, WS5, WS6	3, 4	Describes use of 4 and 5 quart cans during hot cell waste packaging and load out of TRU waste.
TRU-SPO-11.9-0707200429979	Disposal of Contaminated and Radioactive Wastes from the SAL	R.T. Steele	PNNL	SAL-84-5	PR4	All	Describes steps for the removal of low level dry waste, glove box waste, high level dry waste and alpha radiation free liquid waste.
TRU-SPO-11.9-0707200430240	Routine Research Operations	G.J. Lumetta	PNNL	RPL-OP-001 / Rev 0 and 1	PR3, PR4, PR5,	All	Procedure provides direction for routine chemical research operations in laboratories within the Bldg 325 Radiochemical Processing Laboratory
TRU-SPO-11.9-0707200430521	Handling and Opening Radioactive Material Shipments	R.T. Steele	PNNL	SAL-84-7	PR4	All	Provides instructions for the safe handling and opening of radioactive material shipments.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200430731	Instructions for PHR-146 Micro Combination pH Electrode	LAZAR Research Laboratories Inc.	LAZAR Research Laboratories Inc.	13 644 5	WS12	5	Describes the proper use of the PHR-146 Micro Combination pH Electrode. States to use acetone to clean the connector.
TRU-SPO-11.9-0707200431037	Ross pH Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc	227296-00 / Rev C	WS12	All	Instructions for the ROSS series of pH electrodes.
TRU-SPO-11.9-0707200431225	Model 94-09, 96-09 Fluoride/Combination Fluoride Electrodes Instruction Manual	Orion Research Inc.	Orion Research Inc.	502700-031 / Rev C	WS12	All	Describes Standard and Electrode filling solutions: glacial acetic acid, sodium hydroxide,.TRIS (hydroxymethyl) aminmethane, etc. etc.
TRU-SPO-11.9-0707200431579	Chloride/ Chloride Combination Electrode Instruction Manual	Orion Research	Orion Research, Inc.	502700-078 / Rev D	WS12	2	Describes Standard and Electrode filling solutions
TRU-SPO-11.9-0707200431874	Purification of Plutonium using Lewatit UMP-950 Ion Exchange Resin	J.L. Ryan	PNNL	325-PU-Purify-1 / Rev 0	WS12	All	Procedure provides a method to chemically purify plutonium by ion exchange. Lists chemicals used: Reagent Grade NH4F, HNO3, Al(NO3)3, H202, La(NO3)3, 85% Hydrazine, Ascorbic acid, Oxalic acid
TRU-SPO-11.9-0707200432171	Leaching Tests using the PCT Method	K.H. Olson	PNNL	MCC-TP-19	WS12	All	Procedure describes the techniques and methods for performing static leaching tests of crushed glass specimens. Describes various chemicals used to clean vessels and gaskets: HNO3, acetone and ethanol

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200432378	Evaluation of Monolithic Radioactive Material Immobilization Form Behavior in Fume Hoods	R.D. Scheele	PNNL	RPL-PIP-Ceramic Test-1 / Rev 0	WS6	All	Test Plan details the activities that will be performed to determine the behavior of radioactive material immobilized in a monolithic matrix form during routine operations. Describes various waste forms discarded after use during cleaning.
TRU-SPO-11.9-0707200432862	Preparation and Viewing of Samples by Microscopy	R.D. Scheele	PNNL	RPL-EMSP-1, Rev. 0	WS12	7	Procedure supplements Procedure RPL-PIP-1 and is used for mounting and viewing samples. Describes chemicals used: ethanol, acetone
TRU-SPO-11.9-0707200433058	Standard Test Method for Fluoride Ion in Water		ASTM	D 1179-99	WS12	All	Test methods for the determination of fluoride in water. Describes chemicals used: silver sulfate, sodium arsenate, sodium fluoride, sulfuric acid, etc. etc.
TRU-SPO-11.9-0707200437469	Solids Analysis X-Ray Diffraction	E.D. Jenson	PNNL	PNNL-RPG-268 / Rev 1	WS6, WS12	All	Procedure applies to operation of the Scintag PAD V X-ray diffractometer located in Room 409 of Building 325. Metals that may be examined include (but not limited to): metals, non-metals, powders, sludge or paste, wires, etc. etc.

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200437869	Plutonium Immobilization Project Exceptions to ASTM C1220-98 as Pertaining to Static Leach Testing of Monolithic Ceramic Specimens	D. Strachan	PNNL	ASTM C1220-98	WS12	All	Test method evaluates the relative chemical durability of simulated and radioactive monolithic waste forms in various test solutions at < 100C under low surface-to-area-to-volume radio conditions. Prior to 10/12/00 specimens were cleaned using an ultrasonic cleaner and ethanol. After 10/12/00 specimens were cleaned using dionized water.
TRU-SPO-11.9-0707200438233	Laboratory Procedure for Operation of the Differential Scanning Calorimeter (DSC), Thermo gravimetric Analyzer (TG), and High Temperature Differential Thermal Analyzer (DTA) and DSC	R.D. Scheele	PNNL	ICN-PNL-ALO-508R0.2 / Rev 0	WS6	All	Procedure is applicable to compounds and mixtures which undergo changes due to reaction, thermal decomposition or phase changes. Procedure describes various waste forms that are generated and how they the waste is managed.
TRU-SPO-11.9-0707200438443	Preparation, Processing and Testing of Radioactive Glass and Ceramics	R.D. Scheele	PNNL	RPL-PIP-1 / Rev 2	WS9	6	Procedure provides general approaches and requirements for preparing, processing, testing, and characterizing radioactive calcines, glasses, and ceramics – which may contain plutonium, uranium, thorium, or any other radionuclides.

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200438660	Fabrication of Ceramic Samples	W.C. Buchmiller	PNNL	RPL-PIP-2 / Rev 0	WS4, WS9, WS12	All	Procedure provides direction for the production of radioactive and non-radioactive ceramic pellets for the Plutonium Immobilization Project. Procedure provides chemicals used (oleic acid) specific processes and specific radioisotopes used during hot ceramic slurry spiking.
TRU-SPO-11.9-0707200438880	Fluoride, Chloride, and pH Measurements with Specific Ion Electrode	R.D. Scheele	Procedure used by PIP to measure ion concentrations with a specific ion electrode.	RPL-PIP-3 / Rev 0	WS6, WS12, WS10,	All	Procedure describes methods to measure pH, fluoride, and chloride of radioactive samples with ion-specific electrodes. Procedure describes waste materials and chemicals that may be in the waste: KCl, NaCl, Kim Wipes, squirt bottles, acetic acid, etc. etc.
TRU-SPO-11.9-0707200439209	Mounting Radioactive Samples in PIP XRD sample holder base	R.D. Scheele	PNNL	RPL-PIP-4 / Rev 2 and 3	WS6, WS10, WS12	2-11	PNNL operating procedure which describes the process for mounting radioactive and non-radioactive solid and powdered samples form the Pu Immobilization Project and other Projects. Describes chemicals used and waste form: ethanol, propanol, tape, rags, etc. etc.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0707200439457	Measurement of Releases to a Statis Aqueous System (3-Day MCC Static Leach Test)	W.C. Buchmiller	PNNL	RPL-PIP-5 / Rev 0	WS6, WS10, WS12	All	Procedure provides direction in how to measure release rates from radioactive materials into aqueous systems. Describes chemicals used and waste form: pipettes, thermometers, ultra high purity nitric acid, acetone. Directs user to discard rinsate, sodium hydroxide solution and used solvent.
TRU-SPO-11.9-0707200439643	Evacuated Impregnation Method for Apparent Specific Gravity, Bulk Density, and Apparent Porosity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-1 / Rev 1	WS6, WS10, WS12	2-4	Procedure provides instructions for density, porosity, and specific gravity using gas pycnometery and geometric measurements. Describes potential waste materials and waste forms: approved solvent, moistened towels, Kodak Photoflo, etc. etc.
TRU-SPO-11.9-0707200446123	Geometric Density Determination of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-2 / Rev 3	WS6, WS10, WS12	2-5	Procedure provides direction in the measurement of the dimensions and geometric densities of candidate plutonium immobilization forms prepared for the Plutonium Immobilization Project. Procedure describes potential waste forms and chemicals used / discarded.

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.6-0707200446381	Polishing of Ceramic Pellets and Glasses Using the MINIMET Polisher/Grinder	R.D. Scheele	PNNL	APEL-PIP-5 / Rev 2	WS4, WS6, WS10, WS12	2, 3, 4,	Procedure provides direction for polishing or size reducing radioactive or non-radioactive materials for the Plutonium Immobilization Project as well as other programs. Procedure describes potential waste forms and chemicals to be used a discarded.
TRU-SPO-11.9-0707200450552	Profiling Ovens and Furnaces	W.C. Buchmiller	PNNL	APEL-PIP-6 / Rev 0	WS6	2,3	Procedure provides direction in the determination of the temperature profile in ovens and furnaces used by the Plutonium Immobilization Project. Procedure describes potential waste forms that may be generated.
TRU-SPO-11.9-0707200450893	Transfer of SPFT and PUF Vessels Containing Crushed Pu- or Pu-238 Containing Materials	V.L. LeGore	PNNL	RPL-PIP-SPFT-1 / Rev 0	WS6, WS12	All	Procedure used for packaging and transfer of Single Pass Flow leach Test and Pressurized Unsaturated Flow Leach Test vessels containing Pu- or Pu-238 between labs in the Bldg 325 Radiochemical Processing Laboratory. Procedure describes possible waste form and chemicals to be discarded.

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200426725	Preparation of Nondispersible Solid Samples Containing Radioisotopes for Magic-Angle Spinning Nuclear Magnetic Resonance Spectroscopy Measurements	H.M. Cho	PNNL	RPL-MAS-NMR, Rev. 0	WS12	All	Procedure provides direction in preparing non-dispersible solid monolith samples for Magic Angle Spinning Nuclear Magnetic Resonance Spectroscopy experiments. Describes chemicals and materials used in preparation and cleansing.
TRU-SPO-11.9-0708200426986	Operation of Scintag Pad-V X-Ray Diffractometer (RGD#62)	H.T. Schaef	PNNL	RPL-XRD-PIP / 2	WS6, WS12	1.2, 1.3, 1.5, 1.6	PNNL operating procedure for the Scintag Pad-V X-Ray Diffractometer. Describes potential waste item generation points: water form cooling water system; spent x-ray tubes; shielding
TRU-SPO-11.9-0708200427207	Procedure for Surface Area Measurement using BET with the Quantachrome Gas Analyzer in the SAL	E. Buck	PNNL	GDSP-01-BET / Rev 0	WS4, WS6, WS12	1-5, 7	Bldg 325 operating procedure for the determination of surface area for calcination of release rates for spent fuel flow. Procedure identifies potential waste forms such as: tygon tubing, gas syringes, etc. etc.
TRU-SPO-11.9-0708200427461	Bag/In and Out Operations Shielded Analytical Laboratory Glove Box	R.T. Steele	PNNL	SAL-84-8	WS6	1	Procedure provides direction and safe handling during bag in / bag out operations in a shielded analytical laboratory glove box. Describes potential physical waste forms.

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200428050	Operation of Gamma Spectroscopy Equipment	G.J. Lumetta	PNNL	511-4 / 0	WS2, WS9	2, 3, 14	Procedure used for handling radioactive samples in Room 511 of Bldg 325. Procedure states instrument may be calibrated using Cs-137, Am-241 or Co-60.
TRU-SPO-11.9-0708200428240	Operation of Single Pass Flow Through Experiment	D.M. Wellman	PNNL	RPL-PIP-SPFT / Rev 1	PR4, WS4, WS6, WS9	2, 3, 5, 6, 7, 9, 10, 11, 12, 13, 14	Procedure describes the operation of the Single Pass flow Through experiment used to test radioactive and non-radioactive glass and ceramic materials under pH and temperature specific conditions. Procedure described specific radionuclides contained in materials tested, equipment and materials used, and waste forms and chemicals that have the potential to be discarded as waste.
TRU-SPO-11.9-0708200428483	Archimedes (Bouyancy) Method for Apparent Specific Gravity Determinations of Consolidated Solids	W.C. Buchmiller	PNNL	APEL-PIP-3 / Rev 1	PR3, WS10, WS12	2, 3, 4	Procedure used for density, porosity, and specific gravity measurements of structural properties or ceramic samples. Provides examples of materials used and potential waste forms / chemicals to be discarded: ultrasonic cleaners and water baths, desiccant, Kodak Photoflo

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Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200429257	Gas Pycnometry Method for Apparent Specific Gravity Determinations of Consolidated Solids	R.D. Scheele	PNNL	APEL-PIP-4 / Rev 2	WS6, WS10, WS12	2, 3, 4	Procedure used for density and specific gravity determination in a fume hood. Describes potential waste forms and chemicals used.
TRU-SPO-11.9-0708200429446	Response to Vacuum Alarms in RPL Glove boxes and Use of RPL Glove box Airlock	R.D. Scheele	PNNL	RPG-94-1 / Rev 1	WS2	2	Procedure describes responses to vacuum alarms in RPL glove boxes and the use of the RPL glove box airlock. Describes specific area where waste mat be generated.
TRU-SPO-11.9-0708200429642	Dry Waste Removal from the Cells Using the Drum Load Out Assembly	G.H. Bryan	PNNL	325-A-20 / Rev 0	WS11	6, 7, 8, 9	Describes the use of 4-gallon and 5-gallon cans. Waste packaged in inner can was covered with lid and placed in outer can. Cans may have been packed with lead shielding.
TRU-SPO-11.9-0708200429856	Installation of In-Line Back Flow Preventors and/or In-Line Isolation Valves on Single Pass Flow Through Systems	H.T. Schaef	PNNL	RPL-PIP-SPFT-3 / Rev 0	WS5	3, 4, 5, 6	Procedure describes direction in the installation of in-line back flow preventors and/or in-line isolation valves on the Single Pass Flow Through systems and the performance of minor syringe pump maintenance.
TRU-SPO-11.9-0708200430448	Routine Management, Storage and Disposal of Hazardous, Low-Level Radioactive or Mixed Waste			WM1	PR5, WS6, WS12	1.3-1.7	Describes hazards associated with radiological exposure, contamination and chemical contact. Describes packaging procedure in which waste bagged out of hoods were double bagged

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200431008	Transmittal of Variance RAD-00006	R.D. Scheele	Battelle	RAD-00006	WS4, WS5, WS9	All	Provides description of needed variance allowing radionuclide limits to be exceeded in order to perform bench top experiments on ceramic Pu and U immobilization forms.
TRU-WST-11.4.3-1017200543795	Data Quality Objectives Summary Report for D&D Waste Characterization of the 300 Area Buildings	R.A. Thoren	CH2M Hill Hanford, Inc	BHI-01750 Rev. 0	PR3, WS9, WS10	All	Provides site background. Indicates radionuclides in the waste stream. Discusses hazardous constituents.
TRU-SPO-11.9-0708200431216	Past Practices Technical Characterization Study-300 Area- Hanford Site	M.S. Gerber	Westinghouse Hanford Company	WHC-MR-0388	PR2, PR3, WS2, WS9, WS12	137, 138, 140, 141	Describes facility history and configuration of high-level radiochemistry annex, original mission to support REDOX, and subsequent missions including bismuth phosphate process, radioactive lanthanum development, tritium production and plutonium chemistry. Describes particulate radionuclides that may be present in waste including I-131 and 132, Curium (Cm)-144, ruthenium-103 and 106, Sr-90 and Y-90

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200431435	A History of Solid Waste Packaging at the Hanford Site	D.R. Duncan, D.I. Weyns-Rollosson, J.A. Pottmeyer, T.J. Stratton	Westinghouse Hanford Company	WHC-SA-2772-FP	PR3, PR4, PR5, WS6, WS10, WS8, WS12	4, 5, 6, 7, 8, 9, 10	Provides defense link by stating solid radioactive waste generation at Hanford was coincident with defense materials production initiated in 1944. Provides date of waste segregation by waste type. Describes design of waste containers, color coding of drums to separate waste type, and containment layers used during packaging.
TRU-SPO-11.9-0708200435233	Safety Analysis Report for 325 Building	Pacific Northwest Laboratory	Pacific Northwest Laboratory Richland, Washington	PNL-7748	PR1, PR2, PR4, PR7, WS4, WS5, WS9, WS10, WS12	1.1, 2.1, 3.1, 3.2-3.4, 4.4, 4.6-4.19, 4.19-4.23, 4.33-4.35, 7.3, 7.8, 7.9, A.5, A.11, A.14, B.6, B.15-B.18, B.33, B.89, D.5-D.26, F.3-F.5	Document gives facility description and purpose, location, specific processes by location within the facility, maximum container volume and radionuclide limit of Pu-239, flammable and toxic materials storage locations, relative amounts of At Risk inventory, 10/1989 Chemical Inventory, Expected Radionuclide source terms for resins in ion-exchange columns, Radionulides identified for dose determinations

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-0809200628265	TRU Waste Packaging Requirements and Certification	L.D. Schwartz	PNNL and Waste Management	WHC-EP-0063/RHO-MA-222/PNL-MA-70/SD-WM-TI-202	PR4	All	Document provides an overview of WIPP requirements and how these requirements are applicable to and are satisfied by the Hanford TRU Waste Certification Program
TRU-SPO-11.9-0708200436028	Characterization of Past and Present Waste Streams from the 325 Radiochemistry Building	D.R. Duncan, J.A. Pottmeyer, M.I. Weyns-Rolloson, K.D. Dicenso, and D.S. DeLorenzo	Westinghouse Hanford Company, Richland Washington	WHC-EP-0696	PR1, PR2, PR4, PR6, PR7, WS2, WS3, WS5, WS9, WS12	All	Document provides a location of the Bldg 325 Radiochemistry Lab, descriptions of historical and current TRU waste generating operations, map of the Hanford Site, types and quantities of TRU waste generated including historical and future projections, correlation of waste streams generated and description of time generated, etc. etc.
TRU-SPO-11.9-0708200438206	Facility Effluent Monitoring Plan for the 325 Facility	M.Y. Ballinger and T.D. Chikalla	Battelle Pacific Northwest Laboratories, Richland, WA	PNL-MA-661	PR2, WS2, WS4, WS5, WS9, WS12	Iii, B.1, C.1, 2.5, 4.5, Appendix A	Document lists specific process locations, chemical inventories, and specific waste generating processes

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RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200438712	Hanford Facility Dangerous Waste Permit Application, 325 Hazardous Waste Treatment Units	Pacific Northwest National Laboratory	Pacific Northwest National Laboratory, Richland, WA	DOE/RL-92-35 / Rev 1	PR1, PR2, PR3, PR4, PR5, PR7, PR8, WS2, WS4, WS5, WS9, WS10, WS12	All	Contains treatment options (i.e. molten salt destruction, chlorination, etc.), liquid waste management, Hazardous Waste Treatment Unit description, EPA codes, hazardous material release scenarios and emergency response, facility mission and location, HWTU waste analysis plan , and facility hazard characterization
TRU-SPO-11.9-0708200439517	Characterization of the 618-11 Solid Waste Burial Ground, Disposed Waste, and Description of the Waste-Generating Facilities	J.A. Demiter and W.O. Greenhalgh	Waste Management Federal Services, Inc.	HNF-EP-0649	PR1, PR2, PR3, PR4, WS6	2-2, 3-2, 3-10, 3-14, 3-19, 6-2	Document provides maps of the Hanford Site. Document characterizes the 618-11 solid waste burial ground, the wastes generated at Hanford, and describes the facilities and activities that generated the wastes.
TRU-SPO-11.4.3-0414200630007	1995 Baseline Solid Waste Management System Description	G. S. Anderson and H. S. Konynenbelt	Prepared for the U. S. Department of Energy/Westinghouse Hanford Company by Pacific Northwest Laboratory, Richland, Washington	PNL-10743 AD-940	PR3, WS5, WS6, WS10, WS12	1.1, Chapters 2, 3, 7 Pg 7.3	Document provides a detailed description of Hanford's solid waste system including treatment, storage and disposal strategy for managing Hanford's solid low-level waste, low-level mixed waste, TRU and TRU mixed waste and greater than Class III waste.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200440020	Analytical Chemistry Laboratory Manual, Volume 2, Analytical Chemistry Methods for Mixed Uranium-Plutonium Oxide Fuel	W.L. Delvin	Hanford Engineering Development Laboratory, Richland WA	MG-28, Rev. 2	WS5	30.0.1-30.8.12, 40.0.1-40.19.9, and 50.0.1-50.3.16	Compendium of Hanford Engineering Development Laboratory analytical methods. These analytical methods were used for analysis of mixed oxide Uranium-Plutonium fuels. They were grouped into three categories: 1) analytical methods to detect the composition of the U/Pu MOX fuels; 2) analytical methods to detect the impurities in the U/Pu MOX fuels; 3) analytical methods to determine the physical characteristics of the MOX fuels.
TRU-SPO-11.9-0708200440354	Hanford Site Solid Waste Acceptance Criteria	J.B. Bolles	Fluor Hanford	HNF-EP-0063 / Rev 8	PR3, PR4, PR5, PR8	All	Describes solid waste acceptance criteria for the: Central Waste Complex; T Plant Complex; Waste Receiving and Processing Facility

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-080920627933	Hanford Site Transuranic Waste Management Program Acceptable Knowledge Documentation for Retrievably Stored Contact-Handled Waste	R. Clinton	Fluor Hanford	HNF-3461 / Rev 7	PR1, PR2, PR4, PR6, PR7, PR8, WS2, WS3, WS4, WS9	All	Contains waste management program information for defense-related, retrievably stored, contact-handled TRU and TRU mixed wastes at the Hanford Site. Historical and current Site information is presented relative to Site location, description, mission, and waste certification procedures.
TRU-SPO-11.9-0708200440649	Testing and Analysis of Consolidated Sludge Samples from the 105 K East Basin Floor	P.R. Bredt, C.H. Delegard, A.J. Schmidt, K.L. Silvers.	PNNL	PNNL-13341	WS4, WS6, WS12	1-32	This report describes the testing performed on KE Basin consolidated sludge samples by PNNL in May through November, 1999. Report provides potential waste forms and chemicals used and also describes waste generating processes.
TRU-SPO-11.9-0708200441084	Organic Analysis Progress Report FY 1997	S.A. Claus, K.E. Grant, V. Hoopes, G.M. Mong, R. Steele, D. Bellofatto, and A. Sharma	PNNL	PNNL-11738	WS4, WS6, WS10, WS12	All	Report describes work performed on the optimization of analysis techniques for identifying organic components in Hanford waste tank samples by PNNL during FY 1997. Document provides potential waste forms to be discarded as well as chemicals used during the analytical process.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200441405	Inorganic and Radiochemical Analysis of 241-C-104 Tank Waste	S.K. Fiskum, C.J. Aringa, J.P.Bramson, K.J. Carson, J.R. DesChane, O.T. Farmer, L.R. Greenwood, F.V. Hoopes, R.T. Ratner, D.R. Sanders, M.J. Steele, R.T. Steele, C.J. Soderquist, R.G. Swoboda, K.K. Thomas, T.L. Trang-Le, M.W. Urie, J.J. Wagner	CH2M Hill Hanford Group and PNNL	PNNL-13364/WTP-RPT-007 / Rev 0	WS4, WS9, WS10, WS12	All	Document provides analytical results of C-104 Tank waste which included cadmium, chromium mercury and lead in amounts greater than regulatory limits.
TRU-SPO-11.9-0708200447679	Facility Effluent Monitoring Plan for the 325 Radiochemical Processing Laboratory	PNNL	PNNL	PNNL-12157	WS2, WS4, WS9, WS10, WS12	All	Document was prepared to meet DOE Order 5400.i and other Environmental Protection Agency programs. Document provides chemical usage, areas in which chemicals will be used and waste generating processes.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0708200448468	Temporary Variance 00-1 (to CSS 325-1, Rev. 4)	M.W. Urie	Bldg 325 Operations / Criticality Safety Organization	CSS 325-1 / Rev 4	WS9	1, 2	Document provides a variance to existing Criticality controls in Bldg 325 glove box 283. Also provides a description of what radionuclides are allowed in a specific area.
TRU-SPO-11.9-0708200448678	MSDS for commercial products	Various	N/A	N/A	WS12	All	Material Data Safety Sheets form various manufacturers of various commercial chemicals products used in Bldg 325.
TRU-SPO-11.9-0706200430656	RMIS Retrievals-Solid Waste Disposal Requests and Associated Waste Information	Various PNNL personnel	N/A	N/A	PR2, PR5, PR4, PR7 WS1, WS6, WS8, WS9, WS10, WS12	All	Includes individual Solid Waste Disposal Records, Contents Inventory Sheets, and Waste Acceptance Criteria checklists for the TRU debris generated from Bldg 325
TRU-SPO-11.9-0706200426745	Solid Waste Information Tracking System (SWITS)-Container Assay Data Dump for the Building 325 Radiochemistry Laboratory	N/A	N/A	N/A	PR7, WS3, WS9	All	Radionuclide data dump from Hanford's Solid Waste information System for Building 325 containers stored at the Central Waste complex.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0706200427171	Plutonium Oxide Characterization for MOX	C. Delegard	PNNL	PNNL-325	PR2, WS4, WS5, WS9, WS10, WS12	1, 2, 4, 5	Describes analytical methods used for characterization of Pu oxide in MOX. Identified chemical content of oxidized samples – includes 0.5% hexavalent chromium. Describes expected amount of Pu oxide generated after leaching. Describes expected waste form output. Provides flow diagram of analytical process.
TRU-SPO-11.9-0818200640189	AK Summary -Record of Communication Interview with Gary Lanham and Stan Bos	M. Conilogue, M. Anderson	AK	N/A	WS4	All	Documents Record of Communication between AK Engineer and Bldg 325 operators which involves the use of heat sealed bags in bldg 325 during a time frame between 1983-1987.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0818200639640	AK Summary – AK Source Document Deficiency/Use of Heat Sealed Bags	M. Conilogue	AK	N/A	WS4	All	Documents and resolves deficiency between Record of Communication of Wayne Larsen (TRU-SPO-11.4.3-0701200463325) and Record Of Communication of Gary Lanham (TRU-WST-11.4.3-1219200555145) regarding the use of single heat sealed bags in Bldg 325. Deficiency resolved by re-interviewing Gary Lanham (TRU-SPO-11.4.1-0816200647976) on 8/3/06 and also Stan Bos (TRU-SPO-11.4.1-0816200648116) on 8/15/06, both of which confirmed the use of single heat sealed bags in Bldg 325 for a time period of 1983-1987.
TRU-SPO-11.4.3-0606200628721	Hanford Site Transuranic Waste Certification Plan		Fluor Hanford	HNF-2600	PR8	All	Document controls certification activities for TRU waste at the Hanford Site that will be sent to the WIPP for disposal.
TRU-SPO-11.4.1-1026200645819	Record of Communication	M. Conilogue	AK	N/A	WS4	All	Heat-sealed bags used in the 325 Facility were five feet in length and typically 8" in diameter.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0828200638735	325 Facility Debris Waste Stream Designation	M.E. Lakes	Waste Services/ Hanford	N/A	WS1	All	Provides hazardous waste characterization rationale and designation based upon chemical inventory in the Building 325 Facility. Attachments such as MSDSs, etc. provide supporting documentation.
TRU-TS-11.4.3-0423199947115	History and Stabilization of the Plutonium Finishing Plant (PFP) Complex, Hanford Site	M.S. Gerber	Fluor Daniel Hanford	HNF-EP-0924	WS2, WS3	9-7	PFP project and process descriptions including photographs
TRU-SPO-11.4.3-0606200628302	Hanford Site Transuranic Waste Quality Assurance Project Plan		Fluor Hanford	HNF-2599	PR5	All	Document controls transuranic waste characterization activities at the Hanford Site for waste that will be sent to WIPP for disposal.
TRU-SPO-11.9-0919200631754	35 FR 17530-17533, 52 FR 5992-6001, 53 FR 17709, 58 FR 12342-12347, 58 FR 64783, 59 FR 10439	United States Government	United States Government		WS4	All	Provides history of the decision making process by which waste incidental to the reprocessing of spent nuclear fuel can be designated as TRU / LLW using the Citation process and/or the Evaluation process as explained in Notice of Proposed Rulemaking 34 FR 8712

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-0906200639182	Low Level or Transuranic Waste Classification of Hanford Tank Waste Sample Test Residues	T.L. Moore		99-WPD-219, Rev 0	PR5	All	Documents the classification of Hanford tank sample residues as not high-level waste by listing / satisfying the three requirements of the Evaluation process.
TRU-SPO-11.4.5-0914200649458	AK Source Document Deficiency	M. Anderson	Fluor Hanford	Document Deficiency # 009	WS4	All	Document presents the resolution to CCP issued NCRs resulting from Central characterization Program (CCP) characterization of Hanford waste containers.
TRU-SPO-11.4.1-1025200656684	Record of Communication	M.H. Conilogue	N/A	N/A	WS4	All	5-gallon paint cans are typical of those found in any paint supply store. Lids were fastened using either a screwdriver or crimper. Four-gallon slip lid cans were fastened with no tape; cross taped; or cylindrically taped
TRU-SPO-16-0630200149652	Transuranic Waste Baseline Inventory Report	DOE	DOE	DOE/CAO-95-1121, Rev. 2, Dec 1995		All	Establishes the methodology of grouping wastes of similar physical and chemical properties into waste profiles. Provides currently stored and projected contact handled and remote handled TRU mixed and non-mixed waste volumes throughout the DOE complex.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-1013200649581	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-220-0001-00, -01, -02, -03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200649840	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-01, PNNL-230-0001-02	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-1013200650165	Waste Profiles published by the Hanford Waste Services Organization	Waste Services Organization	Fluor Hanford	PNNL-230-0001-03	PR5, WS4, WS12	All	Packaging section states waste may be packaged with up to six layers of confinement
TRU-SPO-11.4.3-0621200728671	Waste Profile Sheet – PNNL-240-0001, Rev. 3	Waste Services	Fluor Hanford	PNNL-240-0001-03	PR5 PR6 WS4 WS9 WS10 WS12	All	The document is a waste profile form prepared by the Waste Services organization. It provides a brief description of the waste generating process, estimated volume of the waste to be generated, and radionuclide and chemical constituents present in the waste.

Site: Hanford							
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris							
Waste Stream/Waste Stream Lot Number: RLM325D							
RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
TRU-SPO-11.4.10-1030200634971	Acceptable Knowledge Reevaluation Checklist RLM325D	M. Conilogue	Fluor Hanford	N/A	WS10	All	PNL-186034 [D7203158] & BP-188024 [D7197756] have been assigned EPA Hazardous Waste Number's (HWN's) D001 & D002. Container # BP-191004 [D198014006] has been assigned HWN D002 and Washington State Waste Toxicity Number WT02. The Waste Stream Designation and Acceptable Knowledge does not agree with nor attach these Waste Numbers. This reevaluation provides rationale removing these HWN's, direction to repack PNL-186034 to facilitate removal of the D002 HWN and the rationale to remove Washington State Toxicity Waste Number from Container # BP-191004
TRU-SPO-11.9-0906200638861	DOE Manual 435.1, Radioactive Waste Management	Office of Environmental Management	Department of Energy	DOE M 435.1-1	PR5		Describes both the Evaluation Process and Citation Process which waste incidental to reprocessing may be classified as non-high level waste.

Site: Hanford							
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris							
Waste Stream/Waste Stream Lot Number: RLM325D							
RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
TRU-SPO-11.9-0630200449685	Nuclear Waste Policy Act	DOE	Department of Energy	42 U.S.C 10141	N/A	N/A	Act provides for the development of repositories for the disposal of high-level radioactive waste and spent nuclear fuel, including establishing a program of research, development, and demonstration regarding the disposal of high-level radioactive waste and spent nuclear fuel.
TRU-SPO-0606200735392	Request for Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	R.G. Gallagher	Fluor Hanford	FH-0602938	S13	All	Document seeks approval concurrence for the waste incidental to reprocessing determination made for the 325 Building waste stream, RLM325D, using the citation method.
TRU-SPO-11.4.1-0606200735117	Contract No. DE-A06-96RL13200 – Approval of Waste Incidental to Reprocessing Determination for Hanford Site Transuranic Waste Stream RLM325D	K.A. Klein	Department of Energy – Richland Operations Office	0700042	S13	All	Document approves the waste incidental to reprocessing determination made for the 325 Building waste stream, RLM325D, using the citation method.

Site: Hanford							
Waste Stream/Waste Stream Lot: 325 Building Mixed Debris							
Waste Stream/Waste Stream Lot Number: RLM325D							
RMS Tracking #	**Title**	**Author**	**Publisher**	**Document/ Revision Number**	**AK #**	**Source Doc. Page Number**	**Summary**
TRU-SPO-11.4.3-1012200649482	Transuranic Waste Baseline Inventory Report-2004	U.S. Department of Energy	DOE-Carlsbad Field Office	DOE/TRU-06-3344, Rev. 0	PR2 PR3 PR4 PR6 WS1 WS2 WS3 WS4 WS6 WS7 WS9 WS10	Throughou t	Document provides descriptions of the waste streams anticipated to be generated at the Hanford Site, including anticipated stored and projected waste volumes, waste materials parameters, generating building, and a brief process description.
TRU-SPO-11.4.3-0612200739127	Hanford Site Operating Permit, Operable Unit 5 - 325 Hazardous Waste Treatment Units	Fluor Hanford	Washington State	WA7890008 967	PR1 PR4 WS2 WS4 WS9 WS10 WS12 S2 S16	30-31, 73-74 93-94 4, 47-49 7, 30 43-45, 47-49 9-22 43 7 52-61 77-79, 86-87	Document provides information on the hazardous constituents expected to be managed and treated in the 325 Building hazardous waste treatment units, including procedures for accepting and managing the waste, the treatments performed, the process for generating waste from the treatment units, and packaging the waste.
TRU-WST-11.4.3-0531200633612	Tank Farms Solid Waste Characterization Guide with Sampling and Analysis Plan Attachment	J.T. Quigley	RUST Federal Services of Hanford	HNF-SD-WM-PLN-119, Rev. 1	WS8 WS10 WS11	15 15-19 12, 13, 15, 32	Document describes the methods used, including soil sampling and analysis, to characterize hazardous chemical constituents in Tank Farms containerized solid waste.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.9-1026200650860	Data Quality Objectives Reconciliation, Headspace Gas Analysis Report, Flammable VOC Report, and Acceptable Knowledge Confirmation Checklist for 24 Containers from Waste Stream RLM325D, WSPF #RLM325D.001	M.H. Conilogue	Fluor Hanford	M4T00-TRU-06-639			
TRU-SPO-11.4.3-0613200740651	Radioiodine Control During Reprocessing of Short-Cooled Irradiated Neptunium-237 Aluminum Alloy Target Elements	W.O. Greenhalgh	Pacific Northwest National Laboratory	BNWL-460	PR4, PR6, WS4, WS12	All	Document describes the chemical contaminants present during the irradiation of Np-237 to produce Pu-238 and also those contaminates present when employing methods to control radioiodine as a result of the Np-237 irradiation.
TRU-SPO-11.4.3-0613200740171	325 Radiochemical Processing Laboratory website	G. Patello	Pacific Northwest National Laboratory	N/A	WS12	13, 14, 16	Website describes past, present and future Operations supported by the 325 Radiochemistry Laboratory including Office of River Protection Waste Treatment Plant, Plutonium Finishing Plant, Nuclear Fuels Research, use of yittrum-90 in cancer treatment, Yucca Mountain, Environmental Management, K-Basin Sludge Processing, and Mixed Oxide Feed Characterization

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-SPO-11.4.3-0613200740388	Preliminary FFTF Fuel Raw Materials Survey and Analysis	R.E. Beardsly	Battelle Northwest	BNWL-CC-1336	WS12	13, 14, 16	Document describes the chemical contaminants present in the FFTF process feed. The 325 Radiochemistry Laboratory supported the FFTF process.
TRU-SPO-11.4.3-0613200739512	Summary of Bismuth Phosphate Process and Plutonium-Uranium Extraction Process Chemical Flowsheets	M.E. Johnson	CH2M Hill Hanford	7G330-MEJ-03-001	WS4 WS5 WS10 WS12	3-27 3-15, 19-27 3-15, 19-27 3-15, 19-27	Document identifies the chemicals used and the steps in the processes to recover plutonium using the bismuth phosphate and PUREX techniques. Chemical inputs and intermediaries are identified for each step in the process.
TRU-SPO-11.4.3-0613200739801	RECUPLEX Process Chemical Flowsheets, RECUPLEX HW#1 and HW#2	C. Groot, R.E. Tomlinson, D.P. Granquist	N/A	HW-22604	WS2 WS4 WS5 WS12	2-3 2-7 6-7 2-7	The document identifies the purpose of the RECUPLEX processing (solvent extraction) as to combine the plutonium from various sources (given in the memo) into a form amenable for use in the 234-5 process (i.e., Plutonium Finishing Plant).
TRU-SPO-11.4.3-0613200740836	REDOX Process Waste Streams - Approximate Quantities and Compounds	N/A	Hanford Works	HW-10733	WS12	All	Document describes the chemical contaminants present in the REDOX process waste streams, which were supported by the 325 Building.

Site: Hanford

Waste Stream/Waste Stream Lot: 325 Building Mixed Debris

Waste Stream/Waste Stream Lot Number: RLM325D

RMS Tracking #	Title	Author	Publisher	Document/ Revision Number	AK #	Source Doc. Page Number	Summary
TRU-TS-11.4.2-0503199943148	PRF Solvent Extraction Depletion Flowsheet – High Uranium/High Fluoride Feed	Process Engineering Group	PFP Administration	PFD-Z-180-00001, Rev. C-1	WS4 WS5 WS10 WS12	5-6 7 22-29, 47-51 47-51	Document describes the PRF solvent extraction process in great detail, providing flow diagrams and giving column by column breakdown of the chemicals involved.
TRU-TS-11.4.3-0428199949492	Inventory of Chemicals Used at Hanford Site Production Plants and Support Operations	M.J. Klem	Westinghouse Hanford Company	WHC-EP-0172, Rev. 1	PR4 PR7	Entire	Document provides chemical information by facility with the time frame for these chemicals indicated.

Appendix A

Figures

Figure 1 – Location of Hanford Site

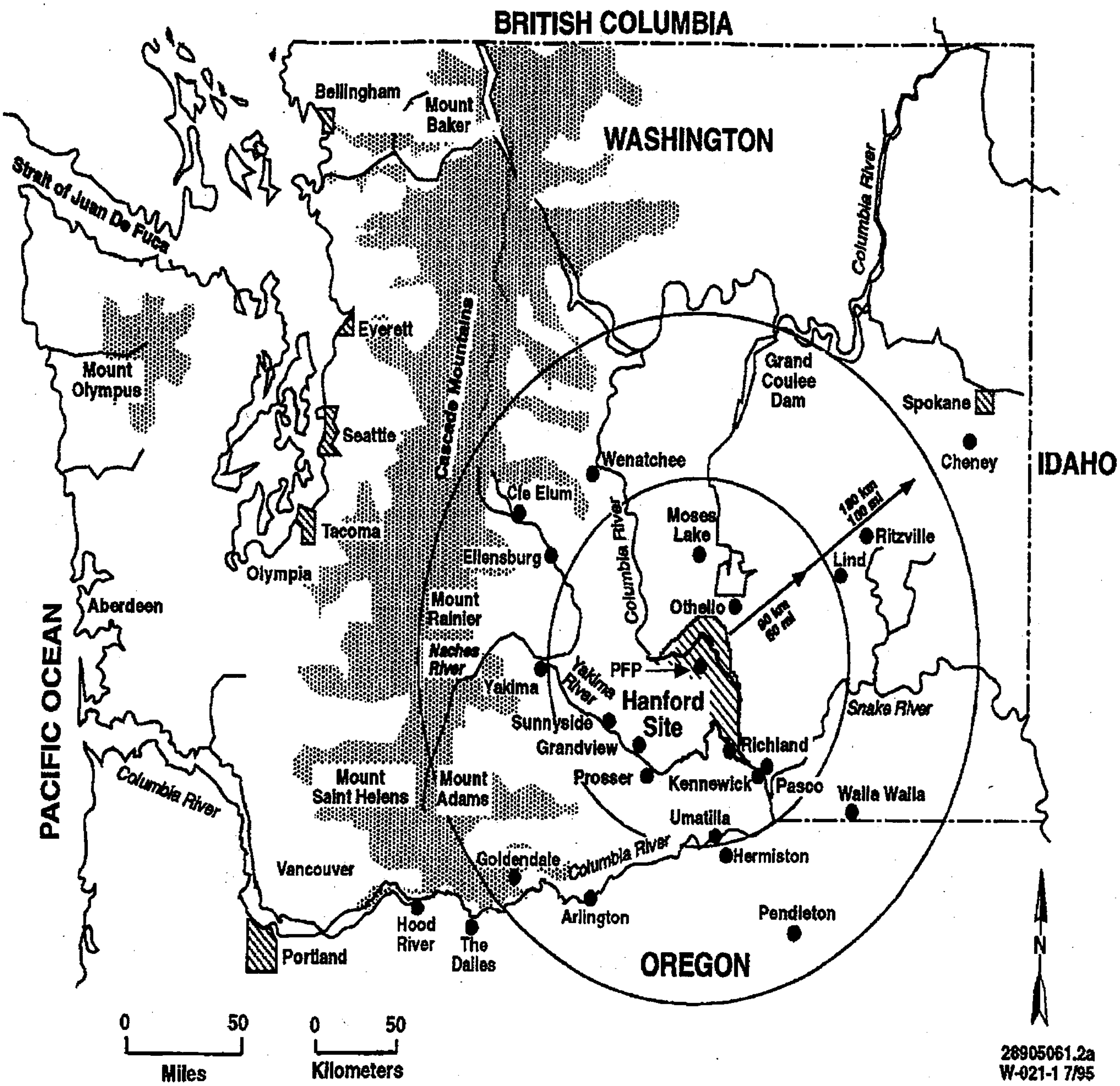


Figure 2 – Location of Major Areas at the Hanford Site

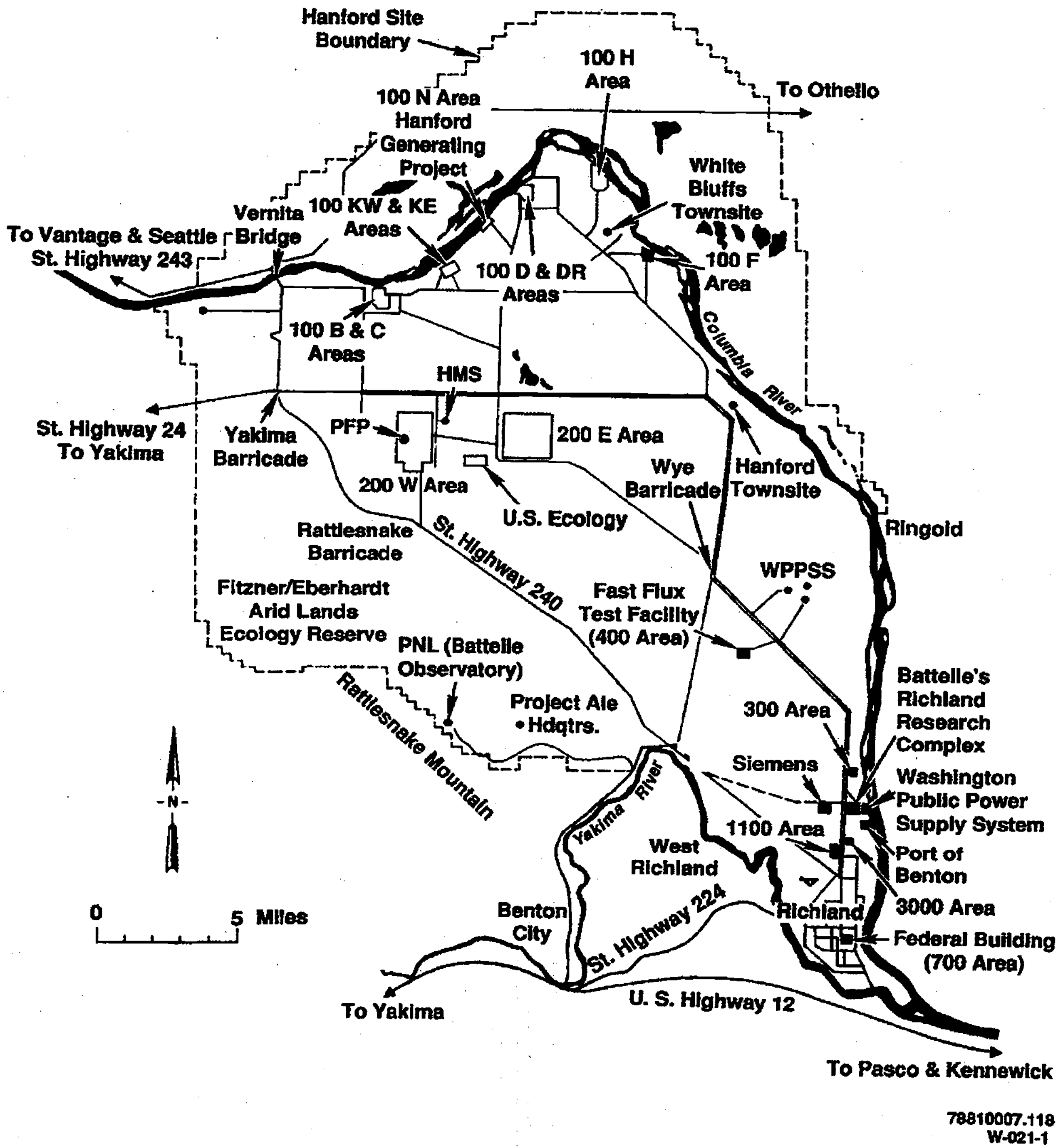


Figure 3 – 300 Area Layout

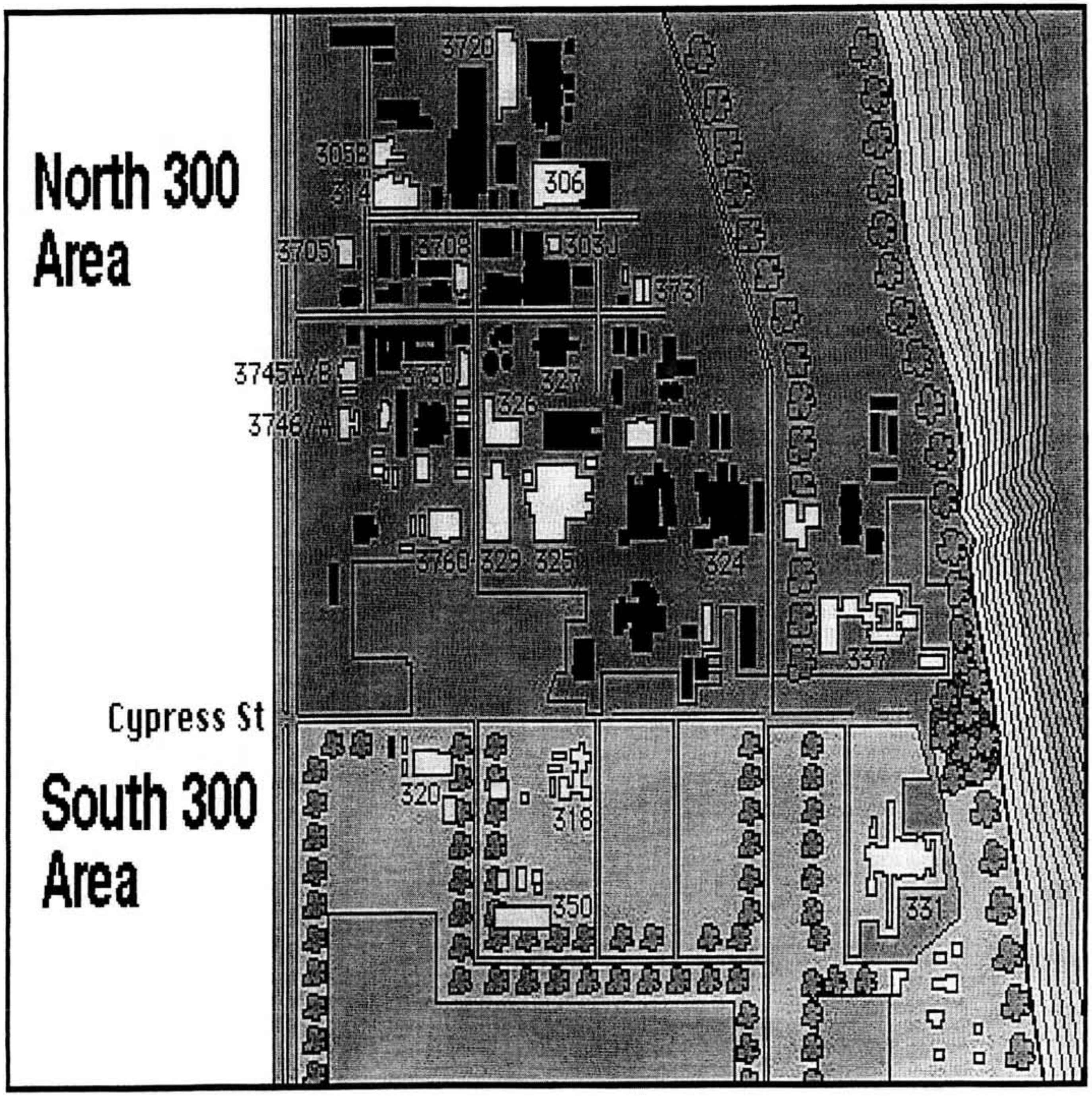


Figure 4 – Typical Laboratory Analysis Flow

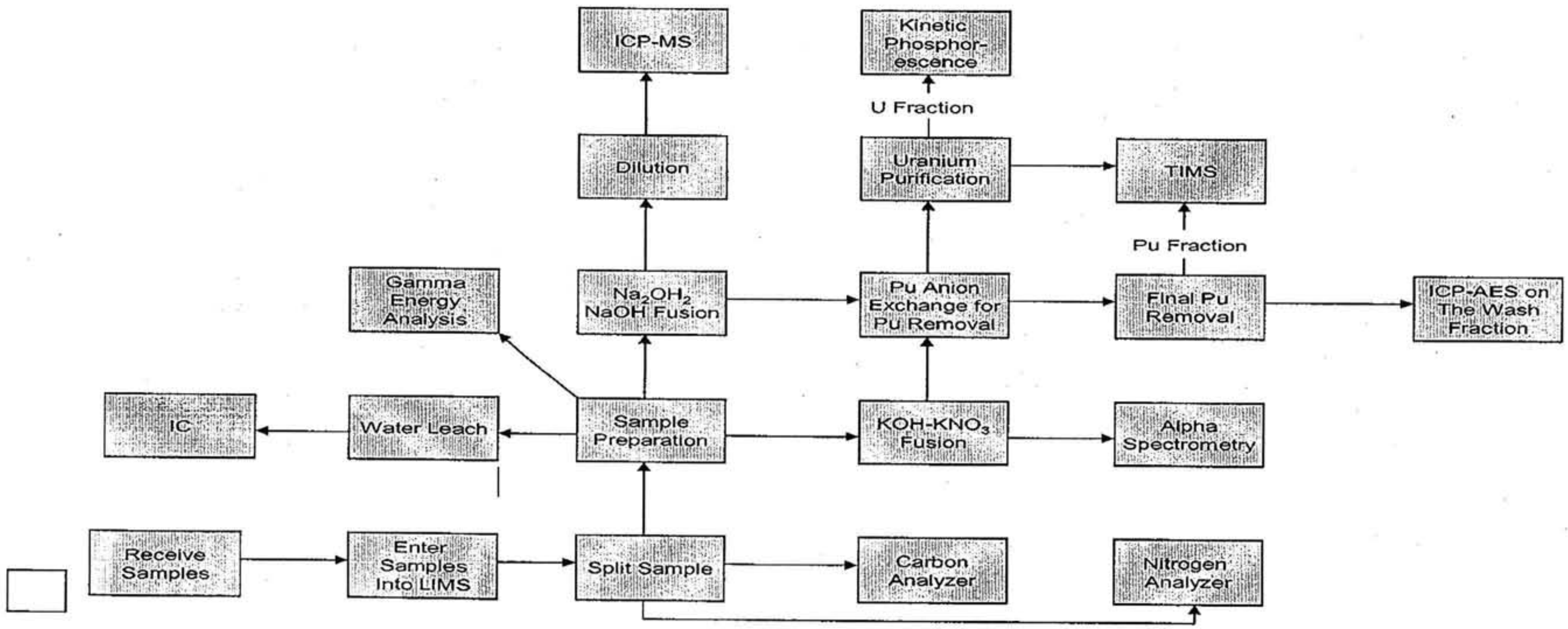


Figure 5 – Location of the HWTU and Shielded Analytical Laboratory (main floor)

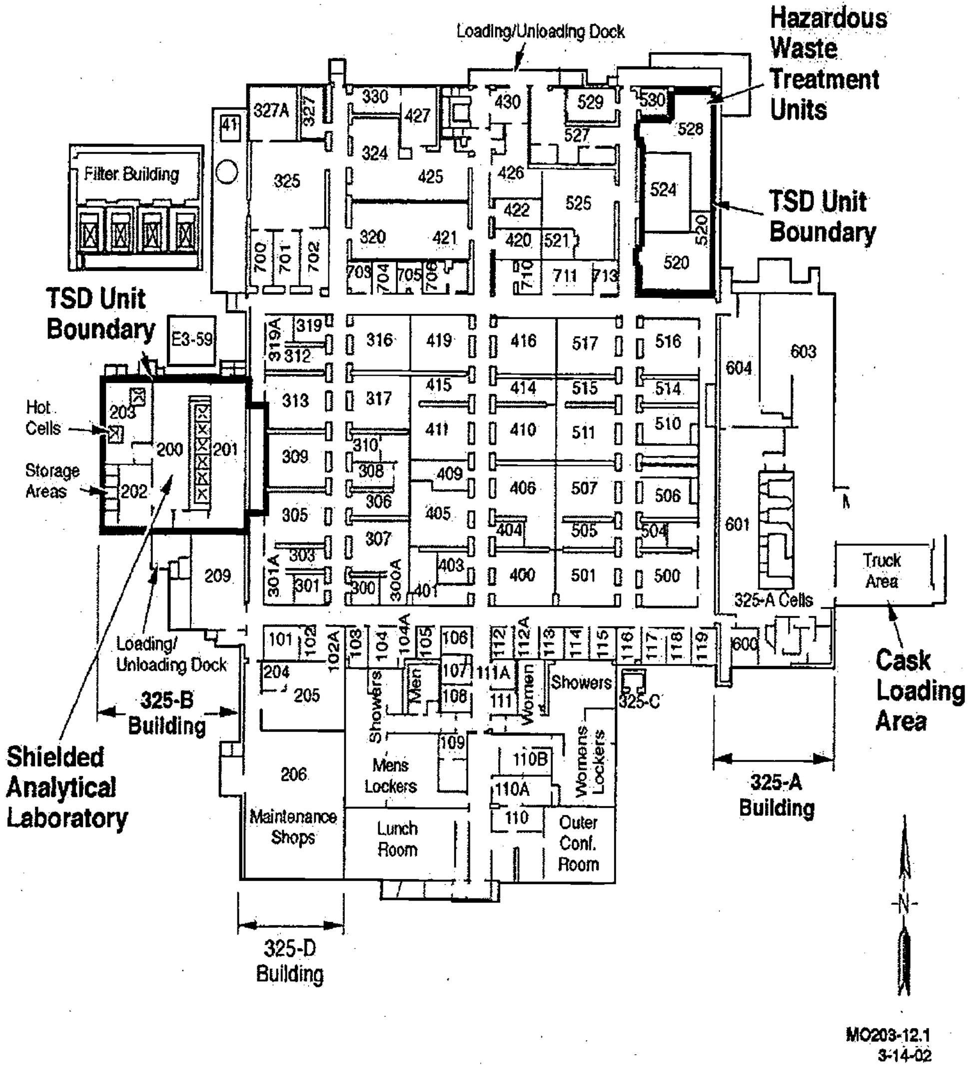


Figure 6 - Location of the SAL Tank in Room 32 (basement)

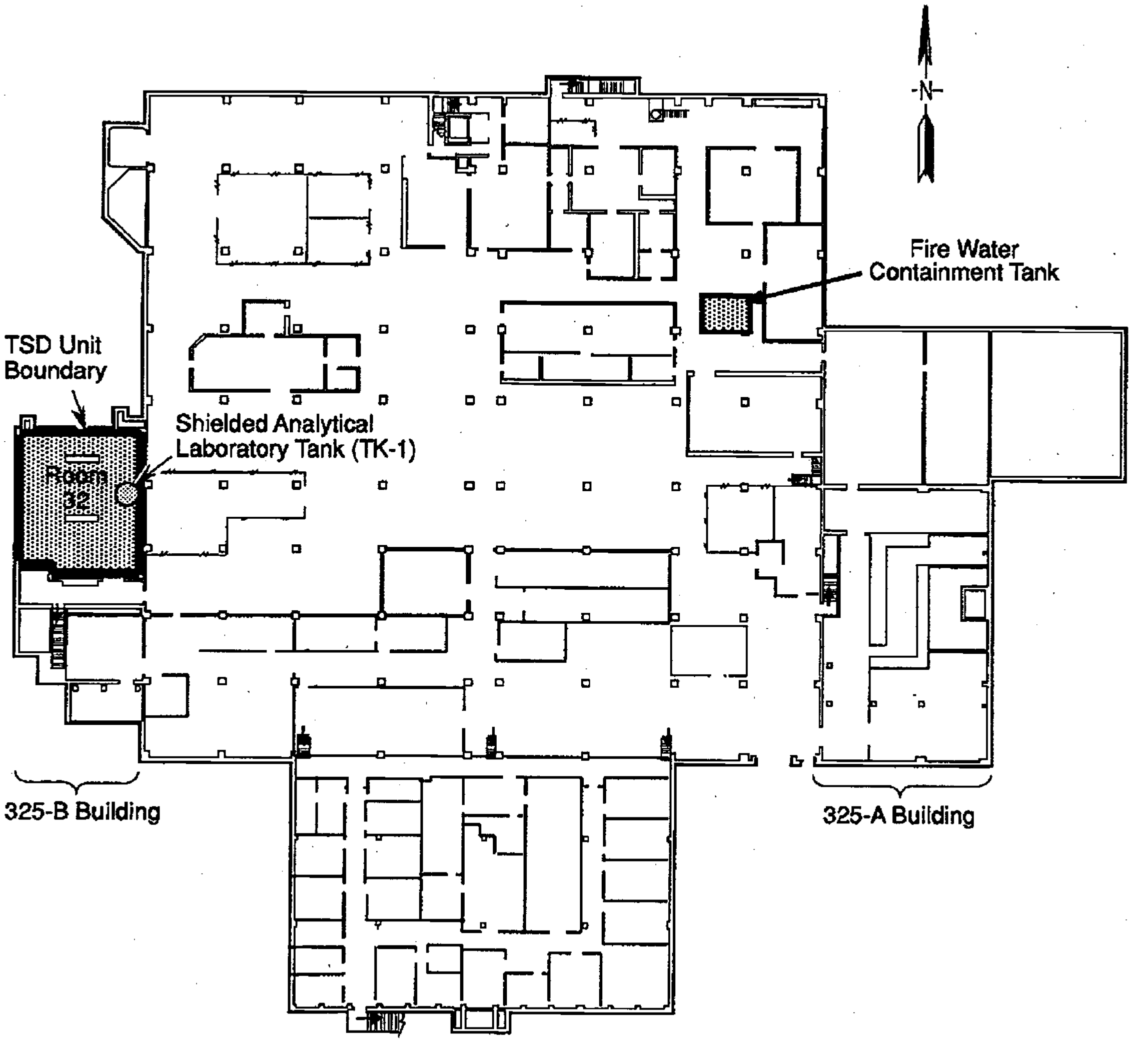
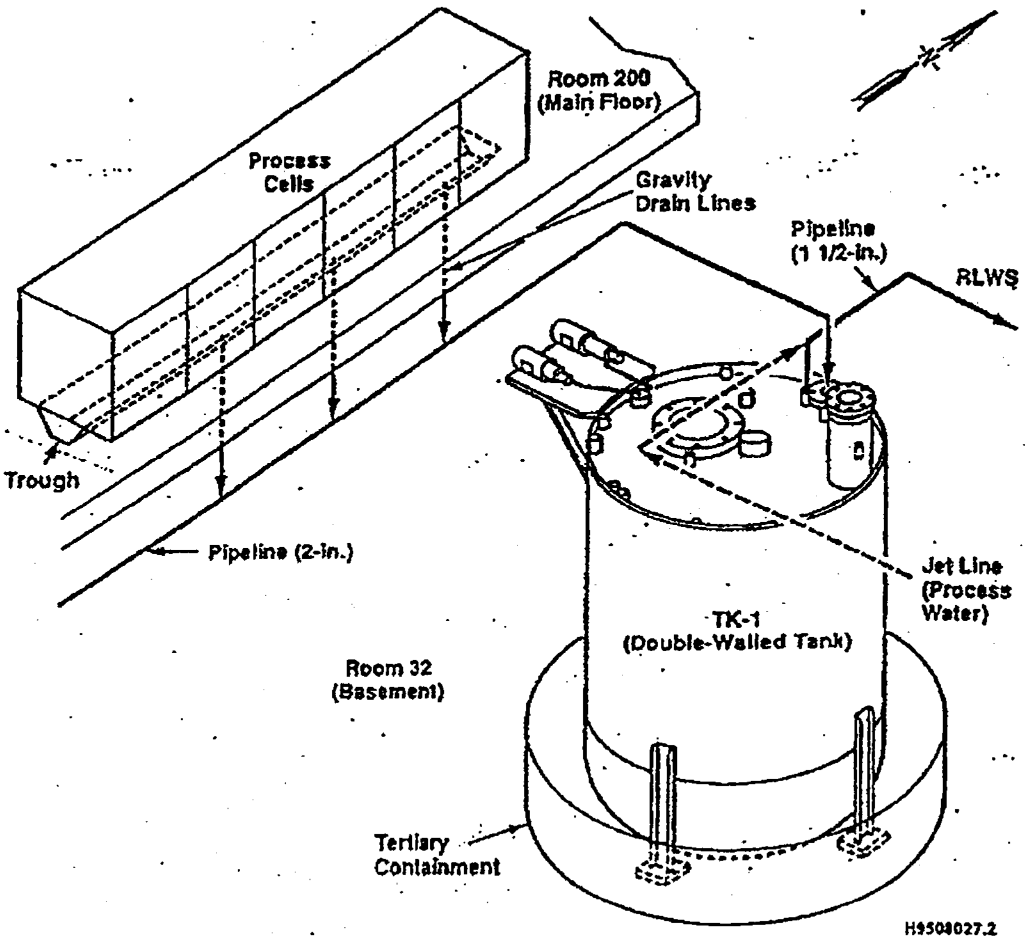


Figure 7 - Shielded Analytical Laboratory Tank and Ancillary Piping



RADIOGRAPHY DATA SHEET

WRP1-OP-0908 Rev. J-1

Batch: **Container ID:** 0031161 **Exam Type:** Quick Scan

Vault: B **RTR Res. Accept:** Yes

LDA Detection & Resolution Acceptable: Yes **Media Number:**

Waste Stream: S3000 RLM325 **WMCG:** Homogeneous Solids

WMC: S3000 **TRUCON Cd:** RH225 **PCB:** No

Does Container Match Stream and WMC? Yes **Estimated Volume Utilization %:** 99

Packaging: No Liner **Layers of Confinement:** None

Comments / Contents:

Prohibited Liquids: NONE

Prohibited Items: NONE

Comments:
NON DEBRIS>THAN 50% =< 60 MM PARTICLE SIZE, A 50 GAL LIQUID LINER W/PLUGGED HOLES=>4L SEALED CONTAINER

Quick Scan Failure.

NDE Technician: Anderson, Aaron A

Signature: ____________________ **Exam Date:** 09/03/2008

Independent Observer (if applicable):

Signature: ____________________ **Date:** ____________________

RADIOGRAPHY DATA SHEET

WRP1-OP-0908 Rev. J-1

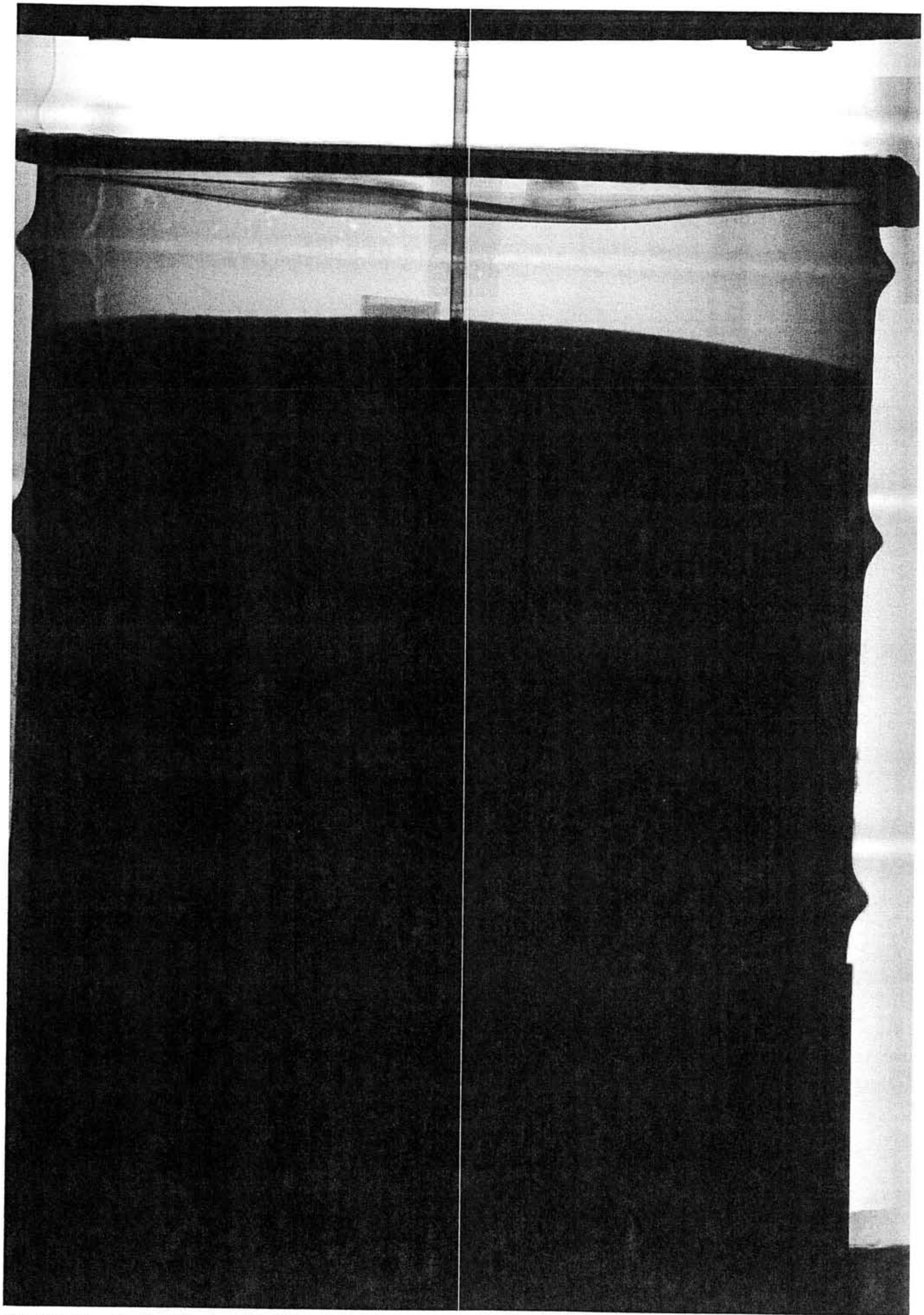
Testing Batch No:	**Waste Container ID:** 0031161
Exam Type: Quick Scan	**Container Weight (kg)** 254.05

	Waste Material Parameters	Common Items (Check box if item is in container)	Estimated Weight (kg)
13	Steel (packaging materials)		35.40
14	Plastics (packaging Materials)		
1	Iron-Based Metals/Alloys	☐ Hand Tools ☐ Mask Filter ☐ Pipe ☐ Cans ☐ Motor ☐ Pipe/tube Fitting ☐ Scissor ☐ Tubing ☐ Utility Knife ☐ Catalyst Pack ☐ Wire ☐ Steel Plates ☐ Inner Drum ☐ Lab Equipment ☐ Misc. Metals	
4	Other Inorganic Materials	☐ Absorbent ☐ Glass Bottles ☐ Ceramics ☐ Glass Labware ☐ Broken Glass ☐ Misc. Inorg	
2	Aluminum-based Metals/Alloys		
3	Other Metals	☐ Dense Chips ☐ Scale Weights ☐ Dense Pellets ☐ Misc. Lead	
6	Cellulosics	☐ Cloth ☐ Cardboard ☐ Paper Carton ☐ Wood ☐ Paper ☐ Tape Roll ☐ HEPA Filters ☐ Paint Brush	
12	Soils		
10	Organic Matrix		
9	Inorganic Matrix		
7	Rubber	☐ Gloves ☐ Hose ☐ Mat ☐ Leaded Glove ☐ Stoppers ☐ Shoe Covers ☐ Misc. Rubber	
8	Plastics (waste materials)	☐ Caps ☐ Bag ☐ Tygon Tubing ☐ Poly Bottles ☐ Plexiglass ☐ Labware ☐ PVC ☐ Cartons ☐ Misc. Plastics ☐ Port Bags ☐ UPP Pads	
		Note: Total weight of Waste Material Parameters plus weight of any prohibited liquids must equal container weight recorded above	.00

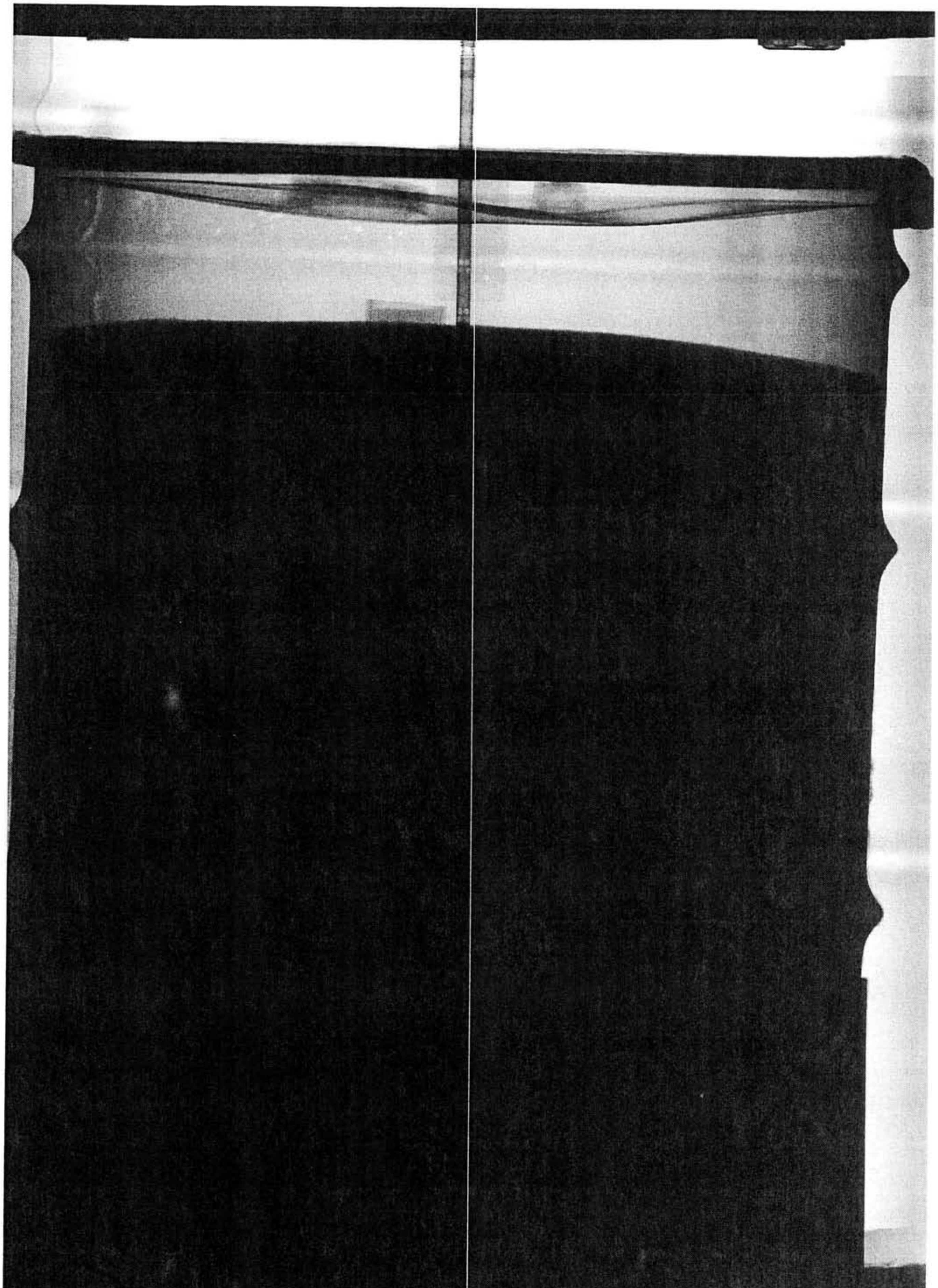
Prohibited Items Present? (from Table 5)

☒ NO ☐ **YES** - (record amount/type/location; if liquid present include estimated weight in kg)

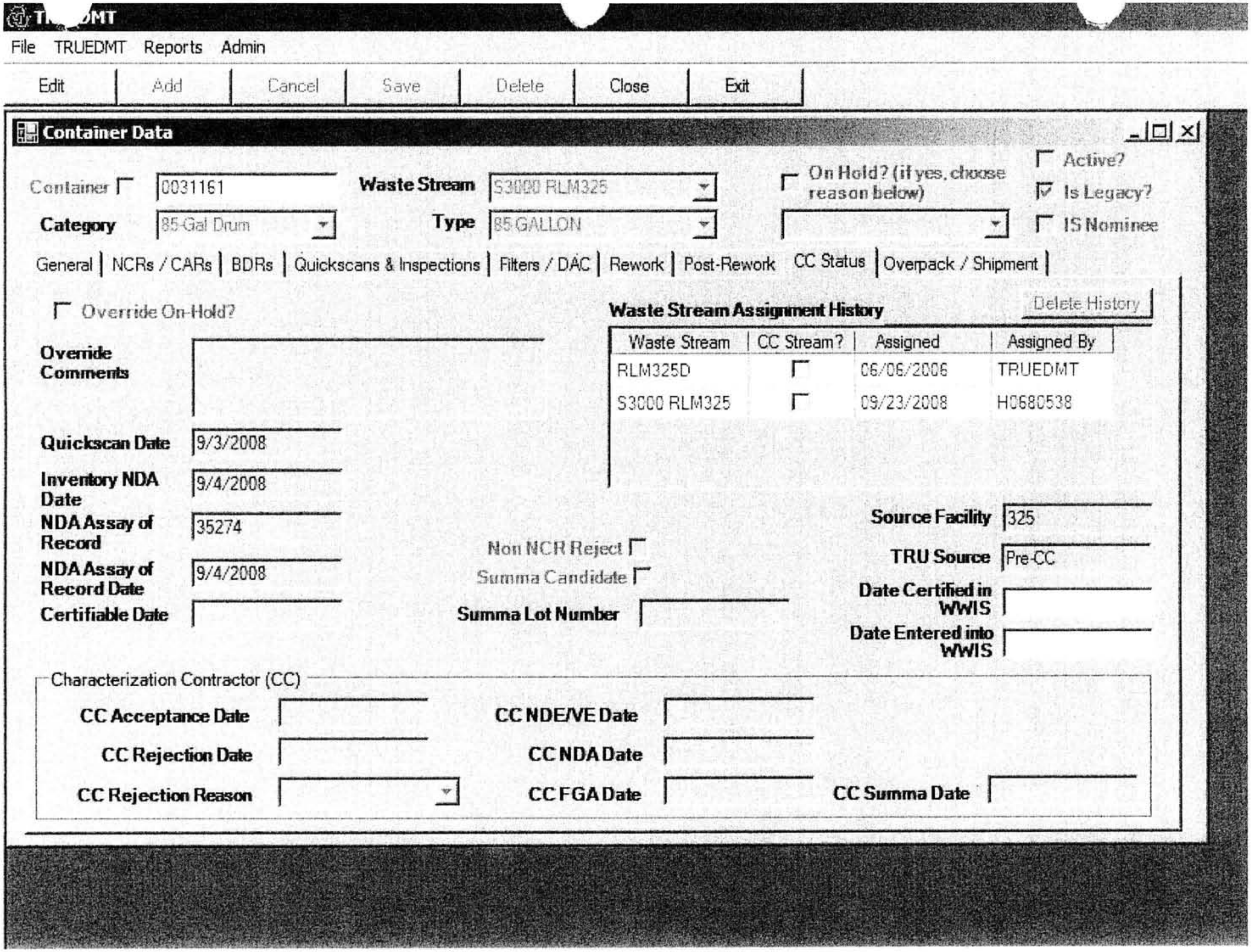
See Comments



0031161 9/3/2008 99% 90



0031161 9/3/2008 99% 90


TRUEDMT
File TRUEDMT Reports Admin
Edit
Add
Cancel
Save
Delete
Close
Exit
Container Data
Container
0031161
Waste Stream
S3000 RLM325
On Hold? (if yes, choose reason below)
Active?
Is Legacy?
Category
85-Gal Drum
Type
85 GALLON
IS Nominee
General | NCRs / CARs | BDRs | Quickscans & Inspections | Filters / DAC | Rework | Post-Rework | CC Status | Overpack / Shipment
Override On-Hold?
Waste Stream Assignment History
Delete History
Waste Stream | CC Stream? | Assigned | Assigned By
RLM325D | | 06/06/2006 | TRUEDMT
S3000 RLM325 | | 09/23/2008 | H0680538
Override Comments
Quickscan Date
9/3/2008
Inventory NDA Date
9/4/2008
NDA Assay of Record
35274
NDA Assay of Record Date
9/4/2008
Certifiable Date
Non NCR Reject
Summa Candidate
Summa Lot Number
Source Facility
325
TRU Source
Pre-CC
Date Certified in WWIS
Date Entered into WWIS
Characterization Contractor (CC)
CC Acceptance Date
CC NDE/VE Date
CC Rejection Date
CC NDA Date
CC Rejection Reason
CC FGA Date
CC Summa Date

U381 TRU Retrieval Project

Package ID 0031161 U310

NDA Required: N

NDA Complete Dt:

☐ Available to Ship

RAD: TRU

Seal #:

Special Handling:

Removed Date: 03/30/2006 Facility: 218W4C Unit: T04 Module: 4

Purpose:

Comments: corrosion\hole >3/8"

Repack:

Vent Tracking Grp:

Treatment Path:

Assay Upload ☐ Complete

File Name:

Notes:

Reviews ☐ Additional Isotopes ☐ Completed ☐ U235 FGE ☐ Completed ☐ FGE ☐ Completed

Other Globals

Global Description	Rev#	Date

Designation Globals ☑ Designation Complete

Designation#	Rev#	Date
325-DES-01	00	05/23/2006
325-DES-01	01	11/13/2008

Addendum Request Form
Addendum to TSD Record

Description of Project Generating Waste:

Updating SWITS to indicate appropriate information for 3337, 85 gallon overpacks.

Package ID(s): See attachment
WRP_85Gal_InnerPkgWeight-stati only
(spreadsheet)

Date: November 20, 2008

Attachment(s):
- Email for Pat Baynes
- WRP_85Gal_InnerPkgWeight-stati only (spreadsheet)

Name: Amanda Ramirez

Signature/date: 11/20/08

Description and reason for Changes:
1. Updating SWITS for 85 gallon drums with 55 gallon inner containers with integrity or surface contamination to show the 55 gallon inner drum as waste components not packaging.
2. Updating containers with valid assays to show correct Rad Flag in SWITS.
3. Updating containers ith valid assay in SWITS with ANTECH in the RAD_NDA_SRCE.
4. Updating SWITS to indicate over pack reason.

This addendum describes new and/or revised data for waste managed at the Low-Level Burial Grounds, Central Waste Complex, Waste Receiving and Processing Facility, and/or T Plant Complex. This form, along with any attachments, documents official changes to the TSD Operating Record for the solid waste package(s) referenced.

From: Ramirez, Amanda J
Sent: Monday, December 15, 2008 9:37 AM
To: Austin, Richard L
Subject: FW: 85 Gallon Overpack Waste Weight versus Packaging Weight
Attachments: Packaging Weight Updates.xls

Rick,

This the information you will need to submit the revised addendum to attach this email.

Thanks,

Amanda Ramirez
WSS Technical Services Manager
509-373-9348
MO281, 120, MSIN T4-09

-----Original Message-----
From: Weston, Nancy L
Sent: Thursday, December 11, 2008 9:30 AM
To: Ramirez, Amanda J; Swan, Rhonda J (Roni)
Cc: Triner, Glen C
Subject: FW: 85 Gallon Overpack Waste Weight versus Packaging Weight

The attached spreadsheet shows the items that will be updated for each of the containers. The plan is to have the programmers remove the packaging components highlighted in green and replace it with a waste component as highlighted in blue. The weight from the item would be removed from packaging weight to the waste weight. We would adjust the waste component weight but we would not recalculate the weight percents (this would be the same type of process as when we do a global update). We would do a recalculation on the RAD details. The derived TRU/LLW on the RAD Detail screen would be copied to the RAD Regulation flag on the basic tab.

Please confirm that these are the changes requested and that it is okay to go ahead with the request.

Thanks,

Nancy Weston
Production, Data and Integration
Phone: 372-0574

-----Original Message-----
From: Baynes, Patrick A
Sent: Tuesday, December 09, 2008 10:39 AM
To: Weston, Nancy L; Ramirez, Amanda J
Cc: Bailey, Kevin B; Simiele, Connie J; DeRosa, David C; Baynes, Patrick A; Triner, Glen C; Bannister, Roland J; Swan, Rhonda J (Roni); Nester, Dean E
Subject: RE: 85 Gallon Overpack Waste Weight versus Packaging Weight

Nancy and Amanda

WE have received the OK to implement this recommendation. Please proceed.

Thanks

Patrick

-----Original Message-----
From: Baynes, Patrick A
Sent: Thursday, November 06, 2008 10:25 AM
To: Ramirez, Amanda J; Triner, Glen C; Bannister, Roland J; Swan, Rhonda J (Roni); Nester, Dean E
Cc: Weston, Nancy L; Bailey, Kevin B
Subject: 85 Gallon Overpack Waste Weight versus Packaging Weight

To Addressees:

This is the file we discussed in our Tuesday afternoon meeting. It is the list of Retrieval overpacked
containers with the inner container listed as Packaging Weight versus Waste Weight. There are a
total of 3337 containers in this condition.

Most of those (3123) have been overpacked due to container integrity issues. We propose to have
Nancy Weston change those from Packaging Weight to Waste Weight.

In addition, Kevin identified the containers (1072) that have a valid assay. If the Calculated Rad Code
changes from TRU to LLW, the Rad Code Flag should be changed also for the containers with a
valid assay.

There are several containers (586) that have a valid assay with an ANTECH assay number but do not
have the RAD_NDA_SRCE identified. These should be changed to "ANTECH".

There are also several containers (100) that did not have the reason for Overpack in the
PTRU_COMMENTS field. Kevin pulled the data sheets from IDMS and has identified the Overpack
reason. Those should be added to SWITS.

Please use the voting buttons to let me know if you concur with these recommendations. Based on
your responses, I will forward this to Nancy Weston so she can get the SWITS programmers to make
these changes.

Thanks

Patrick

																				Inner as Packaging Weight			Inner as Waste Weight	
WSD_PKG_ID	PTRU_COMMENTS	RTRV_INVALID_ASSAY	PTRU_NDA_REQ_FLAG	PTRU_ASSAY_CMPLT_FLAG	PTRU_ASSAY_FILE_NAME	SWITS_RAD_NDA_SRCE	DMS_Valid_CONEXT_ASSAY_NUM	PTRU_ASSAY_NOTES	WSD_CON_SIZE_DESCR	SWITS_CON_WASTE_WGT	SWITS_CON_PACKAGING_WGT	SWITS_FACIL_TSD_CLASS	[redacted]	SWITS_RAD_CALC_TRU_ACTIVITY	DMS_Last_In_NDA_Vault	EDMT_WasteStreamStatus	EDMT_WASTE_STREAM_CODE	EDMT_IS_ON_HOLD	ReAssay	Waste (gm)	TRU Activity (nCi/gm)	Activity (nCi)	[redacted]	[redacted]
0035938	shipment/dose	N	N	N					85 GALLON	158.97	27.23	CWC	TRU	47232.58068		In Process	RLM216Z9S	0	#N/A	158970	47232.58068	7.51E+09	186200	40325.26967
0036962	corrosion\>3/8" hole\showercap	N	N	N					85 GALLON	154.37	27.23	CWC	TRU	47611.98419		In Process	RLM216Z9S	0	#N/A	154370	47611.98419	7.35E+09	181600	40472.80837
0029831	Corrosion	N	N	N					85 GALLON	48.77	29.23	TPLT	TRU	47728.47632		Approved	RLCBWD	0	#N/A	48770	47728.47632	2.33E+09	78000	29842.53577
0036972	dose/shipping	N	N	N					85 GALLON	161.57	27.23	CWC	TRU	47749.36616		In Process	RLM216Z9S	0	#N/A	161570	47749.36616	7.71E+09	188800	40862.63289
0035977	corrosion	N	N	N					85 GALLON	156.77	27.23	CWC	TRU	47774.21184		In Process	RLM216Z9S	0	#N/A	156770	47774.21184	7.49E+09	184000	40704.14777
[illegible]	corrosion	N	N	N					85 GALLON	147.37	27.23	CWC	TRU	47834.42675		In Process	RLM216Z9S	0	#N/A	147370	47834.42675	7.05E+09	174600	40374.3[illegible]
	corrosion	N	N	N					85 GALLON	43.37	27.23	CWC	TRU	47837.58036		Approved	RLM300D	0	#N/A	43370	47837.58036	2.07E+09	70600	29386
	corrosion/contamination	N	N	N		WRAP	34672		85 GALLON	60.92	27.23	CWC	TRU	47866.40348	8/21/2008	Approved	RLM325D	0	#N/A	60920	47866.40348	2.92E+09	88150	33080.
	corrosion	N	N	N					85 GALLON	39.37	27.23	CWC	TRU	47887.08179		Approved	RLM300D	0	#N/A	39370	47887.08179	1.89E+09	66600	28308.0[illegible]
0038731	corrosion\hole\036A Filter	N	N	N					85 GALLON	74.53	32.67	WRAP	TRU	47900.54045	11/4/2008	Approved	MPFPD	0	#N/A	74530	47900.54045	3.57E+09	107200	33302.49328
0038294	corrosion	N	N	N					85 GALLON	48.37	27.23	CWC	TRU	48092.16002		Approved	RLCBWD	0	#N/A	48370	48092.16002	2.33E+09	75600	30770.07646
0038324	corrosion\hole	N	N	N					85 GALLON	25.77	29.23	CWC	TRU	48168.78114		Approved	RLM231ZD	0	#N/A	25770	48168.78114	1.24E+09	55000	22569.26345
0036971	corrosion\hole	N	N	N					85 GALLON	153.37	27.23	CWC	TRU	48287.55611		In Process	RLM216Z9S	0	#N/A	153370	48287.55611	7.41E+09	180600	41005.99048
0036996	breach/corrosion	N	N	N					85 GALLON	148.37	27.23	CWC	TRU	48396.31044		In Process	RLM216Z9S	0	#N/A	148370	48396.31044	7.18E+09	175600	40891.57506
0036944	corrosion	N	N	N					85 GALLON	157.37	27.23	CWC	TRU	48432.13001		In Process	RLM216Z9S	0	#N/A	157370	48432.13001	7.62E+09	184600	41287.99729
0029875	corrosion; shower cap	N	N	N					85 GALLON	46.77	29.23	TPLT	TRU	48473.75091		Approved	RLCBWD	0	#N/A	46770	48473.75091	2.27E+09	76000	29830.49118
0037425	dose/shipment	N	N	N					85 GALLON	157.57	27.23	CWC	TRU	48907.56496		In Process	RLM216Z9S	0	#N/A	157570	48907.56496	7.71E+09	184800	41701.10936
0024783	corrosion/contamination	N	N	N					85 GALLON	34.77	29.23	CWC	TRU	48962.12281		Approved	RLCBWD	0	#N/A	34770	48962.12281	1.7E+09	64000	26600.20328
0035479	shipment	N	N	N					85 GALLON	159.17	27.23	CWC	TRU	49060.53829		In Process	RLM216Z9S	0	#N/A	159170	49060.53829	7.81E+09	186400	41893.59376
0035467	shipment/dose	N	N	N					85 GALLON	150.57	27.23	CWC	TRU	49122.41748		In Process	RLM216Z9S	0	#N/A	150570	49122.41748	7.4E+09	177800	41599.33858
0030143	corrosion	N	N	N					85 GALLON	18.93	32.67	CWC	TRU	49186.32425		Not In Proces	RL2WTFD	0	#N/A	18930	49186.32425	9.31E+08	51600	18044.51779
0030226	corrosion	N	N	N					85 GALLON	18.93	32.67	CWC	TRU	49186.32425		Not In Proces	RL2WTFD	0	#N/A	18930	49186.32425	9.31E+08	51600	18044.51779
0039408	heavy corrosion, lid & bottom/hole >3/8" bottom	N	N	N					85 GALLON	15.77	29.23	CWC	TRU	49201.39068		Approved	RLM231ZD	0	#N/A	15770	49201.39068	7.76E+08	45000	17242.35402
0024624	corrosion/contamination	N	N	N					85 GALLON	33.77	29.23	TPLT	TRU	49212.6947		Approved	RLCBWD	0	#N/A	33770	49212.6947	1.66E+09	63000	26379.56667
0038931	corrosionmedium - lid/upper half/lower half/bottom; hole>3/8" on bottom - 4 clamshells	N	N	N					85 GALLON	38.18	32.67	CWC	TRU	49256.53169		Approved	RLM325D	0	#N/A	38180	49256.53169	1.88E+09	70850	26543.60452
0039861	Medium corrosion lid/upper & lower half/botttom.	N	Y	Y	Batch-22394-20070913.tab				85 GALLON	58.07	29.23	CWC	TRU	49265.53539		In Process	RLMHANF1D	0	#N/A	58070	49265.53539	2.86E+09	87300	32770.32806
0036935	corrosion	N	N	N					85 GALLON	146.37	27.23	CWC	TRU	49317.89909		In Process	RLM216Z9S	0	#N/A	146370	49317.89909	7.22E+09	173600	41582.14798
0036961		N	N	N					85 GALLON	146.37	27.23	CWC	TRU	49317.89909		In Process	RLM216Z9S	0	#N/A	146370	49317.89909	7.22E+09	173600	41582.14798
0038627	hole	N	N	N					85 GALLON	155.37	27.23	CWC	TRU	49338.73077		In Process	RLM216Z9S	0	#N/A	155370	49338.73077	7.67E+09	182600	41961.15334
0035426	corrosion/hole	N	N	N					85 GALLON	151.37	27.23	CWC	TRU	49358.94186		In Process	RLM216Z9S	0	#N/A	151370	49358.94186	7.47E+09	178600	41833.49961
0026701	corrosion	N	N	N					85 GALLON	18.37	27.23	CWC	TRU	49503.91677		Approved	RLM300D	0	#N/A	18370	49503.91677	9.09E+08	45600	19942.69629
0041914	Heavy corrosion - lid, bottom	N	N	N					85 GALLON	43.72	27.23	WRAP	TRU	49689.30947		In Process	RLMPFPCD	0	#N/A	43720	49689.30947	2.17E+09	70950	30618.9797
0037432	shipment/dose	N	N	N					85 GALLON	145.77	27.23	CWC	TRU	49716.4103		In Process	RLM216Z9S	0	#N/A	145770	49716.4103	7.25E+09	173000	41891.1048
0035513	shipment	N	N	N					85 GALLON	161.57	27.23	CWC	TRU	50073.45578		In Process	RLM216Z9S	0	#N/A	161570	50073.45578	8.09E+09	188800	42851.52675
0035511	corrosion	N	N	N					85 GALLON	158.17	27.23	CWC	TRU	50146.46836		In Process	RLM216Z9S	0	#N/A	158170	50146.46836	7.93E+09	185400	42781.37487
0031064	corrosion	N	N	N					85 GALLON	46.37	27.23	CWC	TRU	50198.78779		Approved	RLCBWD	0	#N/A	46370	50198.78779	2.33E+09	73600	31626.60041
0038309	corrosion	N	N	N					85 GALLON	46.37	27.23	CWC	TRU	50198.78779		Approved	MPFPD	0	#N/A	46370	50198.78779	2.33E+09	73600	31626.60041
0045082	Contamination	N	Y	Y	Batch-22394-20080421.tab	ANTECH			85 GALLON	14.27	29.23	WRAP	TRU	50327.86685		In Process	RLMPFPCD	0	#N/A	14270	50327.86685	7.18E+08	43500	16509.85425
0029978	CORROSION	N	N	N					85 GALLON	89.37	27.23	CWC	TRU	50350.6143		Approved	RLM209ED	0	#N/A	89370	50350.6143	4.5E+09	116600	38592.06176
0029635	corrosion	N	N	N					85 GALLON	15.37	27.23	CWC	TRU	50481.84327		Not In Proces	RL2WTFD	0	#N/A	15370	50481.84327	7.76E+08	42600	18213.75425
0036959	corrosion/hole	N	N	N					85 GALLON	145.37	27.23	CWC	TRU	50618.16111		In Process	RLM216Z9S	0	#N/A	145370	50618.16111	7.36E+09	172600	42632.4570[illegible]
	corrosion/contamination	N	N	N					85 GALLON	42.77	29.23	TPLT	TRU	50648.03741		Approved	RLCBWD	0	#N/A	42770	50648.03741	2.17E+09	72000	30086.[illegible]
	corrosion	N	N	N					85 GALLON	45.77	29.23	TPLT	TRU	50824.0721		Approved	RLCBWD	0	#N/A	45770	50824.0721	2.33E+09	75000	31016.[illegible]
	corrosion	N	N	N					85 GALLON	45.77	29.23	CWC	TRU	50856.84488		Approved	RLCBWD	0	#N/A	45770	50856.84488	2.33E+09	75000	31035.[illegible]
[illegible]	corrosion/hole >3/8"	N	N	N					85 GALLON	57.93	32.67	TPLT	TRU	50901.47661		Approved	MPFPD	0	#N/A	57930	50901.47661	2.95E+09	90600	32546.6064
0035968	dose/shipping	N	N	N					85 GALLON	153.97	27.23	CWC	TRU	50903.20264		In Process	RLM216Z9S	0	#N/A	153970	50903.20264	7.84E+09	181200	43253.6761
0037033	corrosion	N	N	N					85 GALLON	149.37	27.23	CWC	TRU	51026.0715		In Process	RLM216Z9S	0	#N/A	149370	51026.0715	7.62E+09	176600	43158.34824
0021817	corrosion	N	N	N		WRAP	34718		85 GALLON	43.27	27.23	CWC	TRU	51213.73469	8/21/2008	Approved	RLM326D	0	#N/A	43270	51213.73469	2.22E+09	70500	31432.88369
0035462	shipment/dose	N	N	N					85 GALLON	159.97	27.23	CWC	TRU	51394.44496		In Process	RLM216Z9S	0	#N/A	159970	51394.44496	8.22E+09	187200	43918.63974
0035514	dose/shipping	N	N	N					85 GALLON	156.97	27.23	CWC	TRU	51413.44263		In Process	RLM216Z9S	0	#N/A	156970	51413.44263	8.07E+09	184200	43813.07324
0028803	corrosion	N	N	N					85 GALLON	44.77	29.23	CWC	TRU	51434.3891		Approved	RLCBWD	0	#N/A	44770	51434.3891	2.3E+09	74000	31117.80541
0038875	medium corrosion-whole drum, hole > 3/8"-lid, upper half	N	Y	Y	Batch-22394-20070717.tab				85 GALLON	15.57	29.23	CWC	TRU	51485.09141		In Process	RLMHANF1D	0	#N/A	15570	51485.09141	8.02E+08	44800	17893.36771
0042234	corrosion medium lid/bottom	N	N	N					85 GALLON	20.07	27.23	CWC	TRU	51497.15496		Approved	RLM325D	0	#N/A	20070	51497.15496	1.03E+09	47300	21850.90598
0031161	corrosion\hole >3/8"	N	N	N			35274		85 GALLON	182.9	32.67	WRAP	TRU	51753.26605	9/4/2008	Not In Proces	S3000 RLM32	0	#N/A	182900	51753.26605	9.47E+09	215570	43909.97059
0028698	corrosion	N	N	N					85 GALLON	44.77	29.23	CWC	TRU	51992.80299		Approved	RLCBWD	0	#N/A	44770	51992.80299	2.33E+09	74000	31455.64581
0028766	corrosion	N	N	N					85 GALLON	41.77	29.23	CWC	TRU	52009.01628		Approved	RLCBWD	0	#N/A	41770	52009.01628	2.17E+09	71000	30597.41704
0038682	corrosion	N	N	N					85 GALLON	142.37	27.23	CWC	TRU	52018.42017		In Process	RLM216Z9S	0	#N/A	142370	52018.42017	7.41E+09	169600	43666.64198
0027455	corrosion	N	N	N					85 GALLON	39.37	27.23	CWC	TRU	52027.32182		Approved	RLETECD	0	#N/A	39370	52027.32182	2.05E+09	66600	30755.49039
0034252	corrosion	N	N	N					85 GALLON	154.77	27.23	CWC	TRU	52027.96362		In Process	RLM216Z9S	0	#N/A	154770	52027.96362	8.05E+09	182000	44243.77984
0038700	corrosion	N	N	N					85 GALLON	156.37	27.23	CWC	TRU	52096.06881		In Process	RLM216Z9S	0	#N/A	156370	52096.06881	8.15E+09	183600	44369.62026
0038786	corrosion/hole	N	N	N					85 GALLON	150.37	27.23	CWC	TRU	52204.96116		In Process	RLM216Z9S	0	#N/A	150370	52204.96116	7.85E+09	177600	44200.78834
0037024	corrosion	N	N	N					85 GALLON	152.37	27.23	CWC	TRU	52348.01667		In Process	RLM216Z9S	0	#N/A	152370	52348.01667	7.98E+09	179600	44411.28786
0036932	hole	N	N	N					85 GALLON	146.37	27.23	CWC	TRU	52389.59274		In Process	RLM216Z9S	0	#N/A	146370	52389.59274	7.67E+09	173600	44172.03162
0024639	corrosion/contamination	N	N	N					85 GALLON	22.77	29.23	TPLT	TRU	52402.68432		Approved	RLCBWD	0	#N/A	22770	52402.68432	1.19E+09	52000	22946.32927
0035816	corrosion	N	N	N					85 GALLON	47.37	27.23	CWC	TRU	52413.32024		Approved	RLCBWD	0	#N/A	47370	52413.32024	2.48E+09	74600	33281.75576
0038315	corrosion/hole	N	N	N					85 GALLON	44.37	27.23	CWC	TRU	52427.71648		Approved	RLCBWD	0	#N/A	44370	52427.71648	2.33E+09	71600	32489.07514
0036906	corrosion/hole	N	N	N					85 GALLON	153.37	27.23	CWC	TRU	52571.35039		In Process	RLM216Z9S	0	#N/A	153370	52571.35039	8.06E+09	180600	44644.69485
0030744	corrosion	N	N	N					85 GALLON	38.37	27.23	CWC	TRU	52572.724		Approved	MPFPD	0	#N/A	38370	52572.724	2.02E+09	65600	30750.23506
0021128	corrosion/contamination	N	N	N					85 GALLON	40.77	29.23	TPLT	TRU	52597.90017		Approved	RLCBWD	0	#N/A	40770	52597.90017	2.14E+09	70000	30634.51986
0046849	corrosion (light) upper half	N	N	N					85 GALLON	32.37	27.23	CWC	TRU	52731.32685		Approved	RLM325D	0	#N/A	32370	52731.32685	1.71E+09	59600	28639.4807
0042500	Medium corrosion - lid, upper half, lower half, bottom	N	N	N					85 GALLON	16.17	27.23	CWC	TRU	52786.42696		Approved	RLM325D	0	#N/A	16170	52786.42696	8.54E+08	43400	19667.20101
0020211	>15% hydrogen: Unknown reconciled as WH78-114	N	Y	Y	Batch-22394-20041111.tab			Previous U235 FGE = 3.0641E-01	85 GALLON	61.12	29.23	CWC	TRU	52811.75033		Approved	RLM325D	0	#N/A	61120	52811.75033	3.23E+09	90350	35726.11157
0047790	Corrosion - Light, Lower Half/Bottom	N	N	N					85 GALLON	29.37	27.23	WRAP	TRU	52836.63126		In Process	RLMFPCD	0	#N/A	29370	52836.63126	1.55E+09	56600	27417.17067
0035515	dose/shipping	N	N	N					85 GALLON	145.97	27.23	CWC	TRU	52852.40179		In Process	RLM216Z9S	0	#N/A	145970	52852.40179	7.71E+09	173200	44543.10098
0041850	Medium corrosion - lid, upper half, lower half, bottom: breached hole > 3/8" lid.	N	Y	Y	Batch-22394-20070716.tab				85 GALLON	19.77	29.23	CWC	TRU	52907.33118		Approved	RLM325D	0	#N/A	19770	52907.33118	1.05E+09	49000	21346.48852
[illegible]	corrosion/hole >3/8"	N	N	N					85 GALLON	47.79	31.31	WRAP	TRU	52959.18288		Approved	RLM325D	0	#N/A	47790	52959.18288	2.53E+09	79100	31996.45[illegible]
	shipment	N	N	N					85 GALLON	53.17	27.23	CWC	TRU	53246.64059		In Process	RLM216Z9S	0	#N/A	53170	53246.64059	2.83E+09	80400	35212.9[illegible]
	corrosion	N	N	N					85 GALLON	40.77	29.23	TPLT	TRU	53284.68506		Approved	RLCBWD	0	#N/A	40770	53284.68506	2.17E+09	70000	31034[illegible]
[illegible]	corrosion	N	N	N					85 GALLON	149.37	27.23	CWC	TRU	53284.91089		In Process	RLM216Z9S	0	#N/A	149370	53284.91089	7.96E+09	176600	45068.8[illegible]
0039594	Medium corrosion - lid, bottom	N	N	N					85 GALLON	52.37	27.23	TPLT	TRU	53343.92496		Approved	MPFPD	0	#N/A	52370	53343.92496	2.79E+09	79600	35095.7456
0024778	corrosion/contamination	N	N	N					85 GALLON	28.77	29.23	CWC	TRU	53344.16858		Approved	RLCBWD	0	#N/A	28770	53344.16858	1.53E+09	58000	26480.54707
0035414	corrosion	N	N	N					85 GALLON	149.37	27.23	CWC	TRU	53349.18136		In Process	RLM216Z9S	0	#N/A	149370	53349.18136	7.97E+09	176600	45123.25719
0041985	Medium corrosion lid/bottom	N	N	N					85 GALLON	81.37	27.23	WRAP	TRU	53394.77965	10/24/2008	In Process	RLMFPCD	0	#N/A	81370	53394.77965	4.34E+09	108600	40006.75157

Addendum Request Form
Addendum to TSD Record

Description of Project Generating Waste: TRUM drums assayed and quick scanned at WRAP.

Package ID(s): See attached PIN list.

Date: 4/10/09

Attachment(s): R310 before and after downloads

Name: Markus H. McGrath

Signature/date: Markus H McGrath 4/10/09

Description and reason for Changes:
NDE(QUICK SCAN)/NDA via DMS to SWITS data download Selected Routine Type as N and Routine % as 100 and filled in the Stabilized field when required.

ADDENDUM

DRUM PIN
0-1166
0-1197
0-1200
0-1206
0030851
0031159
0031161
0034274
0034390
0039532
0056337

ADDENDUM

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: 0031161

Source Facility:

Location Facility:

Shipment #:

Package ID:	0031161	Secondary Pkg ID:		Accumulation Date:	05/18/1979
Waste Type:	D TRU	Phys State Cd:	S	Deadline Date:	
Sec Waste Type:	TRU	UHC Determination:		Ship Date:	05/18/1979
Encasement/HIC#:		UHC's Applicable:		TSD Receive Date:	
Profile / Rev#:	TRU-RETRIEVAL - 01	NFPA < 93.3C:	N	TSD Accept Date:	05/18/1979
WSRd / Rev #:	200 - 06	Storage Category:	M	Disposal Date:	

Container Type / Descr:	DM / 85 GALLON	Container Empty Tare Wt. (kg):	35.4000
Container Volume (cu. meters):	0.3218	Waste Weight (kg):	215.5700
Labpack Flag:	N	Container Gross Wt. (kg):	251.0000
Container Contents:			

SWO Comments: **New Criticality Review Note Comment- Fissile, CPS Container Type A Drum. 07/13/06**

Generator Information

Generating Company:	WHC WESTINGHOUSE HANFORD	Generator ID:		Generator Group:	OTHER
Source Facility:	325	Generator:	UNKNOWN		
Generator Comments:					

ADDE'''**UM**

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Hazardous Package Detail

Container Status: **Full** Flashpoint: **N/A** pH Value: **>2-<12.5** Subpart CC Flag: **NA**

DW Numbers: **D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005**

RCRA Reporting

ADWR Stream Description: **TRU Project Debris - Solvents, Organics, Metals**
Designation Code: **DW**
Source Code: **G49** **Other Remediation**
Comment: **Burial Ground Remediation**
Form Code: **W002** **Contaminated Debris, paper, cloth, rags, wood, empty fiber or plastic containers, glass, piping, or other solids**
Comment:
Origin Code: **ii** **Non-recurrent waste stream.**
Residual Mgmt Method:
Comment:
Management Method:
Comment:
Certification Group: **TRURET**
Reportable CERCLA?:

Pre-2007 Reporting

Waste Stream: **M610** Offsite TSD Waste Stream: RCRA Designated Date: **05/23/2006**

PCB Package Detail:

PCB Type: PCB Source Concentration (PPM):
PCB Subtype: PCB Waste Weight:
PCB Contents: Removed from Service:

ADDE UM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Radioactive Package Detail

Waste Category:	**GTWC3**	Shielding:	**None**	Thermal Power (w/cu.m.):	**9.53618E-01**
Combustible Flag:		Vent Code:	**07L**	Neutron Dose Rate:	
Exceeds ISB Limit:	**Y**	Handling:	**C**	Contact Dose Rate:	**4.00000E+00**
NRC Class:	**>C**	RSWIMS Container Cnt:	**1**	Tot Pe-Ci:	**1.07187E+01**
		Excluded from DE-Ci:		ICRP 71 DE-Ci:	**1.00574E+01**

VOC/Hydrogen Gas Diffusion Detail

H2 Diffusion Release Date: VOC Hold?: VOC Resample Date:

Current Location Information

Facility ID:	**2404WB**	Tier Level:		Loc Beg Coordinates - N:	
Trench / Unit:	**Z2**	Tier Position:		W:	
Module:		GPS Data Flag:		Loc End Coordinates - N:	
				W:	

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Relocation History

Relocation Date	From Facility	From Unit
09/05/2008	2404WB	Z3
09/05/2008	2404WB	Z1
09/03/2008	2336W	
09/02/2008	2404WB	Z1
08/26/2008	2404WB	Z3
08/26/2008	2404WB	Z1
08/26/2008	TRANSIT	
08/01/2006	2403WA	Q1
06/07/2006	2403WA	Q3
06/05/2006	2403WA	Q2
06/01/2006	TRANSIT	
05/02/2006	218W4C	Z6B
04/25/2006	218W4C	Z4C
04/25/2006	218W4C	Z4A
04/25/2006	218W4C	Z6E
03/30/2006	218W4C	Z1A
05/18/1979	218W4C	T04

Isotope Information

Isotope Number	Isotope Name	Isotope Activity (Ci)
19	TOTAL BETA/GAMMA	1.00000E-03
97	Pu-240	1.79500E+00
99	Pu-242	7.23600E-05
100	Pu-239	3.17600E+00
41	Pu-238	8.35600E-01
26	Am-241	3.65900E+00
98	Pu-241	6.91100E+01

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component_ID	Component Text	PPM	Weight (kg)	Weight %
10022-31-8	BARIUM NITRATE		0.2378	.13
10025-73-7	CHROMIC CHLORIDE		0.2378	.13
10028-22-5	FERRIC SULFATE		0.2378	.13
10034-81-8	MAGNESIUM PERCHLORATE		0.2378	.13
10042-76-9	STRONTIUM NITRATE		0.2378	.13
10043-01-3	ALUMINUM SULFATE		0.0732	.04
10043-35-3	BORIC ACID		0.0097	.0053
10043-52-4	CALCIUM CHLORIDE		0.2926	.16
10045-89-3	FERROUS AMMONIUM SULFATE		0.6036	.33
10045-94-0	MERCURIC NITRATE		0.2378	.13
10045-95-1	NEODYMIUM NITRATE		0.2378	.13
10099-59-9	LANTHANUM NITRATE		0.2378	.13
10099-74-8	LEAD NITRATE		0.2378	.13
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)		0.2378	.13
10102-06-4	URANYL NITRATE		0.1097	.06
10108-73-3	CEROUS NITRATE		0.2926	.16
10124-37-5	CALCIUM NITRATE		0.2378	.13
10138-04-2	FERRIC AMMONIUM SULFATE		0.6036	.33
10192-30-0	AMMONIUM BISULFITE, SOLID		0.0007	.0004
10213-10-2	SODIUM TUNGSTATE		0.2378	.13
10294-26-5	SILVER SULFATE		0.2378	.13
10294-41-4	CERIUM NITRATE		0.2378	.13
10325-94-7	CADMIUM NITRATE		0.2378	.13
10361-03-2	SODIUM METAPHOSPHATE		0.2378	.13
10361-37-2	BARIUM CHLORIDE		0.2378	.13
10361-93-0	YTTRIUM NITRATE		0.2378	.13
10377-48-7	LITHIUM SULFATE		0.2926	.16
10377-60-3	MAGNESIUM NITRATE		0.2926	.16
10377-66-9	MANGANESE NITRATE		0.2926	.16
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)		0.2378	.13

ADDE''UM

Solid Waste Information and Tracking System

Container Listing Report

for Package ID: **0031161**

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10450-60-9	PERIODIC ACID		0.2378	.13
10588-01-9	SODIUM DICHROMATE		0.2378	.13
106-44-5	P-CRESOL		0.0010	.00056
106-46-7	P-DICHLOROBENZENE		0.0014	.00075
107-06-2	1,2-DICHLOROETHANE		0.0001	.00005
107-21-1	ETHYLENE GLYCOL		0.0004	.0002
107-66-4	DIBUTYL PHOSPHATE		0.2378	.13
108-10-1	4-METHYL-2-PENTANONE		0.0060	.0033
108-39-4	M-CRESOL		0.0010	.00056
108-88-3	TOLUENE		0.0018	.001
108-95-2	PHENOL		0.3109	.17
110-54-3	N-HEXANE		0.0732	.04
110-82-7	CYCLOHEXANE		0.0732	.04
110-86-1	PYRIDINE		0.0029	.0016
111-69-3	ADIPONITRILE		0.0732	.04
11138-49-1	SODIUM ALUMINATE		0.4755	.26
1116-76-3	TRIOCTYLAMINEINE		0.0732	.04
112-80-1	OLEIC ACID		0.0732	.04
115-40-2	BROMOCRESOL PURPLE		0.0024	.0013
117-10-2	1,8-DIHYDROXYANTHRAQUINONE		0.0097	.0053
12024-21-4	GALLIUM OXIDE		0.2378	.13
12044-50-7	ARSENIC (V) OXIDE, HYDRATE		0.2378	.13
12054-48-7	NICKEL HYDROXIDE		0.0878	.048
12069-32-8	BORON CARBIDE		0.2378	.13
121-14-2	2,4-DINITROTOLUENE		0.0000	.000013
12125-01-8	AMMONIUM FLUORIDE		0.6036	.33
12125-02-9	AMMONIUM CHLORIDE		0.0183	.01
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE		0.0005	.0003
123-31-9	HYDROQUINONE		0.0007	.0004
12428-46-5	ALUMINUM HYDROXIDE SILICATE		0.6036	.33

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
126-73-8	TRIBUTYL PHOSPHATE (TBP)		0.0732	.04
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)		0.1097	.06
127-18-4	TETRACHLOROETHYLENE		0.0011	.0006
1303-96-4	SODIUM BORATE, DECAHYDRATE		0.6036	.33
1305-62-0	CALCIUM HYDROXIDE		0.6036	.33
1306-38-3	CERIC OXIDE		1.2071	.66
1309-37-1	FERRIC OXIDE		0.2378	.13
1309-48-4	MAGNESIUM OXIDE		0.2378	.13
1309-60-0	LEAD DIOXIDE		0.4755	.26
1310-58-3	POTASSIUM HYDROXIDE		0.6036	.33
1310-65-2	LITHIUM HYDROXIDE		0.0029	.0016
1310-73-2	SODIUM HYDROXIDE		0.5853	.32
13106-76-8	AMMONIUM MOLYBDATE		0.6767	.37
1313-13-9	MANGANESE DIOXIDE		0.2378	.13
1313-97-9	NEODYMIUM OXIDE		0.2926	.16
13138-45-9	NICKEL (II) NITRATE (1:2)		0.2378	.13
1314-13-2	ZINC OXIDE		0.2378	.13
1314-35-8	TUNGSTEN TRIOXIDE		0.2926	.16
1314-56-3	PHOSPHORUS PENTOXIDE		0.2378	.13
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC		0.1097	.06
1317-38-0	COPPER OXIDE		0.1097	.06
1317-65-3	CALCIUM CARBONATE		1.2071	.66
1317-99-3	URANIUM OCTAOXIDE		0.2378	.13
1318-00-9	VERMICULITE, EXFOLIATED		9.1450	5
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID		0.2378	.13
1330-20-7	XYLENE (MIXED ISOMERS)		0.0732	.04
1331-17-5	PROPYLENE GLYCOL		0.0097	.0053
1332-21-4	ASBESTOS		0.9145	.5
1333-82-0	CHROMIUM TRIOXIDE		0.2378	.13
1335-30-4	ALUMINUM SILICATE		0.2378	.13

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
1336-21-6	AMMONIUM HYDROXIDE		1.2071	.66
13410-01-0	SODIUM SELENATE		0.2378	.13
1344-28-1	ALUMINUM OXIDE		0.2378	.13
1344-64-5	VANADYL SULFATE		0.2378	.13
13463-67-7	TITANIUM OXIDE		0.4755	.26
13464-37-4	ARSENOUS ACID, TRISODIUM SALT		0.0732	.04
13465-08-2	HYDROXYLAMINE NITRATE		0.0732	.04
13478-10-9	FERROUS CHLORIDE		0.3658	.2
13590-82-4	CERIUM SULFATE		0.2378	.13
13708-85-5	SODIUM PHOSPHITE		0.2378	.13
13746-66-2	POTASSIUM FERROCYANIDE		1.2071	.66
13778-30-8	ZINC NITRATE		0.2926	.16
13823-29-5	THORIUM NITRATE		0.2378	.13
13826-66-9	ZIRCONYL NITRATE		0.2926	.16
13870-30-9	SODIUM SILICATE		0.2378	.13
139-13-9	NITRILOTRIACETIC ACID		0.0732	.04
140-01-2	PENTASODIUM PENTETATE (DTPA)		0.0732	.04
14258-49-2	AMMONIUM OXALATE		0.6767	.37
143-19-1	SODIUM OLEATE		0.6036	.33
143-66-8	SODIUM TETRAPHENYL BORON POWDER		0.2378	.13
144-33-2	SODIUM CITRATE		0.6036	.33
144-55-8	SODIUM BICARBONATE		0.0073	.004
144-62-7	OXALIC ACID		0.0732	.04
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE		0.2378	.13
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-		0.0732	.04
17194-00-2	BARIUM HYDROXIDE		0.6767	.37
1762-95-4	AMMONIUM THIOCYANATE		0.3658	.2
19004-19-4	COPPER (II) NITRATE		0.2926	.16
20667-12-3	SILVER (1+) OXIDE		0.2378	.13
21041-95-2	CADMIUM HYDROXIDE		0.2012	.11

ADDEUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
21908-53-2	MERCURIC OXIDE		0.2378	.13
2466-09-3	DIPHOSPHORIC ACID		0.0732	.04
25155-30-0	SODIUM DODECYLBENZENESULFONATE		0.2378	.13
25322-68-3	POLYETHYLENE GLYCOL		0.0022	.0012
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-		0.0732	.04
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE		0.0732	.04
298-14-6	POTASSIUM BICARBONATE		0.0000	.000013
301-04-2	LEAD ACETATE		0.4755	.26
304-59-6	POTASSIUM SODIUM TARTRATE		0.2378	.13
326-91-0	THENOYLTRIFLUOROACETONE		0.0097	.0053
3811-04-9	CHLORIC ACID, POTASSIUM SALT		0.2378	.13
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-		0.0732	.04
496-74-2	TOLUENE-3,4-DITHIOL		0.2378	.13
497-19-8	SODIUM CARBONATE		0.2378	.13
50-00-0	FORMALDEHYDE		0.0677	.037
50-81-7	ASCORBIC ACID		0.0732	.04
506-64-9	SILVER CYANIDE		0.2378	.13
51-28-5	DINITROPHENOL, 2,4-		0.0097	.0053
513-77-9	BARIUM CARBONATE		0.0238	.013
526-95-4	GLUCONICACID 50% IN WATER		0.0732	.04
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE		0.0604	.033
55-55-0	P-METHYLAMINOPHENOL SULFATE		0.0007	.0004
56-23-5	CARBON TETRACHLORIDE		0.0011	.0006
56-40-6	GLYCINE		0.0024	.0013
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL		0.0732	.04
57-13-6	UREA		0.1097	.06
57-50-1	SUCROSE		0.2926	.16
57-55-6	1,2-PROPANEDIOL		0.0219	.012
584-08-7	POTASSIUM CARBONATE		0.2378	.13
592-85-8	MERCURIC THIOCYANATE		0.2378	.13

ADDE\~\~UM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component_ID	Component Text	PPM	Weight (kg)	Weight %
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)		0.0732	.04
6131-90-4	SODIUM ACETATE		0.0366	.02
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)		0.2378	.13
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE		0.0007	.0004
631-61-8	AMMONIUM ACETATE		0.0037	.002
63231-67-4	SILICA GEL		0.2378	.13
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE		0.2378	.13
64-17-5	ETHANOL		0.0732	.04
64-18-6	FORMIC ACID		0.0732	.04
64-19-7	ACETIC ACID		0.0126	.0069
64742-38-7	NORMAL PARAFFINS		0.6036	.33
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)		0.0732	.04
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)		0.2378	.13
65997-15-1	PORTLAND CEMENT		24.3806	13.33
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-		0.0732	.04
67-56-1	METHANOL		0.0001	.000075
67-63-0	ISOPROPYL ALCOHOL		0.0732	.04
67-64-1	ACETONE		0.0293	.016
67-66-3	CHLOROFORM		0.0011	.0006
67-72-1	HEXACHLOROETHANE		0.0005	.0003
69-65-8	D-MANNITOL		0.0732	.04
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN		0.4207	.23
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU		0.3475	.19
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM		0.3658	.2
71-36-3	BUTYL ALCOHOL		0.0005	.00026
71-43-2	BENZENE		0.0018	.001
71-55-6	1,1,1-TRICHLOROETHANE		0.0732	.04
7429-90-5	ALUMINUM		0.5670	.31
7439-89-6	IRON		0.2926	.16
7439-92-1	LEAD			

ADDENDUM

for Package ID: 0031161

Source Facility:

Location Facility:

Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
			0.0009	.0005
7439-95-4	MAGNESIUM		0.2926	.16
7439-97-6	MERCURY		0.0000	.00002
7439-98-7	MOLYBDENUM		0.2926	.16
7440-02-0	NICKEL		0.1280	.07
7440-06-4	PLATINUM		0.2378	.13
7440-22-4	SILVER		0.0009	.0005
7440-31-5	TIN		0.0732	.04
7440-38-2	ARSENIC		0.0009	.0005
7440-39-3	BARIUM		0.0183	.01
7440-41-7	BERYLLIUM		0.0293	.016
7440-43-9	CADMIUM		0.0002	.0001
7440-44-0	CARBON		0.0097	.0053
7440-47-3	CHROMIUM		0.0009	.0005
7440-50-8	COPPER		0.6036	.33
7440-57-5	GOLD		0.0000	.00001
7440-62-2	VANADIUM		0.2926	.16
7440-66-6	ZINC		0.6219	.34
7440-67-7	ZIRCONIUM		0.2926	.16
7446-70-0	ALUMINUM CHLORIDE		0.1097	.06
7447-40-7	POTASSIUM CHLORIDE		0.6036	.33
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)		0.0000	.00002
75-09-2	DICHLOROMETHANE		0.2378	.13
75-35-4	1,1-DICHLOROETHYLENE		0.0001	.00007
75-77-4	TRIMETHYL CHLOROSILANE		0.0097	.0053
7553-56-2	IODINE		0.2378	.13
7558-79-4	SODIUM PHOSPHATE DIBASIC		0.2378	.13
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.0091	.005
7601-90-3	PERCHLORIC ACID		0.0732	.04
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)		0.1829	.1

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7631-99-4	SODIUM NITRATE		0.3658	.2
7632-00-0	SODIUM NITRITE		0.3658	.2
7646-78-8	STANNIC CHLORIDE		0.2378	.13
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN)		0.2926	.16
7647-01-0	HYDROCHLORIC ACID		0.0732	.04
7647-14-5	SODIUM CHLORIDE		0.2378	.13
7647-15-6	SODIUM BROMIDE		0.0048	.0026
7664-39-3	HYDROFLUORIC ACID		0.0732	.04
7664-41-7	AMMONIA		0.6036	.33
7664-93-9	SULFURIC ACID		0.0732	.04
7681-11-0	POTASSIUM IODIDE		0.6036	.33
7681-38-1	SODIUM BISULFATE		0.2378	.13
7681-49-4	SODIUM FLUORIDE		0.3658	.2
7681-52-9	SODIUM HYPOCHLORITE		0.2378	.13
7681-82-5	SODIUM IODIDE		0.3109	.17
7697-37-2	NITRIC ACID		0.0732	.04
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL		0.0732	.04
77-92-9	CITRIC ACID		0.0732	.04
7704-34-9	SULFUR		0.2378	.13
7705-07-9	TITANIUM TRICHLORIDE		0.3109	.17
7705-08-0	FERRIC CHLORIDE		0.2378	.13
7718-54-9	NICKEL (II) CHLORIDE (1:2)		0.2926	.16
7720-78-7	FERROUS SULFATE		0.3658	.2
7722-64-7	POTASSIUM PERMANGANATE		0.3658	.2
7722-84-1	HYDROGEN PEROXIDE		0.6767	.37
7727-43-7	BARIUM SULFATE		0.0585	.032
7732-18-5	WATER		10.9740	6
7738-94-5	CHROMIC (VI) ACID		0.0097	.0053
7757-82-6	SODIUM SULFATE		0.3585	.196
7757-83-7	SODIUM SULFITE		0.0073	.004

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Waste Component Records

Component_ID	Component Text	PPM	Weight (kg)	Weight %
7758-02-3	POTASSIUM BROMIDE		0.0007	.0004
7758-05-6	POTASSIUM IODATE		0.6036	.33
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT		0.2378	.13
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)		0.4755	.26
7761-88-8	SILVER NITRATE		0.2926	.16
7772-99-8	STANNOUS CHLORIDE		0.6036	.33
7773-01-5	MANGANESE CHLORIDE		0.0238	.013
7774-29-0	MERCURIC IODIDE		0.2378	.13
7778-18-9	CALCIUM SALT SULFURIC ACID		0.2378	.13
7778-50-9	DIPOTASSIUM DICHROMATE		0.0732	.04
7778-53-2	POTASSIUM PHOSPHATE		0.2378	.13
7782-42-5	GRAPHITE		1.2071	.66
7782-49-2	SELENIUM		0.0002	.0001
7782-77-6	NITROUS ACID		0.0732	.04
7782-91-4	MOLYBDIC ACID (NO RTECS INFO)		0.3109	.17
7783-18-8	AMMONIUM THIOSULFATE		0.0073	.004
7783-28-0	AMMONIUM PHOSPHATE DIBASIC		0.3658	.2
7783-36-0	MERCUROUS SULFATE		0.2378	.13
7784-27-2	ALUMINUM NITRATE		0.2926	.16
7784-46-5	SODIUM ARSENITE		0.2378	.13
7785-87-7	MANGANOUS SULFATE		0.2378	.13
7788-98-9	AMMONIUM CHROMATE		0.1097	.06
7789-00-6	POTASSIUM CHROMATE		0.2378	.13
7789-23-3	POTASSIUM FLUORIDE		0.0549	.03
7790-62-7	POTASSIUM PYROSULFATE		0.3658	.2
78-38-6	DIETHYL ETHYLPHOSPHONATE		0.0732	.04
78-51-3	2-BUTOXYETHANOL, PHOSPHATE		0.0097	.0053
78-93-3	METHYL ETHYL KETONE		0.0066	.0036
7803-55-6	AMMONIUM VANADATE		0.2378	.13
79-01-6	TRICHLOROETHYLENE		0.0011	.0006

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
79-11-8	CHLOROACETIC ACID		0.3658	.2
80-55-7	METHYL LACTIC ACID (ETHYLESTER)		0.0732	.04
8001-30-7	CORN OIL		0.0097	.0053
8008-20-6	KEROSENE		0.0732	.04
868-18-8	SODIUM TARTRATE		0.1097	.06
87-69-4	TARTARIC ACID		0.2378	.13
87-86-5	PENTACHLOROPHENOL		0.0183	.01
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-		0.1097	.06
9002-93-1	TRITON X-100		0.0073	.004
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER		0.0713	.039
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE		0.6036	.33
91-20-3	NAPHTHALENE		0.2378	.13
95-45-4	DIMETHYLGLYOXIME		0.6036	.33
95-48-7	O-CRESOL		0.0010	.00056
98-95-3	NITROBENZENE		0.0026	.0014
GCN049	ABSORBENTS (NON-SPECIFIED)		0.2195	.12
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)		77.4673	42.355
GCN113	ACRYLIC EMULSION/POLYMER		0.0139	.0076
GCN126	ETHERS (NON-SPECIFIED)		0.0732	.04
GCNPCBOIL	PCB OIL		0.0002	.0001
GCNWRPCLAM	WRP CLAMSHELL		5.4400	2.52354
GCNWRPCRIB	WRP BLOCKING & BRACING		0.2300	.10669
GCNWRPMETAL	WRP INNER CONTAINER - WASTE METAL		27.0000	12.52493
			216.0498	

Manifest / Shipping Information

Type	Shipment Document#	Item	RSR #	RSR Type	DOT Spec	DOT Cat	REQ Num	Shipment Scheduled	Date Shipped	Shipment Arrived	Manifest Returned	Tran Cmpny	Tran Type	Dest Cmpny	Dest Type	Receiving Facility	Rtn
SR	FY06RET124	5		ON	1A2				06/05/06	06/05/06						CWC	
SR	85GALQS045	69		ON	1A2				08/26/08	08/26/08						2336W	

ADDENDUM

Solid Waste Information and Tracking System
Container Listing Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Inner/From Relationships

Inner/from Package	Date	Operation
HEDL-63	**03/30/2006**	**Disposal Overpack**

Package Review Notes

Review Code	Print on Receipt Rpt?	Comments
CRITICALITY REVIEW	**Y**	**Fissile, CPS Container Type A Drum.**
AIR PERMIT (ASIL) REVIEW	**N**	**PREVIOUSLY COMPLETED.**
ASBESTOS LABEL REQUIRED	**Y**	

ADDENDUM

Solid Waste Informat ɿnd Tracking System
Container L ɿg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Package ID:	0031161	Secondary Pkg ID:		Accumulation Date:	05/18/1979
Waste Type:	D TRU	Phys State Cd:	S	Deadline Date:	08/15/1979
Sec Waste Type:	TRU	UHC Determination:		Ship Date:	05/18/1979
Encasement/HIC#:		UHC's Applicable:		TSD Receive Date:	
Profile / Rev#:	TRU-RETRIEVAL - 01	NFPA < 93.3C:	N	TSD Accept Date:	05/18/1979
WSRd / Rev #:	200 - 06	Storage Category:	M	Disposal Date:	

Routine Status: 100 Non-Routine / Other

Container Type / Descr:	DM / 85 GALLON	Container Empty Tare Wt. (kg):	35.4000
Container Volume (cu. meters):	0.3218	Waste Weight (kg):	185.9800
Labpack Flag:	N	Container Gross Wt. (kg):	254.0500

Container Contents: TRUM WASTE WRAP NDE(QUICK SCAN)/NDA HAS BEEN APPLIED, NPW, 2/23/09
SWO Comments: NEW CRITICALITY REVIEW NOTE COMMENT- FISSILE, CPS CONTAINER TYPE A DRUM. 07/13/06

Generator Information

Generating Company:	WHC WESTINGHOUSE HANFORD	Generator ID:		Generator Group:	OTHER
Source Facility:	325	Generator:	UNKNOWN		
Generator Comments:					

ADDENDUM

Source Facility:
Location Facility:
Shipment #:

Hazardous Package Detail

Container Status: **Full** Flashpoint: **N/A** pH Value: **>2-<12.5** Subpart CC Flag: **NA**

DW Numbers: **D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005**

RCRA Reporting

ADWR Stream Description: **TRU Project Debris - Solvents, Organics, Metals**
Designation Code: **DW**
Source Code: **G49** **Other Remediation**
Comment: **Burial Ground Remediation**
Form Code: **W002** **Contaminated Debris, paper, cloth, rags, wood, empty fiber or plastic containers, glass, piping, or other solids**
Comment:
Origin Code: **ii** **Non-recurrent waste stream.**
Residual Mgmt Method:
Comment:
Management Method:
Comment:
Certification Group: **TRURET**
Reportable CERCLA?:

Pre-2007 Reporting

Waste Stream: **M610** Offsite TSD Waste Stream: RCRA Designated Date: **05/23/2006**

PCB Package Detail

PCB Type: PCB Source Concentration (PPM):
PCB Subtype: PCB Waste Weight:
PCB Contents: Removed from Service:

ADDENDUM

Source Facility:
Location Facility:
Shipment #:

Radioactive Package Detail

Waste Category:	**GTWC3**	Shielding:	**None**	Thermal Power (w/cu.m.):	**4.53644E-01**
Combustible Flag:		Vent Code:	**07L**	Neutron Dose Rate:	
Exceeds ISB Limit:	**Y**	Handling:	**C**	Contact Dose Rate:	**4.00000E+00**
NRC Class:	**>C**	RSWIMS Container Cnt:	**1**	Tot Pe-Ci:	**4.73529E+00**
		Excluded from DE-Ci:		ICRP 71 DE-Ci:	**4.49981E+00**

VOC/Hydrogen Gas Diffusion Detail

H2 Diffusion Release Date: VOC Hold?: VOC Resample Date:

Current Location Information

Facility ID:	**2404WB**	Tier Level:		Loc Beg Coordinates - N:	
Trench / Unit:	**Z2**	Tier Position:		W:	
Module:		GPS Data Flag:		Loc End Coordinates - N:	
				W:	

ADDENDUM

Solid Waste Informat and Tracking System
Container L ıg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Relocation History

Relocation Date	From Facility	From Unit
09/05/2008	2404WB	Z3
09/05/2008	2404WB	Z1
09/03/2008	2336W	
09/02/2008	2404WB	Z1
08/26/2008	2404WB	Z3
08/26/2008	2404WB	Z1
08/26/2008	TRANSIT	
08/01/2006	2403WA	Q1
06/07/2006	2403WA	Q3
06/05/2006	2403WA	Q2
06/01/2006	TRANSIT	
05/02/2006	218W4C	Z6B
04/25/2006	218W4C	Z4C
04/25/2006	218W4C	Z4A
04/25/2006	218W4C	Z6E
03/30/2006	218W4C	Z1A
05/18/1979	218W4C	T04

ADDENDUM

Solid Waste Informat and Tracking System
Container L ıg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Isotope Information

Isotope Number	Isotope Name	Isotope Activity (Ci)
8	Cs-137	5.90000E-06
97	Pu-240	9.58000E-01
99	Pu-242	1.46000E-04
100	Pu-239	1.94000E+00
41	Pu-238	2.52000E-01
202	U-234	1.11000E-04
206	U-238	5.56000E-05
26	Am-241	1.41000E+00
98	Pu-241	1.03000E+01
203	U-235	3.71000E-06
3	Sr-90	5.36000E-06

ADDENDUM

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10022-31-8	BARIUM NITRATE		0.2412	.130
10025-73-7	CHROMIC CHLORIDE		0.2412	.130
10028-22-5	FERRIC SULFATE		0.2412	.130
10034-81-8	MAGNESIUM PERCHLORATE		0.2412	.130
10042-76-9	STRONTIUM NITRATE		0.2412	.130
10043-01-3	ALUMINUM SULFATE		0.0742	.040
10043-35-3	BORIC ACID		0.0098	.005
10043-52-4	CALCIUM CHLORIDE		0.2967	.160
10045-89-3	FERROUS AMMONIUM SULFATE		0.6122	.329
10045-94-0	MERCURIC NITRATE		0.2412	.130
10045-95-1	NEODYMIUM NITRATE		0.2412	.130
10099-59-9	LANTHANUM NITRATE		0.2412	.130
10099-74-8	LEAD NITRATE		0.2412	.130
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)		0.2412	.130
10102-06-4	URANYL NITRATE		0.1113	.060
10108-73-3	CEROUS NITRATE		0.2967	.160
10124-37-5	CALCIUM NITRATE		0.2412	.130
10138-04-2	FERRIC AMMONIUM SULFATE		0.6122	.329
10192-30-0	AMMONIUM BISULFITE, SOLID		0.0007	.000
10213-10-2	SODIUM TUNGSTATE		0.2412	.130
10294-26-5	SILVER SULFATE		0.2412	.130
10294-41-4	CERIUM NITRATE		0.2412	.130
10325-94-7	CADMIUM NITRATE		0.2412	.130
10361-03-2	SODIUM METAPHOSPHATE		0.2412	.130
10361-37-2	BARIUM CHLORIDE		0.2412	.130
10361-93-0	YTTRIUM NITRATE		0.2412	.130
10377-48-7	LITHIUM SULFATE		0.2967	.160
10377-60-3	MAGNESIUM NITRATE		0.2967	.160
10377-66-9	MANGANESE NITRATE		0.2967	.160
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)		0.2412	.130

ADDENDUM

Solid Waste Informat' nd Tracking System
Container L g Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10450-60-9	PERIODIC ACID		0.2412	.130
10588-01-9	SODIUM DICHROMATE		0.2412	.130
106-44-5	P-CRESOL		0.0010	.001
106-46-7	P-DICHLOROBENZENE		0.0014	.001
107-06-2	1,2-DICHLOROETHANE		0.0001	.000
107-21-1	ETHYLENE GLYCOL		0.0004	.000
107-66-4	DIBUTYL PHOSPHATE		0.2412	.130
108-10-1	4-METHYL-2-PENTANONE		0.0061	.003
108-39-4	M-CRESOL		0.0010	.001
108-88-3	TOLUENE		0.0018	.001
108-95-2	PHENOL		0.3153	.170
110-54-3	N-HEXANE		0.0742	.040
110-82-7	CYCLOHEXANE		0.0742	.040
110-86-1	PYRIDINE		0.0029	.002
111-69-3	ADIPONITRILE		0.0742	.040
11138-49-1	SODIUM ALUMINATE		0.4822	.259
1116-76-3	TRIOCTYLAMINEINE		0.0742	.040
112-80-1	OLEIC ACID		0.0742	.040
115-40-2	BROMOCRESOL PURPLE		0.0024	.001
117-10-2	1,8-DIHYDROXYANTHRAQUINONE		0.0098	.005
12024-21-4	GALLIUM OXIDE		0.2412	.130
12044-50-7	ARSENIC (V) OXIDE, HYDRATE		0.2412	.130
12054-48-7	NICKEL HYDROXIDE		0.0890	.048
12069-32-8	BORON CARBIDE		0.2412	.130
121-14-2	2,4-DINITROTOLUENE		0.0000	.000
12125-01-8	AMMONIUM FLUORIDE		0.6122	.329
12125-02-9	AMMONIUM CHLORIDE		0.0186	.010
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE		0.0005	.000
123-31-9	HYDROQUINONE		0.0007	.000
12428-46-5	ALUMINUM HYDROXIDE SILICATE		0.6122	.329

ADDENDUM

Solid Waste Informat ınd Tracking System
Container L. ıg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
126-73-8	TRIBUTYL PHOSPHATE (TBP)		0.0742	.040
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)		0.1113	.060
127-18-4	TETRACHLOROETHYLENE		0.0011	.001
1303-96-4	SODIUM BORATE, DECAHYDRATE		0.6122	.329
1305-62-0	CALCIUM HYDROXIDE		0.6122	.329
1306-38-3	CERIC OXIDE		1.2242	.658
1309-37-1	FERRIC OXIDE		0.2412	.130
1309-48-4	MAGNESIUM OXIDE		0.2412	.130
1309-60-0	LEAD DIOXIDE		0.4822	.259
1310-58-3	POTASSIUM HYDROXIDE		0.6122	.329
1310-65-2	LITHIUM HYDROXIDE		0.0029	.002
1310-73-2	SODIUM HYDROXIDE		0.5936	.319
13106-76-8	AMMONIUM MOLYBDATE		0.6863	.369
1313-13-9	MANGANESE DIOXIDE		0.2412	.130
1313-97-9	NEODYMIUM OXIDE		0.2967	.160
13138-45-9	NICKEL (II) NITRATE (1:2)		0.2412	.130
1314-13-2	ZINC OXIDE		0.2412	.130
1314-35-8	TUNGSTEN TRIOXIDE		0.2967	.160
1314-56-3	PHOSPHORUS PENTOXIDE		0.2412	.130
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC		0.1113	.060
1317-38-0	COPPER OXIDE		0.1113	.060
1317-65-3	CALCIUM CARBONATE		1.2242	.658
1317-99-3	URANIUM OCTAOXIDE		0.2412	.130
1318-00-9	VERMICULITE, EXFOLIATED		9.2747	4.987
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID		0.2412	.130
1330-20-7	XYLENE (MIXED ISOMERS)		0.0742	.040
1331-17-5	PROPYLENE GLYCOL		0.0098	.005
1332-21-4	ASBESTOS		0.9275	.499
1333-82-0	CHROMIUM TRIOXIDE		0.2412	.130
1335-30-4	ALUMINUM SILICATE		0.2412	.130

ADDENDUM

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
1336-21-6	AMMONIUM HYDROXIDE		1.2242	.658
13410-01-0	SODIUM SELENATE		0.2412	.130
1344-28-1	ALUMINUM OXIDE		0.2412	.130
1344-64-5	VANADYL SULFATE		0.2412	.130
13463-67-7	TITANIUM OXIDE		0.4822	.259
13464-37-4	ARSENOUS ACID, TRISODIUM SALT		0.0742	.040
13465-08-2	HYDROXYLAMINE NITRATE		0.0742	.040
13478-10-9	FERROUS CHLORIDE		0.3710	.199
13590-82-4	CERIUM SULFATE		0.2412	.130
13708-85-5	SODIUM PHOSPHITE		0.2412	.130
13746-66-2	POTASSIUM FERROCYANIDE		1.2242	.658
13778-30-8	ZINC NITRATE		0.2967	.160
13823-29-5	THORIUM NITRATE		0.2412	.130
13826-66-9	ZIRCONYL NITRATE		0.2967	.160
13870-30-9	SODIUM SILICATE		0.2412	.130
139-13-9	NITRILOTRIACETIC ACID		0.0742	.040
140-01-2	PENTASODIUM PENTETATE (DTPA)		0.0742	.040
14258-49-2	AMMONIUM OXALATE		0.6863	.369
143-19-1	SODIUM OLEATE		0.6122	.329
143-66-8	SODIUM TETRAPHENYL BORON POWDER		0.2412	.130
144-33-2	SODIUM CITRATE		0.6122	.329
144-55-8	SODIUM BICARBONATE		0.0074	.004
144-62-7	OXALIC ACID		0.0742	.040
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE		0.2412	.130
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-		0.0742	.040
17194-00-2	BARIUM HYDROXIDE		0.6863	.369
1762-95-4	AMMONIUM THIOCYANATE		0.3710	.199
19004-19-4	COPPER (II) NITRATE		0.2967	.160
20667-12-3	SILVER (1+) OXIDE		0.2412	.130
21041-95-2	CADMIUM HYDROXIDE		0.2041	.110

ADDENDUM

Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
21908-53-2	MERCURIC OXIDE		0.2412	.130
2466-09-3	DIPHOSPHORIC ACID		0.0742	.040
25155-30-0	SODIUM DODECYLBENZENESULFONATE		0.2412	.130
25322-68-3	POLYETHYLENE GLYCOL		0.0022	.001
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-		0.0742	.040
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE		0.0742	.040
298-14-6	POTASSIUM BICARBONATE		0.0000	.000
301-04-2	LEAD ACETATE		0.4822	.259
304-59-6	POTASSIUM SODIUM TARTRATE		0.2412	.130
326-91-0	THENOYLTRIFLUOROACETONE		0.0098	.005
3811-04-9	CHLORIC ACID, POTASSIUM SALT		0.2412	.130
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-		0.0742	.040
496-74-2	TOLUENE-3,4-DITHIOL		0.2412	.130
497-19-8	SODIUM CARBONATE		0.2412	.130
50-00-0	FORMALDEHYDE		0.0687	.037
50-81-7	ASCORBIC ACID		0.0742	.040
506-64-9	SILVER CYANIDE		0.2412	.130
51-28-5	DINITROPHENOL, 2,4-		0.0098	.005
513-77-9	BARIUM CARBONATE		0.0241	.013
526-95-4	GLUCONICACID 50% IN WATER		0.0742	.040
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE		0.0613	.033
55-55-0	P-METHYLAMINOPHENOL SULFATE		0.0007	.000
56-23-5	CARBON TETRACHLORIDE		0.0011	.001
56-40-6	GLYCINE		0.0024	.001
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL		0.0742	.040
57-13-6	UREA		0.1113	.060
57-50-1	SUCROSE		0.2967	.160
57-55-6	1,2-PROPANEDIOL		0.0222	.012
584-08-7	POTASSIUM CARBONATE		0.2412	.130
592-85-8	MERCURIC THIOCYANATE		0.2412	.130

ADDENDUM

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)		0.0742	.040
6131-90-4	SODIUM ACETATE		0.0371	.020
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)		0.2412	.130
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE		0.0007	.000
631-61-8	AMMONIUM ACETATE		0.0038	.002
63231-67-4	SILICA GEL		0.2412	.130
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE		0.2412	.130
64-17-5	ETHANOL		0.0742	.040
64-18-6	FORMIC ACID		0.0742	.040
64-19-7	ACETIC ACID		0.0128	.007
64742-38-7	NORMAL PARAFFINS		0.6122	.329
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)		0.0742	.040
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)		0.2412	.130
65997-15-1	PORTLAND CEMENT		24.7263	13.295
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-		0.0742	.040
67-56-1	METHANOL		0.0001	.000
67-63-0	ISOPROPYL ALCOHOL		0.0742	.040
67-64-1	ACETONE		0.0297	.016
67-66-3	CHLOROFORM		0.0011	.001
67-72-1	HEXACHLOROETHANE		0.0005	.000
69-65-8	D-MANNITOL		0.0742	.040
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN		0.4267	.229
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU		0.3524	.189
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM		0.3710	.199
71-36-3	BUTYL ALCOHOL		0.0005	.000
71-43-2	BENZENE		0.0018	.001
71-55-6	1,1,1-TRICHLOROETHANE		0.0742	.040
7429-90-5	ALUMINUM		0.5750	.309
7439-89-6	IRON		0.2967	.160
7439-92-1	LEAD			

ADDENDUM

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
			0.0009	.000
7439-95-4	MAGNESIUM		0.2967	.160
7439-97-6	MERCURY		0.0000	.000
7439-98-7	MOLYBDENUM		0.2967	.160
7440-02-0	NICKEL		0.1298	.070
7440-06-4	PLATINUM		0.2412	.130
7440-22-4	SILVER		0.0009	.000
7440-31-5	TIN		0.0742	.040
7440-38-2	ARSENIC		0.0009	.000
7440-39-3	BARIUM		0.0186	.010
7440-41-7	BERYLLIUM		0.0297	.016
7440-43-9	CADMIUM		0.0002	.000
7440-44-0	CARBON		0.0098	.005
7440-47-3	CHROMIUM		0.0009	.000
7440-50-8	COPPER		0.6122	.329
7440-57-5	GOLD		0.0000	.000
7440-62-2	VANADIUM		0.2967	.160
7440-66-6	ZINC		0.6307	.339
7440-67-7	ZIRCONIUM		0.2967	.160
7446-70-0	ALUMINUM CHLORIDE		0.1113	.060
7447-40-7	POTASSIUM CHLORIDE		0.6122	.329
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)		0.0000	.000
75-09-2	DICHLOROMETHANE		0.2412	.130
75-35-4	1,1-DICHLOROETHYLENE		0.0001	.000
75-77-4	TRIMETHYL CHLOROSILANE		0.0098	.005
7553-56-2	IODINE		0.2412	.130
7558-79-4	SODIUM PHOSPHATE DIBASIC		0.2412	.130
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.0092	.005
7601-90-3	PERCHLORIC ACID		0.0742	.040
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)		0.1855	.100

ADDENDUM

Solid Waste Informat and Tracking System
Container L. ıg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7631-99-4	SODIUM NITRATE		0.3710	.199
7632-00-0	SODIUM NITRITE		0.3710	.199
7646-78-8	STANNIC CHLORIDE		0.2412	.130
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN)		0.2967	.160
7647-01-0	HYDROCHLORIC ACID		0.0742	.040
7647-14-5	SODIUM CHLORIDE		0.2412	.130
7647-15-6	SODIUM BROMIDE		0.0049	.003
7664-39-3	HYDROFLUORIC ACID		0.0742	.040
7664-41-7	AMMONIA		0.6122	.329
7664-93-9	SULFURIC ACID		0.0742	.040
7681-11-0	POTASSIUM IODIDE		0.6122	.329
7681-38-1	SODIUM BISULFATE		0.2412	.130
7681-49-4	SODIUM FLUORIDE		0.3710	.199
7681-52-9	SODIUM HYPOCHLORITE		0.2412	.130
7681-82-5	SODIUM IODIDE		0.3153	.170
7697-37-2	NITRIC ACID		0.0742	.040
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL		0.0742	.040
77-92-9	CITRIC ACID		0.0742	.040
7704-34-9	SULFUR		0.2412	.130
7705-07-9	TITANIUM TRICHLORIDE		0.3153	.170
7705-08-0	FERRIC CHLORIDE		0.2412	.130
7718-54-9	NICKEL (II) CHLORIDE (1:2)		0.2967	.160
7720-78-7	FERROUS SULFATE		0.3710	.199
7722-64-7	POTASSIUM PERMANGANATE		0.3710	.199
7722-84-1	HYDROGEN PEROXIDE		0.6863	.369
7727-43-7	BARIUM SULFATE		0.0593	.032
7732-18-5	WATER		11.1296	5.984
7738-94-5	CHROMIC (VI) ACID		0.0098	.005
7757-82-6	SODIUM SULFATE		0.3636	.196
7757-83-7	SODIUM SULFITE		0.0074	.004

ADDENDUM

Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7758-02-3	POTASSIUM BROMIDE		0.0007	.000
7758-05-6	POTASSIUM IODATE		0.6122	.329
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT		0.2412	.130
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)		0.4822	.259
7761-88-8	SILVER NITRATE		0.2967	.160
7772-99-8	STANNOUS CHLORIDE		0.6122	.329
7773-01-5	MANGANESE CHLORIDE		0.0241	.013
7774-29-0	MERCURIC IODIDE		0.2412	.130
7778-18-9	CALCIUM SALT SULFURIC ACID		0.2412	.130
7778-50-9	DIPOTASSIUM DICHROMATE		0.0742	.040
7778-53-2	POTASSIUM PHOSPHATE		0.2412	.130
7782-42-5	GRAPHITE		1.2242	.658
7782-49-2	SELENIUM		0.0002	.000
7782-77-6	NITROUS ACID		0.0742	.040
7782-91-4	MOLYBDIC ACID (NO RTECS INFO)		0.3153	.170
7783-18-8	AMMONIUM THIOSULFATE		0.0074	.004
7783-28-0	AMMONIUM PHOSPHATE DIBASIC		0.3710	.199
7783-36-0	MERCUROUS SULFATE		0.2412	.130
7784-27-2	ALUMINUM NITRATE		0.2967	.160
7784-46-5	SODIUM ARSENITE		0.2412	.130
7785-87-7	MANGANOUS SULFATE		0.2412	.130
7788-98-9	AMMONIUM CHROMATE		0.1113	.060
7789-00-6	POTASSIUM CHROMATE		0.2412	.130
7789-23-3	POTASSIUM FLUORIDE		0.0557	.030
7790-62-7	POTASSIUM PYROSULFATE		0.3710	.199
78-38-6	DIETHYL ETHYLPHOSPHONATE		0.0742	.040
78-51-3	2-BUTOXYETHANOL, PHOSPHATE		0.0098	.005
78-93-3	METHYL ETHYL KETONE		0.0067	.004
7803-55-6	AMMONIUM VANADATE		0.2412	.130
79-01-6	TRICHLOROETHYLENE		0.0011	.001

ADDENDUM

Solid Waste Informat ɿnd Tracking System
Container L. ɿg Report
for Package ID: 0031161
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
79-11-8	CHLOROACETIC ACID		0.3710	.199
80-55-7	METHYL LACTIC ACID (ETHYLESTER)		0.0742	.040
8001-30-7	CORN OIL		0.0098	.005
8008-20-6	KEROSENE		0.0742	.040
868-18-8	SODIUM TARTRATE		0.1113	.060
87-69-4	TARTARIC ACID		0.2412	.130
87-86-5	PENTACHLOROPHENOL		0.0186	.010
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-		0.1113	.060
9002-93-1	TRITON X-100		0.0074	.004
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER		0.0723	.039
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE		0.6122	.329
91-20-3	NAPHTHALENE		0.2412	.130
95-45-4	DIMETHYLGLYOXIME		0.6122	.329
95-48-7	O-CRESOL		0.0010	.001
98-95-3	NITROBENZENE		0.0026	.001
GCN049	ABSORBENTS (NON-SPECIFIED)		0.2226	.120
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)		78.5657	42.244
GCN113	ACRYLIC EMULSION/POLYMER		0.0141	.008
GCN126	ETHERS (NON-SPECIFIED)		0.0742	.040
GCNPCBOIL	PCB OIL		0.0002	.000
			185.9798	

Packaging Components

Component Description	Weight (kg)
BLOCKING & BRACING	0.2300
CLAM SHELL	5.4400
INNER CONTAINER	27.0000
	32.6700

ADDENDUM

Solid Waste Informat and Tracking System
Container L ag Report
for Package ID: **0031161**
Source Facility:
Location Facility:
Shipment #:

Manifest / Shipping Information

Type	Shipment Document#	Item	RSR #	RSR Type	DOT Spec	DOT Cat	REQ Num	Shipment Scheduled	Date Shipped	Shipment Arrived	Manifest Returned	Tran Cmpny	Tran Type	Dest Cmpny	Dest Type	Receiving Facility	Rtn
SR	FY06RET124	5		ON	1A2				06/05/06	06/05/06						CWC	
SR	85GALQS045	69		ON	1A2				08/26/08	08/26/08						2336W	

Inner/From Relationships

Inner/from Package	Date	Operation
HEDL-63	03/30/2006	Disposal Overpack

Package Review Notes

Review Code	Print on Receipt Rpt?	Comments
CRITICALITY REVIEW	Y	Fissile, CPS Container Type A Drum.
AIR PERMIT (ASIL) REVIEW	N	PREVIOUSLY COMPLETED.
ASBESTOS LABEL REQUIRED	Y	

ADDENDUM

TRU Information Bulletin

TRU-IB-10-010

325 Radiochemistry Building Comprehensive Homogenous Solids Waste Stream S3000 RLM325

Revision 0, Change 0

Published: May 7, 2010
Effective: May 7, 2010

Project: TRU Project
Topic: Administration

Technical Authority: N. L. Hulse
Functional Manager: R. J. Bannister

CHANGE SUMMARY

Description of Change

New Document

TABLE OF CONTENTS

List of Tables

DOCUMENTATION

Questions or suggestions on this Waste Stream Information Bulletin should be directed to Nancy Hulse (373-1203). Questions regarding training should be directed to Debbie Thomas (376-1308).

APPROVAL

/s/ Nancy Hulse
(Sign Name)
N. L. Hulse
Acceptable Knowledge Expert

05/04/2010
(Date)

/s/ Roland Bannister
(Sign Name)
R. J. Bannister
TRU Repackaging Project Manager

05/07/10
(Date)

1.0 INTRODUCTION

This waste stream information bulletin provides a description of the solids waste stream S3000 RLM325 that will undergo Waste Receiving and Processing (WRAP) characterization (i.e., quick scan and nondestructive assay [NDA]). These activities will identify any prohibited items and ensure the waste is transuranic (TRU) before the waste is repackaged and/or deemed certifiable for Waste Isolation Pilot Plant (WIPP) characterization by the Central Characterization Project (CCP).

2.0 PURPOSE

The purpose of this information bulletin is to ensure TRU Repackaging Project personnel understand and recognize the description of the S3000 RLM325 waste stream.

3.0 INSTRUCTIONS TO TRAINEE

Acknowledge completion of reading this information bulletin by signed documentation, e-mail, or electronically, as applicable.

4.0 OBJECTIVE

Upon reading this information bulletin, personnel will have the correct information to support characterization and repackaging of S3000 RLM325 waste stream and to perform their responsibilities in accordance with the Hanford Site Transuranic Waste Repackaging Project.

4.1 Enabling Objectives

After reviewing this information bulletin, personnel will be able to identify the following:

- Generating process
- Waste stream description and waste matrix code
- Waste packaging and handling
- U.S. Environmental Protection Agency (EPA) hazardous waste numbers (HWNs) and Washington State Dangerous Waste codes present in the waste
- *Toxic Substances Control Act of 1976* (TSCA) regulated - polychlorinated biphenyls (PCBs) associated with the waste
- Radionuclides present
- AK information related to the waste

5.0 HISTORICAL BACKGROUND

The 325 Radiochemistry Building was built in 1953 to safely house and handle multi-curie or high activity radiochemical development work. The High-Level Radiochemistry Annex was added to the facility in 1959 and 1960. Combined, these two analytical operations were the largest of Hanford's laboratories. Analyses were performed in gloveboxes, fume hoods, and hot cells using a wide variety of general chemical and physical tests. The 325 Facility has had a transient operating history, first operated by Hanford Works from 1953 until 1965, when operations were transferred to Battelle Northwest Laboratories (BNWL). In 1970, operations were split between BNWL and Westinghouse Hanford and remained in this configuration until the entire laboratory was transferred to the current contractor, Pacific Northwest National Laboratories (PNNL), in1987.

6.0 WASTE GENERATING PROCESS

The 325 Facility waste streams were generated from laboratory examinations and studies that supported the plutonium defense cycle. The solids waste stream, S3000 RLM325, has containers which were reassigned from the debris waste stream, RLM325D, because they contained more than 50 percent by volume homogeneous solids. Processes supported and hazardous materials used at 325 Facility included, but are not limited to, the following:

- Bismuth Phosphate Process: nitric acid, phosphoric acid, hydrofluoric acid, oxalic acid, and sodium dichromate
- REDOX process: hexone, aluminum nitrate, ammonium nitrate, nitric acid, sulfuric acid, and oxalic acid
- Metal Recovery & PUREX (processes are very similar): tri-butyl phosphate, kerosene, nitric acid, oxalic acid, ammonium fluoride, sodium hydroxide, sulfuric acid, and ammonium nitrate
- RECUPLEX Process: tri-butyl phosphate, carbon tetrachloride, nitric acid, oxalic acid, and hydrofluoric acid
- PRF Process (Plutonium Reclamation Facility): dibutyl butyl phosphonate, butanol, kerosene, and phosphoric acid
- N Reactor (tests of fuel iodine control): paraffin hydrocarbon, nitric acid, mercury, silver, aluminum, elemental iodine

These analyses used a wide variety of electrochemical, spectrophotometric, potentiometric, amperometric, and physical tests that generated primarily inorganic and organic debris waste materials. Materials associated with waste packaging include plastic liners and absorbents (Cleanup-IV, vermiculite, and diatomaceous earth).

The S3000 RL325 waste stream consists of absorbed liquids and sample residues from fuel pellets, tank wastes, ceramics, and grouted plutonium in cans that have been placed in 55-gallon drums. Sample residues (e.g., unused samples) generated during laboratory operations are present and were neutralized and solidified using nonhazardous absorbents (e.g., kitty litter). Neutralized and solidified liquids from hazardous waste treatment may also be present. Corrosive liquids, such as acetic acid, hydrochloric acid, and sodium hydroxide, were neutralized and solidified in cement. Spent organic solvents (e.g., toluene, xylene) were absorbed using non-hazardous absorbents, such as kitty litter. Some debris waste may also be present in containers of S3000 RLM325.

7.0 DEFENSE DETERMINATION

DOE and its predecessor agencies were engaged in a broad range of activities that fall under the heading of atomic energy defense activities. To be eligible as waste of defense origin for disposal at WIPP, the waste must have been generated under at least one of the defense activities as identified in the *Nuclear Waste Policy Act of 1982* (NWPA).

The primary missions of Hanford pertaining to national defense included fuel and target fabrication, plutonium production reactor operation, radionuclide and chemical separations, component fabrication, research and development, and testing. Hanford's defense waste legacy can be traced back to plutonium production for weapons activities beginning in 1944.

Because the 325 Building Radiochemistry Laboratory supported a range of activities throughout Hanford's production history, the S3000 RLM325 waste is defense-related and eligible for disposal at WIPP.

8.0 WASTE DESCRIPTION

The S3000 RLM325 waste stream is defined as belonging to summary category S3000, homogenous solids, because greater than 50 percent by volume of the materials in each container are homogeneous solids. The waste matrix code group that best fits the description of the waste stream is S3100, inorganic homogeneous solids and the waste matrix code that best fits the description of the waste stream is S3119, Unknown/Other Inorganic Particulates. This definition is in accordance with the *WIPP Hazardous Waste Facility Permit*, Attachment B, *Waste Analysis Plan* (WIPP-WAP).

The containers in the S3000 RLM325 waste stream were reassigned from the RLM325D waste stream because containers were determined to contain greater than 50 weight percent by volume solidified liquids. The S3000 RLM325 waste stream consists of mixed TRU solid waste including absorbed/solidified liquids (aqueous liquids and spent organic solvents) from laboratory operations in the 325 Building. If the liquids were corrosive they were neutralized prior to solidification. The liquids were solidified with various materials, including cement, grout, and inorganic absorbents like kitty litter or modified aluminosilicates such as Aquaset or Petroset. In addition to absorbed/solidified liquids, there may also be miscellaneous organic debris present in drums such as paper, plastic, and rubber, as well as inorganic debris; glass, aluminum, lead and iron-based metal from equipment removal.

During operations, when spills occurred, the liquids were collected and packaged with vermiculite and cement to absorb free liquids. Additional mop-up was completed using terry cloth towels. When there was potential for release of airborne radioactive materials, corn oil mist was used as a dust suppressant. Beginning in the early 1980s, aerosol cans were required to be punctured and fluorescent light ballasts were segregated from TRU waste prior to disposal.

Waste materials from operations were not segregated based on the physical form or chemical content at the time of generation. Hazardous constituents (e.g., free liquids, lead) packaged in the waste containers were noted by the waste generators on the Waste Disposal Records and Contents Inventory Sheets or may be identified during NDE or VE. Solid and liquid waste treated at the Hazardous Waste Treatment Unit (HWTU) in the 325 facility was segregated into low level, TRU, and mixed waste streams prior to disposition, and solid waste was packaged, shipped, and stored in accordance with the Hanford-specific waste acceptance criteria. It is not possible to identify the individual research projects from the facilities that have sent materials to the 325 Building for processing.

There is a potential biological hazard exposure from repackaging waste from laboratories. The warning is applied to this waste stream because not all laboratory waste was defined in records and quick scan examination of waste drums may not reveal the needles, sharps, and blood contamination that have been found in waste streams from 325 laboratories.

8.1 Waste Packaging and Handling

In general, waste materials were bagged out of gloveboxes into plastic liners and packed into 55-gallon drums. Waste material items were recorded on the contents inventory sheet. This inventory sheet was maintained for each container as it was filled. TRU waste materials were removed from the gloveboxes using plastic bag out bags that had 8- and 15-inch openings. These bags were filled with waste, horse-tailed and placed in 55-gallon drums. If the waste was packaged between December 31, 1982 and January 1, 1988, a single heat-sealed bag may have been used to bag out some glove box waste prior to insertion of the waste item into the lined 55-gallon container. If externally contaminated, the bagged-out waste would have typically been placed in an additional plastic bag before being placed in the drum. Each container was lined with a 10-mil or 90-mil polyethylene drum liner.

Waste Services profiles generated after 6/5/2002 allowed for the use of up to five inner bags, one 10-mil liner bag and a 90-mil liner.

Waste cans (4-gallon) with slip lids were loaded out of hot cells into 5-gallon cans with crimped lids and loaded into lined 55-gallon drums using transfer casks. The 4-gallon slip lid may be taped either in an X-tape configuration or circumferentially. The drum liners were then horse-tailed once the waste filled the 10-mil clear plastic liners. Four- and five-quart paint cans were also used in hot-cell load-out operations, with lids hammered in place. In addition, some waste from the hot cells was packaged in sheet metal liners with a Cellutex plug prior to being placed in the drum.

All waste packaging was in accordance with *Hanford Site Solid Waste Acceptance Criteria* in place at the time. Containers were sent to be assayed in the 300 area. TRU containers were sent to the Transuranic Waste Storage and Assay Facility (TRUSAF) or Central Waste Complex for radiography prior to acceptance. If the containers were found to contain prohibited items such as free liquids, they were sent back to the generator for remediation. Aqueous and organic liquids were neutralized and/or absorbed. Large items were secured in containers by bracing, blocking or other means to prevent damage to container during handling and transportation. Items with sharp projections or edges were taped and padded, as necessary.

Waste that is repackaged at WRAP will be placed into a double-lidded drum with a filtered inner lid and have no layers of confinement. Wastes repackaged at T Plant will be placed into a standard drum and have a single layer of confinement (i.e., inner bag). Waste from 85-gallon drums that are directly transferred into 55-gallon drums at T Plant will have the liner bag cut and the contents directly loaded into a 55-gallon drum with a rigid 90-mil liner and no lid.

Table 1 provides a summary of container types and expected packaging variations.

Table 1 - Packaging Variations

Container Type	***Typical Packaging Configuration***
55-gallon drum (packaged pre-1983)	Two inner bags packaged inside one liner bag
55-gallon drum (packaged 1983-1987)	Maximum of 3 plastic bag layers, one of which is a heat-sealed bag and one of which is a liner bag. Rigid drum liner is not present.
55-gallon drum (packaged post 1987)	Five inner bags and one liner bag
WRAP One-Trip 55-gallon drum	One-Trip 55-gallon drum may include filtered inner lid; 0 layers of confinement
T Plant 55-gallon drum	1 layer of confinement, which is a filtered inner bag (polyurethane bag or transition sleeve; may include rigid liner without lid)
	1 layer of confinement, which is an inner bag (polyurethane bag or transition sleeve; may include rigid liner without lid)
	1 layer of confinement, which is a liner bag (may include rigid liner without lid)
	1 filtered layer of confinement, which is a liner bag (no rigid liner)

8.2 Prohibited Items

NDE (quick scan) will ensure that prohibited items are not present in waste containers deemed certifiable for CCP. If a container with a prohibited item is identified during quick scan, the container will be repackaged to remediate the item or condition in accordance with WMP-400 Section 7.1.13, *Waste Repackaging Guidance*. In addition, all layers of confinement will be cut during repackaging leaving zero layers of confinement in every repackaged container at WRAP. Repackaged containers at T Plant will have one layer of confinement. The AK reviewed indicates that containers that don't require repack may have up to 3 layers of confinement.

Based on the review of the container documentation and waste management practices, prohibited items may be present in waste stream S3000 RLM325. Waste management practices prohibited the packaging of free liquids or unused reagents, and liquids were neutralized, absorbed, and cemented before packaging; however, liquids may be present due to dewatering or condensation.

The complete list of prohibited items is found in TB-T-05-002, *Radiography Guidance*, along with general instructions on determining the applicability of these prohibited items. Potential prohibited items expected to be encountered during characterization of this waste stream are found in Table 5 – S3000 RLM325 Waste Stream Summary.

8.3 EPA Hazardous and Dangerous Waste Characterization

Each container in the S3000 RLM325 waste stream has been designated with its own applicable EPA hazardous waste numbers (HWNs) and Washington State dangerous waste codes as identified in the Solid Waste Information and Tracking System (SWITS).

Based upon past process knowledge, waste generation activities, and the available waste designation, it was determined that there are no unused discarded chemical products per *Washington Administrative Code* (WAC) 173-303-9003; therefore, there are no P or U HWNs applied to this waste stream. It was also determined that K HWNs per WAC 173-303-9004 are not applicable since wastes from those specific waste sources were not generated at Hanford.

Table 2 identifies the EPA HWNs that are currently identified in SWITS for the containers in the S3000 RLM325 waste stream and are allowed at WIPP. Spent solvents contributed to the F-listed HWNs and are conservatively applied to this stream.

Table 2 - EPA HWNs in the S3000 RLM325 Waste Stream and Allowed at WIPP

HWN	***Constituent***
D004	Arsenic
D005	Barium
D006	Cadmium
D007	Chromium
D008	Lead
D009	Mercury
D010	Selenium
D011	Silver
D018	Benzene
D019	Carbon tetrachloride
D022	Chloroform
D027	1,4 Dichlorobenzene
D028	1,2 Dichloroethane
D029	1,1 Dichloroethylene
D030	2,4 Dinitrotoluene
D033	Hexachlorobutadiene
D034	Hexachloroethane
D035	Methyl ethyl ketone
D036	Nitrobenzene
D037	Pentachlorophenol
D038	Pyridine
D039	Tetrachloroethylene
D040	Trichloroethylene
D043	Vinyl chloride
F001	Carbon tetrachloride, Methylene chloride (Dichloromethane), 1,1,1-Trichloroethane, Trichloroethylene, and Acetic acid
F002	Methylene chloride (Dichloromethane), 1,1,1-Trichloroethane, 1,1,2-Trichloro-1,2,2-trifluoroethane, Trichloroethylene, and Acetic acid
F003 State Only	Acetone, *n*-Butyl alcohol, Methyl isobutyl ketone, Methanol, *n*-Butanol, Isopropanol, Xylene
F004	Cresols, Nitrobenzene
F005	Benzene, Methyl ethyl ketone, Toluene, Butanol, Isopropanol, Acetone

SWITS does not identify any containers in the S3000 RLM325 waste stream with EPA HWNs that are not allowed at WIPP. Should any containers in the S3000 RLM325 waste stream be identified in the future with HWNs prohibited at WIPP, they will be placed on hold until a treatment path is determined.

Beryllium was present in standards used at the 325 Building; however, in this form it would be present in trace amounts (i.e., < 1 weight percent) and in forms other than as a pure metal or oxide. Therefore, beryllium is considered to be present in trace amounts in this waste stream.

8.4 Toxic Substances Control Act

A review of SWITS data confirmed polychlorinated biphenyls (PCBs) as present in a few of the containers assigned to the S3000 RLM325 waste stream. Only one container has greater than 500 ppm PCBs assigned. The containers in which PCBs are present will be marked/labeled and managed in accordance with the WIPP Waste Acceptance Criteria. Any containers with PCBs in which liquids are detected will be re-evaluated and re-processed, as necessary.

In the 325 Building, asbestos was a common constituent of floor tiles and pipe insulation, and was also used as insulation in laboratory equipment. Because these items may have been placed in waste containers during glovebox cleanout or during facility maintenance, the debris may contain asbestos in S3000 RLM325 waste stream.

8.5 Radionuclides

The 325 Building provided radiochemistry support to the entire Hanford site. Table 3 includes the calculations of radionuclide distributions from a review made of radionuclides analyzed at the 325 Building based upon AK source documents. Weight percentages of WIPP-tracked isotopes (as well as ^{243}Am, ^{241}Pu, ^{232}U, ^{235}U, and ^{236}U) were calculated by summing the total curies of each individual isotope and dividing by the specific activity to obtain a gram value. Each isotope total gram value was then divided by the total gram value of the respective isotope family to obtain the weight percent. Weight percentages of uranium and plutonium isotopes are provided.

Table 3 - Radionuclide Distribution in S3000 RLM325

Plutonium and Associated Distributions		***Uranium Distributions***	
Isotope	***Wt % Distribution***	***Isotope***	***Wt % Distribution***
^{238}Pu	Trace - 0.024	^{232}U	Trace
^{239}Pu	84 – 94	^{233}U	Trace - 0.004
^{240}Pu	6 -18	^{234}U	0.0018 - 0.68
^{241}Pu	Trace - 0.21	^{235}U	0.01 - 90
^{242}Pu	Trace - 0.036	^{236}U	Trace -0.05
^{241}Am	99.16	^{238}U	9.3- 99.89
^{243}Am	0.842		

The radionuclides that are expected to be in this waste stream, but not in every container, as reported in SWITS are identified in Table 4.

Table 4 - Radionuclides Expected in S3000 RLM325

Most Prevalent Radionuclides		***Other Radionuclides***	
Plutonium	^{238}Pu, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{243}Pu	Neptunium	^{237}Np
Uranium	^{234}U, ^{235}U, ^{238}U	Curium	^{243}Cm, ^{244}Cm
Americium	^{241}Am, ^{243}Am	Strontium	^{90}Sr
Cesium	^{137}Cs	Cobalt	^{60}Co

Scaling factors were developed using historical data. The scaling factors for these activity relationships are as follows:

- $^{234}U/^{235}U \approx 30$
- $^{234}U/^{238}U \approx 2$
- $^{137}Cs/^{90}Sr \approx 1.1$

In addition, because of the nature of the processes conducted and analysis performed in the 325 Building, a variety of other radionuclides may also be present in trace amounts. Because some processes performed in the 325 building include separating these and other radionuclides (e.g., ^{241}Am, ^{137}Cs, ^{237}Np, ^{90}Sr) from high level waste, these nuclides may be present in certain containers in greater than trace amounts. However, on a waste-stream basis these radionuclides are present in trace amounts, do not contribute significantly to the radiological hazard, and are not the most prevalent isotopes in the waste.

9.0 SUMMARY

Table 5 provides a summary for the S3000 RLM325 waste stream.

<table>
<tr><th colspan="3">TABLE 5 - S3000 RLM325 WASTE STREAM SUMMARY</th></tr>
<tr><th>Data Requirement</th><th colspan="2">Acceptable Knowledge</th></tr>
<tr><td>Waste Stream Number:</td><td colspan="2">S3000 RLM325</td></tr>
<tr><td>Waste Stream Description:</td><td colspan="2">Mixed TRU solids</td></tr>
<tr><td>Waste Type (Summary Category Group):</td><td colspan="2">S3000</td></tr>
<tr><td>Waste Matrix Code Group:</td><td colspan="2">S3100</td></tr>
<tr><td>Waste Matrix Code:</td><td colspan="2">S3119 (Unknown / Other Inorganic Particulates)</td></tr>
<tr><td>Layers of Confinement:</td><td colspan="2">See Table 1, Packaging Variations</td></tr>
<tr><td>Liner Type:</td><td colspan="2">10 or 90 mil plastic</td></tr>
<tr><td colspan="3">Radionuclides: ^{241}Am, ^{243}Am, ^{238}Pu, ^{239}Pu, ^{240}Pu, ^{241}Pu, ^{243}Pu, ^{234}U, ^{235}U, ^{238}U, ^{137}C, ^{90}Sr, ^{237}Np, ^{243}Cm, ^{244}Cm, ^{60}Co</td></tr>
<tr><td colspan="3">EPA HWNs and Washington State DW Codes Assigned to Containers in Waste Stream:</td></tr>
<tr><td>• D004
• D005
• D006
• D007
• D008
• D009
• D010
• D011
• D018
• D019</td><td>• D022
• D027
• D028
• D029
• D030
• D033
• D034
• D035
• D036
• D037</td><td>• D038
• D039
• D040
• D043
• F001
• F002
• F003
• F004
• F005</td></tr>
<tr><td colspan="3">EPA HWNs Assigned to Containers in Waste Stream NOT ALLOWED at WIPP:</td></tr>
<tr><td colspan="3">• None identified in SWITS</td></tr>
<tr><td colspan="3">Potential Prohibited Items Identifiable During Quick Scan</td></tr>
<tr><td colspan="3">• Sealed containers > 4 L
• Liquid waste > 1 inch in an internal container
• Liquid waste > 1 percent (volume) of the payload container
• Compressed gases (pressurized containers)
• Sharp/heavy objects</td></tr>
<tr><td colspan="3">Potential biological hazard from needles, sharps, and blood from laboratory waste.</td></tr>
</table>

Solid Waste Informat and Tracking System
Container L. ng Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Package ID:	0062288	Secondary Pkg ID:		Accumulation Date:	02/10/2011
Waste Type:	D TRU	Phys State Cd:	LS	Deadline Date:	05/10/2011
Sec Waste Type:	TRU	UHC Determination:		Ship Date:	
Encasement/HIC#:		UHC's Applicable:		TSD Receive Date:	
Profile / Rev#:	-	NFPA < 93.3C:		TSD Accept Date:	
WSRd / Rev #:	230 - 02	Storage Category:	A	Disposal Date:	

Routine Status: 100 **Non-Routine / Other**

Container Type / Descr:	DM / 55 GALLON	Container Empty Tare Wt. (kg):	31.6000
Container Volume (cu. meters):	0.2080	Waste Weight (kg):	147.1500
Labpack Flag:	N	Container Gross Wt. (kg):	178.7500

Container Contents: **WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11.**
SWO Comments: **NEW CRITICALITY REVIEW NOTE COMMENT- FISSILE, CPS CONTAINER TYPE A DRUM. 07/13/06**

Generator Information

Generating Company: **CHPRC CH2M HILL PLATEAU REMEDIATION CO.** Generator ID: **0034111** Generator Group: **WRAP**
Source Facility: **2336W** Generator: **NP WILLIS**
Generator Comments: **ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE. D002 APPLIED DUE TO SUSPECT CORROSIVE LIQUIDS IDENTIFIED DURING PROCESSING AND A SUBSEQUENT REVIEW OF AK INFORMATION PROVIDED ON THE WASTESTREAM. MHM, 5/18/11.**

Billing Detail

Charge Code	COA	Company	Group ID	Percent
300017	EL00	CH2M HILL PLATEAU REMEDIATION CO.	WRAP	100.00
				100.00

Hazardous Package Detail

Container Status: **Full** Flashpoint: **N/A** pH Value: **<2** Subpart CC Flag: **NA**

DW Numbers: **D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005**

RCRA Reporting

ADWR Stream Description: **WIPP-Rags, Paper, Plastic, Absorbed Acids, Organics, Spent Solvents, Metals**
Designation Code: **DW**
Source Code: **G25** **Hazardous Waste Management (requires previous management code)**
Comment: **H129**
Form Code: **W002** **Contaminated Debris, paper, cloth, rags, wood, empty fiber or plastic containers, glass, piping, or other solids**
Comment:
Origin Code: **v** **Residual waste stream derived from the management of a previously existing dangerous waste stream.**
Residual Mqmt Method: **H129** **Other Treatment**
Comment: **Repackaging, Sorting, Segregation**
Management Method:
Comment:
Certification Group:
Reportable CERCLA?:

Pre-2007 Reporting

Waste Stream: Offsite TSD Waste Stream: RCRA Designated Date:

PCB Package Detail:

PCB Type: PCB Source Concentration (PPM):
PCB Subtype: PCB Waste Weight:
PCB Contents: Removed from Service:

Source Facility:
Location Facility:
Shipment #:

Radioactive Package Detail

Waste Category:	GTWC3	Shielding:	None	Thermal Power (w/cu.m.):	8.05940E-01
Combustible Flag:		Handling:	C	Neutron Dose Rate:	2.00000E-01
Exceeds ISB Limit:	Y	RSWIMS Container Cnt:	1	Contact Dose Rate:	6.00000E+00
NRC Class:	>C	Excluded from DE-Ci:		Tot Pe-Ci:	5.42058E+00
				ICRP 71 DE-Ci:	5.13959E+00

VOC/Hydrogen Gas Diffusion Detail

H2 Diffusion Release Date: VOC Hold?: VOC Resample Date:

Current Location Information

Facility ID:	2404WB	Tier Level:		Loc Beg Coordinates - N:	
Trench / Unit:	Z1	Tier Position:		W:	
Module:		GPS Data Flag:		Loc End Coordinates - N:	
				W:	

Solid Waste Informa and Tracking System
Container L ing Report

for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Isotope Information

Isotope Number	Isotope Name	Isotope Activity (Ci)
21	Np-237	2.55000E-05
26	Am-241	1.69000E+00
41	Pu-238	2.45000E-01
97	Pu-240	1.12000E+00
98	Pu-241	1.08000E+01
99	Pu-242	1.61000E-04
100	Pu-239	2.18000E+00
202	U-234	9.74000E-05
203	U-235	1.72000E-06
206	U-238	5.20000E-05

Venting Information

Vent Code	Serial #	Install Date	Torque Wrench ID #	MT & E Range	Calibration Date	Filter Mfg Date	Summa #
NF019DS	AI-2719	02/10/2011				01/08	

Solid Waste Informat ınd Tracking System
Container Lı ıg Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10022-31-8	BARIUM NITRATE		0.1908	.130
10025-73-7	CHROMIC CHLORIDE		0.1908	.130
10028-22-5	FERRIC SULFATE		0.1908	.130
10034-81-8	MAGNESIUM PERCHLORATE		0.1908	.130
10042-76-9	STRONTIUM NITRATE		0.1908	.130
10043-01-3	ALUMINUM SULFATE		0.0587	.040
10043-35-3	BORIC ACID		0.0078	.005
10043-52-4	CALCIUM CHLORIDE		0.2348	.160
10045-89-3	FERROUS AMMONIUM SULFATE		0.4844	.329
10045-94-0	MERCURIC NITRATE		0.1908	.130
10045-95-1	NEODYMIUM NITRATE		0.1908	.130
10099-59-9	LANTHANUM NITRATE		0.1908	.130
10099-74-8	LEAD NITRATE		0.1908	.130
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)		0.1908	.130
10102-06-4	URANYL NITRATE		0.0881	.060
10108-73-3	CEROUS NITRATE		0.2348	.160
10124-37-5	CALCIUM NITRATE		0.1908	.130
10138-04-2	FERRIC AMMONIUM SULFATE		0.4844	.329
10192-30-0	AMMONIUM BISULFITE, SOLID		0.0006	.000
10213-10-2	SODIUM TUNGSTATE		0.1908	.130
10294-26-5	SILVER SULFATE		0.1908	.130
10294-41-4	CERIUM NITRATE		0.1908	.130
10325-94-7	CADMIUM NITRATE		0.1908	.130
10361-03-2	SODIUM METAPHOSPHATE		0.1908	.130
10361-37-2	BARIUM CHLORIDE		0.1908	.130
10361-93-0	YTTRIUM NITRATE		0.1908	.130
10377-48-7	LITHIUM SULFATE		0.2348	.160
10377-60-3	MAGNESIUM NITRATE		0.2348	.160
10377-66-9	MANGANESE NITRATE		0.2348	.160
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)		0.1908	.130

Solid Waste Informat ınd Tracking System
Container L. ıg Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
10450-60-9	PERIODIC ACID		0.1908	.130
10588-01-9	SODIUM DICHROMATE		0.1908	.130
106-44-5	P-CRESOL		0.0008	.001
106-46-7	P-DICHLOROBENZENE		0.0011	.001
107-06-2	1,2-DICHLOROETHANE		0.0001	.000
107-21-1	ETHYLENE GLYCOL		0.0003	.000
107-66-4	DIBUTYL PHOSPHATE		0.1908	.130
108-10-1	4-METHYL-2-PENTANONE		0.0048	.003
108-39-4	M-CRESOL		0.0008	.001
108-88-3	TOLUENE		0.0014	.001
108-95-2	PHENOL		0.2495	.170
110-54-3	N-HEXANE		0.0587	.040
110-82-7	CYCLOHEXANE		0.0587	.040
110-86-1	PYRIDINE		0.0023	.002
111-69-3	ADIPONITRILE		0.0587	.040
11138-49-1	SODIUM ALUMINATE		0.3815	.259
1116-76-3	TRIOCTYLAMINEINE		0.0587	.040
112-80-1	OLEIC ACID		0.0587	.040
115-40-2	BROMOCRESOL PURPLE		0.0019	.001
117-10-2	1,8-DIHYDROXYANTHRAQUINONE		0.0078	.005
12024-21-4	GALLIUM OXIDE		0.1908	.130
12044-50-7	ARSENIC (V) OXIDE, HYDRATE		0.1908	.130
12054-48-7	NICKEL HYDROXIDE		0.0704	.048
12069-32-8	BORON CARBIDE		0.1908	.130
121-14-2	2,4-DINITROTOLUENE		0.0000	.000
12125-01-8	AMMONIUM FLUORIDE		0.4844	.329
12125-02-9	AMMONIUM CHLORIDE		0.0147	.010
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE		0.0004	.000
123-31-9	HYDROQUINONE		0.0006	.000
12428-46-5	ALUMINUM HYDROXIDE SILICATE		0.4844	.329

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
126-73-8	TRIBUTYL PHOSPHATE (TBP)		0.0587	.040
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)		0.0881	.060
127-18-4	TETRACHLOROETHYLENE		0.0009	.001
1303-96-4	SODIUM BORATE, DECAHYDRATE		0.4844	.329
1305-62-0	CALCIUM HYDROXIDE		0.4844	.329
1306-38-3	CERIC OXIDE		0.9686	.658
1309-37-1	FERRIC OXIDE		0.1908	.130
1309-48-4	MAGNESIUM OXIDE		0.1908	.130
1309-60-0	LEAD DIOXIDE		0.3815	.259
1310-58-3	POTASSIUM HYDROXIDE		0.4844	.329
1310-65-2	LITHIUM HYDROXIDE		0.0023	.002
1310-73-2	SODIUM HYDROXIDE		0.4697	.319
13106-76-8	AMMONIUM MOLYBDATE		0.5430	.369
1313-13-9	MANGANESE DIOXIDE		0.1908	.130
1313-97-9	NEODYMIUM OXIDE		0.2348	.160
13138-45-9	NICKEL (II) NITRATE (1:2)		0.1908	.130
1314-13-2	ZINC OXIDE		0.1908	.130
1314-35-8	TUNGSTEN TRIOXIDE		0.2348	.160
1314-56-3	PHOSPHORUS PENTOXIDE		0.1908	.130
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC		0.0881	.060
1317-38-0	COPPER OXIDE		0.0881	.060
1317-65-3	CALCIUM CARBONATE		0.9686	.658
1317-99-3	URANIUM OCTAOXIDE		0.1908	.130
1318-00-9	VERMICULITE, EXFOLIATED		7.3384	4.987
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID		0.1908	.130
1330-20-7	XYLENE (MIXED ISOMERS)		0.0587	.040
1331-17-5	PROPYLENE GLYCOL		0.0078	.005
1332-21-4	ASBESTOS		0.7339	.499
1333-82-0	CHROMIUM TRIOXIDE		0.1908	.130
1335-30-4	ALUMINUM SILICATE		0.1908	.130

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
1336-21-6	AMMONIUM HYDROXIDE		0.9686	.658
13410-01-0	SODIUM SELENATE		0.1908	.130
1344-28-1	ALUMINUM OXIDE		0.1908	.130
1344-64-5	VANADYL SULFATE		0.1908	.130
13463-67-7	TITANIUM OXIDE		0.3815	.259
13464-37-4	ARSENOUS ACID, TRISODIUM SALT		0.0587	.040
13465-08-2	HYDROXYLAMINE NITRATE		0.0587	.040
13478-10-9	FERROUS CHLORIDE		0.2935	.199
13590-82-4	CERIUM SULFATE		0.1908	.130
13708-85-5	SODIUM PHOSPHITE		0.1908	.130
13746-66-2	POTASSIUM FERROCYANIDE		0.9686	.658
13778-30-8	ZINC NITRATE		0.2348	.160
13823-29-5	THORIUM NITRATE		0.1908	.130
13826-66-9	ZIRCONYL NITRATE		0.2348	.160
13870-30-9	SODIUM SILICATE		0.1908	.130
139-13-9	NITRILOTRIACETIC ACID		0.0587	.040
140-01-2	PENTASODIUM PENTETATE (DTPA)		0.0587	.040
14258-49-2	AMMONIUM OXALATE		0.5430	.369
143-19-1	SODIUM OLEATE		0.4844	.329
143-66-8	SODIUM TETRAPHENYL BORON POWDER		0.1908	.130
144-33-2	SODIUM CITRATE		0.4844	.329
144-55-8	SODIUM BICARBONATE		0.0059	.004
144-62-7	OXALIC ACID		0.0587	.040
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE		0.1908	.130
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-		0.0587	.040
17194-00-2	BARIUM HYDROXIDE		0.5430	.369
1762-95-4	AMMONIUM THIOCYANATE		0.2935	.199
19004-19-4	COPPER (II) NITRATE		0.2348	.160
20667-12-3	SILVER (1+) OXIDE		0.1908	.130
21041-95-2	CADMIUM HYDROXIDE		0.1615	.110

Solid Waste Informa and Tracking System
Container ng Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
21908-53-2	MERCURIC OXIDE		0.1908	.130
2466-09-3	DIPHOSPHORIC ACID		0.0587	.040
25155-30-0	SODIUM DODECYLBENZENESULFONATE		0.1908	.130
25322-68-3	POLYETHYLENE GLYCOL		0.0017	.001
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-		0.0587	.040
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE		0.0587	.040
298-14-6	POTASSIUM BICARBONATE		0.0000	.000
301-04-2	LEAD ACETATE		0.3815	.259
304-59-6	POTASSIUM SODIUM TARTRATE		0.1908	.130
326-91-0	THENOYLTRIFLUOROACETONE		0.0078	.005
3811-04-9	CHLORIC ACID, POTASSIUM SALT		0.1908	.130
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-		0.0587	.040
496-74-2	TOLUENE-3,4-DITHIOL		0.1908	.130
497-19-8	SODIUM CARBONATE		0.1908	.130
50-00-0	FORMALDEHYDE		0.0544	.037
50-81-7	ASCORBIC ACID		0.0587	.040
506-64-9	SILVER CYANIDE		0.1908	.130
51-28-5	DINITROPHENOL, 2,4-		0.0078	.005
513-77-9	BARIUM CARBONATE		0.0191	.013
526-95-4	GLUCONICACID 50% IN WATER		0.0587	.040
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE		0.0485	.033
55-55-0	P-METHYLAMINOPHENOL SULFATE		0.0006	.000
56-23-5	CARBON TETRACHLORIDE		0.0009	.001
56-40-6	GLYCINE		0.0019	.001
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL		0.0587	.040
57-13-6	UREA		0.0881	.060
57-50-1	SUCROSE		0.2348	.160
57-55-6	1,2-PROPANEDIOL		0.0176	.012
584-08-7	POTASSIUM CARBONATE		0.1908	.130
592-85-8	MERCURIC THIOCYANATE		0.1908	.130

Solid Waste Informat   ınd Tracking System
Container L.. ng Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)		0.0587	.040
6131-90-4	SODIUM ACETATE		0.0294	.020
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)		0.1908	.130
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE		0.0006	.000
631-61-8	AMMONIUM ACETATE		0.0030	.002
63231-67-4	SILICA GEL		0.1908	.130
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE		0.1908	.130
64-17-5	ETHANOL		0.0587	.040
64-18-6	FORMIC ACID		0.0587	.040
64-19-7	ACETIC ACID		0.0101	.007
64742-38-7	NORMAL PARAFFINS		0.4844	.329
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)		0.0587	.040
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)		0.1908	.130
65997-15-1	PORTLAND CEMENT		19.5640	13.295
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-		0.0587	.040
67-56-1	METHANOL		0.0001	.000
67-63-0	ISOPROPYL ALCOHOL		0.0587	.040
67-64-1	ACETONE		0.0235	.016
67-66-3	CHLOROFORM		0.0009	.001
67-72-1	HEXACHLOROETHANE		0.0004	.000
69-65-8	D-MANNITOL		0.0587	.040
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN		0.3376	.229
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYLBENZENE, SU		0.2788	.189
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIUM		0.2935	.199
71-36-3	BUTYL ALCOHOL		0.0004	.000
71-43-2	BENZENE		0.0014	.001
71-55-6	1,1,1-TRICHLOROETHANE		0.0587	.040
7429-90-5	ALUMINUM		0.4549	.309
7439-89-6	IRON		0.2348	.160
7439-92-1	LEAD			

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
			0.0007	.000
7439-95-4	MAGNESIUM		0.2348	.160
7439-97-6	MERCURY		0.0000	.000
7439-98-7	MOLYBDENUM		0.2348	.160
7440-02-0	NICKEL		0.1027	.070
7440-06-4	PLATINUM		0.1908	.130
7440-22-4	SILVER		0.0007	.000
7440-31-5	TIN		0.0587	.040
7440-38-2	ARSENIC		0.0007	.000
7440-39-3	BARIUM		0.0147	.010
7440-41-7	BERYLLIUM		0.0235	.016
7440-43-9	CADMIUM		0.0002	.000
7440-44-0	CARBON		0.0078	.005
7440-47-3	CHROMIUM		0.0007	.000
7440-50-8	COPPER		0.4844	.329
7440-57-5	GOLD		0.0000	.000
7440-62-2	VANADIUM		0.2348	.160
7440-66-6	ZINC		0.4990	.339
7440-67-7	ZIRCONIUM		0.2348	.160
7446-70-0	ALUMINUM CHLORIDE		0.0881	.060
7447-40-7	POTASSIUM CHLORIDE		0.4844	.329
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)		0.0000	.000
75-09-2	DICHLOROMETHANE		0.1908	.130
75-35-4	1,1-DICHLOROETHYLENE		0.0001	.000
75-77-4	TRIMETHYL CHLOROSILANE		0.0078	.005
7553-56-2	IODINE		0.1908	.130
7558-79-4	SODIUM PHOSPHATE DIBASIC		0.1908	.130
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE		0.0073	.005
7601-90-3	PERCHLORIC ACID		0.0587	.040
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)		0.1468	.100

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7631-99-4	SODIUM NITRATE		0.2935	.199
7632-00-0	SODIUM NITRITE		0.2935	.199
7646-78-8	STANNIC CHLORIDE		0.1908	.130
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN)		0.2348	.160
7647-01-0	HYDROCHLORIC ACID		0.0587	.040
7647-14-5	SODIUM CHLORIDE		0.1908	.130
7647-15-6	SODIUM BROMIDE		0.0039	.003
7664-39-3	HYDROFLUORIC ACID		0.0587	.040
7664-41-7	AMMONIA		0.4844	.329
7664-93-9	SULFURIC ACID		0.0587	.040
7681-11-0	POTASSIUM IODIDE		0.4844	.329
7681-38-1	SODIUM BISULFATE		0.1908	.130
7681-49-4	SODIUM FLUORIDE		0.2935	.199
7681-52-9	SODIUM HYPOCHLORITE		0.1908	.130
7681-82-5	SODIUM IODIDE		0.2495	.170
7697-37-2	NITRIC ACID		0.0587	.040
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL		0.0587	.040
77-92-9	CITRIC ACID		0.0587	.040
7704-34-9	SULFUR		0.1908	.130
7705-07-9	TITANIUM TRICHLORIDE		0.2495	.170
7705-08-0	FERRIC CHLORIDE		0.1908	.130
7718-54-9	NICKEL (II) CHLORIDE (1:2)		0.2348	.160
7720-78-7	FERROUS SULFATE		0.2935	.199
7722-64-7	POTASSIUM PERMANGANATE		0.2935	.199
7722-84-1	HYDROGEN PEROXIDE		0.5430	.369
7727-43-7	BARIUM SULFATE		0.0469	.032
7732-18-5	WATER		8.8060	5.984
7738-94-5	CHROMIC (VI) ACID		0.0078	.005
7757-82-6	SODIUM SULFATE		0.2877	.196
7757-83-7	SODIUM SULFITE		0.0059	.004

Solid Waste Informat   und Tracking System
Container L   ng Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
7758-02-3	POTASSIUM BROMIDE		0.0006	.000
7758-05-6	POTASSIUM IODATE		0.4844	.329
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT		0.1908	.130
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)		0.3815	.259
7761-88-8	SILVER NITRATE		0.2348	.160
7772-99-8	STANNOUS CHLORIDE		0.4844	.329
7773-01-5	MANGANESE CHLORIDE		0.0191	.013
7774-29-0	MERCURIC IODIDE		0.1908	.130
7778-18-9	CALCIUM SALT SULFURIC ACID		0.1908	.130
7778-50-9	DIPOTASSIUM DICHROMATE		0.0587	.040
7778-53-2	POTASSIUM PHOSPHATE		0.1908	.130
7782-42-5	GRAPHITE		0.9686	.658
7782-49-2	SELENIUM		0.0002	.000
7782-77-6	NITROUS ACID		0.0587	.040
7782-91-4	MOLYBDIC ACID		0.2495	.170
7783-18-8	AMMONIUM THIOSULFATE		0.0059	.004
7783-28-0	AMMONIUM PHOSPHATE DIBASIC		0.2935	.199
7783-36-0	MERCUROUS SULFATE		0.1908	.130
7784-27-2	ALUMINUM NITRATE		0.2348	.160
7784-46-5	SODIUM ARSENITE		0.1908	.130
7785-87-7	MANGANOUS SULFATE		0.1908	.130
7788-98-9	AMMONIUM CHROMATE		0.0881	.060
7789-00-6	POTASSIUM CHROMATE		0.1908	.130
7789-23-3	POTASSIUM FLUORIDE		0.0441	.030
7790-62-7	POTASSIUM PYROSULFATE		0.2935	.199
78-38-6	DIETHYL ETHYLPHOSPHONATE		0.0587	.040
78-51-3	2-BUTOXYETHANOL, PHOSPHATE		0.0078	.005
78-93-3	METHYL ETHYL KETONE		0.0053	.004
7803-55-6	AMMONIUM VANADATE		0.1908	.130
79-01-6	TRICHLOROETHYLENE		0.0009	.001

Solid Waste Informa   and Tracking System
Container L   .ng Report
for Package ID: 0062288
Source Facility:
Location Facility:
Shipment #:

Waste Component Records

Component ID	Component Text	PPM	Weight (kg)	Weight %
79-11-8	CHLOROACETIC ACID		0.2935	.199
80-55-7	METHYL LACTIC ACID (ETHYLESTER)		0.0587	.040
8001-30-7	CORN OIL		0.0078	.005
8008-20-6	KEROSENE		0.0587	.040
868-18-8	SODIUM TARTRATE		0.0881	.060
87-69-4	TARTARIC ACID		0.1908	.130
87-86-5	PENTACHLOROPHENOL		0.0147	.010
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-		0.0881	.060
9002-93-1	TRITON X-100		0.0059	.004
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER		0.0572	.039
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE		0.4844	.329
91-20-3	NAPHTHALENE		0.1908	.130
95-45-4	DIMETHYLGLYOXIME		0.4844	.329
95-48-7	O-CRESOL		0.0008	.001
98-95-3	NITROBENZENE		0.0021	.001
GCN049	ABSORBENTS (NON-SPECIFIED)		0.1761	.120
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)		62.1629	42.245
GCN113	ACRYLIC EMULSION/POLYMER		0.0112	.008
GCN126	ETHERS (NON-SPECIFIED)		0.0587	.040
GCNPCBOIL	PCB OIL		0.0002	.000
			147.1497	

Inner/From Relationships

Inner/from Package	Date	Operation
0031161	02/09/2011	WRAP Waste Processing

DCMP Issues

Solid Waste Informat and Tracking System
Container L. ng Report
for Package ID: **0062288**
Source Facility:
Location Facility:
Shipment #:

Issue	Status	Date Entered	Date Resolution Completed	Final Resolution
Inconsistent Inventory	Open	05/17/11		
Physical Damage/Corrosion (30-day mitigation clock)	Closed	04/26/11	05/05/11	See ACMP Container Form Container is overpacked and Recovery Plan is complete--RJB 05/09/2011

DMSR1201

WRAP Data Management System
Container Listing for Package ID: 0061308

05/19/11
06:03 PM

Package ID:	0061308	Accumulation Date:	02/10/11	Orig Rad Code:	
DNGR Flag	Y	Location Date:	03/16/11	Rad Code:	TRU
TSCA Flag:	N	Location:	WB_08	Use Code:	PD
Drum Code	UN1A2/X430/S	Phys. State Code:	LS	Route Code:	101
DE Ci Factor:		Inventory TMU:	2.07E+00	Status Code:	S

Container Descr:	55 GALLON		
Radmat Code:	WB1	Volutil Pct:	25
Room Waste Flag:		Wgt Date:	03/14/11
WIPP Flag:		Survey Num:	1100381
Labpack Flag:	N	Outer Package ID:	
Inner Package ID:			
Asssay of Record:	44593		
Waste Description:	WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11.		

Weights (Kg):	**SWITS**	**DMS**
Gross:	64.5	64.5
Waste:	32.9	32.9
Packaging:	.0	.0
Tare:	31.6	31.6

Generator Comments: ACHEIVED -0- LAYERS OF CONFINEMENT, 50 GAL LIQUID LINER CUT UP, ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USEING PH STRIP, ADDED 4.5 LBS OF BAKING SODA TO NEUTRALIZE. D002 APPLIED DUE TO SUSPECT CORROSIVE LIQUIDS IDENTIFIED DURING PROCESSING AND A SUBSEQUENT REVIEW OF AK INFORMATION PROVIDED ON THE WASTESTREAM. MHM, 5/18/11.

Hazardous Package Detail:

PH Value: <2 Flash Point: N/A

DW Waste #: D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Radioactive Package Detail:

Rad Calc Decay Date:	03/14/11	Total PU-FGE:	9.38E+00	Contact B/G Dose Rate:	4.5E+00
Neutron Dose Rate:	2E-01	Port Code:	NF019D	Shielding:	N
Total DE Curies:	1.33E+00	Transp. Index:			
30 cm Dose Rate:	2.3E+00				

SWITS Isotope Information:

Isotope Name	Ci Qty	GM Qty	Unit
SR-90	3.75E-06	2.72E-08	CI
CS-137	4.13E-06	4.69E-08	CI
AM-241	4.37E-01	1.26E-01	GM
PU-238	5.91E-02	3.42E-03	GM
PU-240	2.97E-01	1.29E+00	GM
PU-241	2.96E+00	2.84E-02	GM
PU-242	4.11E-05	1.03E-02	GM
PU-239	5.73E-01	9.11E+00	GM
U-234	1.83E-05	2.89E-03	GM
U-235	6.09E-07	2.78E-01	GM
U-238	9.13E-06	2.69E+01	GM

Waste Components:

Component ID	Description	Weight (Kg)	Weight %	PPM
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	13.90	42.242	
65997-15-1	PORTLAND CEMENT	4.37	13.294	
7732-18-5	WATER	1.97	5.984	
1318-00-9	VERMICULITE, EXFOLIATED	1.64	4.987	
7782-42-5	GRAPHITE	.22	.658	
13746-66-2	POTASSIUM FERROCYANIDE	.22	.658	
1336-21-6	AMMONIUM HYDROXIDE	.22	.658	
1317-65-3	CALCIUM CARBONATE	.22	.658	
1306-38-3	CERIC OXIDE	.22	.658	
1332-21-4	ASBESTOS	.16	.499	
7722-84-1	HYDROGEN PEROXIDE	.12	.369	
13106-76-8	AMMONIUM MOLYBDATE	.12	.369	
17194-00-2	BARIUM HYDROXIDE	.12	.369	
14258-49-2	AMMONIUM OXALATE	.12	.369	
7440-66-6	ZINC	.11	.339	
7758-05-6	POTASSIUM IODATE	.11	.329	
7772-99-8	STANNOUS CHLORIDE	.11	.329	
1310-58-3	POTASSIUM HYDROXIDE	.11	.329	
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE	.11	.329	
95-45-4	DIMETHYLGLYOXIME	.11	.329	
143-19-1	SODIUM OLEATE	.11	.329	
144-33-2	SODIUM CITRATE	.11	.329	
64742-38-7	NORMAL PARAFFINS	.11	.329	
7440-50-8	COPPER	.11	.329	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7447-40-7	POTASSIUM CHLORIDE	.11	.329	
7664-41-7	AMMONIA	.11	.329	
7681-11-0	POTASSIUM IODIDE	.11	.329	
10045-89-3	FERROUS AMMONIUM SULFATE	.11	.329	
10138-04-2	FERRIC AMMONIUM SULFATE	.11	.329	
12125-01-8	AMMONIUM FLUORIDE	.11	.329	
12428-46-5	ALUMINUM HYDROXIDE SILICATE	.11	.329	
1303-96-4	SODIUM BORATE, DECAHYDRATE	.11	.329	
1305-62-0	CALCIUM HYDROXIDE	.11	.329	
1310-73-2	SODIUM HYDROXIDE	.11	.319	
7429-90-5	ALUMINUM	.10	.309	
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)	.09	.259	
13463-67-7	TITANIUM OXIDE	.09	.259	
1309-60-0	LEAD DIOXIDE	.09	.259	
11138-49-1	SODIUM ALUMINATE	.09	.259	
301-04-2	LEAD ACETATE	.09	.259	
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN	.08	.229	
7681-49-4	SODIUM FLUORIDE	.07	.199	
7720-78-7	FERROUS SULFATE	.07	.199	
7722-64-7	POTASSIUM PERMANGANATE	.07	.199	
79-11-8	CHLOROACETIC ACID	.07	.199	
7631-99-4	SODIUM NITRATE	.07	.199	
7783-28-0	AMMONIUM PHOSPHATE DIBASIC	.07	.199	
7790-62-7	POTASSIUM PYROSULFATE	.07	.199	
7632-00-0	SODIUM NITRITE	.07	.199	
13478-10-9	FERROUS CHLORIDE	.07	.199	
1762-95-4	AMMONIUM THIOCYANATE	.07	.199	
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIU	.07	.199	
7757-82-6	SODIUM SULFATE	.06	.195	
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYL	.06	.189	
7705-07-9	TITANIUM TRICHLORIDE	.06	.170	
108-95-2	PHENOL	.06	.170	
7681-82-5	SODIUM IODIDE	.06	.170	
7782-91-4	MOLYBDIC ACID	.06	.170	
13826-66-9	ZIRCONYL NITRATE	.05	.160	
19004-19-4	COPPER (II) NITRATE	.05	.160	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
57-50-1	SUCROSE	.05	.160	
7439-89-6	IRON	.05	.160	
1314-35-8	TUNGSTEN TRIOXIDE	.05	.160	
7439-98-7	MOLYBDENUM	.05	.160	
7440-62-2	VANADIUM	.05	.160	
7440-67-7	ZIRCONIUM	.05	.160	
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN	.05	.160	
10043-52-4	CALCIUM CHLORIDE	.05	.160	
10108-73-3	CEROUS NITRATE	.05	.160	
10377-48-7	LITHIUM SULFATE	.05	.160	
10377-60-3	MAGNESIUM NITRATE	.05	.160	
10377-66-9	MANGANESE NITRATE	.05	.160	
1313-97-9	NEODYMIUM OXIDE	.05	.160	
13778-30-8	ZINC NITRATE	.05	.160	
7784-27-2	ALUMINUM NITRATE	.05	.160	
7761-88-8	SILVER NITRATE	.05	.160	
7718-54-9	NICKEL (II) CHLORIDE (1:2)	.05	.160	
7439-95-4	MAGNESIUM	.05	.160	
7681-38-1	SODIUM BISULFATE	.04	.130	
7681-52-9	SODIUM HYPOCHLORITE	.04	.130	
7704-34-9	SULFUR	.04	.130	
7705-08-0	FERRIC CHLORIDE	.04	.130	
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT	.04	.130	
7774-29-0	MERCURIC IODIDE	.04	.130	
7778-18-9	CALCIUM SALT SULFURIC ACID	.04	.130	
7778-53-2	POTASSIUM PHOSPHATE	.04	.130	
7783-36-0	MERCUROUS SULFATE	.04	.130	
7784-46-5	SODIUM ARSENITE	.04	.130	
7785-87-7	MANGANOUS SULFATE	.04	.130	
7789-00-6	POTASSIUM CHROMATE	.04	.130	
7803-55-6	AMMONIUM VANADATE	.04	.130	
87-69-4	TARTARIC ACID	.04	.130	
91-20-3	NAPHTHALENE	.04	.130	
1344-28-1	ALUMINUM OXIDE	.04	.130	
1344-64-5	VANADYL SULFATE	.04	.130	
13590-82-4	CERIUM SULFATE	.04	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
13708-85-5	SODIUM PHOSPHITE	.04	.130	
13823-29-5	THORIUM NITRATE	.04	.130	
13870-30-9	SODIUM SILICATE	.04	.130	
143-66-8	SODIUM TETRAPHENYL BORON POWDER	.04	.130	
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE	.04	.130	
20667-12-3	SILVER (1+) OXIDE	.04	.130	
21908-53-2	MERCURIC OXIDE	.04	.130	
25155-30-0	SODIUM DODECYLBENZENESULFONATE	.04	.130	
304-59-6	POTASSIUM SODIUM TARTRATE	.04	.130	
3811-04-9	CHLORIC ACID, POTASSIUM SALT	.04	.130	
496-74-2	TOLUENE-3,4-DITHIOL	.04	.130	
497-19-8	SODIUM CARBONATE	.04	.130	
506-64-9	SILVER CYANIDE	.04	.130	
584-08-7	POTASSIUM CARBONATE	.04	.130	
592-85-8	MERCURIC THIOCYANATE	.04	.130	
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)	.04	.130	
63231-67-4	SILICA GEL	.04	.130	
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE	.04	.130	
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)	.04	.130	
7440-06-4	PLATINUM	.04	.130	
75-09-2	DICHLOROMETHANE	.04	.130	
7553-56-2	IODINE	.04	.130	
7558-79-4	SODIUM PHOSPHATE DIBASIC	.04	.130	
7646-78-8	STANNIC CHLORIDE	.04	.130	
7647-14-5	SODIUM CHLORIDE	.04	.130	
10022-31-8	BARIUM NITRATE	.04	.130	
10025-73-7	CHROMIC CHLORIDE	.04	.130	
10028-22-5	FERRIC SULFATE	.04	.130	
10034-81-8	MAGNESIUM PERCHLORATE	.04	.130	
10042-76-9	STRONTIUM NITRATE	.04	.130	
10045-94-0	MERCURIC NITRATE	.04	.130	
10045-95-1	NEODYMIUM NITRATE	.04	.130	
10099-59-9	LANTHANUM NITRATE	.04	.130	
10099-74-8	LEAD NITRATE	.04	.130	
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)	.04	.130	
10124-37-5	CALCIUM NITRATE	.04	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
10213-10-2	SODIUM TUNGSTATE	.04	.130	
10294-26-5	SILVER SULFATE	.04	.130	
10294-41-4	CERIUM NITRATE	.04	.130	
10325-94-7	CADMIUM NITRATE	.04	.130	
10361-03-2	SODIUM METAPHOSPHATE	.04	.130	
10361-37-2	BARIUM CHLORIDE	.04	.130	
10361-93-0	YTTRIUM NITRATE	.04	.130	
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)	.04	.130	
10450-60-9	PERIODIC ACID	.04	.130	
10588-01-9	SODIUM DICHROMATE	.04	.130	
107-66-4	DIBUTYL PHOSPHATE	.04	.130	
12024-21-4	GALLIUM OXIDE	.04	.130	
12044-50-7	ARSENIC (V) OXIDE, HYDRATE	.04	.130	
12069-32-8	BORON CARBIDE	.04	.130	
1309-37-1	FERRIC OXIDE	.04	.130	
1309-48-4	MAGNESIUM OXIDE	.04	.130	
1313-13-9	MANGANESE DIOXIDE	.04	.130	
13138-45-9	NICKEL (II) NITRATE (1:2)	.04	.130	
1314-13-2	ZINC OXIDE	.04	.130	
1314-56-3	PHOSPHORUS PENTOXIDE	.04	.130	
1317-99-3	URANIUM OCTAOXIDE	.04	.130	
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID	.04	.130	
1333-82-0	CHROMIUM TRIOXIDE	.04	.130	
1335-30-4	ALUMINUM SILICATE	.04	.130	
13410-01-0	SODIUM SELENATE	.04	.130	
GCN049	ABSORBENTS (NON-SPECIFIED)	.04	.120	
21041-95-2	CADMIUM HYDROXIDE	.04	.110	
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)	.03	.100	
7440-02-0	NICKEL	.02	.070	
868-18-8	SODIUM TARTRATE	.02	.060	
57-13-6	UREA	.02	.060	
1317-38-0	COPPER OXIDE	.02	.060	
7446-70-0	ALUMINUM CHLORIDE	.02	.060	
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-	.02	.060	
10102-06-4	URANYL NITRATE	.02	.060	
7788-98-9	AMMONIUM CHROMATE	.02	.060	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)	.02	.060	
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC	.02	.060	
12054-48-7	NICKEL HYDROXIDE	.02	.048	
10043-01-3	ALUMINUM SULFATE	.01	.040	
110-54-3	N-HEXANE	.01	.040	
110-82-7	CYCLOHEXANE	.01	.040	
111-69-3	ADIPONITRILE	.01	.040	
1116-76-3	TRIOCTYLAMINEINE	.01	.040	
112-80-1	OLEIC ACID	.01	.040	
126-73-8	TRIBUTYL PHOSPHATE (TBP)	.01	.040	
1330-20-7	XYLENE (MIXED ISOMERS)	.01	.040	
13464-37-4	ARSENOUS ACID, TRISODIUM SALT	.01	.040	
13465-08-2	HYDROXYLAMINE NITRATE	.01	.040	
139-13-9	NITRILOTRIACETIC ACID	.01	.040	
140-01-2	PENTASODIUM PENTETATE (DTPA)	.01	.040	
144-62-7	OXALIC ACID	.01	.040	
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-	.01	.040	
2466-09-3	DIPHOSPHORIC ACID	.01	.040	
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-	.01	.040	
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE	.01	.040	
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-	.01	.040	
50-81-7	ASCORBIC ACID	.01	.040	
526-95-4	GLUCONICACID 50% IN WATER	.01	.040	
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL	.01	.040	
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	.01	.040	
64-17-5	ETHANOL	.01	.040	
64-18-6	FORMIC ACID	.01	.040	
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)	.01	.040	
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-	.01	.040	
67-63-0	ISOPROPYL ALCOHOL	.01	.040	
69-65-8	D-MANNITOL	.01	.040	
71-55-6	1,1,1-TRICHLOROETHANE	.01	.040	
7440-31-5	TIN	.01	.040	
7601-90-3	PERCHLORIC ACID	.01	.040	
7647-01-0	HYDROCHLORIC ACID	.01	.040	
7664-39-3	HYDROFLUORIC ACID	.01	.040	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7664-93-9	SULFURIC ACID	.01	.040	
7697-37-2	NITRIC ACID	.01	.040	
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL	.01	.040	
77-92-9	CITRIC ACID	.01	.040	
7778-50-9	DIPOTASSIUM DICHROMATE	.01	.040	
7782-77-6	NITROUS ACID	.01	.040	
78-38-6	DIETHYL ETHYLPHOSPHONATE	.01	.040	
80-55-7	METHYL LACTIC ACID (ETHYLESTER)	.01	.040	
8008-20-6	KEROSENE	.01	.040	
GCN126	ETHERS (NON-SPECIFIED)	.01	.040	
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER	.01	.039	
50-00-0	FORMALDEHYDE	.01	.037	
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	.01	.033	
7727-43-7	BARIUM SULFATE	.01	.032	
7789-23-3	POTASSIUM FLUORIDE	.01	.030	
6131-90-4	SODIUM ACETATE	.01	.020	
7440-41-7	BERYLLIUM	.01	.016	
67-64-1	ACETONE	.01	.016	
7773-01-5	MANGANESE CHLORIDE	.00	.013	
513-77-9	BARIUM CARBONATE	.00	.013	
57-55-6	1,2-PROPANEDIOL	.00	.012	
7440-39-3	BARIUM	.00	.010	
12125-02-9	AMMONIUM CHLORIDE	.00	.010	
87-86-5	PENTACHLOROPHENOL	.00	.010	
GCN113	ACRYLIC EMULSION/POLYMER	.00	.008	
64-19-7	ACETIC ACID	.00	.007	
78-51-3	2-BUTOXYETHANOL, PHOSPHATE	.00	.005	
10043-35-3	BORIC ACID	.00	.005	
51-28-5	DINITROPHENOL, 2,4-	.00	.005	
7440-44-0	CARBON	.00	.005	
8001-30-7	CORN OIL	.00	.005	
75-77-4	TRIMETHYL CHLOROSILANE	.00	.005	
117-10-2	1,8-DIHYDROXYANTHRAQUINONE	.00	.005	
326-91-0	THENOYLTRIFLUOROACETONE	.00	.005	
7738-94-5	CHROMIC (VI) ACID	.00	.005	
1331-17-5	PROPYLENE GLYCOL	.00	.005	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	.00	.005	
7783-18-8	AMMONIUM THIOSULFATE	.00	.004	
144-55-8	SODIUM BICARBONATE	.00	.004	
7757-83-7	SODIUM SULFITE	.00	.004	
9002-93-1	TRITON X-100	.00	.004	
78-93-3	METHYL ETHYL KETONE	.00	.004	
108-10-1	4-METHYL-2-PENTANONE	.00	.003	
7647-15-6	SODIUM BROMIDE	.00	.003	
631-61-8	AMMONIUM ACETATE	.00	.002	
1310-65-2	LITHIUM HYDROXIDE	.00	.002	
110-86-1	PYRIDINE	.00	.002	
98-95-3	NITROBENZENE	.00	.002	
115-40-2	BROMOCRESOL PURPLE	.00	.001	
56-40-6	GLYCINE	.00	.001	
25322-68-3	POLYETHYLENE GLYCOL	.00	.001	
108-88-3	TOLUENE	.00	.001	
71-43-2	BENZENE	.00	.001	
56-23-5	CARBON TETRACHLORIDE	.00	.001	
7440-47-3	CHROMIUM	.00	.001	
67-66-3	CHLOROFORM	.00	.001	
7440-38-2	ARSENIC	.00	.001	
7440-22-4	SILVER	.00	.001	
7439-92-1	LEAD	.00	.001	
95-48-7	O-CRESOL	.00	.001	
106-44-5	P-CRESOL	.00	.001	
106-46-7	P-DICHLOROBENZENE	.00	.001	
79-01-6	TRICHLOROETHYLENE	.00	.001	
108-39-4	M-CRESOL	.00	.001	
127-18-4	TETRACHLOROETHYLENE	.00	.001	
71-36-3	BUTYL ALCOHOL	.00	.000	
107-21-1	ETHYLENE GLYCOL	.00	.000	
67-72-1	HEXACHLOROETHANE	.00	.000	
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE	.00	.000	
55-55-0	P-METHYLAMINOPHENOL SULFATE	.00	.000	
7758-02-3	POTASSIUM BROMIDE	.00	.000	
10192-30-0	AMMONIUM BISULFITE, SOLID	.00	.000	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE	.00	.000	
123-31-9	HYDROQUINONE	.00	.000	
107-06-2	1,2-DICHLOROETHANE	.00	.000	
121-14-2	2,4-DINITROTOLUENE	.00	.000	
298-14-6	POTASSIUM BICARBONATE	.00	.000	
67-56-1	METHANOL	.00	.000	
7439-97-6	MERCURY	.00	.000	
GCNPCBOIL	PCB OIL	.00	.000	
7440-57-5	GOLD	.00	.000	
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)	.00	.000	
75-35-4	1,1-DICHLOROETHYLENE	.00	.000	
7782-49-2	SELENIUM	.00	.000	
7440-43-9	CADMIUM	.00	.000	

Packaging:

Component Description	Weight (Kg)

Container Relationships:

From Pkg ID	To Pkg ID	Conr Date	Rel Code
HEDL-63	0061308	02/10/11	C

NDA:

NDA Assay #	NDA Batch #	NDA Date	GEA Vault	IPAN Vaul	Waste Code	Thermal Power	Tot Alpha Ci	Tot PE-Ci	Tot PU-FGE
44593		03/14/11	A			2.1E-01	1.37E+00	1.42E+00	9.38E+00
CALC44002		09/04/08			6	4.53E-01	4.56E+00	4.74E+00	3.23E+01

WRAP ISOTOPE INFORMATION (NDAISO):

Assay #	Isotope	Quantity(ci)	TMU (ci)	Quantity(gm)	TMU (gm)	Units
44593	U-233					GM
	PU-238	5.91E-02	1.3E-02	3.42E-03	1.3E-02	GM
	U-235	6.09E-07	1.34E-07	2.78E-01	1.34E-07	GM
	PU-240	2.97E-01	6.54E-02	1.29E+00	6.54E-02	GM
	PU-241	2.96E+00	6.51E-01	2.84E-02	6.51E-01	GM
	CS-137	4.13E-06	9.09E-07	4.69E-08	9.09E-07	CI
	AM-241	4.37E-01	9.61E-02	1.26E-01	9.61E-02	GM
	SR-90	3.75E-06	8.26E-07	2.72E-08	8.26E-07	CI
	U-238	9.13E-06	2.01E-06	2.69E+01	2.01E-06	GM
	PU-242	4.11E-05	9.04E-06	1.03E-02	9.04E-06	GM
	U-234	1.83E-05	4.02E-06	2.89E-03	4.02E-06	GM
	PU-239	5.73E-01	1.26E-01	9.11E+00	1.26E-01	GM
CALC44002	U-235	3.71E-06	8.33E-07	1.69E+00	8.33E-07	GM
	PU-241	1.03E+01	2.32E+00	9.92E-02	2.32E+00	GM
	AM-241	1.41E+00	3.17E-01	4.07E-01	3.17E-01	GM
	U-238	5.56E-05	1.25E-05	1.64E+02	1.25E-05	GM
	U-234	1.11E-04	2.5E-05	1.76E-02	2.5E-05	GM
	PU-238	2.52E-01	5.67E-02	1.46E-02	5.67E-02	GM
	PU-239	1.94E+00	4.36E-01	3.08E+01	4.36E-01	GM
	PU-242	1.46E-04	3.27E-05	3.67E-02	3.27E-05	GM
	PU-240	9.58E-01	2.15E-01	4.16E+00	2.15E-01	GM
	CS-137	5.9E-06	1.33E-06	6.7E-08	1.33E-06	CI
	U-233					GM
	SR-90	5.36E-06	1.21E-06	3.89E-08	1.21E-06	CI

NDE:

NDE Batch #	NDE Date	NDE Vault

Tuott, Lee C

From: Willis, Norman P
Sent: Thursday, May 19, 2011 3:38 PM
: Tuott, Lee C; Kisielnicki, Jeanne M
ubject: FW: Leaking Drum Repack Instructions

This is the email I sent to Nick Croft with the leaking drum repack instructions.

Norm Willis
372-0669
2336W MISN T4-51

From: Willis, Norman P
Sent: Thursday, April 28, 2011 10:18 AM
To: Croft, Nicholas F
Cc: Smith, James W; Fulton, Timothy J
Subject: Leaking Drum Repack Instructions

The repack instruction for the leaking drum are listed below.

Leaking Drum Repack Instructions

Prepare an 85-gallon overpack drum with a NucFil model 019DS filter in the lid. Line the 85-gallon drum with a 10-mil nylon reinforced plastic bag. Place 2 batt mat pads in the bottom of the 10-mil liner evenly spaced so that the 55-gallon drum will fit on top of them. Place the 55-gallon leaking drum into the 10 mil liner inside the 85-gallon overpack drum. Pour 10 pounds of sodium bicarbonate between the 55-gallon drum and the 10-mil liner. Fold the plastic liner over the 55-gallon drum and secure the lid on the 85-gallon overpack.

Norm Willis
372-0669
2336W MISN T4-51

Section 1 - General Container/Process Information

Drum CIN: **0059303** Container Spec: UN1A2	Parent Drum CIN: HEDL-63 Overpack Drum CIN:	Layers of Confinement: 0	CH-TRUCON Code: RH225
Waste Stream Designation: S3000 RLM325	Waste Matrix Code Group: Homogeneous Solids	Waste Matrix Code: S3000	Drum Closure Date: 02/10/2011
Summary Category Group:	Outer Lid Filter: Model #: Serial #:		

Purpose of Processing (check all that apply):

- [x] Confinement Layer Reduction
- [ ] Prohibited Article Remediation
- [ ] NCR/CAR Remediation
- [ ] Visual Examination (VE)
- [ ] VE Technique
- [x] Other: Impenetrable

NCR or CAR # (if applicable):

Testing Batch Number (if applicable):

Volume Utilization Percentage (VUP):
(Refer to Attachment 4)

Prohibited Items (Attachment 3) present in drum ? (Check one) [ ] Yes [x] No [ ] N/A
If yes, describe item(s):

Comments:

Impenetrable material/item has been breached and examined with no prohibited items found.
Eliminated all layers of confinement by using box knife and shears.
ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE.

Section 2 - Itemized List of Waste Types

Drum CIN: **0059303**

Waste Material Parameter		Description of Waste Items	Weight (kg)
13	Steel (Packaging Material)		35.40
14	Plastic (Packaging Material)		
1	Iron-based Metals/Alloys		
4	Other Inorganic Material		
2	Aluminum-based Metals/Alloys		
3	Other Metals		
6	Cellulosics		
12	Soils		
10	Organic Matrix		
9	Inorganic Matrix		
7	Rubber		
8	Plastic (Waste materials)		

Repackaging without further verification:

I certify that no waste has been added with the exception of any decontamination rags used and/or absorbent materials as indicated in tne comments.

Hayden, Bryan J 02/10/2011

Operator/Date

Signing this report indicates the waste has been processed in accordance with applicable procedures and the inner lid of the daughter container has been permanently installed. Drum closure date is the date when the outer lid is installed and may be after the process date (i.e., signature date).

Repackaging with further verification (VE and VE Technique):

I certify that the repackaged waste conforms to the waste stream description and wste matrix code, and the waste contains no prohibited items.

Waste Operator/Date

Waste Operator/Date

USQ Determination #: WRP-11-037 , Rev 0

N/A N/A N/A
Person applying CX (if CX is used)

Jason Sweesy Jason Sweesy 4/29/11 Jason Sweesy 5/1/11
WRAP Industrial Safety Representative (sign, print, date)

Michael Frazier Michael Frazier 4/29/11 Tim Fulton, Tim Fulton Per Telecom 5/1/11
Nuclear Safety (sign, print, date)

5/1/11
Shawn Mellgren 4/29/11
WRAP Radiological Control Manager (sign, print, date)

Timothy J. Fulton Tim Fulton 4/29/11
Recovery Plan author (sign, print, date)

Per Telecom. Tim Fulton Tim Fulton 5/1/11
R. Jay Bottenus Per Telecom 4/29/11 1425hrs. Tim Fulton Tim Fulton 4/29/11
Engineering manager (sign, print, date)

Timothy J. Fulton Tim Fulton 4/29/11
Recovery Plan owner (sign, print, date)

A. Stu Mortensen 4/29/2011
Facility manager or WSD Technical Support Director (sign, print, date)
ASM 5/01/2011

Effective Date: (04/XX/11)

COPY

ORIGINAL

Purpose

This Recovery Plan provides instructions for a controlled entry into WRAP Building 2404WB to inspect, sample, survey and decontaminate, as necessary, TRU waste drums. Additional instructions are provided for performing follow-up inspections, surveys and decontamination within 2404WB; preparing drums for transfer to 2404WC; and overpacking affected drums into 85-gallon drums.

On April 26, 2011 at approximately 0840 hours, an NCO reported approximately 20ml of liquid found on the bottom rolled edge of drum 0062288. Liquid was also reported on the drum's wooden pallet and the adjacent floor next to the pallet. The drum is palletized on the bottom tier of row 8, three pallets deep from the front of the row. An initial radiological direct reading was off scale for alpha; and a smear was also off scale for alpha with no detectable beta/gamma. Building ventilation was off and remains off at this time.

Surveys of the exterior doors, thresholds and pathways found no contamination. 2404WB is currently in the Standby Mode and access is restricted and posted High Contamination Area (HCA), Airborne Radioactive Area (ARA) and Beryllium Controlled Area (BCA).

SWITS and DMS identify drum 0062288 as a repack of drum HEDL-63. The empty drum was received on July 16, 2009 and moved into the process area on February 7, 2011. It was repackaged on February 9, 2011. The contents of HEDL-63 were split into this drum and into sister drum 0061308. SWITS data describes all layers of confinement were reduced to zero, a sealed 50 gallon liquid liner cut up, and absorbent material found was acidic (PH <2) before adding 4.5lbs of baking soda to neutralize. Drum 0062288 remained in 2336W until it was assayed on March 14, 2011. Later that day it was moved to its current location in 2404WB row 08. Sister drum 0061308 resides in 2404WB in row 8 but the pallet tier and depth are not known.

At the conclusion of this recovery plan, drum 0062288, sister drum 0061308 and any other affected waste containers in 2404WB's will be addressed and placed into a safe/compliant condition (decontaminated and/or overpacked, as appropriate); equipment/building floor will also be surveyed and decontaminated to the extent possible and will be posted; and low-level waste will be packaged OR this recovery plan will be revised to further mitigate potentially hazardous conditions.

1.0 Related Documents

1.1. Radiological Work Permit (RWP) WP-574, Rev 3.
1.2. Beryllium Work Permit (BWP) PRC-WRAP-10-020, Rev 0
1.3. Beryllium Hazard Assessment BWP-WRAP-4-28-2011, Rev 0
1.4. WRAP Management Directive WRAP-MD-10-002, Rev 0-1, Appendix A
1.5. SWITS data for container 0062288, 0061308 and others as needed.
1.6. WRP1-OP-0503, Move Containers Throughout WRAP Facility.
1.7. WRP1-OP-1708, Packaging Low-Level Waste.
1.8. WRP1-OP-1709, Package Mixed Waste.
1.9. AJHA W1-1086
1.10. USQ Screening – WRP-11-037 Rev 0
1.11. AMW WP-11-010
1.12. CHPRC Radiological Hazard Screening Form WPSF-11-0131
1.13. WRP1-OP-1205 Grab Air Sampling
1.14. WRP1-OP-1230 Gross Alpha and Beta Field Counting
1.15. LL 2007-RL-HNF-0012 Leaking Drum Identified, Contained in Safe and Efficient Manner
1.16. LL 1998-RL-FDH-0004 Handling Drums Safely
1.17. Waste Planning Checklist

2.0 Prerequisites

2.1 OBTAIN and REVIEW SWITS data on Drums 0062288, 0061308 and other containers as needed to determine contents and related material hazards.

2.2 Hazard Review Board (HRB) review and approval of this recovery plan.

2.3 A FORMAL Pre-Job Briefing is required.

2.4 For reference use AJHA W1-1086 and use form A-6004-952 Rev. 5 to record pre-job.

2.5 DAILY and PRE-USE INSPECTIONS of Forklift(s) and A-Frame must be completed prior to use.

2.6 Personnel performing this recovery plan are qualified in accordance with Waste Management Project Procedure WMP-200, section 5.1 Training and Qualification Program and on-the-job training.

2.7 Personnel assigned must be Beryllium Workers.

3.0 Precautions, Limitations, Tools and Equipment

3.1. If during the performance of this recovery plan an unexpected result occurs and/or the conditions change beyond the boundaries of the related documents, all work shall be stopped, and workers will exit. The recovery team will reassemble and revise this recovery plan as required to address any new condition. Appropriate reviews and approvals, including HRB Review, will be required.

3.2. 2404WB building ventilation is not HEPA filtered; building ventilation must remain secured and roll up doors shall be closed until airborne radioactivity in the building is confirmed to be < 0.2 DAC.

3.3. Use all prescribed PPE as listed in the RWP and BWP.

3.3.1 First entry minimum respiratory protection in ARA will be SCBA or Carry-In. supplied air systems.

3.3.2 Follow on entries will be based on contamination levels and may use PAPR with Chemical/Particulate Combination Cartridges or Particulate Cartridges as directed by IH and RadCon.

3.4. Radiological Requirements

3.4.1 Work will be controlled by RWP WP-574, Rev. 3

3.5. Industrial Safety Controls

3.5.1 Industrial Hygiene will confirm established heat stress controls immediately prior to the start of work.

- Buddy system
- Provide water/fluids.

3.5.2 Personal Protective Equipment

- Leather work gloves or equivalent will be used when handling sharp instruments or moving waste containers. Leather work glove or equivalent should be worn on the top of clean uncontaminated Nitrile gloves. If outer work gloves become contaminated with corrosive material, change outer work gloves and the first layer of Nitrile gloves (the layer located just beneath the work gloves) with clean uncontaminated and Nitrile gloves and work gloves.

- When handling suspect contaminated material or cleaning up spills Chemical-resistant Nitrile/ latex gloves should be worn.

3.5.3 Radiological PPE will be controlled by RWP WP-574, Rev 3.

3.5.4 Ergonomic Controls

- Participants should consider warming up and stretching out prior to activity.
- Two-person lifting. If metal pallets must be moved, special instructions from IH will be required.

3.6. Radio contact to be maintained with Radcon Supervision and OPS FLM.

3.7. Should chemical products need to be added to the Waste Plan during the course of this work, notify IH representative(s) Jason Robert Campbell (509) 373-9599 or Clint McBride (509) 373-2238 and Waste Coordinator Markus McGrath (509) 372-1642 for evaluation.

3.8. IF conditions require exit from ARA (2 hour respiratory limit), RE-ENTRY is permitted to continue under this recovery plan.

3.9. Beryllium decontamination of equipment and respiratory equipment will be performed per Appendix A – WRAP beryllium Decontamination Plan, current revision.

3.10. Industrial Hygiene will identify and coordinate Beryllium Clearance Samples during the course of the recovery plan.

3.11. Tools and Equipment: (Key Items)

- Waste bag(s) (10mil)
- Survey instruments and materials – RADCON.
- Survey instruments and materials – IH.
- Tool Cart
- Duct tape / Patch materials (Glove Bag Material)
- Craft paper / plastic / Yellow tack sheeting
- Wet and dry Decon rags and/or wipes
- Miscellaneous hand tools, including reach tools
- Flashlight or portable lighting
- 85-Gallon Overpack Drums (2)
- Forklift (Electric Only inside 2404WB)
- Electric walk-behind drum mover
- A-frame hoist / jib crane
- Reinforced drum liner/bag for overpacking
- Radiological posting material (ARA,HCA,RA,RBA,RMA)
- Tarp (3)
- A-Frame Hoist and Attachments
- Fixative Solutions - Soil Cement (#035321)
- Portable sprayer (Soil Cement)
- Chemical resistant gloves (Silver Shield)
- pH paper and chart
- Distilled water (250/500 mil bottle)
- Drip Pan (55-gal drum)
- Caldwell lift attachment for forklift
- Sling, 3-point drum
- Beryllium labels
- Tach cloth or Lint rollers (Beryllium decon)
- Baking Soda (4- 1lb boxes)
- Metal side cutters
- Laundry rack
- Laundry bags (SWP)
- 55-gal Room Waste drum (Step-off pad)
- Step-off pad
- Stanchions
- Rad Rope
- Tables (2)
- Chairs
- Brooms
- Hemostat 2- long & 2 – short
- Portable radios
- Extension Cord (2)
- Forklift Tine Sleeves
- Stanchions
- Water Resistant Suits
- Knee pads or Kneeling pads

NOTE:

Current Condition: 2404WB is in the Standby Mode with ventilation secured and access to the building restricted. The building is posted as an ARA, HCA and BCA.

Drum 0061308 and 0062288 were was loaded out of the TRU Glovebox on 02/10/11. Both contain approximately the same waste constituents and were assayed on the same date of 03/14/11. They were respectively transferred to 2404WB Row 8 on 03/14/11 and 03/16/11.

Desired Condition: Drum 0062288, sister drum and any other affected waste containers in 2404WB will be addressed and placed into a safe/compliant condition (decontaminated and/or over-packed as necessary). Other contaminated drums, items or area within 2404WB will be decontaminated or covered to create stable radiological conditions and will be posted accordingly.

5.0 Instructions

5.1 **PERFORM** a Formal Pre-Job Briefing with all personnel involved with the performance of tasks within this recovery plan.

FLM Print. / Signature ______ Date 5/1/11

5.2 **Ensure** all prerequisites have been completed prior to starting Tasks.

NOTE:

- 2404WB will remain under restricted access until cleared by the WRAP DOS.
- RADCON Void Limits are found in RWP-WP-574 Rev.3
- Decontamination to removable ALARA levels means: Decontamination efforts will be repeated unless it is not reasonable to continue. Due to the uncertainties of this plan, decontamination efforts cannot be precisely defined, however; this typically means until decontamination attempts result in a reduction of less than one half the previous attempt.

TASK 1 Characterization and Stabilization

5.3 Characterization Team of NCOs and RCTs PREPARE to enter 2404WB.
- Set up appropriate step-off pads including CA & RBA.
- Stage survey and sampling equipment for RADCON and IH.
- Stage radiological posting materials.

5.4 ENSURE DOS places 2404WB into OPERATIONS MODE.

- OBTAIN approval from DOS to allow entry into 2404WB.

NOTE:

Visual inspections and Radiological surveys of suspect surfaces, materials and containers will be continuous; as needed to perform the disposition, decontamination and for all activities needed to place the contaminated area and containers in a safe configuration. Specific inspections and surveys are noted as work steps for reference, but additional inspections and surveys throughout the performance of this recovery plan are implied.

5.5 NCOs and RCTs ENTER 2404WB.

> **WARNING:**
>
> - IF radiological Void Limits are MET or EXCEEDED, THEN IMMEDIATELY EXIT.
> - Ensure that chemical PPE is specific to the chemical being used and covers all potential areas of exposure. Silver Shield gloves to be worn over surgeons.

5.5.1 PERFORM the following actions prior to moving drums from Row 8.

- RCTs start air sampling.
- SURVEY/ SAMPLE travel path up to affected area.
- Perform Pre-Use Inspection of Forklift; inform FLM of completion.
- Visually INSPECT drum(s) for container integrity conditions. **[SAC 5.6.4, AC 5.7.8 ACMP]**
    - REPORT container integrity conditions to Operations FLM via radio. If other container(s) is/are found breached, then STOP.
- Visually INSPECT the floor, pallets and surrounding areas for abnormal conditions.
    - REPORT any abnormal conditions to Operations FLM via radio.
- TAKE contamination and pH SAMPLES of affected areas.
    - REPORT contamination levels and pH levels to RADCON Supervision and Operations FLM via radio.
    - If acidic, then neutralize spill area with baking soda.
- Cover or fix areas of contamination $\geq$20,000,000 dpm/100cm^2 Alpha. (10 Rad/hr using a BWCP)
- PERFORM setup (e.g., move pallets, layout tarp(s), etc.)

> **WARNING:**
>
> Use special care when handling, moving or positioning leaking waste containers.

5.6 Relocate/Survey unaffected drums from Row 8 to designated staging location.

5.7 PERFORM characterization survey of accessible areas of the affected drum(s), pallet and floor.

5.8 REPORT survey results to RADCON Supervisor and Operations FLM via radio.

5.9 LIFT affected pallet to allow RCT to survey under the pallet.

5.10 MOVE affected pallet to designated location.

5.11 Cover/Apply absorbent/neutralizing material to spill area.

5.12 Un-band pallet of drums containing drum 0062288.

5.13 Visually INSPECT drum(s) for container integrity conditions. **[SAC 5.6.4, AC 5.7.8 ACMP]**

5.14 SURVEY the accessible areas of pallet containing drum 0062288.

5.15 REPORT survey results and inspections to RADCON Supervisor and Operations FLM via radio.

5.16 RELOCATE affected non-leaking drum(s) one-at-a-time within the work area using a parrot beak. [LL 2007-RL-HNF-0012]

5.17 PLACE leaking drum(s) into a reinforced plastic bag using drum mover or Caldwell lift attachment.

- If using the Caldwell, then the leaking drum(s) may be over-packed per Step 5.28 and then return to Step 5.19.

5.18 PLACE bagged leaking drum(s) in catch pan on pallet with absorbent material around the base of the drum.

5.19 Wrap contaminated pallet(s) with plastic sheeting.

5.20 SURVEY the accessible areas of the affected floor, drum(s) and pallet(s). This step may be repeated.

Caution:

Decontamination will be performed using damp materials (e.g., wet-wipe, damp cloths) or material designed for capturing dirt/dust (masslin). Decontamination will be performed by water dampened cloth and covered with plastic and tape. Use of aggressive methods such as sweeping, grinding, wire brushes or flapper wheels are not allowed.

Suspect breached drum may create >.2 DAC

5.21 DECONTAMINATE/COVER drum(s), floor, pallet(s) and other areas to removable ALARA levels, based on portable radiological instrumentation measurements.

5.22 SURVEY the accessible areas of the affected drum(s).

5.23 REPORT survey results to RADCON Supervisor and Operations FLM via radio.

5.24 PACKAGE waste per WRP1-OP-1709 for mixed waste or WRP1-OP-1708 for low level waste and the Waste Planning Checklist.

5.25 Perform down post Radiological surveys of 2404WB.

5.26 Post radiological areas/equipment as determined by Radiological surveys.

5.27 Per the DOS, DOWN post 2404-WB for Radiological to normal and remove appropriate posting.

TASK 2 Overpack Affected Drums

5.28 IF drum overpack is to occur in 2404WB, then perform the following:

5.28.1 PREPARE overpack drum.

5.28.2 Stage drum(s) for overpack at designated location.

> NOTE:
>
> Sample Treatment Director will provide information regarding the addition of absorbent materials and/or neutralizing materials to the overpack drum during loading.

5.28.3 OVERPACK drum(s) per WRP1-OP-0503 Section 4.1~~1.~~ 9 [LL 1998-RL-FDH-0004]

5.29 IF drum overpack is to occur in 2404-WC, then perform the following:

5.29.1 TRANSFER drum(s) to 2404WC per WRP1-OP-0503.

5.29.2 ENSURE a second NCO INSPECTS the load prior to transfer to 2404WC.

5.29.3 ENSURE RCT performs survey prior to transfer to 2404WC.

5.29.4 SURVEY drum(s) upon arrival at 2404WC.

> NOTE:
>
> Sample Treatment Director will provide information regarding the addition of absorbent materials and/or neutralizing materials to the overpack drum during loading.

5.29.5 OVERPACK drum(s) per WRP1-OP-0503 Section 4.1~~1.~~ 9 [LL 1998-RL-FDH-0004]

5.30 Perform Beryllium down post of 2404-WB as directed by IH.

5.31 DOS direct 2404WB to be down posted to normal and remove restricted access.

5.32 LOCATE and INSPECT Drum 0061308 as best as possible for signs of drum integrity concerns.

5.33 REPORT the drum location/inspection results to RADCON Supervisor and Operations FLM.

5.34 PERFORM housekeeping, store equipment and materials and handle packaged waste as directed.

6.0 Closeout

6.1 When complete, obtain approval of Facility Manager for completed actions.

____________________________________ ______________

Facility Manager Printed name / Signature Date

Appendix A - WRAP Beryllium Decontamination Plan

This Beryllium Decontamination Plan will be used to clean or decontaminate areas and equipment where beryllium contamination is confirmed or suspected.

1.0 DECONTAMINATION OF ITEMS AND SURFACES

Cleaning of equipment and material will be conducted for the release of materials from a BCA. The cleaning methods are as follows: wiping with a damp cloth, wet wipe, or MSA Personal Safety Equipment Towelette, HEPA vacuuming, using tack cloth, or using other methods that will minimize the generation of airborne beryllium. (Other methods must be approved by an Industrial Hygienist.) Aggressive decontamination methods which may cause beryllium to aerosolize, such as scrubbing with a wire brush or using a spray applicator to apply water or cleaning agents, are **prohibited** when dealing with potential beryllium contamination. All cleaning material used to clean equipment and materials within a BCA must be bagged, labeled, and disposed of as beryllium-contaminated waste. (DOE-0342, 6.21)

1.1 Respirators

Respirators include but are not limited to:

PAPRs and Hoods

- Face pieces
- PAPR Hoses/Hoods
- Belts
- Blower Motors
- Cartridge Assemblies (Respirator cartridges themselves cannot be decontaminated.)

NOTE:
- *Bullard recommends that their respirators be wiped down with a wet wipe or damp cloth.*
- *MSA requires that their respirators be wiped down with an MSA Personal Safety Equipment Towelette.*

SCBA's and Face Pieces

- *Respirator face piece*
- *Back pack apparatus*
- *Air Tank*
- *Hoses*
- *Straps*
- *Regulator*

1.1.1 WIPE exterior of respirators and associated parts with damp cloths, wet wipes, or MSA Personal Safety Equipment Towelettes (per manufacturer's instructions), to remove dust/particulates before the cartridges are removed.

1.1.2 TAPE <u>OR</u> PLUG the cartridge openings and blower motor openings.

1.1.3 WIPE exterior of cartridges with damp cloths or wet wipes.

1.1.4 DISCARD used wet wipes, towelettes, or damp cloths, cartridges, and PAPR hoods as potential beryllium waste or mixed waste, as applicable.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

1.2 IH Sample Pumps

NOTE: *The 37 mm Mixed Cellulose Ester (MEC) filter cassettes used for beryllium sampling are the first line filter and are effective at preventing beryllium contamination reaching the in-line filter used by RadCon to release samples.*

1.2.1 WIPE the exterior of IH sample pumps, associated Tygon tubing, and in-line filter with wet wipes or damp cloths.

1.2.2 DISCARD used wet wipes or damp cloths as potential beryllium waste or mixed waste, as applicable.

1.3 Tools and Equipment

Tools and equipment may include but are not limited to:

- Power tools
- Hand tools
- Ladders
- Portable RadCon Equipment

1.3.1 WIPE the exterior of all tools and equipment used in the BCA with wet wipes or damp cloths.

1.3.2 DISCARD used wet wipes or damp cloths as potential beryllium waste or mixed waste, as applicable.

1.4 Potentially Internally Contaminated Items

1.4.1 IF any item used in the BCA has the potential to draw air through its internal workings
AND it does **not** have a filter system or other apparatus to keep beryllium contamination from reaching internal surfaces
AND the internal surfaces of the item **cannot** be sampled and determined free of beryllium or otherwise be cleared of beryllium contamination,
THEN LABEL that item as potentially internally beryllium contaminated, (DOE-0342 Attachment 5-E)
AND KEEP it segregated from non-beryllium contaminated equipment, as it may no longer be used outside of a BCA.

1.5 Release of Items for General Use

1.5.1 IF the respirators (excluding cartridges), portable RadCon equipment, IH sample pumps, and other tools and equipment have been thoroughly wiped down,
AND they are not labeled as potentially internally beryllium contaminated,
THEN RELEASE them for general use in non-beryllium work.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

NOTE: *A combination of HEPA vacuuming, wiping with a wet wipe or damp cloth, and using tack cloth may be most effective in situations where a large amount of dust and debris is present. For example: HEPA vacuuming the dust and debris would remove the majority of the potential contamination. This would make wiping with a wet wipe or damp cloth or using tack cloth more efficient. This practice would also decrease the potential for the spread of beryllium contamination.*

1.6 Decontamination of Areas

1.6.1 DECONTAMINATE areas and surfaces, such as floors, counters, and exteriors of non-portable equipment, by HEPA vacuuming, wiping with a wet wipe or damp cloth, and/or using tack cloth.

1.6.2 DISPOSE of any waste generated from decontamination activities as potential beryllium waste or mixed waste, as applicable.

1.7 Disposition of Protective Clothing

1.7.1 VACCUM protective suits with a HEPA vacuum (recommended) ONLY if within the Process Area or room 113,
OR WIPE DOWN (carefully) with a wet wipe or damp rag,
OR USE tack cloth prior to removal.

1.7.2 PLACE washable suits, gloves, and booties worn in BCA areas in a laundry bag.

1.7.3 DISCARD disposable suits, gloves, and booties worn in BCA areas, as well as damp rags or tack cloths used to wipe down protective clothing, as potential beryllium waste or mixed waste, as applicable.

1.8 Beryllium Waste and Laundry Bags

NOTE: *Per Sections 6.22 and 6.23 of DOE-0342, labels may be applied to waste containers as beryllium waste at the time that waste items are bagged or containerized. While in the BCA, it is acceptable to place beryllium waste in unlabeled waste containers. The waste items may be left unlabeled until industrial hygiene sample results are received to properly characterize the waste. Be aware, other labeling requirements such as Waste Management labeling requirements for Dangerous Waste may be required for some waste streams in the interim. If Items are already labeled, waste labels may be removed or changed to reflect the beryllium characterization. However, all beryllium waste must be properly labeled before it leaves the BCA.*

1.8.1 LABEL potential beryllium waste, potential beryllium laundry, and beryllium-containing mixed waste with a Beryllium Waste Label. (DOE-0342, Attachment 5-D)

1.8.2 WIPE beryllium waste and laundry bags with wet wipes or damp cloths before removing them from the BCA.

1.8.3 IF waste/laundry bags will stay in the general work area,
THEN WIPE beryllium waste bags with wet wipes or damp cloths before the BCA is down posted.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

1.8.4 NOTIFY laundry of beryllium-containing laundry to be picked up.

1.8.5 DISPOSE of beryllium-containing waste per DOE-0342.

2.0 DOWN-POST OF BCA

2.1 EVALUATE the BCA area per the limits set by DOE-0342.

2.2 (IH) IF IH sampling confirms that the BCA meets the decontamination criteria set forth by DOE-0342,
THEN RELEASE AND DOWN POST the area from the BCA.

2.3 NOTIFY DOS of change in BCA status.

USQ Determination #: WRP-11-037 , Rev 0

N/A N/A N/A
Person applying CX (if CX is used)

Jason Sweesy Signature on file 05/05/2011
WRAP Industrial Safety Representative (sign, print, date)

Michael Frazier Signature on file 05/05/2011
Nuclear Safety (sign, print, date)

Shawn Mellgren Signature on file 05/05/2011
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Timothy J. Fulton Signature on file 05/05/2011
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R. Jay Bottenus Signature on file 05/05/2011
Engineering manager (sign, print, date)

Timothy J. Fulton Signature on file 05/05/2011
Recovery Plan owner (sign, print, date)

A. Stu Mortensen Signature on file 05/05/2011
Facility manager or WSD Technical Support Director (sign, print, date)

Effective Date: (05/05/11)

COPY

Purpose

This Recovery Plan provides instructions for a controlled entry into WRAP Building 2404WB to inspect, sample, survey and decontaminate, as necessary, TRU waste drums. Additional instructions are provided for performing follow-up inspections, surveys and decontamination within 2404WB; preparing drums for transfer to 2404WC; and overpacking affected drums into 85-gallon drums.

On April 26, 2011 at approximately 0840 hours, an NCO reported approximately 20ml of liquid found on the bottom rolled edge of drum 0062288. Liquid was also reported on the drum's wooden pallet and the adjacent floor next to the pallet. The drum is palletized on the bottom tier of row 8, three pallets deep from the front of the row. An initial radiological direct reading was off scale for alpha; and a smear was also off scale for alpha with no detectable beta/gamma. Building ventilation was off and remains off at this time.

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2.1 OBTAIN and REVIEW SWITS data on Drums 0062288, 0061308 and other containers as needed to determine contents and related material hazards.

2.2 Hazard Review Board (HRB) review and approval of this recovery plan.

2.3 A FORMAL Pre-Job Briefing is required.

2.4 For reference use AJHA W1-1086 and use form A-6004-952 Rev. 5 to record pre-job.

2.5 DAILY and PRE-USE INSPECTIONS of Forklift(s) and A-Frame must be completed prior to use.

2.6 Personnel performing this recovery plan are qualified in accordance with Waste Management Project Procedure WMP-200, section 5.1 Training and Qualification Program and on-the-job training.

2.7 Personnel assigned must be Beryllium Workers.

3.0 Precautions, Limitations, Tools and Equipment

3.1. If during the performance of this recovery plan an unexpected result occurs and/or the conditions change beyond the boundaries of the related documents, all work shall be stopped, and workers will exit. The recovery team will reassemble and revise this recovery plan as required to address any new condition. Appropriate reviews and approvals, including HRB Review, will be required.

3.2. 2404WB building ventilation is not HEPA filtered; building ventilation must remain secured and roll up doors shall be closed until airborne radioactivity in the building is confirmed to be < 0.2 DAC.

3.3. Use all prescribed PPE as listed in the RWP and BWP.

3.3.1 First entry minimum respiratory protection in ARA will be SCBA or Carry-In. supplied air systems.

3.3.2 Follow on entries will be based on contamination levels and may use PAPR with Chemical/Particulate Combination Cartridges or Particulate Cartridges as directed by IH and RadCon.

3.4. Radiological Requirements

3.4.1 Work will be controlled by RWP WP-574, Rev. 3

3.5. Industrial Safety Controls

3.5.1 Industrial Hygiene will confirm established heat stress controls immediately prior to the start of work.

- Buddy system
- Provide water/fluids.

3.5.2 Personal Protective Equipment

- Leather work gloves or equivalent will be used when handling sharp instruments or moving waste containers. Leather work glove or equivalent should be worn on the top of clean uncontaminated Nitrile gloves. If outer work gloves become contaminated with corrosive material, change outer work gloves and the first layer of Nitrile gloves (the layer located just beneath the work gloves) with clean uncontaminated and Nitrile gloves and work gloves.

- When handling suspect contaminated material or cleaning up spills Chemical-resistant Nitrile/ latex gloves should be worn.

3.5.3 Radiological PPE will be controlled by RWP WP-574, Rev 3.

3.5.4 Ergonomic Controls

- Participants should consider warming up and stretching out prior to activity.
- Two-person lifting. If metal pallets must be moved, special instructions from IH will be required.

3.6. Radio contact to be maintained with Radcon Supervision and OPS FLM.

3.7. Should chemical products need to be added to the Waste Plan during the course of this work, notify IH representative(s) Jason Sweesy (509) 373-1304 and Waste Coordinator Markus McGrath (509) 372-1642 for evaluation.

3.8. IF conditions require exit from ARA (2 hour respiratory limit), RE-ENTRY is permitted to continue under this recovery plan.

3.9. Beryllium decontamination of equipment and respiratory equipment will be performed per Appendix A – WRAP beryllium Decontamination Plan, current revision.

3.10. Industrial Hygiene will identify and coordinate Beryllium Clearance Samples during the course of the recovery plan.

3.11. Tools and Equipment: (Key Items)

- Waste bag(s) (10mil)
- Survey instruments and materials – RADCON.
- Survey instruments and materials – IH.
- Tool Cart
- Duct tape / Patch materials (Glove Bag Material)
- Craft paper / plastic / Yellow tack sheeting
- Wet and dry Decon rags and/or wipes
- Miscellaneous hand tools, including reach tools
- Flashlight or portable lighting
- 85-Gallon Overpack Drums (2)
- Forklift (Electric Only inside 2404WB)
- Electric walk-behind drum mover
- A-frame hoist / jib crane
- Reinforced drum liner/bag for overpacking
- Radiological posting material (ARA,HCA,RA,RBA,RMA)
- Tarp (3)
- A-Frame Hoist and Attachments
- Fixative Solutions - Soil Cement (#035321)
- Portable sprayer (Soil Cement)
- Chemical resistant gloves (Silver Shield)
- pH paper and chart
- Distilled water (250/500 mil bottle)
- Drip Pan (55-gal drum)
- Caldwell lift attachment for forklift
- Sling, 3-point drum
- Beryllium labels
- Tach cloth or Lint rollers (Beryllium decon)
- Baking Soda (4- 1lb boxes)
- Metal side cutters
- Laundry rack
- Laundry bags (SWP)
- 55-gal Room Waste drum (Step-off pad)
- Step-off pad
- Stanchions
- Rad Rope
- Tables (2)
- Chairs
- Brooms
- Hemostat 2- long & 2 – short
- Portable radios
- Extension Cord (2)
- Forklift Tine Sleeves
- Stanchions
- Water Resistant Suits
- Knee pads or Kneeling pads

NOTE:

Current Condition: 2404WB is in the Standby Mode with ventilation secured and access to the building restricted. The building is posted as an ARA, HCA and BCA.

Drum 0061308 and 0062288 were was loaded out of the TRU Glovebox on 02/10/11. Both contain approximately the same waste constituents and were assayed on the same date of 03/14/11. They were respectively transferred to 2404WB Row 8 on 03/14/11 and 03/16/11.

Desired Condition: Drum 0062288, sister drum and any other affected waste containers in 2404WB will be addressed and placed into a safe/compliant condition (decontaminated and/or over-packed as necessary). Other contaminated drums, items or area within 2404WB will be decontaminated or covered to create stable radiological conditions and will be posted accordingly.

5.0 Instructions

5.1 **PERFORM** a Formal Pre-Job Briefing with all personnel involved with the performance of tasks within this recovery plan.

Signature on file	(daily)
FLM Print / Signature	Date

5.2 **Ensure** all prerequisites have been completed prior to starting Tasks.

NOTE:

- 2404WB will remain under restricted access until cleared by the WRAP DOS.
- RADCON Void Limits are found in RWP-WP-574 Rev.4
- Decontamination to removable ALARA levels means: Decontamination efforts will be repeated unless it is not reasonable to continue. Due to the uncertainties of this plan, decontamination efforts cannot be precisely defined, however; this typically means until decontamination attempts result in a reduction of less than one half the previous attempt.

TASK 1 Characterization and Stabilization

5.3 Characterization Team of NCOs and RCTs PREPARE to enter 2404WB.
- Set up appropriate step-off pads including CA & RBA.
- Stage survey and sampling equipment for RADCON and IH.
- Stage radiological posting materials.

5.4 ENSURE DOS places 2404WB into OPERATIONS MODE.

- OBTAIN approval from DOS to allow entry into 2404WB.

NOTE:

Visual inspections and Radiological surveys of suspect surfaces, materials and containers will be continuous; as needed to perform the disposition, decontamination and for all activities needed to place the contaminated area and containers in a safe configuration. Specific inspections and surveys are noted as work steps for reference, but additional inspections and surveys throughout the performance of this recovery plan are implied.

5.5 NCOs and RCTs ENTER 2404WB.

> **WARNING:**
>
> - IF radiological Void Limits are MET or EXCEEDED, THEN IMMEDIATELY EXIT.
> - Ensure that chemical PPE is specific to the chemical being used and covers all potential areas of exposure. Silver Shield gloves to be worn over surgeons.

5.5.1 PERFORM the following actions prior to moving drums from Row 8.

- RCTs start air sampling.
- SURVEY/ SAMPLE travel path up to affected area.
- Perform Pre-Use Inspection of Forklift; inform FLM of completion.
- Visually INSPECT drum(s) for container integrity conditions. **[SAC 5.6.4, AC 5.7.8 ACMP]**
  - REPORT container integrity conditions to Operations FLM via radio. If other container(s) is/are found breached, then STOP.
- Visually INSPECT the floor, pallets and surrounding areas for abnormal conditions.
  - REPORT any abnormal conditions to Operations FLM via radio.
- TAKE contamination and pH SAMPLES of affected areas.
  - REPORT contamination levels and pH levels to RADCON Supervision and Operations FLM via radio.
  - If acidic, then neutralize spill area with baking soda.
- Cover or fix areas of contamination ≥20,000,000 dpm/100cm^2 Alpha. (10 Rad/hr using a BWCP)
- PERFORM setup (e.g., move pallets, layout tarp(s), etc.)

> **WARNING:**
>
> Use special care when handling, moving or positioning leaking waste containers.

5.6 Relocate/Survey unaffected drums from Row 8 to designated staging location.

5.7 PERFORM characterization survey of accessible areas of the affected drum(s), pallet(s) and floor.

5.8 REPORT survey results to RADCON Supervisor and Operations FLM via radio.

5.9 LIFT affected pallet(s) to allow RCT to survey under the pallet(s).

5.10 MOVE affected pallet(s) to designated location.

5.11 Cover/Apply absorbent/neutralizing material to spill area.

5.12 Un-band drums on affected pallet(s).

5.13 Visually INSPECT drum(s) for container integrity conditions. **[SAC 5.6.4, AC 5.7.8 ACMP]**

5.14 SURVEY the accessible areas of pallet containing drum 0062288.

5.15 REPORT survey results and inspections to RADCON Supervisor and Operations FLM via radio.

5.16 RELOCATE affected non-leaking drum(s) one-at-a-time within the work area using a parrot beak. [LL 2007-RL-HNF-0012]

5.17 PLACE leaking drum(s) into a reinforced plastic bag using drum mover or Caldwell lift attachment.

- If using the Caldwell, then the leaking drum(s) may be over-packed per Step 5.29 and then return to Step 5.19.

5.18 PLACE bagged leaking drum(s) in catch pan on pallet with absorbent material around the base of the drum.

5.19 Wrap contaminated pallet(s) with plastic sheeting.

Caution:

Decontamination will be performed using damp materials (e.g., wet-wipe, damp cloths) or material designed for capturing dirt/dust (masslin). Decontamination will be performed by water dampened cloth and covered with plastic and tape. Use of aggressive methods such as sweeping, grinding, wire brushes or flapper wheels are not allowed.

Suspect breached drum may create >.2 DAC

5.20 DECONTAMINATE/COVER drum(s), floor, pallet(s) and other areas to removable ALARA levels, based on portable radiological instrumentation measurements.

5.21 PACKAGE waste per WRP1-OP-1709 for mixed waste or WRP1-OP-1708 for low level waste and the Waste Planning Checklist.

5.22 SURVEY the accessible areas of the affected floor, drum(s) and pallet(s).

5.23 Repeat steps 5.5.1 through 5.23, as applicable, until spill area(s), drum(s) and pallet(s) are characterized, stabilized and decontaminated.

5.24 SURVEY the accessible areas of the floor, drum(s) and pallet(s).

5.25 REPORT survey results to RADCON Supervisor and Operations FLM via radio.

5.26 Perform down post Radiological surveys of 2404WB.

5.27 Post radiological areas/equipment as determined by Radiological surveys.

5.28 Per the DOS, DOWN post 2404-WB for Radiological to normal and remove appropriate posting.

TASK 2 Overpack Affected Drums

5.29 IF drum overpack is to occur in 2404WB, then perform the following:

5.29.1 PREPARE overpack drum.

5.29.2 Stage drum(s) for overpack at designated location.

NOTE:
Sample Treatment Director will provide information regarding the addition of absorbent materials and/or neutralizing materials to the overpack drum during loading.

5.29.3 OVERPACK drum(s) per WRP1-OP-0503 Section 4.13. [LL 1998-RL-FDH-0004]

5.30 IF drum overpack is to occur in 2404-WC, then perform the following:

5.30.1 TRANSFER drum(s) to 2404WC per WRP1-OP-0503.

5.30.2 ENSURE a second NCO INSPECTS the load prior to transfer to 2404WC.

5.30.3 ENSURE RCT performs survey prior to transfer to 2404WC.

5.30.4 SURVEY drum(s) upon arrival at 2404WC.

NOTE:
Sample Treatment Director will provide information regarding the addition of absorbent materials and/or neutralizing materials to the overpack drum during loading.

5.30.5 OVERPACK drum(s) per WRP1-OP-0503 Section 4.13. [LL 1998-RL-FDH-0004]

5.31 Perform Beryllium down post of 2404-WB as directed by IH.

5.32 DOS direct 2404WB to be down posted to normal and remove restricted access.

5.33 LOCATE and INSPECT Drum 0061308 as best as possible for signs of drum integrity concerns.

5.34 REPORT the drum location/inspection results to RADCON Supervisor and Operations FLM.

5.35 PERFORM housekeeping, store equipment and materials and handle packaged waste as directed.

6.0 Closeout

6.1 When complete, obtain approval of Facility Manager for completed actions.

Facility Manager ______________ Printed name / Signature ______________ Date

Appendix A - WRAP Beryllium Decontamination Plan

This Beryllium Decontamination Plan will be used to clean or decontaminate areas and equipment where beryllium contamination is confirmed or suspected.

1.0 DECONTAMINATION OF ITEMS AND SURFACES

Cleaning of equipment and material will be conducted for the release of materials from a BCA. The cleaning methods are as follows: wiping with a damp cloth, wet wipe, or MSA Personal Safety Equipment Towelette, HEPA vacuuming, using tack cloth, or using other methods that will minimize the generation of airborne beryllium. (Other methods must be approved by an Industrial Hygienist.) Aggressive decontamination methods which may cause beryllium to aerosolize, such as scrubbing with a wire brush or using a spray applicator to apply water or cleaning agents, are **prohibited** when dealing with potential beryllium contamination. All cleaning material used to clean equipment and materials within a BCA must be bagged, labeled, and disposed of as beryllium-contaminated waste. (DOE-0342, 6.21)

1.1 Respirators

Respirators include but are not limited to:

PAPRs and Hoods

- Face pieces
- PAPR Hoses/Hoods
- Belts
- Blower Motors
- Cartridge Assemblies (Respirator cartridges themselves cannot be decontaminated.)

NOTE:
- *Bullard recommends that their respirators be wiped down with a wet wipe or damp cloth.*
- *MSA requires that their respirators be wiped down with an MSA Personal Safety Equipment Towelette.*

SCBA's and Face Pieces

- *Respirator face piece*
- *Back pack apparatus*
- *Air Tank*
- *Hoses*
- *Straps*
- *Regulator*

1.1.1 WIPE exterior of respirators and associated parts with damp cloths, wet wipes, or MSA Personal Safety Equipment Towelettes (per manufacturer's instructions), to remove dust/particulates before the cartridges are removed.

1.1.2 TAPE <u>OR</u> PLUG the cartridge openings and blower motor openings.

1.1.3 WIPE exterior of cartridges with damp cloths or wet wipes.

1.1.4 DISCARD used wet wipes, towelettes, or damp cloths, cartridges, and PAPR hoods as potential beryllium waste or mixed waste, as applicable.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

1.2 IH Sample Pumps

NOTE: *The 37 mm Mixed Cellulose Ester (MEC) filter cassettes used for beryllium sampling are the first line filter and are effective at preventing beryllium contamination reaching the in-line filter used by RadCon to release samples.*

1.2.1 WIPE the exterior of IH sample pumps, associated Tygon tubing, and in-line filter with wet wipes or damp cloths.

1.2.2 DISCARD used wet wipes or damp cloths as potential beryllium waste or mixed waste, as applicable.

1.3 Tools and Equipment

Tools and equipment may include but are not limited to:

- Power tools
- Hand tools
- Ladders
- Portable RadCon Equipment

1.3.1 WIPE the exterior of all tools and equipment used in the BCA with wet wipes or damp cloths.

1.3.2 DISCARD used wet wipes or damp cloths as potential beryllium waste or mixed waste, as applicable.

1.4 Potentially Internally Contaminated Items

1.4.1 <u>IF</u> any item used in the BCA has the potential to draw air through its internal workings
<u>AND</u> it does **not** have a filter system or other apparatus to keep beryllium contamination from reaching internal surfaces
<u>AND</u> the internal surfaces of the item **cannot** be sampled and determined free of beryllium or otherwise be cleared of beryllium contamination,
<u>THEN</u> LABEL that item as potentially internally beryllium contaminated, (DOE-0342 Attachment 5-E)
<u>AND</u> KEEP it segregated from non-beryllium contaminated equipment, as it may no longer be used outside of a BCA.

1.5 Release of Items for General Use

1.5.1 <u>IF</u> the respirators (excluding cartridges), portable RadCon equipment, IH sample pumps, and other tools and equipment have been thoroughly wiped down,
<u>AND</u> they are not labeled as potentially internally beryllium contaminated,
<u>THEN</u> RELEASE them for general use in non-beryllium work.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

NOTE: *A combination of HEPA vacuuming, wiping with a wet wipe or damp cloth, and using tack cloth may be most effective in situations where a large amount of dust and debris is present. For example: HEPA vacuuming the dust and debris would remove the majority of the potential contamination. This would make wiping with a wet wipe or damp cloth or using tack cloth more efficient. This practice would also decrease the potential for the spread of beryllium contamination.*

1.6 Decontamination of Areas

1.6.1 DECONTAMINATE areas and surfaces, such as floors, counters, and exteriors of non-portable equipment, by HEPA vacuuming, wiping with a wet wipe or damp cloth, and/or using tack cloth.

1.6.2 DISPOSE of any waste generated from decontamination activities as potential beryllium waste or mixed waste, as applicable.

1.7 Disposition of Protective Clothing

1.7.1 VACCUM protective suits with a HEPA vacuum (recommended) ONLY if within the Process Area or room 113,
<u>OR</u> WIPE DOWN (carefully) with a wet wipe or damp rag,
<u>OR</u> USE tack cloth prior to removal.

1.7.2 PLACE washable suits, gloves, and booties worn in BCA areas in a laundry bag.

1.7.3 DISCARD disposable suits, gloves, and booties worn in BCA areas, as well as damp rags or tack cloths used to wipe down protective clothing, as potential beryllium waste or mixed waste, as applicable.

1.8 Beryllium Waste and Laundry Bags

NOTE: *Per Sections 6.22 and 6.23 of DOE-0342, labels may be applied to waste containers as beryllium waste at the time that waste items are bagged or containerized. While in the BCA, it is acceptable to place beryllium waste in unlabeled waste containers. The waste items may be left unlabeled until industrial hygiene sample results are received to properly characterize the waste. Be aware, other labeling requirements such as Waste Management labeling requirements for Dangerous Waste may be required for some waste streams in the interim. If Items are already labeled, waste labels may be removed or changed to reflect the beryllium characterization. However, all beryllium waste must be properly labeled before it leaves the BCA.*

1.8.1 LABEL potential beryllium waste, potential beryllium laundry, and beryllium-containing mixed waste with a Beryllium Waste Label. (DOE-0342, Attachment 5-D)

1.8.2 WIPE beryllium waste and laundry bags with wet wipes or damp cloths before removing them from the BCA.

1.8.3 <u>IF</u> waste/laundry bags will stay in the general work area,
<u>THEN</u> WIPE beryllium waste bags with wet wipes or damp cloths before the BCA is down posted.

Appendix A (Cont'd) - WRAP Beryllium Decontamination Plan

1.8.4 NOTIFY laundry of beryllium-containing laundry to be picked up.

1.8.5 DISPOSE of beryllium-containing waste per DOE-0342.

2.0 DOWN-POST OF BCA

2.1 EVALUATE the BCA area per the limits set by DOE-0342.

2.2 (IH) IF IH sampling confirms that the BCA meets the decontamination criteria set forth by DOE-0342,
THEN RELEASE AND DOWN POST the area from the BCA.

2.3 NOTIFY DOS of change in BCA status.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0062288

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
04/26/11	Physical Damage/Corrosion (30-day mitigation clock)	Operations	05/05/11	

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
ACMP	0061181	04/26/11	Y	05/05/11

Proposed Resolution

ACMP issue being tracked manually. See ACMP Container Form for Action Plan.

Final Resolution

See ACMP Container Form
Container is overpacked and Recovery Plan is complete--RJB
05/09/2011

Immediate Actions Taken:

Description	Comments
Isolate Immediate Area	

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0062288

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/17/11	Inconsistent Inventory	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
PERMIT	0097961	05/17/11	Y	

Proposed Resolution

Determine when and how to complete SWITS updates since waste steam is not debris arising from the spill at WRAP on daughter drum 0062288 after repackaging 0031161 in the WRAP glovebox.

Final Resolution

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	Waste Support Services needs to notify the DCMP Evaluator (AGM 0097961) upon completion to close the DCMP item.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0062289

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/10/11	Unknown Contents/Questionable Characterization for Safe Management	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
ACMP	4491921	05/10/11	Y	

Proposed Resolution

Issue being tracked manually. See ACMP Container Form for details.

Final Resolution

Inspect weekly to verify no further deterioration.
Segregate from process drums.
Perform RTR to determine amount of free liquid.
Overpack or repackage.

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	ACMP issue overlaps with DCMP issue criteria. DCMP issue will be closed when ACMP is closed. AGM (0097961) 5/17/2011.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0062289

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/17/11	Inconsistent Inventory	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
PERMIT	0097961	05/17/11	Y	

Proposed Resolution

Determine when and how to complete SWITS updates since waste steam is not debris arising from the spill at WRAP on daughter drum 0062288 after repackaging 0031161 in the WRAP glovebox.

Final Resolution

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	Waste Support Services needs to notify the DCMP Evaluator (AGM 0097961) upon completion to close the DCMP item.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0081216

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/10/11	Unknown Contents/Questionable Characterization for Safe Management	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
ACMP	0061181	05/12/11	Y	

Proposed Resolution

ACMP Container being handled manually. See ACMP Container Form for details.

Final Resolution

Inspect weekly to verify no further deterioration.
Segregate from process drums.
Store indoors on pallet.
Perform RTR to determine amount of free liquids. Overpack or repackage.

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	ACMP issue overlaps with DCMP issue criteria. DCMP issue will be closed when ACMP is closed. AGM (0097961) 5/17/2011.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0081216

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/17/11	Inconsistent Inventory	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
PERMIT	0097961	05/17/11	Y	

Proposed Resolution

Determine when and how to complete SWITS updates since waste steam is not debris arising from the spill at WRAP on daughter drum 0062288 after repackaging 0031161 in the WRAP glovebox.

Final Resolution

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	Waste Support Services needs to notify the DCMP Evaluator (AGM 0097961) upon completion to close the DCMP item.

Solid Waste Information and Tracking System
DCMP PIN History
for Package ID: 0061308

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/10/11	Unknown Contents/Questionable Characterization for Safe Management	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
ACMP	0061181	05/12/11	Y	

Proposed Resolution

Container being tracked manually. See ACMP Container Form for details.

Final Resolution

Inspect weekly to verify no further degradation.
Segregate from process drums.
Overpack or repackage.

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	ACMP issue overlaps with DCMP issue criteria. DCMP issue will be closed when ACMP is closed. AGM (0097961) 5/17/2011.

DCMP PIN History

for Package ID: 0061308

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/17/11	Inconsistent Inventory	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
PERMIT	0097961	05/17/11	Y	

Proposed Resolution

Determine when and how to complete SWITS updates since waste steam is not debris arising from the spill at WRAP on daughter drum 0062288 after repackaging 0031161 in the WRAP glovebox.

Final Resolution

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	Waste Support Services needs to notify the DCMP Evaluator (AGM 0097961) upon completion to close the DCMP item.

Kisielnicki, Jeanne M

From: Strickling, Lana R
Sent: Monday, May 16, 2011 2:24 PM
To: McGrath, Markus H; Crowley, Paul J
Cc: Prignano, Andrea L; Conley, Jeffrey A; Willis, Norman P; Gordon, Todd; Ware, Nancy W; Tuott, Lee C; Bannister, Roland J; Austin, Richard L; Ramirez, Amanda J; Kisielnicki, Jeanne M
Subject: HEDL drums requiring updates.

Based on my discussion with Triner, Austin and the processing and AK information provided, all of the containers below should be labeled as "corrosive", have the D002 applied in SWITS, the pH should be changed to pH<2, the storage category should be updated to "A" for Acids, and the physical type should be changed to L/S (liquid/solid).

Also, please add the following comment: *"D002 applied due to suspect corrosive liquids identified during processing and a subsequent review of AK information provided on the wastestream."*

Label changes should be done in accordance with WMP-370, Section 2.36.

Paul – Jeff Conley is your CWC facility contact (he may delegate to Todd). You are responsible for ensuring the containers at CWC are updated.

Markus/Andrea – You have WRAP. Please make sure the storage categories are updated in SWITS for the containers located at WRAP (in case they get moved back to CWC at some point). You may need to work with Nancy Weston to get this completed.

I believe that both WRAP/CWC intend to put all of these containers on spill pallets.

Please let me know if there is something I missed that should be updated for interim storage. Notify Roland when items are complete.

Lana Strickling
Waste Support Services
PFP/SWOC/WRP Waste Manager
Materials & Energy Corporation
Office: (509) 376-3583

From: Kisielnicki, Jeanne M
Sent: Wednesday, May 11, 2011 3:54 PM
To: Strickling, Lana R; McGrath, Markus H; Prignano, Andrea L
Subject: Drum list

Here is the list of 15 drums identified that require labeling and waste code changes. Thanks

Drum Number	Retrieved drum (inner drum)	Repack daughter drum	Location
0025025	HEDL-155		2403WA-Q3
0025090	HEDL-342		2404WB

0028846	HEDL-148		2404WB-Z1
0028928	HEDL-73		2403WA-Q3
0029796	HEDL-169		2336W
0029841	HEDL-262	0062289, 0081216	2404WB22, 2404WB22
0030841	HEDL-108		WB-Z1
0030851	HEDL-182		2403WA-Q3
0031159	HEDL-111		2403-WA-Q3
0031161	HEDL-63	0062288,0061308	2404WB08, 2404WB08
0031164	HEDL-273		2403WA-Q3
0031165	HEDL-254		2403WA-Q3
0034390	HEDL-77		2336W
0034274	H365		2403WA
0034364	H366		2403WA

Thanks
Jeanne Kisielnicki
Tru Repackaging Project
76-7761

Package ID:	0059303	Accumulation Date:	02/10/11	Orig Rad Code:	
DNGR Flag	Y	Location Date:	05/04/11	Rad Code:	TRU
TSCA Flag:	N	Location:	WB_08	Use Code:	PD
Drum Code	UN1A2/X435/S	Phys. State Code:	S	Route Code:	101
DE Ci Factor:		Inventory TMU:	8.11E+00	Status Code:	N

Container Descr:	85 GALLON			**Weights (Kg):**	**SWITS**	**DMS**
Radmat Code:	WB1	Volutil Pct:		Gross:	178.8	178.8
Room Waste Flag:		Wgt Date:	03/14/11	Waste:	134.6	134.6
WIPP Flag:				Packaging:	8.8	8.8
Labpack Flag:	N	Survey Num:	1100381	Tare:	35.4	35.4
Inner Package ID:	0062288	Outer Package ID:				
Asssay of Record:	44583					

Waste Description: WRAP NDA HAS BEEN APPLIED, JMH, 04/12/11. INNER DRUM WAS PLACED IN 85 GALLON OVERPACK WITH 2 PLASTIC BAGS, 10 POUNDS OF BAKING SODA AND 3 BATT MAT PADS.

Generator Comments: ALL LAYERS OF CONFINEMENT REDUCED TO ZERO. SEALED 50 GAL LIQUID LINER CUT UP. ABSORBANT MATERIAL FOUND TO BE ACIDIC PH <2 USING PH STRIP. 4.5 LBS BAKING SODA ADDED TO NEUTRALIZE. PER GUIDANCE FROM R AUSTIN AND A PH TEST RESULT OF THE SPILLED MATERIAL, THE CONTAINER IS BEING MANAGED AS CONTAINING AN UNDETERMINED ACID.

Hazardous Package Detail:

PH Value: <2 Flash Point: N/A

DW Waste #: D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Radioactive Package Detail:

Rad Calc Decay Date:	03/14/11	Total PU-FGE:	3.55E+01	Contact B/G Dose Rate:	6E+00
Neutron Dose Rate:	2E-01	Port Code:	NF019D	Shielding:	N
Total DE Curies:	5.07E+00	Transp. Index:			
30 cm Dose Rate:	3.4E+00				

SWITS Isotope Information:

Isotope Name	Ci Qty	GM Qty	Unit
NP-237	2.55E-05	3.58E-02	GM
AM-241	1.69E+00	4.86E-01	GM
PU-238	2.45E-01	1.42E-02	GM
PU-240	1.12E+00	4.86E+00	GM
PU-241	1.08E+01	1.04E-01	GM
PU-242	1.61E-04	4.04E-02	GM
PU-239	2.18E+00	3.47E+01	GM
U-234	9.74E-05	1.54E-02	GM
U-235	1.72E-06	7.85E-01	GM
U-238	5.2E-05	1.53E+02	GM

Waste Components:

Component ID	Description	Weight (Kg)	Weight %	PPM
GCN055	INERT MATERIAL (PAPER, WOOD, PLASTIC, ETC.)	56.84	42.243	
65997-15-1	PORTLAND CEMENT	17.89	13.295	
7732-18-5	WATER	8.05	5.984	
1318-00-9	VERMICULITE, EXFOLIATED	6.71	4.987	
7782-42-5	GRAPHITE	.89	.658	
13746-66-2	POTASSIUM FERROCYANIDE	.89	.658	
1336-21-6	AMMONIUM HYDROXIDE	.89	.658	
1317-65-3	CALCIUM CARBONATE	.89	.658	
1306-38-3	CERIC OXIDE	.89	.658	
1332-21-4	ASBESTOS	.67	.499	
7722-84-1	HYDROGEN PEROXIDE	.50	.369	
13106-76-8	AMMONIUM MOLYBDATE	.50	.369	
17194-00-2	BARIUM HYDROXIDE	.50	.369	
14258-49-2	AMMONIUM OXALATE	.50	.369	
7440-66-6	ZINC	.46	.339	
7758-05-6	POTASSIUM IODATE	.44	.329	
1310-58-3	POTASSIUM HYDROXIDE	.44	.329	
9052-95-3	COPOLYMER OF STYRENE AND DIVINYLBENZENE	.44	.329	
95-45-4	DIMETHYLGLYOXIME	.44	.329	
143-19-1	SODIUM OLEATE	.44	.329	
144-33-2	SODIUM CITRATE	.44	.329	
64742-38-7	NORMAL PARAFFINS	.44	.329	
7440-50-8	COPPER	.44	.329	
7447-40-7	POTASSIUM CHLORIDE	.44	.329	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7664-41-7	AMMONIA	.44	.329	
7681-11-0	POTASSIUM IODIDE	.44	.329	
10045-89-3	FERROUS AMMONIUM SULFATE	.44	.329	
10138-04-2	FERRIC AMMONIUM SULFATE	.44	.329	
12125-01-8	AMMONIUM FLUORIDE	.44	.329	
12428-46-5	ALUMINUM HYDROXIDE SILICATE	.44	.329	
1303-96-4	SODIUM BORATE, DECAHYDRATE	.44	.329	
1305-62-0	CALCIUM HYDROXIDE	.44	.329	
7772-99-8	STANNOUS CHLORIDE	.44	.329	
1310-73-2	SODIUM HYDROXIDE	.43	.319	
7429-90-5	ALUMINUM	.42	.309	
7758-95-4	LEAD CHLORIDE (PB = 74.5% WT.)	.35	.259	
13463-67-7	TITANIUM OXIDE	.35	.259	
1309-60-0	LEAD DIOXIDE	.35	.259	
11138-49-1	SODIUM ALUMINATE	.35	.259	
301-04-2	LEAD ACETATE	.35	.259	
69011-19-4	STYRENE/DVB ION EXCHANGE RESIN	.31	.229	
7681-49-4	SODIUM FLUORIDE	.27	.199	
7720-78-7	FERROUS SULFATE	.27	.199	
7722-64-7	POTASSIUM PERMANGANATE	.27	.199	
7790-62-7	POTASSIUM PYROSULFATE	.27	.199	
7783-28-0	AMMONIUM PHOSPHATE DIBASIC	.27	.199	
7632-00-0	SODIUM NITRITE	.27	.199	
79-11-8	CHLOROACETIC ACID	.27	.199	
13478-10-9	FERROUS CHLORIDE	.27	.199	
1762-95-4	AMMONIUM THIOCYANATE	.27	.199	
69011-22-9	SULFONATED COPOLYMER OF STYRENE AND DIVINYLBENZENE IN SODIU	.27	.199	
7631-99-4	SODIUM NITRATE	.27	.199	
7757-82-6	SODIUM SULFATE	.26	.196	
69011-20-7	BENZENE, DIETHENYL-, POLYMER ; ETHENYLBENZENE & ETENYLETHYL	.25	.189	
7681-82-5	SODIUM IODIDE	.23	.170	
108-95-2	PHENOL	.23	.170	
7782-91-4	MOLYBDIC ACID	.23	.170	
7705-07-9	TITANIUM TRICHLORIDE	.23	.170	
7718-54-9	NICKEL (II) CHLORIDE (1:2)	.21	.160	
1314-35-8	TUNGSTEN TRIOXIDE	.21	.160	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7784-27-2	ALUMINUM NITRATE	.21	.160	
13778-30-8	ZINC NITRATE	.21	.160	
13826-66-9	ZIRCONYL NITRATE	.21	.160	
19004-19-4	COPPER (II) NITRATE	.21	.160	
57-50-1	SUCROSE	.21	.160	
7439-89-6	IRON	.21	.160	
7439-95-4	MAGNESIUM	.21	.160	
7439-98-7	MOLYBDENUM	.21	.160	
7440-62-2	VANADIUM	.21	.160	
7440-67-7	ZIRCONIUM	.21	.160	
7646-85-7	ZINC CHLORIDE (REFERENCE MERCK INDEX)(PH = 2.5 OF 1:1 SOLN	.21	.160	
10043-52-4	CALCIUM CHLORIDE	.21	.160	
10108-73-3	CEROUS NITRATE	.21	.160	
10377-48-7	LITHIUM SULFATE	.21	.160	
10377-60-3	MAGNESIUM NITRATE	.21	.160	
10377-66-9	MANGANESE NITRATE	.21	.160	
1313-97-9	NEODYMIUM OXIDE	.21	.160	
7761-88-8	SILVER NITRATE	.21	.160	
7681-38-1	SODIUM BISULFATE	.17	.130	
7681-52-9	SODIUM HYPOCHLORITE	.17	.130	
7704-34-9	SULFUR	.17	.130	
7705-08-0	FERRIC CHLORIDE	.17	.130	
7758-16-9	PYROPHOSPHORIC ACID, DISODIUM SALT	.17	.130	
7774-29-0	MERCURIC IODIDE	.17	.130	
7778-18-9	CALCIUM SALT SULFURIC ACID	.17	.130	
7778-53-2	POTASSIUM PHOSPHATE	.17	.130	
7783-36-0	MERCUROUS SULFATE	.17	.130	
7784-46-5	SODIUM ARSENITE	.17	.130	
7785-87-7	MANGANOUS SULFATE	.17	.130	
7789-00-6	POTASSIUM CHROMATE	.17	.130	
7803-55-6	AMMONIUM VANADATE	.17	.130	
87-69-4	TARTARIC ACID	.17	.130	
91-20-3	NAPHTHALENE	.17	.130	
1344-28-1	ALUMINUM OXIDE	.17	.130	
1344-64-5	VANADYL SULFATE	.17	.130	
13590-82-4	CERIUM SULFATE	.17	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
13708-85-5	SODIUM PHOSPHITE	.17	.130	
13823-29-5	THORIUM NITRATE	.17	.130	
13870-30-9	SODIUM SILICATE	.17	.130	
143-66-8	SODIUM TETRAPHENYL BORON POWDER	.17	.130	
149-44-0	SODIUM FORMALDEHYDE SULFOXYLATE	.17	.130	
20667-12-3	SILVER (1+) OXIDE	.17	.130	
21908-53-2	MERCURIC OXIDE	.17	.130	
25155-30-0	SODIUM DODECYLBENZENESULFONATE	.17	.130	
304-59-6	POTASSIUM SODIUM TARTRATE	.17	.130	
3811-04-9	CHLORIC ACID, POTASSIUM SALT	.17	.130	
496-74-2	TOLUENE-3,4-DITHIOL	.17	.130	
497-19-8	SODIUM CARBONATE	.17	.130	
506-64-9	SILVER CYANIDE	.17	.130	
584-08-7	POTASSIUM CARBONATE	.17	.130	
592-85-8	MERCURIC THIOCYANATE	.17	.130	
62-76-0	ETHANEDIOIC ACID, DISODIUM SALT (SODIUM OXALATE)	.17	.130	
63231-67-4	SILICA GEL	.17	.130	
64-02-8	TETRASODIUM N,N'-ETHYLENEDIAMINEDIACETATE	.17	.130	
64742-81-0	HYDRODESULFURIZED KEROSENE (PETROLEUM)	.17	.130	
7440-06-4	PLATINUM	.17	.130	
75-09-2	DICHLOROMETHANE	.17	.130	
7553-56-2	IODINE	.17	.130	
7558-79-4	SODIUM PHOSPHATE DIBASIC	.17	.130	
7646-78-8	STANNIC CHLORIDE	.17	.130	
7647-14-5	SODIUM CHLORIDE	.17	.130	
10022-31-8	BARIUM NITRATE	.17	.130	
10025-73-7	CHROMIC CHLORIDE	.17	.130	
10028-22-5	FERRIC SULFATE	.17	.130	
10034-81-8	MAGNESIUM PERCHLORATE	.17	.130	
10042-76-9	STRONTIUM NITRATE	.17	.130	
10045-94-0	MERCURIC NITRATE	.17	.130	
10045-95-1	NEODYMIUM NITRATE	.17	.130	
10099-59-9	LANTHANUM NITRATE	.17	.130	
10099-74-8	LEAD NITRATE	.17	.130	
10101-41-4	CALCIUM SULFATE (PLASTER OF PARIS)	.17	.130	
10124-37-5	CALCIUM NITRATE	.17	.130	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
10213-10-2	SODIUM TUNGSTATE	.17	.130	
10294-26-5	SILVER SULFATE	.17	.130	
10294-41-4	CERIUM NITRATE	.17	.130	
10325-94-7	CADMIUM NITRATE	.17	.130	
10361-03-2	SODIUM METAPHOSPHATE	.17	.130	
10361-37-2	BARIUM CHLORIDE	.17	.130	
10361-93-0	YTTRIUM NITRATE	.17	.130	
10421-48-4	FERRIC NITRATE (TOX PER CAS 7782-61-8)	.17	.130	
10450-60-9	PERIODIC ACID	.17	.130	
10588-01-9	SODIUM DICHROMATE	.17	.130	
107-66-4	DIBUTYL PHOSPHATE	.17	.130	
12024-21-4	GALLIUM OXIDE	.17	.130	
12044-50-7	ARSENIC (V) OXIDE, HYDRATE	.17	.130	
12069-32-8	BORON CARBIDE	.17	.130	
1309-37-1	FERRIC OXIDE	.17	.130	
1309-48-4	MAGNESIUM OXIDE	.17	.130	
1313-13-9	MANGANESE DIOXIDE	.17	.130	
13138-45-9	NICKEL (II) NITRATE (1:2)	.17	.130	
1314-13-2	ZINC OXIDE	.17	.130	
1314-56-3	PHOSPHORUS PENTOXIDE	.17	.130	
1317-99-3	URANIUM OCTAOXIDE	.17	.130	
13291-61-7	TRANS-1,2-DIAMINOCYCLOHEXANE-N,N,N',N'-TETRAACETIC ACID	.17	.130	
1333-82-0	CHROMIUM TRIOXIDE	.17	.130	
1335-30-4	ALUMINUM SILICATE	.17	.130	
13410-01-0	SODIUM SELENATE	.17	.130	
GCN049	ABSORBENTS (NON-SPECIFIED)	.16	.120	
21041-95-2	CADMIUM HYDROXIDE	.15	.110	
7631-90-5	SODIUM BISULFITE (PH = 4.56 PER T. HUGHES)	.13	.100	
7440-02-0	NICKEL	.09	.070	
868-18-8	SODIUM TARTRATE	.08	.060	
57-13-6	UREA	.08	.060	
1317-38-0	COPPER OXIDE	.08	.060	
7446-70-0	ALUMINUM CHLORIDE	.08	.060	
90-80-2	GLUCONIC ACID, DELTA-LACTONE, D-	.08	.060	
10102-06-4	URANYL NITRATE	.08	.060	
7788-98-9	AMMONIUM CHROMATE	.08	.060	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
127-08-2	ACETIC ACID, POTASSIUM SALT (POTASSIUM ACETATE)	.08	.060	
1314-62-1	VANADIUM PENTOXIDE (DUST) FUME NOT TOXIC	.08	.060	
12054-48-7	NICKEL HYDROXIDE	.06	.048	
10043-01-3	ALUMINUM SULFATE	.05	.040	
110-54-3	N-HEXANE	.05	.040	
110-82-7	CYCLOHEXANE	.05	.040	
111-69-3	ADIPONITRILE	.05	.040	
1116-76-3	TRIOCTYLAMINEINE	.05	.040	
112-80-1	OLEIC ACID	.05	.040	
126-73-8	TRIBUTYL PHOSPHATE (TBP)	.05	.040	
1330-20-7	XYLENE (MIXED ISOMERS)	.05	.040	
13464-37-4	ARSENOUS ACID, TRISODIUM SALT	.05	.040	
13465-08-2	HYDROXYLAMINE NITRATE	.05	.040	
139-13-9	NITRILOTRIACETIC ACID	.05	.040	
140-01-2	PENTASODIUM PENTETATE (DTPA)	.05	.040	
144-62-7	OXALIC ACID	.05	.040	
150-39-0	HYDROXYETHYLETHYLENEDIAMINETRIACETIC ACID, 2,N-	.05	.040	
2466-09-3	DIPHOSPHORIC ACID	.05	.040	
2757-28-0	TRIHEPTYLAMINE, 6,6',6"-TRIMETHYL-	.05	.040	
298-07-7	BIS(2 ETHYL HEXYL)HYDROGEN PHOSPHATE	.05	.040	
482-54-2	ACETIC ACID, (1,2-CYCLOHEXYLENEDINITRILO)TETRA-	.05	.040	
50-81-7	ASCORBIC ACID	.05	.040	
526-95-4	GLUCONICACID 50% IN WATER	.05	.040	
56-81-5	GLYCEROL OR 1,2,3-PROPANETRIOL	.05	.040	
60-00-4	EDTA (ETHYLENEDIAMINETETRAACETIC ACID)	.05	.040	
64-17-5	ETHANOL	.05	.040	
64-18-6	FORMIC ACID	.05	.040	
64742-41-2	CLAY-TREATED RESIDUAL OILS (PETROLEUM)	.05	.040	
67-43-6	GLYCINE, N,N-BIS(2-(BIS(CARBOXYMETHYL)AMINE)ETHYL)-	.05	.040	
67-63-0	ISOPROPYL ALCOHOL	.05	.040	
69-65-8	D-MANNITOL	.05	.040	
71-55-6	1,1,1-TRICHLOROETHANE	.05	.040	
7440-31-5	TIN	.05	.040	
7601-90-3	PERCHLORIC ACID	.05	.040	
7647-01-0	HYDROCHLORIC ACID	.05	.040	
7664-39-3	HYDROFLUORIC ACID	.05	.040	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
7664-93-9	SULFURIC ACID	.05	.040	
7697-37-2	NITRIC ACID	.05	.040	
77-86-1	2-AMINO-2-(HYDROXYMETHYL)-1-3-PROPANNEDIOL	.05	.040	
77-92-9	CITRIC ACID	.05	.040	
7778-50-9	DIPOTASSIUM DICHROMATE	.05	.040	
7782-77-6	NITROUS ACID	.05	.040	
78-38-6	DIETHYL ETHYLPHOSPHONATE	.05	.040	
80-55-7	METHYL LACTIC ACID (ETHYLESTER)	.05	.040	
8008-20-6	KEROSENE	.05	.040	
GCN126	ETHERS (NON-SPECIFIED)	.05	.040	
9036-19-5	POLYOXYETHYLENE MONOOCTYLPHENL ETHER	.05	.039	
50-00-0	FORMALDEHYDE	.05	.037	
5470-11-1	HYDROXYLAMINE HYDROCHLORIDE	.04	.033	
7727-43-7	BARIUM SULFATE	.04	.032	
7789-23-3	POTASSIUM FLUORIDE	.04	.030	
6131-90-4	SODIUM ACETATE	.03	.020	
67-64-1	ACETONE	.02	.016	
7440-41-7	BERYLLIUM	.02	.016	
7773-01-5	MANGANESE CHLORIDE	.02	.013	
513-77-9	BARIUM CARBONATE	.02	.013	
57-55-6	1,2-PROPANEDIOL	.02	.012	
87-86-5	PENTACHLOROPHENOL	.01	.010	
12125-02-9	AMMONIUM CHLORIDE	.01	.010	
7440-39-3	BARIUM	.01	.010	
GCN113	ACRYLIC EMULSION/POLYMER	.01	.008	
64-19-7	ACETIC ACID	.01	.007	
75-77-4	TRIMETHYL CHLOROSILANE	.01	.005	
7440-44-0	CARBON	.01	.005	
78-51-3	2-BUTOXYETHANOL, PHOSPHATE	.01	.005	
117-10-2	1,8-DIHYDROXYANTHRAQUINONE	.01	.005	
8001-30-7	CORN OIL	.01	.005	
7738-94-5	CHROMIC (VI) ACID	.01	.005	
51-28-5	DINITROPHENOL, 2,4-	.01	.005	
326-91-0	THENOYLTRIFLUOROACETONE	.01	.005	
1331-17-5	PROPYLENE GLYCOL	.01	.005	
10043-35-3	BORIC ACID	.01	.005	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
76-13-1	1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE	.01	.005	
9002-93-1	TRITON X-100	.01	.004	
7757-83-7	SODIUM SULFITE	.01	.004	
7783-18-8	AMMONIUM THIOSULFATE	.01	.004	
144-55-8	SODIUM BICARBONATE	.01	.004	
78-93-3	METHYL ETHYL KETONE	.00	.004	
108-10-1	4-METHYL-2-PENTANONE	.00	.003	
7647-15-6	SODIUM BROMIDE	.00	.003	
631-61-8	AMMONIUM ACETATE	.00	.002	
110-86-1	PYRIDINE	.00	.002	
1310-65-2	LITHIUM HYDROXIDE	.00	.002	
98-95-3	NITROBENZENE	.00	.001	
56-40-6	GLYCINE	.00	.001	
115-40-2	BROMOCRESOL PURPLE	.00	.001	
25322-68-3	POLYETHYLENE GLYCOL	.00	.001	
108-88-3	TOLUENE	.00	.001	
71-43-2	BENZENE	.00	.001	
106-46-7	P-DICHLOROBENZENE	.00	.001	
95-48-7	O-CRESOL	.00	.001	
67-66-3	CHLOROFORM	.00	.001	
106-44-5	P-CRESOL	.00	.001	
56-23-5	CARBON TETRACHLORIDE	.00	.001	
108-39-4	M-CRESOL	.00	.001	
79-01-6	TRICHLOROETHYLENE	.00	.001	
127-18-4	TETRACHLOROETHYLENE	.00	.001	
7439-92-1	LEAD	.00	.001	
7440-47-3	CHROMIUM	.00	.001	
7440-22-4	SILVER	.00	.001	
7440-38-2	ARSENIC	.00	.001	
62625-29-0	CRESOL RED, WATER SOLUBLE, INDICATOR GRADE	.00	.000	
55-55-0	P-METHYLAMINOPHENOL SULFATE	.00	.000	
123-31-9	HYDROQUINONE	.00	.000	
10192-30-0	AMMONIUM BISULFITE, SOLID	.00	.000	
7758-02-3	POTASSIUM BROMIDE	.00	.000	
71-36-3	BUTYL ALCOHOL	.00	.000	
67-72-1	HEXACHLOROETHANE	.00	.000	

Waste Components:

Component ID		Weight (Kg)	Weight %	PPM
12179-04-3	BORIC ACID, DISODIUM SALT, PENTAHYDRATE	.00	.000	
107-21-1	ETHYLENE GLYCOL	.00	.000	
GCNPCBOIL	PCB OIL	.00	.000	
7440-43-9	CADMIUM	.00	.000	
7782-49-2	SELENIUM	.00	.000	
107-06-2	1,2-DICHLOROETHANE	.00	.000	
75-35-4	1,1-DICHLOROETHYLENE	.00	.000	
67-56-1	METHANOL	.00	.000	
121-14-2	2,4-DINITROTOLUENE	.00	.000	
298-14-6	POTASSIUM BICARBONATE	.00	.000	
75-01-4	VINYL CHLORIDE (CHLOROETHYLENE)	.00	.000	
7440-57-5	GOLD	.00	.000	
7439-97-6	MERCURY	.00	.000	

Packaging:

Component Description	Weight (Kg)
10 MIL LINER	.80
ABSORBENT, MINERAL	8.00

Container Relationships:

From Pkg ID	To Pkg ID	Conr Date	Rel Code
HEDL-63	0059303	02/09/11	C

NDA:

NDA Assay #	NDA Batch #	NDA Date	GEA Vault	IPAN Vaul	Waste Code	Thermal Power	Tot Alpha Ci	Tot PE-Ci	Tot PU-FGE
44583		03/14/11	B			8.04E-01	5.23E+00	5.42E+00	3.55E+01
CALC44001		09/04/08			6	4.53E-01	4.56E+00	4.74E+00	3.23E+01

WRAP ISOTOPE INFORMATION (NDAISO):

Assay #	Isotope	Quantity(ci)	TMU (ci)	Quantity(gm)	TMU (gm)	Units
44583	U-233					GM
	NP-237	2.55E-05	5.81E-06	3.58E-02	5.81E-06	GM
	U-235	1.72E-06	3.92E-07	7.85E-01	3.92E-07	GM
	PU-239	2.18E+00	4.97E-01	3.47E+01	4.97E-01	GM
	PU-241	1.08E+01	2.47E+00	1.04E-01	2.47E+00	GM
	SR-90					CI
	PU-240	1.12E+00	2.55E-01	4.86E+00	2.55E-01	GM
	PU-242	1.61E-04	3.66E-05	4.04E-02	3.66E-05	GM
	U-238	5.2E-05	1.19E-05	1.53E+02	1.19E-05	GM
	CS-137					CI
	U-234	9.74E-05	2.22E-05	1.54E-02	2.22E-05	GM
	PU-238	2.45E-01	5.59E-02	1.42E-02	5.59E-02	GM
	AM-241	1.69E+00	3.85E-01	4.86E-01	3.85E-01	GM
CALC44001	U-235	3.71E-06	8.33E-07	1.69E+00	8.33E-07	GM
	PU-241	1.03E+01	2.32E+00	9.92E-02	2.32E+00	GM
	AM-241	1.41E+00	3.17E-01	4.07E-01	3.17E-01	GM
	U-238	5.56E-05	1.25E-05	1.64E+02	1.25E-05	GM
	U-234	1.11E-04	2.5E-05	1.76E-02	2.5E-05	GM
	PU-238	2.52E-01	5.67E-02	1.46E-02	5.67E-02	GM
	PU-239	1.94E+00	4.36E-01	3.08E+01	4.36E-01	GM
	PU-242	1.46E-04	3.27E-05	3.67E-02	3.27E-05	GM
	PU-240	9.58E-01	2.15E-01	4.16E+00	2.15E-01	GM
	CS-137	5.9E-06	1.33E-06	6.7E-08	1.33E-06	CI
	U-233					GM
	SR-90	5.36E-06	1.21E-06	3.89E-08	1.21E-06	CI

NDE:

NDE Batch #	NDE Date	NDE Vault

Solid Waste In ation and Tracking System
DCMP PIN History
for Package ID: 0062288

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
04/26/11	Physical Damage/Corrosion (30-day mitigation clock)	Operations	05/05/11	

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
ACMP	0061181	04/26/11	Y	05/05/11

Proposed Resolution

ACMP issue being tracked manually. See ACMP Container Form for Action Plan.

Final Resolution

See ACMP Container Form
Container is overpacked and Recovery Plan is complete--RJB 05/09/2011

Immediate Actions Taken:

Description	Comments
Isolate Immediate Area	ACMP issue overlaps with DCMP issue criteria. DCMP issue will be closed when ACMP is closed. AGM (0097961). 5/19/2011

Solid Waste In ation and Tracking System
DCMP PIN History
for Package ID: 0062288

Date Entered	Issue	Program	Date Resolution Completed	ACMP Closeout Days Remaining
05/17/11	Inconsistent Inventory	Operations		

Program Reviews:

Rev. Program	Reviewer	Review Dt	Req'd	Close Dt
PERMIT	0097961	05/17/11	Y	

Proposed Resolution

Determine when and how to complete SWITS updates since waste steam is not debris arising from the spill at WRAP on daughter drum 0062288 after repackaging 0031161 in the WRAP glovebox.

Final Resolution

Immediate Actions Taken:

Description	Comments
No Immediate Action Required	Waste Support Services needs to notify the DCMP Evaluator (AGM 0097961) upon completion to close the DCMP item.

Attachment X

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0045415	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0045416	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0045470	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048265	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048266	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048281	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048295	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048296	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048324	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048338	2402WB	27-Dec-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
Z9-770326	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770334	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770336	2402WB	22-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770337	2402WB	19-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770338	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770344	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770402	2402WB	22-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770411	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770414	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770420	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770421	2402WB	19-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770422	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770427	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770428	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770431	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770433	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770434	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770435	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770437	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770440	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770442	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770443	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770501	2402WB	22-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770507	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770510	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770518	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770521	2402WB	22-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770523	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770526	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770532	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770538	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770610	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9-770707	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770714	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770718	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770722	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770723	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770725	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770729	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770730	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770731	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770732	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770738	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770806	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770809	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770810	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770813	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770814	2402WB	22-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770815	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770818	2402WB	21-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770819	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770824	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770825	2402WB	18-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770827	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770831	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770840	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770841	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770842	2402WB	05-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770844	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770846	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770903	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770905	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770906	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770907	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770908	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770909	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770911	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770912	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770913	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770914	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770926	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770927	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770930	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770931	2402WB	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9-770932	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770933	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770934	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770935	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771001	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771003	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771005	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771007	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771009	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771010	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771013	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771014	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771017	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771018	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771019	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771020	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771022	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771023	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771025	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771026	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771028	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771029	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771030	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771031	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771101	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771103	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771106	2402WB	05-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771108	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771109	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771110	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771112	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771114	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771117	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771119	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771120	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771121	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771122	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771123	2402WB	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771125	2402WB	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771128	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771130	2402WB	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771131	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9-771132	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771201	2402WB	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771204	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771207	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771208	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771210	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771213	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771214	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771216	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771218	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771219	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771220	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771221	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771222	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771224	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771225	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771227	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771230	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771233	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771234	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780102	2402WB	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780103	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780104	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780107	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780108	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780109	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780110	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780114	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780116	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780120	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780121	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780122	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780123	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780124	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780125	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780126	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780127	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780128	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780129	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780133	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780201	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780202	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

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Z9-780207	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780208	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780210	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780215	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780216	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780217	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780227	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780229	2402WB	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780233	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780238	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780245	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780302	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780425	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780426	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780429	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780501	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780509	2402WB	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780510	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780513	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780520	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780601	2402WB	15-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780608	2402WB	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780611	2402WB	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780617	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780622	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780636	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780639	2402WB	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780714	2402WB	28-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780717	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780718	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780719	2402WB	10-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D76-8-4	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D76-8-5	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-032	2402WB	04-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-033	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-037	2402WB	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-038	2402WB	29-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771021	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771032	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771115	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771116	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771118	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

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Z9D771124	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771126	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-114	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-115	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771212	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771215	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-122	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D771223	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-123	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-126	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-129	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-210	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-212	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-213	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-214	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-217	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-316	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-318	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-3-3	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-330	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-333	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-339	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-3-4	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-340	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-342	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-3-6	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-3-9	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-410	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-412	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-418	2402WB	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-511	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-514	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-516	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-527	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-530	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-537	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-611	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-613	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-614	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-618	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-619	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-623	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9D77-6-4	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-6-5	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-6-6	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-6-8	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-6-9	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-710	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-711	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-713	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-719	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-7-2	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-726	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-7-4	2402WB	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-7-6	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-8-1	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-928	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-102	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-117	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-118	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-119	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-130	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-131	2402WB	12-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-1-5	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-1-6	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-211	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-212	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-213	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-214	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-219	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-220	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-221	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-222	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-223	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-224	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-225	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-239	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-2-6	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-2-9	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-310	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-315	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D784004	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D784006	2402WB	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-4-3	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9D78-512	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-515	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-551	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-552	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-609	2402WB	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D786-20	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-621	2402WB	12-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-628	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-8-2	2402WB	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-8-3	2402WB	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D79-1-1	2402WB	08-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-ES7705	2402WB	25-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074553	2402WE	18-Nov-10	0.208	Y	N	LLW	Y	WSC2 WT02
0077619	2402WE	19-Apr-11	0.208	Y	N	LLW	Y	WSC2
0078887	2402WE	19-Apr-11	0.208	Y	N	LLW	Y	WSC2 WT02
9400001	2402WE	26-Jan-95	0.208	Y	N	LLW	N	D002 D006 D007 D011
9519044	2402WE	01-Aug-96	0.322	Y	N	LLW	N	D002 D007
0014090	2402WE	06-Apr-05	0.2082	N	Y	TRU	N	
0001385	2402WE	20-Sep-00	0.2082	Y	N	TRU	N	D002 D007 D011
0005418	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005435	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005498	2402WE	23-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005623	2402WE	23-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005640	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D007 WSC2
0005654	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005655	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005656	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005657	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D007 WSC2
0005707	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005799	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005819	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 D010 WSC2
0005820	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005821	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D007 WSC2
0005833	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005846	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D007 WSC2
0005847	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005849	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0005866	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005868	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0005907	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005908	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 D010 WSC2
0005909	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0005910	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005911	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005912	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005918	2402WE	12-Mar-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0005920	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005921	2402WE	08-Mar-02	0.2082	Y	N	TRU	N	D007 WSC2
0005923	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D007 WSC2
0006034	2402WE	21-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0006557	2402WE	12-Mar-02	0.3218	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0006943	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 WSC2
0006944	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 D010 WSC2
0006945	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0006960	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0006961	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0006981	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0006995	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 WSC2
0006996	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007016	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0007017	2402WE	23-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007018	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0007026	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007027	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007028	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D006 D007 D010 WSC2
0007030	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007040	2402WE	22-Aug-02	0.2082	Y	N	TRU	N	D007 WSC2
0007041	2402WE	23-Jan-02	0.2082	Y	N	TRU	N	D006 D007 D010 WSC2
0007042	2402WE	23-Jan-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0007913	2402WE	12-Mar-02	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010 WSC2
0015574	2402WE	14-Apr-04	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 WSC2
0019467	2402WE	07-Dec-05	0.2082	Y	N	TRU	N	D004 D007 D008 D009 D010 D011 WSC2
0020344	2402WE	21-Nov-07	0.2082	Y	N	TRU	N	D007 D011 WSC2 WT02
0028311	2402WE	12-Sep-05	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0028443	2402WE	17-Oct-05	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0029696	2402WE	24-Jan-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D011 D022 F001 F002 F003 F005
0029972	2402WE	12-Mar-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0030139	2402WE	15-Mar-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0030144	2402WE	12-Mar-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0033490	2402WE	06-Sep-06	0.2082	Y	N	TRU	Y	WSC2 WT02
0036061	2402WE	21-Nov-06	0.2082	Y	N	TRU	Y	WSC2 WT02
0038218	2402WE	23-Jan-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0038265	2402WE	29-Jan-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003

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0038273	2402WE	01-Feb-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0038358	2402WE	30-Jan-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0058555	2402WE	15-Sep-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0058882	2402WE	15-Sep-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0058942	2402WE	28-Aug-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067203	2402WE	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003 WSC2
0067206	2402WE	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003 WSC2
0067417	2402WE	16-Nov-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003 WSC2
342101-01	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-02	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-04	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-05	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-06	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-07	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-08	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342101-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-01	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-02	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-03	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-04	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-05	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-06	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-07	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-09	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342102-10	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-01	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-02	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-03	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-04	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-05	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-06	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-07	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-08	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-09	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342103-10	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-01	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-02	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-03	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-04	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-05	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-06	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011

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342104-07	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-08	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-09	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342104-10	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-01	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-02	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-03	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-04	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-05	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-06	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-08	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342105-09	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-01	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-02	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-03	2402WE	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-05	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-06	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-07	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-08	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-09	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342106-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-01	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-02	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-03	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-04	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-05	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-06	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-07	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-08	2402WE	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-09	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342107-10	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-01	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-02	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-06	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-07	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342108-09	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011

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342108-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-01	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-04	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-09	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-01	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-02	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-05	2402WE	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-09	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342110-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-01	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-04	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-05	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-06	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-07	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-09	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342111-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-01	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-04	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-08	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-09	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342112-10	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-01	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-03	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-04	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011

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342113-05	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-07	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-08	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-09	2402WE	26-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342113-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-01	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-03	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-05	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-09	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342114-10	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-01	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-06	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-09	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342115-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-01	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-02	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-03	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-04	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-05	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-10	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-01	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-03	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-06	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-07	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011

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342117-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-09	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342117-10	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-01	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-02	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-03	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-04	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-05	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-06	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-07	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-08	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-09	2402WE	20-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342118-10	2402WE	27-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-01	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-02	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-03	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-04	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-05	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-06	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-07	2402WE	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-08	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-09	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342119-10	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-01	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-05	2402WE	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-06	2402WE	13-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-07	2402WE	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
9902239	2402WE	22-Aug-00	3.63	Y	N	TRU	N	WSC2
RH-A-85-060	2402WE	10-Feb-86	0.21	Y	N	TRU	N	D008 WSC2
RH-A-85-063	2402WE	10-Feb-86	0.21	Y	N	TRU	N	D008 WSC2
RH-A-85-066	2402WE	14-Feb-86	0.21	Y	N	TRU	N	D008 WSC2
0061510	2402WF	24-Aug-94	0.322	N	N	TRU	N	
0043910	2402WF	01-Nov-07	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0047759	2402WF	25-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0052449	2402WF	01-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0057212	2402WF	09-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059309	2402WF	16-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0061447	2402WF	31-Jan-85	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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0061450	2402WF	31-Jan-85	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061509	2402WF	14-Sep-97	0.322	Y	Y	TRU	N	D006 D008
0071062	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D001 D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0071355	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071357	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071360	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071382	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071384	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071391	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071392	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071393	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071394	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071398	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071418	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071419	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071423	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071441	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071442	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071445	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071446	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071447	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071448	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071455	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071456	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071457	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071458	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071461	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071469	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071470	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071492	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071502	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071504	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071506	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071511	2402WF	28-Oct-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071515	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071516	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071526	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071539	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071540	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071543	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

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0071544	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071553	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071554	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071830	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071857	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071862	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071894	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071896	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071912	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071942	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071944	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071965	2402WF	28-Oct-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071966	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0073431	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0073432	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0073506	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0073507	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074757	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074758	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074759	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074760	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074771	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074772	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074790	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074791	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074792	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074794	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074799	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074800	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074834	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074845	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074846	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074847	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074848	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074858	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074859	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074872	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076405	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076406	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076407	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076408	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076409	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076411	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076412	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076413	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076414	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076423	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076424	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076425	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076435	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076436	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076437	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076438	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076441	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076442	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076443	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076444	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076458	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076462	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076479	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076480	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076482	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076487	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076489	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076490	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076491	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076492	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076527	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076528	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076529	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076530	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076532	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076543	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076545	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076547	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076555	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076556	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076557	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076558	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076559	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076560	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076576	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076577	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076578	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076580	2402WF	14-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076595	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076597	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076598	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076815	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076816	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076817	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076818	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076819	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076820	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076821	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076822	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076823	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076824	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076825	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076826	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076828	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076829	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076830	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076831	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076832	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076833	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076834	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076835	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076836	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076837	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076838	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076839	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076840	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076841	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076842	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076843	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076846	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076847	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076849	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076850	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076851	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076852	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076853	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076854	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076855	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076856	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076857	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076859	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076860	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076861	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076862	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076863	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076864	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076865	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076867	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076868	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076869	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076870	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076871	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076872	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076873	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076874	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076875	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076876	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076877	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076878	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076879	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076880	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076881	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076882	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076884	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076885	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076886	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076887	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076888	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076890	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076891	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076892	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076894	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076895	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076896	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076897	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076898	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076899	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076900	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076902	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076903	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076904	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076905	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076906	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076907	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076908	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076909	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076910	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076911	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076912	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076914	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076916	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076917	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076918	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076919	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076920	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076921	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076923	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076924	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076925	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076926	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076927	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076928	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076931	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076932	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076933	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076934	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076936	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076937	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076938	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076939	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076940	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076941	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076942	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076943	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076944	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076945	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076946	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076947	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076948	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076949	2402WF	20-Dec-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076950	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076951	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076952	2402WF	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076953	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076954	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076955	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076956	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076957	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076958	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076959	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076960	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076961	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076962	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076964	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076965	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076966	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076967	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076968	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076970	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076971	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076972	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076973	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076974	2402WF	12-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076975	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076976	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076977	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076978	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076979	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076980	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076981	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076982	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076983	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076984	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076985	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076986	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076987	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076988	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076989	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076990	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076991	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076992	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076993	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076994	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076995	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076996	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076997	2402WF	13-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076998	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076999	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077000	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077001	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077002	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077003	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077005	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077006	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077007	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077008	2402WF	07-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077009	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077010	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077011	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077012	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077013	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077014	2402WF	25-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077016	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077017	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077018	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077019	2402WF	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077020	2402WF	31-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077021	2402WF	05-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0030214	2402WG	20-Mar-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0014003	2402WG	24-Sep-03	0.2082	N	N	TRU	N	
0015613	2402WG	06-Feb-04	0.2082	N	N	TRU	N	
0015644	2402WG	06-Feb-04	0.2082	N	N	TRU	N	
0019888	2402WG	26-Nov-07	0.2082	N	N	TRU	N	
0020812	2402WG	27-May-05	0.2082	N	N	TRU	N	
0022532	2402WG	29-Aug-05	0.2082	N	N	TRU	N	
0022662	2402WG	02-May-05	0.2082	N	N	TRU	N	
0023991	2402WG	29-Aug-05	0.2082	N	N	TRU	N	
0023998	2402WG	29-Aug-05	0.2082	N	N	TRU	N	
0031552	2402WG	30-May-07	0.3218	N	N	TRU	N	
0010954	2402WG	17-Jun-03	0.2082	Y	N	TRU	N	D008
0011543	2402WG	17-Jun-03	0.2082	Y	N	TRU	N	D007 D008
0011573	2402WG	08-Aug-03	0.2082	Y	N	TRU	N	D008
0011646	2402WG	13-Nov-03	0.2082	Y	N	TRU	N	D008
0011718	2402WG	20-May-03	0.2082	Y	N	TRU	N	D008
0015504	2402WG	04-May-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030
0019527	2402WG	02-May-05	0.2082	Y	N	TRU	N	D008

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0020225	2402WG	24-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0020230	2402WG	24-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0022500	2402WG	19-Apr-06	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0024095	2402WG	15-Dec-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026712	2402WG	13-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027459	2402WG	12-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029235	2402WG	30-Oct-06	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029349	2402WG	27-Apr-06	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030106	2402WG	19-Dec-07	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030989	2402WG	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031717	2402WG	1-Jun-06	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033082	2402WG	06-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033382	2402WG	10-Aug-06	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0037933	2402WG	21-Jan-09	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038916	2402WG	27-May-04	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0041279	2402WG	23-Jan-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0043987	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0045686	2402WG	12-Dec-07	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048970	2402WG	07-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049192	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049349	2402WG	12-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049629	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049631	2402WG	02-Jul-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 F001 F002 F003 F004 F005 WSC2
0050625	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050848	2402WG	30-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050899	2402WG	16-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050909	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051853	2402WG	19-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051885	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0053690	2402WG	02-Jul-09	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0053736	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0054900	2402WG	21-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055256	2402WG	07-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055258	2402WG	12-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056325	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056673	2402WG	16-Jan-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056696	2402WG	15-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0057431	2402WG	16-Jan-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0058237	2402WG	03-Nov-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0058886	2402WG	26-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0058967	2402WG	05-May-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0062360	2402WG	25-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0063650	2402WG	03-Nov-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067413	2402WG	14-Dec-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13309	2402WG	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
ANL-274	2402WG	06-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
PNL-186033	2402WG	06-Oct-87	0.21	Y	N	TRU	N	D009 D011 WSC2
Z82A-8896	2402WG	15-Apr-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z83A-9367	2402WG	03-May-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-212-A17937	2402WH	07-Sep-88	0.3218	N	N	TRU	N	
0020043	2402WH	27-Sep-04	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
0020205	2402WH	20-Aug-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021014	2402WH	18-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021111	2402WH	13-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021197	2402WH	18-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021692	2402WH	20-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021693	2402WH	28-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021753	2402WH	28-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0024739	2402WH	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0025328	2402WH	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0026294	2402WH	13-Jul-05	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026353	2402WH	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026378	2402WH	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026497	2402WH	12-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026520	2402WH	13-Jul-05	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0026534	2402WH	13-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026569	2402WH	20-Jul-05	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0026594	2402WH	11-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026614	2402WH	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026615	2402WH	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026687	2402WH	08-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026699	2402WH	07-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026717	2402WH	18-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026757	2402WH	12-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0027312	2402WH	22-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027386	2402WH	01-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027504	2402WH	11-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0027533	2402WH	06-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027537	2402WH	12-Jul-05	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0027561	2402WH	22-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028339	2402WH	08-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028385	2402WH	06-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028460	2402WH	19-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028469	2402WH	18-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028535	2402WH	17-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028556	2402WH	23-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028838	2402WH	27-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029667	2402WH	23-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029704	2402WH	21-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029727	2402WH	12-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029732	2402WH	12-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029990	2402WH	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030030	2402WH	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030940	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030946	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030953	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030957	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030972	2402WH	04-Mar-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030984	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031033	2402WH	20-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031067	2402WH	17-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031068	2402WH	17-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031076	2402WH	11-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031086	2402WH	11-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031101	2402WH	20-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031117	2402WH	11-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031118	2402WH	11-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031121	2402WH	31-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031150	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031152	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031229	2402WH	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031232	2402WH	19-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031470	2402WH	09-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031471	2402WH	09-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031535	2402WH	21-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031547	2402WH	25-Nov-80	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031586	2402WH	09-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0031589	2402WH	09-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032071	2402WH	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032167	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032277	2402WH	23-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032281	2402WH	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032349	2402WH	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032356	2402WH	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032452	2402WH	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032468	2402WH	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032476	2402WH	31-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032530	2402WH	05-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033005	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033103	2402WH	05-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033180	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033185	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033188	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033189	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033192	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033199	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033718	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033726	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033733	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033742	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033744	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033746	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033757	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033758	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033759	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033764	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033765	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033768	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033772	2402WH	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033773	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033777	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033782	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033792	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033803	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033804	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033805	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033818	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033819	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033840	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0033844	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033849	2402WH	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033883	2402WH	31-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033892	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033894	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034213	2402WH	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034247	2402WH	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034339	2402WH	11-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034406	2402WH	01-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034415	2402WH	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034429	2402WH	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034442	2402WH	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035624	2402WH	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035664	2402WH	14-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035666	2402WH	12-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035694	2402WH	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035742	2402WH	12-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035824	2402WH	14-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035841	2402WH	02-Feb-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035854	2402WH	31-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035862	2402WH	30-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0037440	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037442	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037454	2402WH	21-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037457	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037459	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037463	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037469	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037470	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037473	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037476	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037480	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037481	2402WH	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038330	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038333	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038337	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038371	2402WH	30-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038649	2402WH	15-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038798	2402WH	16-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038800	2402WH	16-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038815	2402WH	16-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038854	2402WH	28-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0038893	2402WH	30-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039807	2402WH	16-Feb-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0053299	2402WH	15-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057341	2402WH	27-Jul-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0057398	2402WH	27-Jul-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0059151	2402WH	28-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059798	2402WH	29-Oct-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
9400814	2402WH	15-Jun-00	0.3218	Y	N	TRU	N	D008 WP02 WSC2 WT02
9600334	2402WH	28-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
9607281	2402WI	17-Sep-98	6.3	N	N	LLW	N	
0020863	2402WK	12-Apr-05	0.2082	N	N	TRU	N	
0021508	2402WK	14-Nov-05	0.2082	N	N	TRU	N	
0022665	2402WK	18-Apr-05	0.2082	N	N	TRU	Y	
0024175	2402WK	29-Aug-05	0.2082	N	N	TRU	N	
0024218	2402WK	26-Jul-05	0.2082	N	N	TRU	N	
0069856	2402WK	29-Jun-11	0.208	N	N	TRU	Y	
0074620	2402WK	05-Jan-11	0.208	N	N	TRU	Y	
0079383	2402WK	08-Jun-11	0.208	N	N	TRU	Y	
0032689	2402WK	06-Sep-06	0.2082	Y	N	TRU	Y	WSC2
0067383	2402WK	18-Feb-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0072744	2402WK	13-Dec-10	0.208	Y	N	TRU	Y	WSC2 WT02
0077282	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077284	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077285	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077295	2402WK	28-Jun-11	0.208	Y	N	TRU	Y	D008
0077572	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077574	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077625	2402WK	18-Feb-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077636	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077639	2402WK	18-Feb-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077647	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077670	2402WK	18-Jan-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0077676	2402WK	18-Feb-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
0078706	2402WK	18-Feb-11	0.208	Y	N	TRU	Y	D005 D006 D007 D008 D011
32174	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32196	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32205	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32207	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32211	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32220	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
32228	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32238	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32251	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32254	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32289	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32293	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32296	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32324	2402WK	27-Aug-09	0.21	Y	N	TRU	Y	D005 D006 D007 D008 D011
32787	2402WK	26-Sep-06	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011
0024015	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0024017	2402WL	16-Jan-06	0.2082	N	Y	TRU	Y	
0024023	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0024036	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024038	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0024039	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0024048	2402WL	12-Dec-05	0.2082	N	Y	TRU	Y	
0024049	2402WL	12-Dec-05	0.2082	N	Y	TRU	Y	
0024050	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0024051	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024060	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024062	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0024122	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024123	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0024125	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024132	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0024133	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0024134	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0024135	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0024148	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024149	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0024162	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0025866	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025874	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025883	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025884	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025885	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0025886	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0025888	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025925	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025927	2402WL	16-Jan-06	0.2082	N	Y	TRU	Y	
0025928	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0025930	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0025935	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025940	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025941	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0025946	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0025947	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025949	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025950	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0025951	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0025990	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0025991	2402WL	16-Jan-06	0.2082	N	Y	TRU	Y	
0025992	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0025993	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0026021	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0026022	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0026024	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0026025	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0026026	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0026027	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0026028	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027044	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027573	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027575	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027596	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027598	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027610	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027611	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027612	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027613	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027621	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027622	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027623	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027624	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027645	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027646	2402WL	16-Jan-06	0.2082	N	Y	TRU	Y	
0027647	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027648	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027649	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027650	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027651	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027652	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027653	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027654	2402WL	17-May-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0027659	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027660	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027661	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027662	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027663	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027664	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027665	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027666	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027667	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027668	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027669	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027670	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027675	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027676	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027677	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027678	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027691	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027692	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027693	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027694	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027707	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027708	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027709	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027710	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027715	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027716	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027717	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027718	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027719	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027720	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0027721	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027722	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0027728	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027729	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027730	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027731	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027732	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027733	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027734	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027735	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027736	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027737	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0027738	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027739	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027740	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0027745	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027746	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027747	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027748	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027756	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027762	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027763	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027764	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027777	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0027778	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027779	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027780	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027933	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027934	2402WL	19-Apr-06	0.2082	N	Y	TRU	Y	
0027936	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027937	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027938	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027939	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027940	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027941	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027942	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027943	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027944	2402WL	15-Mar-06	0.2082	N	Y	TRU	Y	
0027945	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0027946	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027947	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027948	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027949	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0027950	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027951	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0027952	2402WL	01-Mar-06	0.2082	N	Y	TRU	Y	
0027958	2402WL	20-Apr-06	0.2082	N	Y	TRU	Y	
0027959	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0027960	2402WL	29-Mar-06	0.2082	N	Y	TRU	Y	
0029113	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0029143	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0029144	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029145	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029146	2402WL	03-May-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0029147	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0029148	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029149	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029150	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029151	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029152	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029153	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0029154	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029156	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029158	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0029165	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029166	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029179	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029180	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029188	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0029189	2402WL	02-Mar-06	0.2082	N	Y	TRU	Y	
0029239	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029240	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029241	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029242	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029243	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0029244	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029245	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029246	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029247	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029248	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029249	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029250	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029251	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029252	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0029285	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029286	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029287	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029288	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029290	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029291	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029292	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029294	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029295	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029296	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029297	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029298	2402WL	03-May-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0029299	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029300	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0029301	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029302	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029303	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0029304	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0029305	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029306	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029307	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029308	2402WL	26-Apr-06	0.2082	N	Y	TRU	Y	
0029309	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029310	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029311	2402WL	03-May-06	0.2082	N	Y	TRU	Y	
0029312	2402WL	17-May-06	0.2082	N	Y	TRU	Y	
0031300	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031301	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031309	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031310	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031311	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031312	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031313	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031314	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031315	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031326	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031327	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031328	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031329	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031332	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031333	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031357	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031369	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031370	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031371	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031372	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031373	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031374	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031375	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031376	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031377	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031378	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031379	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031380	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0031381	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031382	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031383	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031384	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031415	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031416	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031417	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031418	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031422	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031423	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031424	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031425	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031426	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031427	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031428	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031429	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031435	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031436	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031437	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031438	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031439	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031440	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031441	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031442	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031451	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031452	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031453	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031454	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031455	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031456	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031457	2402WL	21-Jun-06	0.2082	N	Y	TRU	Y	
0031458	2402WL	14-Jun-06	0.2082	N	Y	TRU	Y	
0031540	2402WL	28-Nov-06	0.3218	N	Y	TRU	Y	
0031551	2402WL	28-Nov-06	0.3218	N	Y	TRU	Y	
0031841	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031842	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031843	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031844	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031845	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031846	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031847	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031848	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0031849	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031850	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031896	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031897	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031899	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031904	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031905	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031906	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031907	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031908	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031909	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031912	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031913	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031930	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031931	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031932	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031933	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031947	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031948	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031949	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031950	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031951	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031954	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031955	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031956	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031957	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031958	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031963	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031964	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031965	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031966	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031967	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031968	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031969	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
0031970	2402WL	04-Oct-06	0.2082	N	Y	TRU	Y	
0031985	2402WL	12-Jul-06	0.2082	N	Y	TRU	Y	
0031986	2402WL	16-Aug-06	0.2082	N	Y	TRU	Y	
10181128	2402WL	02-Jul-08	0.208	N	Y	TRU	Y	
10181129	2402WL	02-Jul-08	0.208	N	Y	TRU	Y	
10181130	2402WL	02-Jul-08	0.208	N	Y	TRU	Y	
10181131	2402WL	02-Jul-08	0.208	N	Y	TRU	Y	
10181132	2402WL	07-Jul-08	0.208	N	Y	TRU	Y	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
10181133	2402WL	07-Jul-08	0.208	N	Y	TRU	Y	
10181134	2402WL	07-Jul-08	0.208	N	Y	TRU	Y	
0029000	2402WL	22-Aug-06	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0006486	2403WA	24-Apr-03	0.3218	N	N	TRU	N	
0006502	2403WA	24-Apr-03	0.3218	N	N	TRU	N	
0006547	2403WA	24-Apr-03	0.3218	N	N	TRU	N	
0009178	2403WA	06-Dec-04	0.2082	N	N	TRU	N	
0009242	2403WA	14-Sep-04	0.2082	N	N	TRU	N	
0011547	2403WA	08-Mar-04	0.2082	N	N	TRU	N	
0011831	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011880	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011886	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011889	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011891	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011898	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011900	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011902	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011905	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011906	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011924	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011926	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011928	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011933	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011934	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0011935	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0012616	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0012617	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0012639	2403WA	01-Jul-03	0.2082	N	Y	TRU	Y	
0020011	2403WA	20-Sep-95	0.3218	N	N	TRU	N	
0029236	2403WA	26-Nov-07	0.2082	N	N	TRU	N	
0030399	2403WA	26-Nov-07	0.2082	N	N	TRU	N	
0031760	2403WA	05-Feb-09	0.2082	N	Y	TRU	N	
0045962	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0045989	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0045991	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0045997	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0045998	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0046000	2403WA	11-May-10	0.3785	N	N	TRU	N	
0046003	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0051993	2403WA	07-May-09	0.208	N	N	TRU	N	
0052515	2403WA	26-Jan-10	0.3785	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0052518	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052519	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052520	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052521	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052522	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052523	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052529	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052530	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052531	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052532	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052533	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052534	2403WA	18-May-10	0.3785	N	N	TRU	N	
0052537	2403WA	18-May-10	0.3785	N	N	TRU	N	
0052538	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052539	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052540	2403WA	11-May-10	0.3785	N	N	TRU	N	
0052541	2403WA	18-May-10	0.3785	N	N	TRU	N	
0052542	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0052547	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052553	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0052571	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0052597	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0056791	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056792	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0056797	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056798	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056799	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056800	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056801	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056802	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056803	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056804	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0056813	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0057486	2403WA	23-Sep-10	0.322	N	N	TRU	N	
0058965	2403WA	31-Mar-10	0.208	N	Y	TRU	N	
0059050	2403WA	15-May-05	0.322	N	N	TRU	N	
0059598	2403WA	27-Oct-05	0.322	N	N	TRU	N	
0059599	2403WA	15-May-05	0.322	N	N	TRU	N	
0059600	2403WA	15-May-05	0.322	N	N	TRU	N	
0059601	2403WA	27-Oct-05	0.322	N	N	TRU	N	
0059602	2403WA	27-Oct-05	0.322	N	N	TRU	N	
0059603	2403WA	15-May-05	0.322	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0059636	2403WA	14-Sep-04	0.322	N	N	TRU	N	
0059638	2403WA	27-Oct-05	0.322	N	N	TRU	N	
0059639	2403WA	15-May-05	0.322	N	N	TRU	N	
0059786	2403WA	27-Oct-05	0.322	N	N	TRU	N	
0059793	2403WA	15-May-05	0.322	N	N	TRU	N	
0060307	2403WA	19-Nov-09	0.322	N	N	TRU	N	
0063241	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063243	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063244	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063245	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063246	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063251	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063253	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063254	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063256	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063258	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063259	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063260	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063261	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063262	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063264	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063265	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063266	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063267	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063268	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063269	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063270	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063272	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063273	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0063274	2403WA	20-Apr-10	0.3785	N	N	TRU	N	
0063277	2403WA	18-May-10	0.3785	N	N	TRU	N	
0063278	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063279	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063280	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063284	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063287	2403WA	02-Feb-10	0.3785	N	N	TRU	N	
0063289	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063291	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0063292	2403WA	11-May-10	0.3785	N	N	TRU	N	
0063293	2403WA	11-May-10	0.3785	N	N	TRU	N	
0063297	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0063298	2403WA	06-Jul-10	0.3785	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0063299	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063301	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063303	2403WA	11-May-10	0.3785	N	N	TRU	N	
0063304	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063307	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063308	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063314	2403WA	26-Jan-10	0.3785	N	N	TRU	N	
0063315	2403WA	11-May-10	0.3785	N	N	TRU	N	
0063316	2403WA	18-May-10	0.3785	N	N	TRU	N	
0063317	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0063318	2403WA	18-May-10	0.3785	N	N	TRU	N	
0063319	2403WA	18-May-10	0.3785	N	N	TRU	N	
0063324	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0063325	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0063327	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0063328	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063329	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063330	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063331	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0063332	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065134	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065135	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065136	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065137	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065138	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065139	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065140	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065141	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065142	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065143	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065144	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065145	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065146	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065147	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065148	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065149	2403WA	11-May-10	0.3785	N	N	TRU	N	
0065150	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065151	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065152	2403WA	11-May-10	0.3785	N	N	TRU	N	
0065153	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065154	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065156	2403WA	27-Jul-10	0.3785	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0065157	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065158	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065159	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065160	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065161	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065162	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065163	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065166	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065167	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065168	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065169	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065170	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065171	2403WA	08-Jun-10	0.3785	N	N	TRU	N	
0065172	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065173	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065174	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065175	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065176	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065177	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065178	2403WA	27-Jul-10	0.3785	N	N	TRU	N	
0065182	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065183	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065185	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065186	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065187	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065188	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065189	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065190	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065191	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065192	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065193	2403WA	11-May-10	0.3785	N	N	TRU	N	
0065196	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065197	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065199	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065200	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065201	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065202	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065204	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065208	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065209	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065210	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065211	2403WA	22-Jun-10	0.3785	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0065213	2403WA	22-Jun-10	0.3785	N	N	TRU	N	
0065214	2403WA	11-May-10	0.3785	N	N	TRU	N	
0065216	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065217	2403WA	11-May-10	0.3785	N	N	TRU	N	
0065219	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065220	2403WA	18-May-10	0.3785	N	N	TRU	N	
0065222	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065223	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065224	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0065226	2403WA	06-Jul-10	0.3785	N	N	TRU	N	
0071549	2403WA	25-Apr-11	0.208	N	N	TRU	N	
0-1140	2403WA	09-Jan-06	0.212	N	N	TRU	N	
202A83026	2403WA	16-Feb-84	0.21	N	N	TRU	N	
308-95-000002	2403WA	29-Sep-95	0.2082	N	N	TRU	N	
6900-88-05	2403WA	03-Nov-87	0.208	N	N	TRU	N	
6900-88-07	2403WA	03-Nov-87	0.208	N	N	TRU	N	
9410979	2403WA	03-Oct-80	0.3218	N	N	TRU	N	
9500521	2403WA	21-Nov-95	0.3218	N	N	TRU	N	
9500549	2403WA	13-Nov-92	0.3218	N	N	TRU	N	
9517379	2403WA	14-May-96	0.2082	N	N	TRU	N	
9600346	2403WA	23-Sep-98	0.3218	N	N	TRU	N	
9600373	2403WA	23-Sep-98	0.3218	N	N	TRU	N	
9701769	2403WA	13-Nov-98	0.208	N	N	TRU	N	
9703401	2403WA	31-Jul-03	0.322	N	N	TRU	Y	
BN185-001	2403WA	10-Aug-04	0.21	N	N	TRU	N	
BP-188037	2403WA	29-Sep-89	0.21	N	N	TRU	N	
BP-188044	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP188052	2403WA	20-Sep-95	0.2082	N	N	TRU	N	
BP-188055	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP-188057	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP189050	2403WA	20-Sep-95	0.2082	N	N	TRU	N	
BP-189058	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP-189059	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP-189061	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP-191001	2403WA	30-May-91	0.21	N	N	TRU	N	
BP-191007	2403WA	25-Sep-92	0.2	N	N	TRU	N	
BP192020	2403WA	29-Sep-95	0.2082	N	N	TRU	N	
MW10800020	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800038	2403WA	26-May-11	0.208	N	N	TRU	N	
MW10800056	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800078	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800091	2403WA	24-Jan-11	0.208	N	N	TRU	N	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW10800105	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800132	2403WA	26-May-11	0.208	N	N	TRU	N	
MW10800185	2403WA	26-May-11	0.208	N	N	TRU	N	
MW10800225	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800253	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800291	2403WA	26-May-11	0.208	N	N	TRU	N	
MW10800297	2403WA	24-Jan-11	0.208	N	N	TRU	N	
MW10800300	2403WA	26-May-11	0.208	N	N	TRU	N	
PNL-186048	2403WA	08-Sep-03	0.21	N	N	TRU	N	
RHZ-102-A15530	2403WA	01-Dec-86	0.21	N	N	TRU	N	
RHZ-105-A14758	2403WA	24-Jul-86	0.21	N	N	TRU	N	
RHZ-105-A15014	2403WA	09-Aug-94	0.2082	N	N	TRU	N	
RHZ-111-A15853	2403WA	06-Feb-87	0.21	N	N	TRU	N	
RHZ-111-A15901	2403WA	21-Jan-87	0.21	N	N	TRU	N	
RHZ-212-A17968	2403WA	07-Jan-88	0.2082	N	N	TRU	N	
RHZ-213-A18394	2403WA	03-Jun-88	0.3218	N	N	TRU	N	
RHZ-213-A19468	2403WA	11-May-89	0.21	N	N	TRU	N	
RHZ-213-A21935	2403WA	21-Jan-93	0.208	N	N	TRU	N	
WH86058	2403WA	17-Jun-87	0.21	N	N	TRU	N	
WH86063	2403WA	13-Jun-86	0.21	N	N	TRU	N	
WH87004	2403WA	17-Jun-87	0.21	N	N	TRU	N	
WH87020	2403WA	17-Jun-87	0.21	N	N	TRU	N	
Z-ORG-A11013	2403WA	01-May-85	0.21	N	Y	TRU	N	
Z-ORG-A11207	2403WA	01-May-85	0.21	N	Y	TRU	N	
Z-ORG-A12557	2403WA	01-May-85	0.21	N	Y	TRU	N	
Z-ORG-A12559	2403WA	01-May-85	0.21	N	Y	TRU	N	
Z-ORG-A12734	2403WA	01-May-85	0.21	N	Y	TRU	N	
Z-ORG-A8921	2403WA	25-Aug-82	0.21	N	Y	TRU	N	
Z-ORG-A8924	2403WA	25-Aug-82	0.21	N	Y	TRU	N	
0000867	2403WA	22-Aug-02	0.2082	Y	N	TRU	N	D007 D008 D011
0000973	2403WA	22-Aug-02	0.2082	Y	N	TRU	N	D007 D011
0002794	2403WA	18-Feb-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0002805	2403WA	29-Jan-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0002806	2403WA	12-Jan-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0002845	2403WA	12-Feb-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0002865	2403WA	02-Mar-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0002866	2403WA	02-Feb-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0006477	2403WA	31-Jul-03	0.3218	Y	N	TRU	N	D008
0006480	2403WA	18-Feb-03	0.3218	Y	N	TRU	N	D008
0006484	2403WA	31-Jul-03	0.3218	Y	N	TRU	N	WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0006500	2403WA	25-Oct-84	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0006507	2403WA	31-Jul-03	0.3218	Y	N	TRU	N	D008
0006548	2403WA	18-Feb-03	0.3218	Y	N	TRU	N	D008
0011779	2403WA	25-Mar-03	0.2082	Y	Y	TRU	Y	D007
0011813	2403WA	25-Mar-03	0.2082	Y	Y	TRU	Y	D007
0011833	2403WA	25-Mar-03	0.2082	Y	Y	TRU	Y	D007
0011927	2403WA	25-Mar-03	0.2082	Y	Y	TRU	Y	D007
0012592	2403WA	25-Mar-03	0.2082	Y	Y	TRU	Y	D007
0013793	2403WA	04-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013808	2403WA	04-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013841	2403WA	30-Mar-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013851	2403WA	24-Jun-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013874	2403WA	24-Jun-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013878	2403WA	24-Jun-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013940	2403WA	30-Mar-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013963	2403WA	03-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013977	2403WA	04-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013978	2403WA	03-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0013981	2403WA	24-Jun-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0014018	2403WA	24-Jun-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0014040	2403WA	30-Mar-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0014119	2403WA	30-Mar-04	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0014144	2403WA	03-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0014156	2403WA	04-Dec-03	0.2082	Y	N	TRU	Y	D019 D027 D030 D039 F001 F002 F003 F005
0018392	2403WA	29-Jun-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0018418	2403WA	13-Jul-04	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0018433	2403WA	27-Jul-04	0.3218	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
0019469	2403WA	22-Sep-04	0.2082	Y	N	TRU	N	D004 D006 D010
0020017	2403WA	22-Jul-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020074	2403WA	08-Nov-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020125	2403WA	10-Aug-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020155	2403WA	03-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020157	2403WA	11-Aug-04	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
0020177	2403WA	07-Nov-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020204	2403WA	08-Aug-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0020221	2403WA	27-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0020276	2403WA	09-Nov-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020694	2403WA	30-Sep-08	0.208	Y	N	TRU	Y	D008
0020975	2403WA	26-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0020981	2403WA	31-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021017	2403WA	20-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021037	2403WA	26-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021064	2403WA	14-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021092	2403WA	18-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021118	2403WA	24-Feb-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0021129	2403WA	26-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021136	2403WA	02-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021139	2403WA	31-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021161	2403WA	10-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021184	2403WA	18-Jan-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021691	2403WA	24-Feb-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0021746	2403WA	26-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021775	2403WA	26-Apr-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0021869	2403WA	07-Nov-04	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0021887	2403WA	15-Nov-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0021895	2403WA	15-Nov-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0021984	2403WA	15-Nov-04	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0021993	2403WA	19-Jan-83	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0021995	2403WA	19-Jan-83	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0022464	2403WA	30-Apr-09	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0022479	2403WA	23-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0023080	2403WA	14-Jul-05	10.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0023081	2403WA	25-Oct-06	36.25	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0023313	2403WA	14-Jun-05	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0023405	2403WA	14-Feb-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0023457	2403WA	24-Feb-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0023476	2403WA	26-Oct-04	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0023823	2403WA	12-Oct-05	0.2082	Y	N	TRU	N	D008 WSC2
0024433	2403WA	19-Apr-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0024466	2403WA	14-Mar-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0024470	2403WA	29-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0024473	2403WA	29-Apr-05	0.3218	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0024582	2403WA	10-Apr-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0024640	2403WA	25-Apr-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0024642	2403WA	19-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0024805	2403WA	19-Apr-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0024974	2403WA	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0024976	2403WA	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0024981	2403WA	09-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0024988	2403WA	05-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0025006	2403WA	12-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0025071	2403WA	05-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0025129	2403WA	11-Jun-87	0.3218	Y	N	TRU	N	D040
0025133	2403WA	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0025153	2403WA	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0025160	2403WA	15-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025161	2403WA	14-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025179	2403WA	14-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025190	2403WA	24-Jun-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0025229	2403WA	05-May-05	0.3218	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0025246	2403WA	07-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025248	2403WA	29-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025281	2403WA	09-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025284	2403WA	19-May-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0025294	2403WA	13-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025322	2403WA	28-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025341	2403WA	20-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025355	2403WA	13-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025837	2403WA	14-Jun-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0026281	2403WA	21-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026282	2403WA	21-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026304	2403WA	19-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026334	2403WA	22-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0026337	2403WA	22-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026341	2403WA	19-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026349	2403WA	07-Sep-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0026392	2403WA	22-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026503	2403WA	13-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026529	2403WA	21-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026535	2403WA	13-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026570	2403WA	20-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026572	2403WA	20-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026591	2403WA	22-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026601	2403WA	21-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026650	2403WA	28-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0026658	2403WA	10-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0026666	2403WA	11-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026670	2403WA	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026681	2403WA	10-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0026682	2403WA	06-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0026694	2403WA	19-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026697	2403WA	11-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026711	2403WA	13-Jul-05	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026725	2403WA	25-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026748	2403WA	19-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026751	2403WA	21-Jul-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D035
0026753	2403WA	12-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0026758	2403WA	12-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0027294	2403WA	06-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027326	2403WA	01-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0027338	2403WA	06-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027376	2403WA	01-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027469	2403WA	22-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027480	2403WA	22-Aug-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0027483	2403WA	01-Aug-05	0.3218	Y	Y	TRU	N	D007 D009 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0027493	2403WA	01-Aug-05	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D011 D022 F001 F002 F003 F005
0027528	2403WA	24-Aug-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0027531	2403WA	07-Sep-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0027671	2403WA	22-Mar-07	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028258	2403WA	27-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028263	2403WA	06-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028275	2403WA	29-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028333	2403WA	04-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028338	2403WA	19-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028343	2403WA	27-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028346	2403WA	12-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028381	2403WA	06-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028395	2403WA	20-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028401	2403WA	06-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028429	2403WA	20-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028439	2403WA	05-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028446	2403WA	05-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028461	2403WA	24-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028500	2403WA	27-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028558	2403WA	26-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028587	2403WA	19-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028594	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028595	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028599	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028603	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028617	2403WA	13-Oct-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0028622	2403WA	12-Oct-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0028709	2403WA	07-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028726	2403WA	14-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028734	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028739	2403WA	02-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0028740	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028744	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028749	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02

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0028751	2403WA	02-Nov-05	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0028759	2403WA	24-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028768	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028779	2403WA	26-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028785	2403WA	24-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028791	2403WA	26-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028792	2403WA	27-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028796	2403WA	26-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028797	2403WA	26-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028807	2403WA	14-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028830	2403WA	12-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028831	2403WA	14-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028836	2403WA	14-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028839	2403WA	12-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028842	2403WA	05-Aug-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0028849	2403WA	09-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028850	2403WA	09-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028851	2403WA	09-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028852	2403WA	09-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028863	2403WA	06-Feb-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028894	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028897	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028901	2403WA	02-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028902	2403WA	02-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0028906	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0028908	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028932	2403WA	07-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029648	2403WA	29-Oct-81	0.322	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
0029665	2403WA	23-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029672	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029673	2403WA	20-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029674	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029679	2403WA	24-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029686	2403WA	24-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029706	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029708	2403WA	14-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029715	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029716	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005

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0029719	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029724	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029802	2403WA	16-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029808	2403WA	08-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029813	2403WA	07-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0029814	2403WA	08-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0029828	2403WA	09-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029830	2403WA	09-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029845	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029848	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029850	2403WA	15-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029864	2403WA	15-Nov-05	0.3218	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0029867	2403WA	16-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029878	2403WA	09-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029885	2403WA	11-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029888	2403WA	02-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029889	2403WA	16-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0029891	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029892	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029897	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029913	2403WA	28-Mar-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0029921	2403WA	09-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029923	2403WA	08-Nov-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029967	2403WA	27-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029978	2403WA	19-Mar-06	0.3218	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
0029979	2403WA	12-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029997	2403WA	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030007	2403WA	27-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030008	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0030010	2403WA	01-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0030011	2403WA	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030027	2403WA	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030036	2403WA	22-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030212	2403WA	21-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030216	2403WA	14-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030401	2403WA	26-Nov-07	0.2082	Y	N	TRU	N	D008
0030732	2403WA	29-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0030842	2403WA	27-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030846	2403WA	28-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030877	2403WA	28-Mar-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030920	2403WA	28-Mar-06	0.3218	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030939	2403WA	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030948	2403WA	19-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030963	2403WA	21-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030964	2403WA	21-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030979	2403WA	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0030986	2403WA	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031003	2403WA	11-May-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0031056	2403WA	15-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031069	2403WA	11-May-06	0.3218	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0031088	2403WA	11-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031100	2403WA	20-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031119	2403WA	21-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031144	2403WA	28-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031166	2403WA	28-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031179	2403WA	05-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031183	2403WA	27-Jul-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0031208	2403WA	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031223	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031236	2403WA	18-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031252	2403WA	20-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031487	2403WA	09-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031503	2403WA	10-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031539	2403WA	28-Apr-94	0.3218	Y	N	TRU	N	D019
0031556	2403WA	22-Feb-82	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031570	2403WA	19-Mar-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031591	2403WA	10-May-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032034	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032039	2403WA	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032195	2403WA	26-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0032262	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0032276	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032278	2403WA	23-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032303	2403WA	23-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032308	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032344	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032347	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032353	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032354	2403WA	29-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032395	2403WA	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032399	2403WA	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032450	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032455	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032456	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032460	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032469	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032473	2403WA	05-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032521	2403WA	05-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032529	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033003	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033017	2403WA	11-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033032	2403WA	12-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033050	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033201	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033220	2403WA	31-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033242	2403WA	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033250	2403WA	22-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0033270	2403WA	09-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033281	2403WA	30-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0033730	2403WA	19-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033731	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033735	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033741	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033748	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033775	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033776	2403WA	20-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033781	2403WA	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033793	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033810	2403WA	21-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033837	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0033850	2403WA	27-Nov-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011
0033935	2403WA	20-Aug-06	0.3218	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0033942	2403WA	31-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0033950	2403WA	25-Oct-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0033953	2403WA	22-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0033957	2403WA	31-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033968	2403WA	22-Feb-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0033970	2403WA	18-Jan-05	0.3218	Y	N	TRU	N	D006 D007 D008 D011
0034210	2403WA	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034214	2403WA	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034251	2403WA	03-Oct-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0034284	2403WA	01-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034290	2403WA	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034318	2403WA	06-Jul-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034346	2403WA	11-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034348	2403WA	19-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034372	2403WA	26-Jul-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0034373	2403WA	26-Jul-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034376	2403WA	27-Jul-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034388	2403WA	27-Jul-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034419	2403WA	01-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0034439	2403WA	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035399	2403WA	25-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035402	2403WA	20-Dec-06	0.322	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0035420	2403WA	20-Dec-06	0.322	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0035457	2403WA	25-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035463	2403WA	27-Nov-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011
0035474	2403WA	14-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035480	2403WA	28-Sep-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0035512	2403WA	03-Oct-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0035622	2403WA	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0035629	2403WA	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035632	2403WA	14-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035633	2403WA	12-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035646	2403WA	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035647	2403WA	02-Feb-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035652	2403WA	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035653	2403WA	16-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035658	2403WA	12-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035660	2403WA	12-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035695	2403WA	09-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035696	2403WA	19-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035727	2403WA	30-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035762	2403WA	27-Jul-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0035839	2403WA	22-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035846	2403WA	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035911	2403WA	02-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035975	2403WA	03-Oct-06	0.3218	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0036665	2403WA	05-Feb-07	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0037239	2403WA	23-Oct-07	0.208	Y	N	TRU	N	WSC2
0037439	2403WA	23-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0037445	2403WA	22-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0037446	2403WA	22-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0037453	2403WA	22-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0037467	2403WA	27-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0037479	2403WA	22-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0037732	2403WA	26-Nov-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
0038185	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038186	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038188	2403WA	21-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038189	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0038193	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038245	2403WA	28-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0038262	2403WA	21-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038296	2403WA	17-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038298	2403WA	17-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038301	2403WA	17-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038304	2403WA	17-Jan-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038305	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038306	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038310	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0038311	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038312	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038336	2403WA	16-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0038360	2403WA	30-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0038426	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038428	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038429	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038435	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038615	2403WA	08-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038621	2403WA	08-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0038659	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038660	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0038666	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0038670	2403WA	18-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0038701	2403WA	06-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038728	2403WA	01-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038731	2403WA	05-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038741	2403WA	31-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038752	2403WA	21-Jan-07	0.322	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0038755	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038787	2403WA	19-Jan-07	0.322	Y	N	TRU	N	D006 D007 D008 D011 D035
0038797	2403WA	16-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0038810	2403WA	16-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038820	2403WA	16-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D011
0038841	2403WA	25-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0038847	2403WA	08-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038866	2403WA	30-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038867	2403WA	29-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038876	2403WA	07-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0038891	2403WA	23-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0038907	2403WA	24-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0038922	2403WA	24-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0038946	2403WA	19-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0038955	2403WA	14-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0038957	2403WA	14-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0038970	2403WA	24-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0039371	2403WA	06-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0039407	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0039414	2403WA	05-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039480	2403WA	05-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0039486	2403WA	05-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039489	2403WA	12-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039499	2403WA	24-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0039597	2403WA	24-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0039602	2403WA	18-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0039604	2403WA	18-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039620	2403WA	29-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039625	2403WA	11-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0039642	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0039698	2403WA	29-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039731	2403WA	18-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0039767	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0039774	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0039825	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0039828	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0039832	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039846	2403WA	06-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039878	2403WA	29-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0040113	2403WA	24-Jul-07	0.208	Y	N	TRU	N	D008
0040174	2403WA	21-Aug-07	0.208	Y	N	TRU	N	D007 D008 D009 D035
0041875	2403WA	12-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0041890	2403WA	08-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0041944	2403WA	19-Jun-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0041957	2403WA	12-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0041985	2403WA	09-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042017	2403WA	20-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042043	2403WA	11-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042058	2403WA	22-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042081	2403WA	09-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042083	2403WA	27-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0042087	2403WA	28-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042094	2403WA	25-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0042107	2403WA	09-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042161	2403WA	19-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042168	2403WA	11-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042182	2403WA	11-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042195	2403WA	19-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0042214	2403WA	20-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0042217	2403WA	27-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0042219	2403WA	25-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042225	2403WA	25-Jun-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0042252	2403WA	22-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042256	2403WA	22-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042260	2403WA	20-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0042290	2403WA	22-Jul-07	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042360	2403WA	31-Jul-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0042368	2403WA	31-Jul-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0042410	2403WA	08-Aug-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042703	2403WA	03-Oct-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0043006	2403WA	27-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0043016	2403WA	31-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0043046	2403WA	06-Aug-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0043057	2403WA	31-Jul-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0043092	2403WA	07-Jun-07	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0043183	2403WA	07-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0043203	2403WA	18-Sep-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044038	2403WA	01-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044043	2403WA	10-Sep-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044053	2403WA	01-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044060	2403WA	22-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044094	2403WA	08-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044111	2403WA	11-Sep-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044207	2403WA	22-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044242	2403WA	21-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044344	2403WA	08-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044346	2403WA	05-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044354	2403WA	08-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044380	2403WA	13-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044383	2403WA	22-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044397	2403WA	05-Dec-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0044402	2403WA	05-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044450	2403WA	28-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044489	2403WA	08-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044529	2403WA	07-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044810	2403WA	05-Dec-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044815	2403WA	06-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044834	2403WA	06-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044856	2403WA	31-Oct-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0044857	2403WA	13-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044870	2403WA	13-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044896	2403WA	06-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044904	2403WA	05-Nov-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0044920	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0045068	2403WA	13-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0045072	2403WA	16-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0045078	2403WA	16-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0045087	2403WA	17-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0045335	2403WA	10-Dec-07	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0045512	2403WA	22-Jan-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0046302	2403WA	18-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046306	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0046312	2403WA	04-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0046323	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046327	2403WA	04-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046348	2403WA	08-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046356	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046366	2403WA	12-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046367	2403WA	29-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0046375	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046379	2403WA	04-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0046393	2403WA	04-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046414	2403WA	04-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0046644	2403WA	01-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046667	2403WA	22-Apr-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0046683	2403WA	04-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046687	2403WA	21-Apr-08	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0046696	2403WA	21-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046705	2403WA	22-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046711	2403WA	01-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046739	2403WA	21-Apr-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0046758	2403WA	17-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046764	2403WA	21-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046834	2403WA	17-Apr-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0046870	2403WA	14-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047453	2403WA	12-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0047459	2403WA	18-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047461	2403WA	12-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047464	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047469	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047480	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047499	2403WA	28-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047502	2403WA	28-May-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047512	2403WA	22-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047513	2403WA	22-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0047523	2403WA	02-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047551	2403WA	23-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047575	2403WA	25-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047583	2403WA	22-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047590	2403WA	26-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047591	2403WA	22-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047599	2403WA	26-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047609	2403WA	22-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047655	2403WA	25-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047672	2403WA	25-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047683	2403WA	25-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047719	2403WA	23-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047723	2403WA	22-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047724	2403WA	22-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0047731	2403WA	17-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0047830	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047833	2403WA	12-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047834	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047835	2403WA	08-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0047842	2403WA	04-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0052059	2403WA	05-Jun-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0052396	2403WA	05-Dec-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0052429	2403WA	02-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0052434	2403WA	09-Jul-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0052461	2403WA	04-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0052503	2403WA	02-Jun-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0053063	2403WA	02-Jun-09	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0053357	2403WA	14-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0053369	2403WA	09-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0053404	2403WA	14-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0053452	2403WA	24-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0055840	2403WA	29-Jul-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0056751	2403WA	22-Jul-08	0.208	Y	Y	TRU	N	D005 D006 D008 D009 D011 WSC2
0057116	2403WA	23-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057117	2403WA	23-Jul-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0057130	2403WA	24-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057157	2403WA	24-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057167	2403WA	07-Jul-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0057183	2403WA	08-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0057213	2403WA	09-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0057342	2403WA	27-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057371	2403WA	19-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057400	2403WA	24-Jul-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0057463	2403WA	14-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057464	2403WA	06-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057475	2403WA	31-Jul-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057504	2403WA	07-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057537	2403WA	04-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057544	2403WA	14-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057552	2403WA	04-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057774	2403WA	26-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0057826	2403WA	28-Aug-08	0.322	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0057851	2403WA	07-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057876	2403WA	11-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057881	2403WA	06-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057886	2403WA	06-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057971	2403WA	13-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057981	2403WA	14-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057995	2403WA	11-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057998	2403WA	11-Aug-08	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0058072	2403WA	19-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0058090	2403WA	13-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058106	2403WA	20-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058130	2403WA	20-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058176	2403WA	20-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058196	2403WA	27-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0058647	2403WA	19-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058720	2403WA	20-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058740	2403WA	28-Aug-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0058772	2403WA	19-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0058994	2403WA	16-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059017	2403WA	27-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059048	2403WA	29-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059060	2403WA	16-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059083	2403WA	24-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059097	2403WA	29-Jun-09	0.322	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0059099	2403WA	30-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059120	2403WA	28-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059152	2403WA	28-Aug-08	0.322	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0059208	2403WA	28-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059332	2403WA	04-Aug-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059337	2403WA	31-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059487	2403WA	02-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0059489	2403WA	31-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059491	2403WA	16-Jul-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059505	2403WA	04-Aug-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059566	2403WA	23-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059572	2403WA	19-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0059579	2403WA	19-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059586	2403WA	08-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059642	2403WA	07-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059677	2403WA	19-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0059707	2403WA	29-Oct-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0059724	2403WA	10-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059765	2403WA	29-Oct-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0059771	2403WA	27-May-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0059779	2403WA	07-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059781	2403WA	29-Oct-08	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0059789	2403WA	07-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059794	2403WA	07-Jun-09	0.322	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0059795	2403WA	07-Jun-09	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0059799	2403WA	29-Oct-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0059803	2403WA	30-Oct-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0060065	2403WA	18-Mar-82	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061104	2403WA	28-Oct-80	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0061240	2403WA	02-Jul-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0061399	2403WA	16-Jul-85	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061437	2403WA	16-Aug-84	0.322	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0061445	2403WA	30-Jun-82	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061517	2403WA	28-Sep-72	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061518	2403WA	14-Jan-82	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0061610	2403WA	13-Oct-83	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061620	2403WA	03-Oct-72	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061621	2403WA	28-Sep-72	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061622	2403WA	09-Jun-89	0.322	Y	N	TRU	N	D019
0061623	2403WA	31-Jan-85	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061624	2403WA	06-Apr-83	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061625	2403WA	07-Oct-80	0.322	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D011 D022 F001 F002 F003 F005
0061644	2403WA	16-Jul-80	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061646	2403WA	03-Oct-72	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0061647	2403WA	30-Jun-72	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0062260	2403WA	02-Jul-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067124	2403WA	14-Dec-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0069109	2403WA	10-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0069153	2403WA	10-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0069157	2403WA	28-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069181	2403WA	28-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069926	2403WA	26-Feb-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0070242	2403WA	03-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0071331	2403WA	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071601	2403WA	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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0071667	2403WA	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071848	2403WA	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0071875	2403WA	25-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0076929	2403WA	11-Nov-10	0.208	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0-1149	2403WA	20-Jul-05	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1168	2403WA	21-Jul-05	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1183	2403WA	06-Jul-04	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1190	2403WA	09-Jan-06	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1195	2403WA	09-Jan-06	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1202	2403WA	09-Jan-06	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1206	2403WA	07-Jul-04	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
0-1209	2403WA	09-Jan-06	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
101711220	2403WA	13-Jul-04	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
1127	2403WA	18-Jul-05	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
1159	2403WA	20-Jul-05	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
1182	2403WA	18-Jul-05	0.212	Y	N	TRU	N	D006 D007 D008 D011 D035
184003	2403WA	24-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
201C-91-000129	2403WA	13-May-92	0.208	Y	N	TRU	N	D007 D010
201C-91-000130	2403WA	13-May-92	0.208	Y	N	TRU	N	D007 D010
201C-91-000138	2403WA	05-Jun-92	0.208	Y	N	TRU	N	D007 D010
201C-91-000147	2403WA	05-Jun-92	0.208	Y	N	TRU	N	D007 D010
201C-91-000158	2403WA	05-Jun-92	0.208	Y	N	TRU	N	D007 D010
209E-8308	2403WA	16-Mar-04	0.212	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
23-01	2403WA	26-Jun-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
23-18	2403WA	04-Aug-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
25-13	2403WA	26-Jun-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
25-18	2403WA	08-Aug-04	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
2777-31	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
27774360B	2403WA	02-Aug-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
330910-06	2403WA	14-Oct-05	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
330910-12	2403WA	14-Oct-05	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
330910-14	2403WA	10-Oct-05	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
342109-07	2403WA	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342109-10	2403WA	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342116-09	2403WA	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
353610-52	2403WA	16-Mar-06	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353610-55	2403WA	20-Oct-05	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
353610-56	2403WA	09-Mar-06	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353610-57	2403WA	09-Mar-06	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353610-58	2403WA	09-Mar-06	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005

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353610-60	2403WA	11-Jan-06	0.212	Y	Y	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
3536-8-14	2403WA	17-Mar-06	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-6-15	2403WA	12-Apr-05	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
4242-6-33	2403WA	12-Apr-05	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
4242-8-49	2403WA	13-Sep-04	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
4266-1930	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-1931	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4631-11-404	2403WA	21-Nov-04	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
6501-7-38	2403WA	11-Jun-87	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
79735-545	2403WA	11-Jul-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
80-A-012	2403WA	28-Feb-07	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
80-A-067	2403WA	28-Feb-07	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
9522261	2403WA	01-Oct-96	0.2082	Y	N	TRU	N	D007
9522482	2403WA	29-Jul-96	0.2082	Y	N	TRU	N	D006 D007
9600183	2403WA	05-Jun-01	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9600207	2403WA	05-Jun-01	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9600210	2403WA	05-Jun-01	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9600284	2403WA	28-Sep-99	0.3218	Y	N	TRU	N	D008
9600313	2403WA	05-Jul-00	0.3218	Y	N	TRU	N	D008
9600388	2403WA	07-Mar-00	0.3218	Y	N	TRU	N	D008
9600405	2403WA	05-Jun-01	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9600415	2403WA	05-Jun-01	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9600437	2403WA	05-Jul-00	0.3218	Y	N	TRU	N	D008
9600520	2403WA	09-Aug-00	0.3218	Y	N	TRU	N	D008
9606700	2403WA	18-Jan-97	0.2082	Y	N	TRU	N	WSC2 WT02
9607916	2403WA	16-Mar-00	0.208	Y	N	TRU	N	WSC2 WT02
9607942	2403WA	16-Mar-00	0.208	Y	N	TRU	N	WSC2 WT02
9608044	2403WA	16-Mar-00	0.208	Y	N	TRU	N	WSC2 WT02
9903378	2403WA	13-Jul-00	0.2082	Y	Y	TRU	N	D006 D010 D011
A11379	2403WA	20-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11533	2403WA	08-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11534	2403WA	19-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A116121	2403WA	20-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11809	2403WA	20-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11815	2403WA	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12400	2403WA	19-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12401	2403WA	09-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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A12455	2403WA	07-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12475	2403WA	23-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12601	2403WA	10-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12655	2403WA	10-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12738	2403WA	10-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12740	2403WA	07-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12835	2403WA	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12837	2403WA	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12926	2403WA	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12931	2403WA	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12933	2403WA	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12937	2403WA	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A13007	2403WA	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A13017	2403WA	19-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A13199	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13201	2403WA	19-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13202	2403WA	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13203	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13204	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13205	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13207	2403WA	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13209	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13412	2403WA	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A-84-015	2403WA	09-Mar-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
A-84-040	2403WA	18-Aug-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
A85006	2403WA	19-Sep-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
ARD80-009	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD80-017	2403WA	13-Sep-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD80-018	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD80-021	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80-022	2403WA	13-Sep-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD80-023	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80-024	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80-025	2403WA	13-Sep-05	0.21	Y	N	TRU	N	D007 D008 D009 D035

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ARD80-027	2403WA	13-Sep-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD80A006	2403WA	24-Oct-05	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A021	2403WA	24-Oct-05	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A027	2403WA	17-Mar-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A037	2403WA	24-Oct-05	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A064	2403WA	14-Jul-05	0.212	Y	N	TRU	N	D007 D008 D009 D035
ARD80A172	2403WA	02-Feb-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A175	2403WA	02-Feb-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A185	2403WA	19-Mar-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A187	2403WA	19-Mar-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD80A188	2403WA	28-Mar-06	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD880A03	2403WA	14-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD880A05	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD880-A1	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD880A-2	2403WA	14-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
ARD88A004	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D007 D008 D009 D035
BN78-314	2403WA	26-May-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
BN-83-001	2403WA	03-May-04	0.212	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
HRO-92-0000186	2403WA	05-Jun-92	0.208	Y	N	TRU	N	D007 D010
HRO-92-0000203	2403WA	13-May-92	0.208	Y	N	TRU	N	D007 D010
HRO-92-0000206	2403WA	13-May-92	0.208	Y	N	TRU	N	D007 D010
HRO-92-0000208	2403WA	14-May-92	0.208	Y	N	TRU	N	D007 D010
HW8203-01	2403WA	12-Jan-06	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
L72-137	2403WA	05-Nov-07	0.21	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
LC8006-04	2403WA	20-Apr-06	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8006-06	2403WA	20-Apr-06	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800907	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-21	2403WA	20-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-22	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-23	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-24	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-25	2403WA	10-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-26	2403WA	23-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-28	2403WA	23-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-30	2403WA	09-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-31	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-32	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-33	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8110-01	2403WA	19-Mar-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8110-02	2403WA	19-Mar-06	0.21	Y	N	TRU	N	WSC2 WT02

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
LC8110-03	2403WA	19-Mar-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8110-04	2403WA	09-Mar-06	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8111-08	2403WA	09-Jan-06	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8112-02	2403WA	16-Mar-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-04	2403WA	02-Feb-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-05	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-06	2403WA	11-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-07	2403WA	02-Feb-06	0.212	Y	N	TRU	N	WSC2 WT02
LC8112-08	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-09	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-11	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-13	2403WA	09-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-14	2403WA	09-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-18	2403WA	14-Jul-05	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-19	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-20	2403WA	05-Jan-06	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-22	2403WA	14-Jul-05	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-23	2403WA	14-Jul-05	0.21	Y	N	TRU	N	WSC2 WT02
LC8201-02	2403WA	14-Jul-05	0.212	Y	N	TRU	N	WSC2 WT02
LC8201-03	2403WA	24-May-05	0.212	Y	N	TRU	N	WSC2 WT02
LC8201-04	2403WA	14-Jul-05	0.212	Y	N	TRU	N	WSC2 WT02
LC8201-06	2403WA	14-Jul-05	0.212	Y	N	TRU	N	WSC2 WT02
LC8201-17	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8201-19	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8201-22	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8201-23	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8202-01	2403WA	24-May-05	0.212	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8202-02	2403WA	25-Oct-05	0.212	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8202-05	2403WA	25-Oct-05	0.212	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8202-09	2403WA	05-Jan-06	0.21	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
LC8204-04	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8204-08	2403WA	25-May-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8204-09	2403WA	07-Jun-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
MW10800011	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D008
MW10800025	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800043	2403WA	26-May-11	0.208	Y	Y	TRU	N	D008
MW10800074	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800085	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW10800086	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800226	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800233	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800235	2403WA	26-May-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800242	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800243	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800247	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800257	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800261	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800262	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800263	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800266	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800270	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800272	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800273	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800275	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800276	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800277	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800282	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800286	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800288	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800292	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800295	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800313	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800315	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800316	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800318	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800323	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800336	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800337	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800338	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800339	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800340	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW10800341	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800343	2403WA	02-May-11	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800346	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800347	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800349	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800350	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800351	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800355	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800358	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800362	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800363	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800364	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800365	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800366	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D022 D030 F001 F002 F003 F005
MW10800367	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800368	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800374	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800375	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800379	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800380	2403WA	29-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800382	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800383	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800385	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW10800386	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800388	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800389	2403WA	29-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800392	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800397	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800400	2403WA	26-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800440	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800441	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800442	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800443	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800444	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800445	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800446	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800447	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800448	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800450	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800451	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800457	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800458	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800461	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800463	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800464	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800472	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800475	2403WA	02-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800483	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800485	2403WA	24-Jan-11	0.208	Y	N	TRU	N	D005 D006 D009
MW10800486	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800487	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800496	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800499	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800501	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003

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MW10800502	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800503	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800505	2403WA	26-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800526	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800529	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800532	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800533	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800535	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800536	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800537	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800550	2403WA	26-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D030 F001 F002 F003 F005
MW10800557	2403WA	26-May-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW10800575	2403WA	30-Jun-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800578	2403WA	12-Apr-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800586	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800611	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
MW10800612	2403WA	26-May-11	0.208	Y	N	TRU	N	D008 D019 F002 F003
NFD-354	2403WA	09-Sep-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-355	2403WA	11-Aug-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-357	2403WA	08-Aug-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-358	2403WA	09-Sep-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-359	2403WA	09-Sep-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-363	2403WA	09-Sep-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-365	2403WA	09-Sep-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
NFD-450	2403WA	08-Aug-04	0.212	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
RH-A-85-071	2403WA	10-Mar-89	0.21	Y	N	TRU	N	D008 WSC2
RH-A-86-030	2403WA	11-Feb-87	0.21	Y	N	TRU	N	D008 WSC2
RH-A-86-043	2403WA	08-May-87	0.21	Y	N	TRU	N	D008 WSC2
RH-A-87-045	2403WA	01-Jun-88	0.21	Y	N	TRU	N	D008 WSC2
RH-A-87-053	2403WA	01-Jun-88	0.21	Y	N	TRU	N	WSC2
RH-A-87-056	2403WA	01-Jun-88	0.21	Y	N	TRU	N	D008 WSC2
RH-A-87-060	2403WA	19-Feb-88	0.21	Y	N	TRU	N	D008
RHZ-102-A12668	2403WA	18-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A13578	2403WA	17-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A13693	2403WA	25-Jan-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A13908	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A14077	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A14102	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A14161	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
RHZ-102-A14286	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A14968	2403WA	21-Aug-86	0.21	Y	N	TRU	N	D008
RHZ-102-A15270	2403WA	01-Dec-86	0.21	Y	N	TRU	N	D008
RHZ-102-A15273	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A15389	2403WA	01-Dec-86	0.2082	Y	N	TRU	N	D008
RHZ-102-A15687	2403WA	20-Jan-87	0.21	Y	N	TRU	N	D008
RHZ-103-A13469	2403WA	12-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A13556	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A13641	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A13676	2403WA	12-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A14134	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A14859	2403WA	30-Jun-86	0.21	Y	N	TRU	N	D008
RHZ-103-A15609	2403WA	13-Feb-87	0.21	Y	N	TRU	N	D008
RHZ-103-A16076	2403WA	13-Mar-87	0.21	Y	N	TRU	N	D008
RHZ-105-A14088	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-105-A15318	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-111-A15633	2403WA	10-Feb-88	0.21	Y	N	TRU	N	D008
RHZ-111-A15635	2403WA	06-Feb-87	0.21	Y	N	TRU	N	D008
RHZ-111-A15843	2403WA	13-Feb-87	0.21	Y	N	TRU	N	D008
RHZ-111-A15918	2403WA	21-Jan-87	0.21	Y	N	TRU	N	D008
RHZ-212-A16608	2403WA	04-Jun-87	0.21	Y	N	TRU	N	D008
RHZ-212-A17581	2403WA	13-Nov-87	0.21	Y	N	TRU	N	D008
RHZ-212-A17837	2403WA	11-Dec-87	0.2082	Y	N	TRU	N	D008
RHZ-212-A17871	2403WA	11-Dec-87	0.21	Y	N	TRU	N	D008
RHZ-212-A17967	2403WA	07-Jan-88	0.2082	Y	N	TRU	N	D008
RHZ-212-A17998	2403WA	03-Feb-88	0.21	Y	N	TRU	N	D008
RHZ-212-A19135	2403WA	14-Jul-89	0.21	Y	N	TRU	N	D008 WT01
RHZ-212-A22890	2403WA	28-Apr-94	0.2082	Y	N	TRU	N	D019
RHZ-213-A17490	2403WA	13-Nov-87	0.21	Y	N	TRU	N	D008
RHZ-213-A18385	2403WA	03-Jun-88	0.21	Y	N	TRU	N	D008
RHZ-213-A19395	2403WA	13-Jun-89	0.21	Y	Y	TRU	N	D030 D032 D033
RHZ-213-A19396	2403WA	13-Jun-89	0.21	Y	Y	TRU	N	D030 D032 D033
RHZ-213-A21934	2403WA	27-Jan-93	0.208	Y	N	TRU	N	D008
RHZ-220-A19813	2403WA	25-Jul-89	0.21	Y	N	TRU	N	D008
RRM3421-1	2403WA	01-Mar-07	0.21	Y	N	TRU	N	D006 D007 D008 D011
RRM3421-2	2403WA	01-Mar-07	0.21	Y	N	TRU	N	D006 D007 D008 D011
WH78-36	2403WA	20-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH86002	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
WH86003	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
WH86012	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
Y265-03-L0910	2403WA	07-Aug-03	0.2082	Y	Y	TRU	N	F002

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
YUD8005-1	2403WA	23-Nov-05	0.21	Y	N	TRU	N	D006 D007 D008 D011
YUD8005-2	2403WA	20-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
YUD8005-3	2403WA	09-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
YUD8005-4	2403WA	20-Nov-05	0.21	Y	N	TRU	N	D006 D007 D008 D011
YUD8005-5	2403WA	23-Nov-05	0.21	Y	N	TRU	N	D006 D007 D008 D011
YUD8005-6	2403WA	28-Nov-05	0.21	Y	N	TRU	N	D006 D007 D008 D011
Z72-7-55	2403WA	06-Jan-08	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z72-7-76	2403WA	05-Nov-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z72-8-38	2403WA	06-Jan-08	0.21	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z72-8-88	2403WA	06-Nov-07	0.21	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z73-5-030	2403WA	11-Sep-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z84A10328	2403WA	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A10558	2403WA	04-Mar-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11031	2403WA	28-Jan-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11104	2403WA	12-Jul-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11210	2403WA	19-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11265	2403WA	19-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11269	2403WA	19-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11369	2403WA	05-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z8502-A12334-2	2403WA	18-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
ZORGA9143	2403WA	21-Feb-08	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZORGA9188	2403WA	21-Feb-08	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZORGA9205	2403WA	03-Mar-08	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0000943	2403WB	27-Sep-01	0.2082	N	N	TRU	N	
0000949	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0000966	2403WB	21-Aug-03	0.2082	N	Y	TRU	N	
0001041	2403WB	04-Mar-09	0.2082	N	N	TRU	N	
0001044	2403WB	27-Sep-01	0.2082	N	N	TRU	N	
0001079	2403WB	14-Aug-03	0.2082	N	N	TRU	N	
0001080	2403WB	14-Aug-03	0.2082	N	N	TRU	N	
0001087	2403WB	23-Sep-03	0.2082	N	Y	TRU	N	
0004438	2403WB	23-Sep-03	0.2082	N	N	TRU	N	
0004441	2403WB	21-Jun-06	0.2082	N	N	TRU	N	
0004468	2403WB	26-Sep-02	0.2082	N	N	TRU	N	

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0007403	2403WB	26-Sep-02	1.53	N	N	TRU	N	
0008121	2403WB	29-Aug-05	0.2082	N	N	TRU	N	
0009155	2403WB	02-Apr-03	1.8	N	N	TRU	N	
0009157	2403WB	02-Apr-03	1.8	N	N	TRU	N	
0010025	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010027	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010031	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010041	2403WB	29-Aug-05	0.2082	N	N	TRU	N	
0010048	2403WB	09-Sep-04	0.0151	N	N	TRU	N	
0010055	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010060	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010067	2403WB	12-Oct-05	0.2082	N	N	TRU	N	
0010383	2403WB	27-Aug-08	0.208	N	N	TRU	N	
0010390	2403WB	27-Aug-08	0.208	N	N	TRU	N	
0013157	2403WB	02-Apr-03	6.37	N	N	TRU	N	
0013307	2403WB	29-Aug-05	0.2082	N	N	TRU	N	
0013901	2403WB	29-Sep-05	0.2082	N	N	TRU	N	
0014088	2403WB	26-Jan-06	0.2082	N	N	TRU	N	
0014093	2403WB	26-Jan-06	0.2082	N	N	TRU	N	
0019426	2403WB	25-Feb-09	0.208	N	N	TRU	Y	
0019473	2403WB	17-Oct-07	0.208	N	N	TRU	N	
0020723	2403WB	20-Mar-06	0.2082	N	N	TRU	N	
0021127	2403WB	15-May-06	0.3218	N	N	TRU	N	
0022755	2403WB	17-Nov-05	0.2082	N	N	TRU	N	
0022835	2403WB	21-Jun-06	0.2083	N	N	TRU	N	
0026049	2403WB	15-Nov-05	0.2082	N	N	TRU	N	
0026051	2403WB	06-Mar-07	0.2082	N	N	TRU	N	
0031707	2403WB	05-Feb-09	0.2082	N	Y	TRU	N	
0031898	2403WB	12-Jul-06	0.2082	N	Y	TRU	Y	
0031952	2403WB	12-Jul-06	0.2082	N	Y	TRU	Y	
0032949	2403WB	06-Mar-07	0.208	N	N	TRU	N	
0032955	2403WB	15-Aug-07	0.208	N	N	TRU	N	
0032958	2403WB	15-Aug-07	0.208	N	N	TRU	N	
0033645	2403WB	30-Aug-06	1.8	N	N	TRU	N	
0047686	2403WB	16-Feb-06	1.515	N	N	TRU	N	
0047692	2403WB	16-Feb-06	1.515	N	N	TRU	N	
0047695	2403WB	12-Feb-06	1.515	N	N	TRU	N	
0047716	2403WB	16-Feb-06	1.515	N	N	TRU	N	
0058357	2403WB	15-Jun-10	0.208	N	N	TRU	N	
0058562	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0058600	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0058601	2403WB	16-Nov-10	0.208	N	N	TRU	N	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0058602	2403WB	15-Jun-10	0.208	N	N	TRU	N	
0058612	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0058613	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0058842	2403WB	15-Jun-10	0.208	N	Y	TRU	N	
0058952	2403WB	15-Jun-10	0.208	N	Y	TRU	N	
0061210	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0061273	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0061276	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0061324	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0061335	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0063036	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0063127	2403WB	07-Jan-10	0.208	N	N	TRU	N	
0071001	2403WB	16-Nov-10	0.208	N	N	TRU	N	
0071026	2403WB	16-Nov-10	0.208	N	N	TRU	N	
0075008	2403WB	16-Nov-10	0.208	N	N	TRU	N	
0075044	2403WB	16-Nov-10	0.208	N	N	TRU	N	
308-92-013	2403WB	17-Aug-94	9.607	N	N	TRU	N	
327-30422	2403WB	08-May-02	6.37	N	N	TRU	N	
9522363	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
9522365	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
9601030	2403WB	28-Sep-98	0.2082	N	N	TRU	N	
9601032	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
9601034	2403WB	26-Jan-06	0.2082	N	N	TRU	N	
9601103	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
9701640	2403WB	27-Sep-01	0.208	N	N	TRU	N	
9703447	2403WB	30-Sep-98	0.3218	N	N	TRU	N	
9804522	2403WB	27-Sep-01	0.208	N	N	TRU	N	
BP-188053	2403WB	30-Sep-93	2.3	N	N	TRU	N	
BP-196020	2403WB	16-Apr-96	0.2082	N	N	TRU	N	
HNF327-CLD-011	2403WB	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-012	2403WB	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-013	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-014	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-015	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-016	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-017	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-018	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-020	2403WB	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-021	2403WB	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-022	2403WB	14-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-023	2403WB	28-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-024	2403WB	28-Sep-98	0.2082	N	N	TRU	N	

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HNF327-CLD-036	2403WB	28-Sep-98	0.2082	N	N	TRU	N	
HNF327-CLD-039	2403WB	28-Sep-98	0.2082	N	N	TRU	N	
PNL-02-118	2403WB	13-Aug-02	1.8	N	Y	TRU	N	
PNL-LLW-95155	2403WB	30-Sep-98	0.208	N	N	TRU	N	
PNL-LLW-95159	2403WB	30-Sep-98	0.208	N	N	TRU	N	
PNL-LLW-95161	2403WB	30-Sep-98	0.208	N	N	TRU	N	
PNL-TRU-95017	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95018	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95019	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95020	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95021	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95023	2403WB	28-Sep-95	9.8	N	N	TRU	N	
PNL-TRU-95024	2403WB	28-Sep-95	9.8	N	N	TRU	N	
RHZ-85-003	2403WB	30-Jun-93	14.1	N	N	TRU	N	
RHZ-85-006	2403WB	30-Jun-93	14.1	N	N	TRU	N	
RHZ-86-008	2403WB	17-Aug-94	3.172	N	N	TRU	N	
RHZ-86-009	2403WB	17-Aug-94	3.172	N	N	TRU	N	
RHZ-86-017	2403WB	22-Aug-94	3.3	N	N	TRU	N	
RHZ-86-018	2403WB	17-Aug-94	9.607	N	N	TRU	N	
RHZ-86-021	2403WB	17-Aug-94	9.607	N	N	TRU	N	
SWO-95-PRC-001	2403WB	05-Oct-83	3.964	N	N	TRU	N	
SWO-95-PRC-007	2403WB	05-Oct-83	3.964	N	N	TRU	N	
SWO-95-PRC-008	2403WB	05-Oct-83	3.964	N	N	TRU	N	
SWO-95-PRC-010	2403WB	26-Sep-83	6.371	N	N	TRU	N	
Z9D77-331	2403WB	15-Aug-97	6.37	N	N	TRU	N	
Z9D77-4-8	2403WB	15-Aug-97	6.37	N	N	TRU	N	
0000656	2403WB	17-Jul-02	6.37	Y	N	TRU	N	D008
0000865	2403WB	14-Aug-03	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
0000944	2403WB	27-Sep-01	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
0000967	2403WB	21-Aug-03	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
0000970	2403WB	21-Aug-03	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
0001016	2403WB	27-Sep-01	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
0010018	2403WB	27-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D040 D043 F001 F002 F004 F005
0010030	2403WB	27-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F004 F005 WSC2
0010052	2403WB	12-Oct-05	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F004 F005
0017583	2403WB	09-Sep-04	1.8	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
0017584	2403WB	09-Sep-04	1.8	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0017585	2403WB	25-Aug-04	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
0017605	2403WB	25-Aug-04	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F003 F004 F005
0017606	2403WB	09-Sep-04	1.8	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
0017629	2403WB	23-Sep-04	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D030 D033 D043 F001 F002 F003 F004 F005
0017631	2403WB	23-Sep-04	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
0017632	2403WB	23-Sep-04	1.8	Y	N	TRU	N	D008 D030 F001 F002 F003 F004 F005
0021122	2403WB	15-Sep-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0022149	2403WB	11-Jul-05	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0022150	2403WB	11-Jul-05	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0025068	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0025347	2403WB	30-Jun-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0025503	2403WB	14-Feb-07	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026277	2403WB	30-Jun-04	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0026755	2403WB	11-Feb-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0027233	2403WB	30-Aug-06	1.8	Y	N	TRU	N	D004 D006 D007 D008 D010 D011 D030 F001 F002 F004 F005
0027296	2403WB	07-Sep-05	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0027542	2403WB	30-Jun-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0028559	2403WB	24-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028841	2403WB	05-Aug-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0028858	2403WB	05-Aug-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0029370	2403WB	21-Jun-06	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010
0029464	2403WB	15-Sep-06	0.2082	Y	N	TRU	N	D004 D006 D007 D008 D010
0029994	2403WB	21-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0032954	2403WB	16-Nov-10	0.208	Y	N	TRU	N	D008
0033946	2403WB	22-Feb-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0033974	2403WB	20-Feb-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0033976	2403WB	20-Feb-04	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0035472	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035476	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0035477	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035490	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035491	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035492	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035517	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0035700	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0036980	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003

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0036981	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0036982	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0036983	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0036987	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0036988	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0036989	2403WB	12-Sep-06	0.3218	Y	Y	TRU	N	D006 D007 F001 F002 F003
0038344	2403WB	05-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D011
0038574	2403WB	06-Feb-07	0.322	Y	N	TRU	N	D006 D007 D008 D011
0040709	2403WB	16-Nov-10	0.208	Y	N	TRU	N	D008
0041887	2403WB	09-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0041952	2403WB	08-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046297	2403WB	08-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046340	2403WB	08-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046342	2403WB	12-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046365	2403WB	12-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046384	2403WB	12-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0046826	2403WB	14-May-08	0.322	Y	N	TRU	N	D006 D007 D008 D011
0047685	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047687	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047688	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047689	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047690	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047691	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047694	2403WB	08-Aug-07	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047696	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047697	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047698	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047699	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047700	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047701	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047702	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047705	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047706	2403WB	15-Oct-07	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047707	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047708	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047709	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047710	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047711	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047712	2403WB	15-Oct-07	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

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0047715	2403WB	08-Aug-07	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0047717	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047718	2403WB	20-Dec-05	1.515	Y	N	TRU	N	D005 D006 D007 D008 D011
0047808	2403WB	05-Sep-03	0.322	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0055752	2403WB	02-Sep-08	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058277	2403WB	06-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0059421	2403WB	03-Sep-08	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059422	2403WB	03-Sep-08	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059423	2403WB	03-Sep-08	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059424	2403WB	03-Sep-08	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0059425	2403WB	08-Jul-09	1.515	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
19-01	2403WB	05-Aug-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
19-06	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
19-09	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
19-10	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
19-13	2403WB	05-Aug-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
19-15	2403WB	05-Aug-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
20-04	2403WB	26-Jun-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
20-07	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
20-09	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
20-10	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
20-15	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
20-16	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
20-17	2403WB	26-Jun-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
22-01	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
22-07	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
22-09	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
22-12	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
22-16	2403WB	12-Sep-06	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
2350-3	2403WB	15-Jul-04	13.026	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
2350-6	2403WB	19-Jul-04	13.026	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
3389-2-3	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-2-4	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-2-5	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005

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3389-2-6	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-1	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-2	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-3	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-4	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-5	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-4-6	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-6-1	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-6-2	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-6-3	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-6-4	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-6-5	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-7-2	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-7-4	2403WB	17-May-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-9-25	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-9-26	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3389-9-27	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
340-92-00020	2403WB	28-Jun-93	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
353612-7	2403WB	23-Nov-04	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353612-8	2403WB	23-Nov-04	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353613-13	2403WB	23-Nov-04	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353613-14	2403WB	23-May-05	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353614-1	2403WB	18-Apr-05	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353614-2	2403WB	20-Feb-05	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353615-1	2403WB	20-Feb-05	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353615-2	2403WB	18-Apr-05	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353616-1	2403WB	02-Nov-04	5.862	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353617-1	2403WB	11-Apr-05	4.955	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353617-2	2403WB	11-Apr-05	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353618-1	2403WB	23-Nov-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353618-2	2403WB	23-Nov-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353619-1	2403WB	23-Nov-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
353619-2	2403WB	23-Nov-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
3928-CSB1	2403WB	27-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-10-1	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-10-2	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-1-1	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-11-2	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-1-2	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-13-1	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-17-1	2403WB	01-Jul-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-17-2	2403WB	30-Jun-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005

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3950-2-1	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-3-1	2403WB	25-Oct-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-3-2	2403WB	18-Apr-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-6-1	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950-6-2	2403WB	17-May-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950CSB25	2403WB	15-Apr-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3950CSB26	2403WB	15-Apr-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4242-1-1	2403WB	01-Jul-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-1-2	2403WB	27-Jun-04	4.899	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-5-01	2403WB	02-Nov-04	5.823	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-8-66	2403WB	14-Sep-04	0.212	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-9-01	2403WB	01-Nov-04	5.89	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-9-02	2403WB	01-Nov-04	5.89	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4266-1-2	2403WB	21-Nov-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-14-2	2403WB	12-Oct-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-4-1	2403WB	12-Oct-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-4-2	2403WB	12-Oct-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-6-1	2403WB	30-Apr-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-6-2	2403WB	30-Apr-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-7-2	2403WB	29-Apr-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-8-1	2403WB	29-Apr-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4266-9-1	2403WB	30-Apr-04	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
4679-1502	2403WB	11-Feb-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1503	2403WB	11-Feb-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1701	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1702	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1703	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1704	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1705	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1706	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1707	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1708	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
4679-1709	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1711	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1712	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
4679-1713	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
4679-1715	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 F001 F002 F003
4679-1717	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1718	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1801	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1803	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1804	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003

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4679-1805	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1806	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1809	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1810	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1811	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1812	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1813	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1815	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1817	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
4679-1818	2403WB	30-Jun-04	0.21	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
7774-412	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-413	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-414	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-415	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-416	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-417	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-418	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-419	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-420	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-421	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-422	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-423	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-424	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
7774-425	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D005 D006 D007 D008 D011
7774-426	2403WB	29-Dec-05	0.419	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
846002	2403WB	05-Aug-04	0.21	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
84SB01	2403WB	28-Jun-04	7.136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
84SB02	2403WB	27-Jun-04	7.136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
9401310	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	D008 F001 F002 F003 F004 F005
9521498	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	D008 F001 F002 F003 F004 F005
9521515	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	D009 F001 F002 F003 F004 F005 WSC2
9521697	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9521698	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9521721	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D027 D028 D029 D030 D033 D034 D036
9522084	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9522120	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
9522174	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9522175	2403WB	30-Sep-97	0.2082	Y	N	TRU	N	D008 F001 F002 F003 F004 F005
9522361	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
9601033	2403WB	07-May-97	0.2082	Y	N	TRU	N	D008 D011 F001 F002 F003 F004 F005
9601094	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
9601095	2403WB	07-May-97	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D011 D030 F001 F002 F003 F004 F005
9601096	2403WB	07-May-97	0.2082	Y	N	TRU	N	D008 D011 F001 F002 F003 F004 F005
9601097	2403WB	07-May-97	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
9601098	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D018 D030 D033 D043 F001 F002 F003 F004 F005
9601099	2403WB	22-Sep-04	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D030 D033 D036 D040 D043 F001 F002 F003 F004 F005
9601100	2403WB	07-May-97	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
9601101	2403WB	07-May-97	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
9701566	2403WB	14-Aug-02	0.208	Y	N	TRU	N	F001 F002 F003 F004 F005
9701649	2403WB	14-Aug-02	0.208	Y	Y	TRU	N	D008 D009 WSC2
9701693	2403WB	15-Dec-03	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F003 F004 F005
9701695	2403WB	27-Sep-01	0.2082	Y	N	TRU	N	D011 F001 F002 F003 F004 F005
9701797	2403WB	14-Aug-03	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9701798	2403WB	27-Sep-01	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
9701868	2403WB	14-Aug-02	0.208	Y	N	TRU	N	D008 F001 F002 F003 F004 F005
9804520	2403WB	14-Aug-02	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
ARD-023	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD-024	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD-026	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD-028	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD-032	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
ARD305-12	2403WB	09-Jun-04	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
BP194011	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
BP194012	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
BP194013	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
BP194014	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
BP194015	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
BP194018	2403WB	21-Jun-94	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 F001 F002 F003 F004 F005 WC02 WL01 WP01 WT01
CSB-7	2403WB	20-Sep-05	7.136	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005

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I-BOX-008	2403WB	03-Jun-07	11.015	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
M-01	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
M-02	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
M-06	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
M-10	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
M-29	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
M-40	2403WB	11-Oct-06	3.398	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
PNL-00-132	2403WB	14-Aug-02	0.2082	Y	N	TRU	N	D008 D030 F001 F002 F003 F004 F005
PNL-01-074	2403WB	27-Sep-01	0.2082	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
PNL-01-170	2403WB	27-Sep-01	1.8	Y	N	TRU	N	D006 D007 D008 D010 D030 F001 F002 F003 F004 F005
PNL-01-171	2403WB	27-Sep-01	1.8	Y	N	TRU	N	F001 F002 F003 F004 F005
PNL-01-172	2403WB	27-Sep-01	1.8	Y	N	TRU	N	F001 F002 F003 F004 F005
PNL-01-184	2403WB	27-Sep-01	1.8	Y	N	TRU	N	F001 F002 F003 F004 F005 WSC2
PNL186022	2403WB	05-Sep-03	3.2	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL186023	2403WB	05-Sep-03	3.2	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL186024	2403WB	05-Sep-03	3.2	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL186025	2403WB	05-Sep-03	3.2	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL186026	2403WB	05-Sep-03	3.2	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL186027	2403WB	05-Sep-03	9.599	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
PNL-RMW-95012	2403WB	17-Jul-95	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 F001 F002 F003 F004 F005 WC02 WP01 WT01
PNL-RMW-95013	2403WB	17-Jul-95	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D022 D027 D028 D029 D033 D034 D035 D036 D038 D040 D041 D043 F001 F002 F003 F004 F005
PNL-RMW-95028	2403WB	30-Dec-98	0.2082	Y	N	TRU	N	D007 D009 D018 D019 D027 D028 D029 D030 D033 D034 D036 D039 D040 D043 F001 F002 F003
PNL-TRU-95015	2403WB	28-Sep-95	4.2	Y	N	TRU	N	F001 F002 F003 F004 F005 WP02
RHA84SB03	2403WB	05-Sep-03	7.136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
RHA84SB04	2403WB	05-Sep-03	7.136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
RHA84SB05	2403WB	05-Sep-03	7.136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
RH-A-SB-84-06	2403WB	17-Aug-89	7.136	Y	N	TRU	N	D008 WT02
RHZ-85-002	2403WB	10-Aug-89	7.136	Y	Y	TRU	N	D006 D009 WC02 WT01
RHZ-86-002	2403WB	08-Aug-89	3.172	Y	Y	TRU	N	D006 D008 D009 WC02 WT01
RHZ-86-010	2403WB	09-Aug-89	9.611	Y	Y	TRU	N	D006 D008 D009 WC02 WT01
RHZ-86-013	2403WB	29-Aug-94	3.3	Y	N	TRU	N	D008
RHZ-87-028	2403WB	08-Aug-89	4.205	Y	Y	TRU	N	D006 D009 WC02 WT01
RHZ-87-037	2403WB	02-Aug-89	4.205	Y	Y	TRU	N	D006 D008 D009 WC02 WT01
RHZ-87-039	2403WB	08-Aug-89	9.611	Y	Y	TRU	N	D006 D009 WC02 WT01
RHZ-87-041	2403WB	07-Aug-89	9.611	Y	Y	TRU	N	D006 D008 D009 WC01 WT01
RHZ-87-044	2403WB	07-Aug-89	9.611	Y	Y	TRU	N	D006 D009 WC02 WT01
RRM3296-4-4	2403WB	17-Feb-05	3.54	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
SB11823	2403WB	19-May-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
SB80101	2403WB	15-Jun-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB81021	2403WB	16-Jun-04	7.362	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB82021	2403WB	15-Jun-04	10.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB82042	2403WB	19-May-04	16.85	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB82092	2403WB	07-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83031	2403WB	16-May-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83041	2403WB	07-Jun-04	14.27	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83042	2403WB	07-Jun-04	14.27	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83043	2403WB	16-May-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83074	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB83121.A	2403WB	07-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84031	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84032	2403WB	16-May-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84033	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84034	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84041	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84071	2403WB	10-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84072	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84081	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84082	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84103	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84104	2403WB	15-Jun-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84106	2403WB	10-Jun-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84112	2403WB	16-May-04	10.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84115	2403WB	15-Jun-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB84118	2403WB	07-Jun-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB8457	2403WB	15-Jun-04	11.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85011	2403WB	01-Apr-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85021	2403WB	01-Apr-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85022	2403WB	01-Apr-04	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85023	2403WB	01-Apr-04	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85024	2403WB	01-Apr-04	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85025	2403WB	01-Apr-04	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85026	2403WB	01-Apr-04	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB-8503-1	2403WB	17-Sep-07	7.501	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB-85032	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85-06-1	2403WB	05-Sep-03	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85-06-2	2403WB	05-Sep-03	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB85-08-2	2403WB	05-Sep-03	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB-85083	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB-85084	2403WB	18-Sep-07	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
SB9-83-05	2403WB	08-Sep-03	6.994	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

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SER35-116	2403WB	14-Jul-04	14.47	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
WH78-115	2403WB	07-Feb-07	5.663	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH80-425	2403WB	25-Jul-05	14.33	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
WH81-500	2403WB	20-Jul-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH81-501	2403WB	19-Jul-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH81-502	2403WB	19-Jul-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH81-503	2403WB	16-Jun-04	17.3	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-82-036	2403WB	18-Nov-04	7.136	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
WH-85-056	2403WB	05-Sep-03	7.065	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WHC77-827	2403WB	26-Mar-07	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WHC77-828	2403WB	26-Mar-07	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WRP-10LOP-001	2403WB	11-Jul-05	1.6	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
WRP-10LOP-002	2403WB	11-Jul-05	1.6	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z7610-210	2403WB	03-Jun-07	3.172	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0009241	2403WC	15-Nov-05	0.2082	N	N	TRU	N	
0010054	2403WC	29-Aug-05	0.2082	N	N	TRU	N	
0010064	2403WC	29-Aug-05	0.2082	N	N	TRU	N	
0010065	2403WC	17-Nov-05	0.2082	N	N	TRU	N	
0010378	2403WC	17-Nov-05	0.2082	N	N	TRU	N	
0010381	2403WC	17-Nov-05	0.2082	N	N	TRU	N	
0059792	2403WC	27-Oct-05	0.322	N	N	TRU	N	
0074258	2403WC	01-Nov-10	0.208	N	N	TRU	N	
0074691	2403WC	25-Oct-10	0.208	N	N	TRU	N	
0074692	2403WC	25-Oct-10	0.208	N	N	TRU	N	
0074874	2403WC	01-Nov-10	0.208	N	N	TRU	N	
9517472	2403WC	28-Oct-05	0.2082	N	N	TRU	N	
9703421	2403WC	17-Nov-05	0.3218	N	N	TRU	N	
9703424	2403WC	10-May-00	0.005	N	N	TRU	N	
9703433	2403WC	30-Sep-98	0.3218	N	N	TRU	N	
9703439	2403WC	30-Sep-98	0.3218	N	N	TRU	N	
9703448	2403WC	29-Sep-05	0.3218	N	N	TRU	N	
9703455	2403WC	30-Sep-98	0.3218	N	N	TRU	N	
HNF327-CLD-038	2403WC	28-Sep-98	0.2082	N	N	TRU	N	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
RHZ-103-A15085	2403WC	15-Dec-86	0.21	N	N	TRU	N	
RHZ-111-A15563	2403WC	06-Feb-87	0.21	N	N	TRU	N	
RHZ-111-A15844	2403WC	21-Jan-87	0.21	N	N	TRU	N	
RHZ-212-A17092	2403WC	21-Aug-87	0.21	N	N	TRU	N	
RHZ-212-A17970	2403WC	07-Jan-88	0.2082	N	N	TRU	N	
Y265-03-L0901	2403WC	07-Aug-03	0.2082	N	N	TRU	N	
0009931	2403WC	21-Sep-05	0.3218	Y	Y	TRU	N	F001 F002 F003 F004 F005
0010014	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010016	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010017	2403WC	26-Oct-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010026	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010061	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010391	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010392	2403WC	01-Nov-05	0.2082	Y	N	TRU	N	D007 D009 D010 D011 F001 F002 F004 F005
0010394	2403WC	26-Oct-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0010398	2403WC	26-Oct-05	0.2082	Y	N	TRU	N	D007 D008 D009 D010 D011 F001 F002 F004 F005
0014613	2403WC	01-Nov-06	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0020116	2403WC	19-Sep-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003
0022730	2403WC	26-Oct-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0022768	2403WC	26-Oct-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F004 F005
0026505	2403WC	13-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026600	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0026643	2403WC	11-Jul-05	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028290	2403WC	19-Sep-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028397	2403WC	06-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028568	2403WC	19-Oct-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0028747	2403WC	07-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0028748	2403WC	07-Nov-05	0.3218	Y	N	TRU	N	WSC2 WT02
0029739	2403WC	24-Jan-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031024	2403WC	20-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031139	2403WC	15-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0031201	2403WC	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0032052	2403WC	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032067	2403WC	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032081	2403WC	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032124	2403WC	25-Apr-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032307	2403WC	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032313	2403WC	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032448	2403WC	22-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0032994	2403WC	28-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033026	2403WC	15-Jun-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0033226	2403WC	25-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033228	2403WC	09-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033230	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033231	2403WC	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033232	2403WC	25-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033240	2403WC	20-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033241	2403WC	09-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033243	2403WC	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033276	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033277	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033278	2403WC	09-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033279	2403WC	25-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0033306	2403WC	25-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035628	2403WC	17-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035648	2403WC	02-Feb-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035730	2403WC	30-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0035773	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035774	2403WC	20-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035775	2403WC	14-Jul-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035779	2403WC	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035780	2403WC	09-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035781	2403WC	20-Oct-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035843	2403WC	19-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035844	2403WC	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035845	2403WC	12-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035847	2403WC	12-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035848	2403WC	02-Feb-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035849	2403WC	05-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035850	2403WC	17-Mar-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035851	2403WC	11-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035852	2403WC	12-Jan-06	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D011 WSC2
0035861	2403WC	30-Aug-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038622	2403WC	08-Feb-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0038751	2403WC	19-Jan-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0038958	2403WC	31-May-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0039479	2403WC	12-Mar-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0043614	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043616	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043627	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043628	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043646	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043669	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043670	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043671	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043701	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0043702	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0044927	2403WC	15-Jul-80	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0047445	2403WC	18-Jun-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048337	2403WC	22-Jan-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048749	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048750	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048767	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048854	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048855	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048892	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048893	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0048906	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0048921	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049001	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049039	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049088	2403WC	11-Jun-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049119	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049122	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049155	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049156	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049158	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049205	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049207	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049208	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049232	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049233	2403WC	26-Feb-08	0.208	Y	N	TRU	Y	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049234	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049268	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049269	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049306	2403WC	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049307	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049352	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0049353	2403WC	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0050080	2403WC	01-Jul-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0050114	2403WC	23-Jun-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0051759	2403WC	08-Jul-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0053101	2403WC	15-Jul-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0053116	2403WC	15-Jul-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0053158	2403WC	01-Aug-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0053731	2403WC	08-Jul-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003
0053796	2403WC	03-Jul-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055036	2403WC	08-Apr-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 F003 WSC2
0055066	2403WC	02-Sep-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055087	2403WC	02-Sep-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WP02 WSC2 WT02
0055089	2403WC	12-Sep-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055091	2403WC	12-Sep-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 F001 F002 F003 F005 WSC2
0055214	2403WC	02-Sep-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055245	2403WC	21-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0055247	2403WC	21-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0055297	2403WC	25-Aug-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0058350	2403WC	19-Nov-09	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0058515	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058572	2403WC	19-Nov-09	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0058573	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058708	2403WC	21-Aug-08	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058827	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058829	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058839	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058846	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0058946	2403WC	07-Oct-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0063605	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0063606	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0063646	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0063684	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0063726	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0063727	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0065481	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0065484	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0066956	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0066958	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0066959	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0066960	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0066962	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067026	2403WC	04-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067046	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 F001 F002 F003 F005
0067088	2403WC	14-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067096	2403WC	14-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067114	2403WC	14-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067196	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067197	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067201	2403WC	14-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067210	2403WC	19-Nov-09	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0067211	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067392	2403WC	14-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067398	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067399	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067400	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067406	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0067420	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067421	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003
0067426	2403WC	18-Dec-09	0.208	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F002 F003

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0067442	2403WC	04-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D043 F001 F002 F003 F004 F005
0069069	2403WC	04-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069194	2403WC	17-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069200	2403WC	04-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0069232	2403WC	17-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069884	2403WC	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069887	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069889	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069892	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069893	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069914	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069915	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069918	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069919	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069920	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069921	2403WC	17-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069927	2403WC	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069936	2403WC	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069948	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069949	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069953	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069955	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069988	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0069989	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0069990	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0069994	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0069995	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070008	2403WC	16-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070019	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070034	2403WC	23-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D011 D019 D022 D030 F001 F002 F003 F005
0070035	2403WC	17-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070120	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070121	2403WC	26-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070147	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D006 D007 D008 F001 F002 F003
0070176	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070177	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070214	2403WC	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070230	2403WC	16-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070231	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070277	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070429	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070430	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070445	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D006 D007 D008 D011
0070446	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070447	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070452	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0070456	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070480	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070485	2403WC	03-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070486	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070491	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070492	2403WC	26-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070494	2403WC	15-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070497	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070498	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D006 D007 D008 F001 F002 F003
0070501	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070502	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070503	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D006 D007 D008 F001 F002 F003
0070514	2403WC	22-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070532	2403WC	17-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070535	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070557	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070558	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070561	2403WC	17-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070562	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070563	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070565	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070579	2403WC	27-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0070589	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0070592	2403WC	22-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070613	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070616	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070619	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0070620	2403WC	13-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070623	2403WC	13-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0070625	2403WC	07-Apr-10	0.208	Y	N	TRU	N	D006 D007 D008 F001 F002 F003
0071010	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071011	2403WC	13-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071012	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071016	2403WC	17-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071017	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071023	2403WC	13-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071032	2403WC	26-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071033	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071035	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071036	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071037	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071038	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071039	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071045	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071046	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071051	2403WC	18-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071071	2403WC	19-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071151	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071152	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071159	2403WC	26-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071160	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071165	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071166	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0071189	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071199	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071203	2403WC	13-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071211	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071212	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071243	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071257	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071261	2403WC	24-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071262	2403WC	24-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071264	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071265	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071266	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071267	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071272	2403WC	21-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071277	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071279	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071280	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071290	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071321	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071326	2403WC	07-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071330	2403WC	21-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071333	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071334	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071356	2403WC	18-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071361	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071362	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071365	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071367	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071369	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071374	2403WC	26-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0071375	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071378	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071381	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071383	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071388	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0071397	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071399	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071400	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071403	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071415	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071416	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071422	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071429	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071430	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071434	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0071438	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071440	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071443	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071444	2403WC	25-Apr-11	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071451	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071452	2403WC	01-Nov-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071454	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071462	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D030 F001 F002 F003 F005
0071463	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071464	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071472	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0071473	2403WC	20-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071480	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071482	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071505	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071519	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071532	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071559	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071566	2403WC	13-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071575	2403WC	07-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071577	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071579	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071580	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071582	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071583	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071584	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071585	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071587	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071588	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071593	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071599	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071600	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071602	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071607	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071608	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071609	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071610	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071620	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071621	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071622	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071626	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071627	2403WC	12-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071628	2403WC	12-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071636	2403WC	23-Mar-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071637	2403WC	23-Mar-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071638	2403WC	22-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071654	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071660	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071661	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071662	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071663	2403WC	23-Mar-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071668	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071669	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071670	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071671	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071672	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071673	2403WC	04-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071675	2403WC	13-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071679	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071695	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071696	2403WC	28-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071697	2403WC	28-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071702	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071703	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071704	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071705	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071710	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071711	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071712	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071713	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071721	2403WC	28-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071722	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071723	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071724	2403WC	23-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071725	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071727	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071728	2403WC	18-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071730	2403WC	12-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071731	2403WC	12-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071732	2403WC	12-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071739	2403WC	22-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F005
0071754	2403WC	12-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071755	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071756	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071757	2403WC	04-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071780	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071782	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071785	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071787	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071790	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071791	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071796	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071801	2403WC	28-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0071804	2403WC	15-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071808	2403WC	15-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071809	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071810	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071814	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071815	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071816	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071820	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071821	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071831	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071835	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071837	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071838	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071839	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071847	2403WC	25-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071858	2403WC	08-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071860	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071872	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071873	2403WC	16-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0071881	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071883	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071885	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071890	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005 WSC2
0071893	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071899	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071906	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0071907	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071908	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071915	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071916	2403WC	15-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071922	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0071924	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0071933	2403WC	14-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 D039 F001 F002 F003 F005
0071934	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D030 F001 F002 F003 F005 WSC2
0071939	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071943	2403WC	06-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0071948	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0071957	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071959	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071967	2403WC	14-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071969	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071970	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071971	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071972	2403WC	06-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 F001 F002 F003 F005 WSC2
0071978	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071981	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0071982	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072246	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072250	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072252	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072257	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072259	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072260	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072261	2403WC	08-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072264	2403WC	20-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072265	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072270	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072274	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0072285	2403WC	03-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0072287	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072288	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072289	2403WC	30-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072290	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0072294	2403WC	25-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0072295	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0072298	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072299	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072306	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072315	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072317	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072321	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072324	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072325	2403WC	15-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072326	2403WC	20-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072328	2403WC	18-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072330	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072333	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072335	2403WC	25-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0072336	2403WC	03-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0072339	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072340	2403WC	25-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0072341	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0072342	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0072345	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072346	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072351	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072353	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0072356	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072357	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072358	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072359	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072365	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072368	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072369	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072371	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072377	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072378	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072379	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072380	2403WC	27-May-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0072381	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072383	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072384	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0072385	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072386	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072387	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004
0072389	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072391	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072394	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072400	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072402	2403WC	09-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072403	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072405	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072406	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D006 D007 D008 D011
0072417	2403WC	02-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0072418	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072421	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072424	2403WC	27-May-10	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0072426	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072428	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0072434	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0072435	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072437	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072438	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072440	2403WC	03-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0072441	2403WC	27-May-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072442	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D006 D007 D008 D011
0072445	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072447	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0072448	2403WC	02-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0072450	2403WC	25-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0072453	2403WC	9-May-11	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0073302	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073305	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073310	2403WC	01-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D030 F001 F002 F003 F005
0073311	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073317	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073320	2403WC	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073324	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073325	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073328	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073329	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073331	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073332	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073333	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073334	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073335	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0073337	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073340	2403WC	16-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073343	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073349	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073351	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073353	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073354	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073355	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073358	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073362	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073363	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073366	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073380	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073384	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073390	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073391	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073392	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073397	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073398	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073399	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073400	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0073401	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073403	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073404	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073405	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073406	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073408	2403WC	17-Jun-10	0.208	Y	Y	TRU	N	D006 D007 D008 F001 F002 F003
0073409	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073411	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073412	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073413	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073418	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073427	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073436	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073439	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073442	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0073444	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073445	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073446	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073449	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073455	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073458	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0073459	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073460	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073463	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073468	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073469	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073470	2403WC	08-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073472	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073473	2403WC	06-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073474	2403WC	24-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0073475	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073476	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073477	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073478	2403WC	15-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073480	2403WC	07-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073481	2403WC	15-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D030 F001 F002 F003 F005
0073490	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073491	2403WC	17-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073492	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073495	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073496	2403WC	05-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073497	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0073501	2403WC	26-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073502	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0073503	2403WC	14-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0074242	2403WC	19-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074681	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074685	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074686	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074687	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074688	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074693	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074694	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074696	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074705	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074707	2403WC	25-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074708	2403WC	25-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074710	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074711	2403WC	26-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 D035 WSC2
0074713	2403WC	19-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0074714	2403WC	19-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074720	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074721	2403WC	26-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074722	2403WC	19-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0074723	2403WC	25-Apr-11	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074726	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0074727	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074728	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074730	2403WC	15-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0074732	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074739	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074741	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074744	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074749	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074752	2403WC	06-Apr-11	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0074755	2403WC	26-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074756	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074763	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074766	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074767	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074769	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074774	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074776	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0074777	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074780	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074782	2403WC	28-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074783	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074784	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0074788	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074789	2403WC	18-Oct-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074793	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074796	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074803	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074804	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0074807	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074808	2403WC	15-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074811	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074815	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074816	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074818	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074821	2403WC	15-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0074825	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074826	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074827	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074829	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D028 D030 D037 D043 F001 F002 F003 F004 F005
0074830	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074835	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074836	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074837	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074843	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0074857	2403WC	26-Oct-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D030 F001 F002 F003 F005 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0074860	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074861	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0074871	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074873	2403WC	11-Nov-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074875	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0074878	2403WC	20-Sep-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0074880	2403WC	28-Jul-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074881	2403WC	01-Nov-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0074883	2403WC	26-Aug-10	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0076426	2403WC	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076548	2403WC	28-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076883	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076889	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076922	2403WC	16-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076935	2403WC	08-Jun-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0076969	2403WC	14-Apr-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0077015	2403WC	18-May-11	0.208	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
26731360B	2403WC	17-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
27774-378	2403WC	08-Feb-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
342109-08	2403WC	06-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-02	2403WC	21-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-03	2403WC	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
342120-04	2403WC	14-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011
846003	2403WC	05-Aug-04	0.21	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005
9500569	2403WC	20-Sep-96	0.3218	Y	N	TRU	N	D007 F001
9522083	2403WC	30-Sep-97	0.3218	Y	N	TRU	N	D008 F001 F002 F003 F004 F005
9600342	2403WC	24-May-04	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
9703432	2403WC	30-Sep-98	0.3218	Y	N	TRU	N	D008
9703435	2403WC	30-Sep-98	0.3218	Y	N	TRU	N	D008
9703436	2403WC	06-Nov-08	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
A11129-1	2403WC	12-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11608	2403WC	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A11755	2403WC	20-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12138	2403WC	12-May-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12331	2403WC	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12399	2403WC	09-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
A12402	2403WC	09-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12417	2403WC	23-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12478	2403WC	23-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12654	2403WC	10-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12666	2403WC	07-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12670	2403WC	21-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12742	2403WC	07-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A12927	2403WC	16-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
A13210	2403WC	19-Sep-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
A13324	2403WC	11-Oct-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800603	2403WC	06-Jun-06	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8006-08	2403WC	20-Apr-06	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800904	2403WC	14-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800905	2403WC	14-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800906	2403WC	13-Sep-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC800908	2403WC	12-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8009-20	2403WC	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
LC8112-10	2403WC	25-Oct-05	0.21	Y	N	TRU	N	WSC2 WT02
LC8112-16	2403WC	14-Jul-05	0.21	Y	N	TRU	N	WSC2 WT02
PC8205-08	2403WC	25-May-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
PNL-RMW-94044	2403WC	12-Jan-95	0.2082	Y	N	TRU	N	WT02
RH-A-87-052	2403WC	01-Jun-88	0.21	Y	N	TRU	N	WSC2
RHZ-102-A13800	2403WC	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A13869	2403WC	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A14253	2403WC	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-102-A15108	2403WC	15-Dec-86	0.21	Y	N	TRU	N	D008
RHZ-102-A15644	2403WC	30-Jan-87	0.21	Y	N	TRU	N	D008
RHZ-103-A13509	2403WC	17-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-103-A14541	2403WC	30-Jun-86	0.21	Y	N	TRU	N	D008
RHZ-103-A15015	2403WC	15-Dec-86	0.21	Y	N	TRU	N	D008
RHZ-111-A15841	2403WC	21-Jan-87	0.21	Y	N	TRU	N	D008
RHZ-212-A17170	2403WC	04-Sep-87	0.21	Y	N	TRU	N	D008
RHZ-212-A17582	2403WC	10-Feb-88	0.21	Y	N	TRU	N	D008
RHZ-212-A17903	2403WC	07-Jan-88	0.2082	Y	N	TRU	N	D008
RHZ-212-A18478	2403WC	03-Jun-88	0.21	Y	N	TRU	N	D008
RHZ-213-A17388	2403WC	15-Oct-87	0.21	Y	N	TRU	N	D008
RHZ-213-A18391	2403WC	03-Jun-88	0.21	Y	N	TRU	N	D008
RHZ-213-A18395	2403WC	03-Jun-88	0.21	Y	N	TRU	N	D008 D009
RHZ-213-A22057	2403WC	15-Sep-92	0.208	Y	N	TRU	N	D008
RHZ-218-A22514	2403WC	17-Nov-93	0.2082	Y	N	TRU	N	D008
RHZ-87-035	2403WC	25-Aug-94	9.607	Y	N	TRU	N	WC02

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
RHZ-87-036	2403WC	25-Aug-94	9.607	Y	N	TRU	N	WC02
Z-102-A12672	2403WC	18-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A10998	2403WC	08-Sep-03	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11030	2403WC	19-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11103	2403WC	12-Jul-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11130	2403WC	08-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11266	2403WC	09-Aug-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z8503-A12476-1	2403WC	18-Feb-04	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z9-770513	2403WC	20-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770520	2403WC	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770701	2403WC	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-770923	2403WC	09-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771107	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771113	2403WC	16-Nov-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771127	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771129	2403WC	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771205	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771211	2403WC	24-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771217	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771226	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771228	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771229	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771231	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771232	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-771235	2403WC	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780101	2403WC	12-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780132	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780134	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780205	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780226	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780228	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780531	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9-780534	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9C-STD	2403WC	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D76-8-3	2403WC	26-Sep-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-533	2403WC	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D77-717	2403WC	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-101	2403WC	07-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-218	2403WC	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-230	2403WC	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D784011	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D784012	2403WC	18-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
Z9D786-23	2403WC	08-Jan-07	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D78-640	2403WC	11-Dec-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D787001	2403WC	23-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
Z9D787002	2403WC	17-Oct-06	0.21	Y	N	TRU	N	D006 D007 D008 D011 D039 F001 F002 F003 F005
0013481	2403WD	14-Sep-04	0.2082	N	N	LLW	Y	
0037539	2403WD	08-Nov-10	1.8	N	N	LLW	Y	
0066821	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0067230	2403WD	23-Jun-10	0.208	N	N	LLW	Y	
0067434	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0067482	2403WD	23-Jun-10	0.208	N	N	LLW	Y	
0069079	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0069345	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0069678	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0069730	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0069749	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0069757	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0069778	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0069841	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0069842	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0070260	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0072539	2403WD	04-Oct-10	0.208	N	N	LLW	Y	
0074549	2403WD	11-Nov-10	0.208	N	N	LLW	Y	
0074570	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074628	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074629	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074632	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074638	2403WD	11-Nov-10	0.208	N	N	LLW	Y	
0074652	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074655	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0074660	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0074675	2403WD	07-Dec-10	0.208	N	N	LLW	Y	
0074678	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0075895	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0075972	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0075992	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0075993	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0076072	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0076073	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0076077	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0077283	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0077287	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0077359	2403WD	20-Apr-11	0.208	N	N	LLW	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0077477	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0077511	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0077534	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0077556	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0077560	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0077576	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077601	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077620	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077624	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077628	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077637	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077640	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077642	2403WD	29-Mar-11	0.208	N	N	LLW	Y	
0077667	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0077671	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078521	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0078523	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0078687	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0078689	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0078690	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078691	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0078696	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0078698	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078700	2403WD	11-Apr-11	0.208	N	N	LLW	Y	
0078705	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078727	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0078728	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078735	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078738	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078739	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0078746	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0078827	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078830	2403WD	18-Feb-11	0.208	N	N	LLW	Y	
0078831	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078832	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078833	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0078834	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078835	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0078836	2403WD	24-May-11	0.208	N	N	LLW	Y	
0078837	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0078842	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078846	2403WD	18-Feb-11	0.208	N	N	LLW	Y	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0078863	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0078864	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0078870	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0078891	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0079343	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0079349	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0079350	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0079351	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0079352	2403WD	01-Apr-11	0.208	N	N	LLW	Y	
0079365	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0079366	2403WD	20-Apr-11	0.208	N	N	LLW	Y	
0079384	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
0079404	2403WD	06-Apr-11	0.208	N	N	LLW	Y	
0079418	2403WD	15-Mar-11	0.208	N	N	LLW	Y	
6900-88-08	2403WD	03-Nov-87	0.208	N	N	LLW	N	
6912-12.C	2403WD	08-Sep-03	0.21	N	N	LLW	N	
9406475	2403WD	29-Sep-95	0.2082	N	N	LLW	N	
9406540	2403WD	25-Oct-94	0.208	N	N	LLW	N	
9406797	2403WD	09-Feb-96	0.208	N	N	LLW	N	
9517333	2403WD	09-Feb-96	0.208	N	N	LLW	N	
9517335	2403WD	09-Feb-96	0.208	N	N	LLW	N	
951800371	2403WD	14-Feb-96	1.8	N	N	LLW	N	
MW10800030	2403WD	23-Sep-10	0.208	N	N	LLW	N	
0014193	2403WD	13-Apr-04	0.2082	Y	N	LLW	Y	D039 F001
0023471	2403WD	24-Feb-05	0.3218	Y	N	LLW	N	D005 D006 D008 D009 D011 WSC2
0026665	2403WD	11-Jul-05	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0029141	2403WD	13-Dec-06	0.2082	Y	N	LLW	Y	D006 F001 F002 F003 F005
0029681	2403WD	13-Sep-04	0.3218	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0029943	2403WD	13-Mar-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0029944	2403WD	13-Mar-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0029946	2403WD	12-Mar-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 F001 F002 F003 F004 F005
0030785	2403WD	29-Apr-04	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030968	2403WD	14-Jun-04	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0033048	2403WD	30-Apr-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034367	2403WD	27-Jul-06	0.3218	Y	N	LLW	N	D005 D006 D008 D009 D011 WSC2

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Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0035452	2403WD	25-Sep-06	0.3218	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035716	2403WD	21-Aug-06	0.3218	Y	N	LLW	N	D007
0035749	2403WD	20-Aug-06	0.3218	Y	N	LLW	N	D007
0039573	2403WD	24-May-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0041982	2403WD	17-Jul-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042063	2403WD	22-Jul-07	0.322	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0042447	2403WD	25-Jun-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0042473	2403WD	06-Sep-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D010 D011 D022 D030 F001 F002 F003 F005
0042981	2403WD	07-Aug-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
0044543	2403WD	05-Dec-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0044824	2403WD	31-Oct-07	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0044830	2403WD	11-Sep-07	0.322	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0047603	2403WD	22-Jun-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0047651	2403WD	22-Jun-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0047806	2403WD	26-Jun-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0047844	2403WD	04-Jun-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049012	2403WD	14-Aug-08	0.208	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0053424	2403WD	07-Jul-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0053691	2403WD	23-Sep-08	0.208	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0055232	2403WD	11-Sep-08	0.208	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 D035 F003
0055842	2403WD	30-Oct-08	0.208	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0057649	2403WD	04-Aug-08	0.322	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0057882	2403WD	06-Aug-08	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0058073	2403WD	6-Jan-11	0.322	Y	N	LLW	N	F001 F002 F003 F004 F005
0059660	2403WD	09-Jun-09	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0059808	2403WD	18-Jun-09	0.322	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061451	2403WD	03-Jun-93	0.322	Y	N	LLW	N	WT02
0066829	2403WD	01-Apr-11	0.208	Y	N	LLW	Y	D008
0070129	2403WD	30-Mar-10	0.208	Y	N	LLW	N	D006 D007 D008 D009 F001 F002 F003 F005
0071658	2403WD	23-Mar-10	0.208	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0072528	2403WD	03-Jun-11	0.208	Y	N	LLW	Y	D008
0073321	2403WD	22-Jun-10	0.208	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0074558	2403WD	18-Nov-10	0.208	Y	N	LLW	Y	D007 D008 D009
0074658	2403WD	18-Nov-10	0.208	Y	N	LLW	Y	D007 D008 D009
0074680	2403WD	18-Nov-10	0.208	Y	Y	LLW	N	D007 D008
0076069	2403WD	23-May-11	0.208	Y	N	LLW	Y	D008
0077552	2403WD	18-Jan-11	0.208	Y	N	LLW	Y	D008
0077557	2403WD	19-Apr-11	0.208	Y	N	LLW	Y	D008
0077563	2403WD	18-Feb-11	0.208	Y	N	LLW	Y	D008
0077602	2403WD	27-Jan-11	0.208	Y	N	LLW	Y	D008
0078225	2403WD	13-Mar-11	6.37	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0078733	2403WD	19-Apr-11	0.208	Y	N	LLW	Y	WSC2 WT02
0078745	2403WD	19-Apr-11	0.208	Y	N	LLW	Y	WSC2
0078894	2403WD	19-Apr-11	0.208	Y	N	LLW	Y	D007 D008 D009
0079421	2403WD	23-May-11	0.208	Y	N	LLW	Y	WT02
20-02	2403WD	26-Jun-06	0.21	Y	Y	LLW	N	D006 D007 D008 F001 F002 F003
202A-82-87	2403WD	22-Jun-04	0.21	Y	N	LLW	N	D005 D006 D008 D009 D011 WSC2
224U-93-000063	2403WD	21-Jul-93	0.208	Y	N	LLW	N	D007
3138205-2	2403WD	21-Feb-08	0.212	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
325W-88-0003	2403WD	15-Aug-88	0.208	Y	N	LLW	N	WT02
426621-23	2403WD	08-Jul-04	0.212	Y	N	LLW	N	D007 D008 D009 F001 F002 F003 F005
5208011	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208012	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208013	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208014	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208015	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208016	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208021	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208022	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208023	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208024	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208025	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008

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5208026	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208031	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208032	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208033	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208035	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208036	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208041	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208042	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208043	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208044	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208045	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208046	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208051	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208053	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208054	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208055	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208056	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208061	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208062	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208063	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208064	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208065	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208066	2403WD	22-May-08	0.208	Y	N	LLW	N	D006 D007 D008
5208071	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208072	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208073	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208074	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208075	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
5208076	2403WD	15-Oct-04	0.208	Y	N	LLW	N	D006 D007 D008
9400789	2403WD	05-Jun-01	0.3218	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 D018 D021 D022 D028 D039 D040 D043 F001
9401299	2403WD	20-Sep-96	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
9522081	2403WD	20-Sep-96	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
9522082	2403WD	20-Sep-96	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
9608093	2403WD	21-Dec-99	0.208	Y	N	LLW	N	WT02
9701565	2403WD	30-Sep-98	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
9701626	2403WD	30-Sep-98	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
9701648	2403WD	30-Sep-98	0.208	Y	N	LLW	N	D008 F001 F002 F003 F004 F005
HRO-92-0000207	2403WD	14-May-92	0.208	Y	N	LLW	N	D007 D010
L72-141	2403WD	06-Nov-07	0.21	Y	N	LLW	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
PNL-MW-98-104	2403WD	30-Sep-98	0.208	Y	N	LLW	N	D008 F001 F002 F003 F004 F005

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RU001011	2403WD	15-Sep-09	1.8	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
Z80A-6872	2403WD	19-Sep-05	0.21	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z84A11203	2403WD	11-Feb-04	0.208	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0000588	2403WD	28-Feb-06	0.2082	N	N	TRU	N	
0000722	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0000866	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000871	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000872	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0000884	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000885	2403WD	26-Aug-04	0.208	N	N	TRU	N	
0000900	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0000920	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0000926	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000929	2403WD	30-Sep-02	0.2082	N	N	TRU	N	
0000950	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000986	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0000988	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0000999	2403WD	30-Sep-02	0.2082	N	N	TRU	N	
0001002	2403WD	09-Jul-01	0.2082	N	N	TRU	N	
0001043	2403WD	24-Aug-04	0.2082	N	N	TRU	N	
0001056	2403WD	28-Feb-06	0.2082	N	N	TRU	N	
0001102	2403WD	01-Apr-02	0.2082	N	N	TRU	N	
0001103	2403WD	24-Sep-01	0.2082	N	N	TRU	N	
0008726	2403WD	22-Apr-02	0.0163	N	N	TRU	N	
0008727	2403WD	22-Apr-02	0.0163	N	N	TRU	N	
0008729	2403WD	28-Jul-05	0.208	N	N	TRU	N	
0008730	2403WD	28-Jul-05	0.208	N	N	TRU	N	
0008731	2403WD	15-Aug-05	0.208	N	N	TRU	N	
0008732	2403WD	15-Aug-05	0.208	N	N	TRU	N	
0010020	2403WD	26-Apr-06	0.2082	N	N	TRU	N	
0010066	2403WD	26-Apr-06	0.2082	N	N	TRU	N	
0010110	2403WD	28-Aug-07	0.3218	N	N	TRU	N	
0010386	2403WD	26-Apr-06	0.2082	N	N	TRU	N	
0012203	2403WD	17-Mar-04	1.8	N	N	TRU	Y	
0012210	2403WD	17-Mar-04	1.8	N	Y	TRU	Y	
0014592	2403WD	21-Jul-04	1.8	N	Y	TRU	Y	
0014597	2403WD	28-Mar-07	1.8	N	Y	TRU	Y	
0014599	2403WD	10-May-05	1.8	N	N	TRU	N	
0015418	2403WD	28-Aug-07	0.3218	N	N	TRU	N	
0017633	2403WD	05-Dec-06	1.8	N	N	TRU	N	
0021991	2403WD	07-Mar-06	0.3218	N	N	TRU	N	

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0023869	2403WD	14-Aug-06	0.2082	N	N	TRU	Y	
0027268	2403WD	26-Sep-06	0.1	N	N	TRU	N	
0028631	2403WD	28-Aug-07	0.3218	N	N	TRU	N	
0029529	2403WD	28-Aug-07	0.322	N	N	TRU	N	
0029542	2403WD	28-Aug-07	0.322	N	N	TRU	N	
0029560	2403WD	30-Jun-08	0.322	N	N	TRU	N	
0029562	2403WD	28-Aug-07	0.322	N	N	TRU	N	
0029787	2403WD	30-Jun-08	0.322	N	N	TRU	N	
0029819	2403WD	30-Jun-08	0.322	N	N	TRU	N	
0030123	2403WD	28-Aug-07	0.322	N	N	TRU	N	
0030126	2403WD	30-Jun-08	0.322	N	N	TRU	N	
0030183	2403WD	28-Aug-07	0.322	N	N	TRU	N	
0030445	2403WD	12-Oct-06	0.2082	N	N	TRU	Y	
0034620	2403WD	21-Nov-06	0.2082	N	N	TRU	Y	
0037206	2403WD	02-Feb-09	0.208	N	N	TRU	Y	
0037829	2403WD	02-Aug-07	0.208	N	N	TRU	Y	
0037964	2403WD	03-Aug-09	1.8	N	N	TRU	N	
0037968	2403WD	03-Aug-09	1.8	N	N	TRU	N	
0037975	2403WD	12-Jun-07	1.8	N	N	TRU	Y	
0039911	2403WD	09-Jul-08	0.208	N	N	TRU	Y	
0040579	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0040580	2403WD	27-Aug-08	0.3785	N	N	TRU	N	
0040811	2403WD	24-Apr-08	0.208	N	N	TRU	Y	
0041727	2403WD	27-Aug-08	0.3785	N	N	TRU	N	
0041735	2403WD	27-Aug-08	0.3785	N	N	TRU	N	
0041739	2403WD	27-Aug-08	0.3785	N	N	TRU	N	
0041796	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0044957	2403WD	09-Oct-08	0.322	N	N	TRU	N	
0044969	2403WD	09-Oct-08	0.322	N	N	TRU	N	
0045940	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0045955	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0045969	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0045970	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0045975	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0045984	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0046001	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0046002	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0046069	2403WD	27-Aug-08	0.3785	N	N	TRU	N	
0046691	2403WD	30-Jun-08	0.322	N	N	TRU	N	
0052516	2403WD	03-Aug-09	0.3785	N	N	TRU	N	
0052548	2403WD	03-Aug-09	0.3785	N	N	TRU	N	
0052551	2403WD	04-Dec-08	0.3785	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0052552	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0052562	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0052569	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0052591	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056825	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056850	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056861	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056863	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056864	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0056865	2403WD	04-Dec-08	0.3785	N	N	TRU	N	
0063249	2403WD	03-Aug-09	0.3785	N	N	TRU	N	
0067971	2403WD	12-May-11	1.8	N	N	TRU	Y	
0078296	2403WD	12-May-11	1.8	N	N	TRU	Y	
0078303	2403WD	29-Jun-11	1.8	N	N	TRU	Y	
0078311	2403WD	29-Jun-11	1.8	N	N	TRU	Y	
0079201	2403WD	30-Jun-11	1.8	N	N	TRU	Y	
0079232	2403WD	10-May-11	1.8	N	N	TRU	N	
0080576	2403WD	05-Jul-11	1.8	N	N	TRU	Y	
0080577	2403WD	29-Jun-11	1.8	N	N	TRU	Y	
0080592	2403WD	12-May-11	1.8	N	N	TRU	Y	
0080616	2403WD	29-Jun-11	1.8	N	N	TRU	Y	
0080617	2403WD	29-Jun-11	1.8	N	N	TRU	Y	
0080622	2403WD	05-Jul-11	1.8	N	N	TRU	Y	
105K-95-TRU001	2403WD	02-Jun-95	2.22	N	N	TRU	N	
105K-95-TRU002	2403WD	09-Jun-95	2.22	N	N	TRU	N	
105K-95-TRU003	2403WD	02-Jun-95	1.45	N	N	TRU	N	
105K-95-TRU004	2403WD	02-Jun-95	1.45	N	N	TRU	N	
105K-95-TRU005	2403WD	02-Jun-95	1.45	N	N	TRU	N	
105K-95-TRU006	2403WD	02-Jun-95	1.45	N	N	TRU	N	
105K-95-TRU007	2403WD	31-May-95	1.45	N	N	TRU	N	
105K-95-TRU008	2403WD	31-May-95	1.45	N	N	TRU	N	
105K-95-TRU009	2403WD	02-Jun-95	2.22	N	N	TRU	N	
105K-95-TRU010	2403WD	09-Jun-95	2.22	N	N	TRU	N	
105K-95-TRU011	2403WD	31-May-95	1.45	N	N	TRU	N	
105K-95-TRU012	2403WD	09-Jun-95	1.45	N	N	TRU	N	
105K-95-TRU013	2403WD	31-May-95	1.45	N	N	TRU	N	
9400956	2403WD	10-Oct-96	1.8	N	N	TRU	N	
9400958	2403WD	08-Aug-95	1.8	N	N	TRU	N	
9606685	2403WD	01-Oct-96	7.3713	N	N	TRU	N	
9606686	2403WD	01-Oct-96	7.3713	N	N	TRU	N	
9903189	2403WD	28-Aug-00	0.0126	N	N	TRU	N	
9903190	2403WD	16-Aug-00	0.0126	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
9903191	2403WD	29-Sep-00	0.0126	N	N	TRU	N	
9903192	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
9903193	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
9903194	2403WD	10-Apr-02	0.0163	N	N	TRU	N	
9903195	2403WD	16-Aug-00	0.0126	N	N	TRU	N	
9903196	2403WD	16-Aug-00	0.0126	N	N	TRU	N	
9903197	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
9903198	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
9903199	2403WD	14-Aug-00	0.0126	N	N	TRU	N	
9903200	2403WD	03-Dec-01	0.208	N	N	TRU	N	
9903201	2403WD	14-Aug-00	0.0126	N	N	TRU	N	
9903202	2403WD	14-Aug-00	0.0126	N	N	TRU	N	
9903203	2403WD	14-Aug-00	0.0126	N	N	TRU	N	
9903204	2403WD	21-Jan-03	0.0163	N	N	TRU	N	
9903205	2403WD	03-Dec-01	0.208	N	N	TRU	N	
9903206	2403WD	30-Aug-00	0.0126	N	N	TRU	N	
9903207	2403WD	29-Sep-00	0.0126	N	N	TRU	N	
9903208	2403WD	10-Apr-02	0.0163	N	N	TRU	N	
9903209	2403WD	16-Aug-00	0.0126	N	N	TRU	N	
9903210	2403WD	24-Aug-00	0.0126	N	N	TRU	N	
9903211	2403WD	30-Aug-00	0.0126	N	N	TRU	N	
9903212	2403WD	18-Sep-00	0.0126	N	N	TRU	N	
9903213	2403WD	23-Aug-00	0.0126	N	N	TRU	N	
9903214	2403WD	30-Aug-00	0.0126	N	N	TRU	N	
9903215	2403WD	18-Sep-00	0.0126	N	N	TRU	N	
9903216	2403WD	23-Aug-00	0.0126	N	N	TRU	N	
9903217	2403WD	18-Sep-00	0.0126	N	N	TRU	N	
9903218	2403WD	24-Aug-00	0.0126	N	N	TRU	N	
9903219	2403WD	29-Sep-00	0.014	N	N	TRU	N	
9903222	2403WD	29-Sep-00	0.014	N	N	TRU	N	
9903223	2403WD	29-Sep-00	0.014	N	N	TRU	N	
9903229	2403WD	29-Sep-00	0.014	N	N	TRU	N	
9903230	2403WD	29-Sep-00	0.014	N	N	TRU	N	
BP-188054	2403WD	01-Jul-92	9.75	N	N	TRU	N	
BWHC327-98511	2403WD	06-Aug-98	0.2082	N	N	TRU	N	
BWHC327-98512	2403WD	06-Aug-98	0.2082	N	N	TRU	N	
BWHC327-98513	2403WD	11-Aug-98	0.2082	N	N	TRU	N	
BWHC327-98514	2403WD	11-Aug-98	0.2082	N	N	TRU	N	
BWHC327-98515	2403WD	18-Aug-98	0.2082	N	N	TRU	N	
HNF327-CLD-025	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-026	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-027	2403WD	22-Sep-99	0.014	N	N	TRU	N	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
HNF327-CLD-028	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-029	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-030	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-031	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-032	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-033	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-034	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-035	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-037	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-040	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-042	2403WD	21-May-99	0.2082	N	N	TRU	N	
HNF327-CLD-043	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-044	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-045	2403WD	22-Sep-99	0.2082	N	N	TRU	N	
HNF327-CLD-046	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-047	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-048	2403WD	22-Sep-99	0.014	N	N	TRU	N	
HNF327-CLD-049	2403WD	29-Sep-00	0.014	N	N	TRU	N	
HNF327-CLD-050	2403WD	29-Sep-00	0.014	N	N	TRU	N	
HNF327-CLD-051	2403WD	29-Sep-00	0.014	N	N	TRU	N	
HNF327-CLD-052	2403WD	07-Jun-00	0.014	N	N	TRU	N	
HNF327-CLD-053	2403WD	29-Sep-00	0.014	N	N	TRU	N	
HNF327-CLD-054	2403WD	07-Jun-00	0.014	N	N	TRU	N	
HNF327-CLD-056	2403WD	07-Jun-00	0.014	N	N	TRU	N	
HNF327-CLD-057	2403WD	07-Jun-00	0.014	N	N	TRU	N	
HNF327-LLD-019	2403WD	28-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-020	2403WD	28-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-021	2403WD	29-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-023	2403WD	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-024	2403WD	17-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-025	2403WD	28-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-026	2403WD	29-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-027	2403WD	23-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-028	2403WD	23-Sep-98	0.2082	N	N	TRU	N	
HNF327-LLD-029	2403WD	22-Jul-99	0.0126	N	N	TRU	N	
HNF327-LLD-030	2403WD	28-Jul-99	0.0126	N	N	TRU	N	
HNF327-LLD-031	2403WD	30-Jun-99	0.2082	N	N	TRU	N	
HNF327-LLD-032	2403WD	14-Jul-99	0.0126	N	N	TRU	N	
HNF327-LLD-033	2403WD	31-Aug-99	0.0126	N	N	TRU	N	
HNF327-LLD-034	2403WD	02-Jul-99	0.2082	N	N	TRU	N	
HNF327-LLD-035	2403WD	22-Sep-99	0.0126	N	N	TRU	N	
HNF327-LLD-036	2403WD	16-Jul-99	0.0126	N	N	TRU	N	

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
HNF327-LLD-037	2403WD	14-Sep-99	0.0126	N	N	TRU	N	
HNF327-LLD-038	2403WD	08-Sep-99	0.0126	N	N	TRU	N	
HNF327-LLD-039	2403WD	25-Aug-99	0.0126	N	N	TRU	N	
HNF327-LLD-040	2403WD	28-Aug-00	0.208	N	N	TRU	N	
HNF327-LLD-041	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
HNF327-LLD-042	2403WD	30-Aug-00	0.0126	N	N	TRU	N	
HNF327-LLD-043	2403WD	10-Sep-99	0.0126	N	N	TRU	N	
HNF327-LLD-044	2403WD	28-Aug-00	0.0126	N	N	TRU	N	
HNF327-LLD-045	2403WD	26-Sep-00	0.0126	N	N	TRU	N	
HNF327-LLD-046	2403WD	28-Aug-00	0.0126	N	N	TRU	N	
HNF327-LLD-047	2403WD	18-Sep-00	0.0126	N	N	TRU	N	
HNF327-LLD-048	2403WD	24-Sep-99	0.0126	N	N	TRU	N	
MW11800032	2403WD	08-Jun-11	1.8	N	N	TRU	N	
MW11800033	2403WD	08-Jun-11	1.8	N	N	TRU	N	
MW11800034	2403WD	08-Jun-11	1.8	N	N	TRU	N	
PNL-01-169	2403WD	27-Sep-01	1.8	N	N	TRU	N	
PNL-186037	2403WD	21-Sep-93	9.8	N	N	TRU	N	
PNL-186038	2403WD	22-Sep-93	9.8	N	N	TRU	N	
PNL-186039	2403WD	22-Sep-93	9.8	N	N	TRU	N	
PNL-186040	2403WD	22-Sep-93	9.8	N	N	TRU	N	
PNL-186041	2403WD	22-Sep-93	9.8	N	N	TRU	N	
PNL-186042	2403WD	22-Sep-93	9.8	N	N	TRU	N	
PNL-186043	2403WD	21-Sep-93	9.8	N	N	TRU	N	
PNL-186044	2403WD	21-Sep-93	9.8	N	N	TRU	N	
PNL-186045	2403WD	24-Apr-92	9.8	N	N	TRU	N	
PNL327-LLD-004	2403WD	28-Sep-98	0.2082	N	N	TRU	N	
PNL327-LLD-007	2403WD	18-Aug-98	0.2082	N	N	TRU	N	
PNL327-LLD-009	2403WD	20-Aug-98	0.2082	N	N	TRU	N	
PNL327-LLD-013	2403WD	27-Aug-98	0.2082	N	N	TRU	N	
PNL327-LLD-014	2403WD	29-Sep-99	0.2082	N	N	TRU	N	
PNL327-LLD-015	2403WD	28-Sep-98	0.2082	N	N	TRU	N	
PNL327-LLD-016	2403WD	27-Aug-98	0.2082	N	N	TRU	N	
PNL327-LLD-018	2403WD	20-Aug-98	0.2082	N	N	TRU	N	
RH-A-85-SB-02	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RH-A-85-SB-03	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RH-A-86-SB-04	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RH-A-86-SB-05	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RH-A-89-SB-07	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RH-A-89-SB-08	2403WD	28-Mar-94	0.84	N	N	TRU	N	
RHZ-85-004	2403WD	28-Jun-93	7	N	N	TRU	N	
RHZ-85-007	2403WD	28-Jun-93	7	N	N	TRU	N	
RHZ-85-008	2403WD	22-Aug-94	3.3	N	N	TRU	N	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
RHZ-85-010	2403WD	22-Aug-94	3.3	N	N	TRU	N	
RHZ-86-011	2403WD	17-Aug-94	9.607	N	N	TRU	N	
RHZ-87-027	2403WD	17-Aug-94	4.2	N	N	TRU	N	
RHZ-87-040	2403WD	22-Aug-94	9.607	N	N	TRU	N	
RHZ-87-042	2403WD	28-Jun-93	9.6	N	N	TRU	N	
RHZ-87-043	2403WD	28-Jun-93	9.6	N	N	TRU	N	
RHZ-87-045	2403WD	17-Aug-94	9.607	N	N	TRU	N	
SWO-95-PRC-002	2403WD	29-Sep-83	3.964	N	N	TRU	N	
SWO-95-PRC-003	2403WD	29-Sep-83	3.964	N	N	TRU	N	
SWO-95-PRC-004	2403WD	05-Oct-83	3.964	N	N	TRU	N	
SWO-95-PRC-005	2403WD	26-Sep-83	3.964	N	N	TRU	N	
SWO-95-PRC-006	2403WD	25-Aug-83	3.964	N	N	TRU	N	
SWO-95-PRC-009	2403WD	26-Sep-83	6.371	N	N	TRU	N	
0000890	2403WD	30-Sep-02	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
0000927	2403WD	30-Sep-02	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
0000958	2403WD	30-Sep-02	0.2082	Y	N	TRU	N	F001 F002 F003 F004 F005
0001098	2403WD	30-Sep-02	0.208	Y	N	TRU	N	F001 F002 F003 F004 F005
0003617	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0003618	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0004447	2403WD	24-Jul-01	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008
0004486	2403WD	24-Jul-01	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008
0005135	2403WD	29-Apr-02	1.8	Y	Y	TRU	Y	D007
0005610	2403WD	23-May-02	1.8	Y	Y	TRU	Y	D007
0005612	2403WD	16-May-02	1.8	Y	Y	TRU	Y	D007
0005613	2403WD	13-Jun-02	1.8	Y	Y	TRU	Y	D007
0005616	2403WD	08-Apr-03	1.8	Y	Y	TRU	Y	D007
0005617	2403WD	25-Mar-03	1.8	Y	Y	TRU	Y	D007 D008
0005618	2403WD	29-Apr-02	1.8	Y	Y	TRU	Y	D007
0005619	2403WD	25-Mar-03	1.8	Y	Y	TRU	Y	D007 D008
0010015	2403WD	16-Jun-05	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F004 F005
0010028	2403WD	23-Sep-04	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005 WSC2
0010040	2403WD	23-Sep-04	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D018 D030 D033 D043 F001 F002 F003 F004 F005
0010043	2403WD	23-Sep-04	0.2082	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D030 D033 D036 D040 D043 F001 F002 F003 F004 F005
0012209	2403WD	03-Apr-03	1.8	Y	Y	TRU	Y	D007
0013139	2403WD	08-Apr-03	1.8	Y	Y	TRU	Y	D007
0014591	2403WD	25-Nov-87	1.8	Y	N	TRU	N	WSC2

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0014595	2403WD	13-Feb-87	1.8	Y	N	TRU	N	D008
0014598	2403WD	11-Nov-10	1.8	Y	N	TRU	Y	D009
0014606	2403WD	11-Jun-06	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0014607	2403WD	10-Mar-05	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0014610	2403WD	01-Nov-06	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0014611	2403WD	15-Jul-04	0.4164	Y	N	TRU	N	D006 D007 D008 D011 D035
0014612	2403WD	26-Apr-05	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0014614	2403WD	28-Jun-05	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0014615	2403WD	05-May-05	0.4164	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0017586	2403WD	25-Aug-04	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F003 F004 F005
0017628	2403WD	23-Oct-06	1.8	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D028 D029 D030 D033 D034 D036 D038 D039 D040 D043 F001 F002 F004 F005 WSC2
0022875	2403WD	31-Mar-06	0.2082	Y	N	TRU	N	D008
0023813	2403WD	02-Feb-09	0.208	Y	N	TRU	Y	D006 D007 D008 D018 D019 D022 D027 D028 WP02 WSC2 WT02
0028996	2403WD	28-Apr-06	0.4164	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0032021	2403WD	19-Jan-07	0.4164	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0036732	2403WD	05-Feb-07	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0036794	2403WD	05-Feb-07	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0036797	2403WD	05-Feb-07	0.2082	Y	N	TRU	N	D007 D008 D009 D035
0037650	2403WD	03-Jul-07	0.208	Y	N	TRU	Y	D008
0037960	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0037961	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0037962	2403WD	18-May-09	1.8	Y	N	TRU	N	D005 D006 D007 D008 D009 D010 D011 D019 D030 F001 F002 F003 F005
0037966	2403WD	22-Sep-09	1.8	Y	N	TRU	Y	D006 D008 D011
0037967	2403WD	22-Sep-09	1.8	Y	N	TRU	Y	D006 D011
0037969	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0037970	2403WD	10-Dec-08	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005 WSC2
0040718	2403WD	02-Feb-09	0.208	Y	N	TRU	Y	D009 WT02
0041181	2403WD	24-Jul-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003
0041262	2403WD	30-Sep-08	0.208	Y	N	TRU	Y	D008
0043862	2403WD	06-Nov-07	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0043974	2403WD	15-Oct-07	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 D035 F003

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0044924	2403WD	16-Feb-11	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0046172	2403WD	06-Nov-07	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0046634	2403WD	05-Aug-08	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0048434	2403WD	12-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048463	2403WD	12-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048466	2403WD	12-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048468	2403WD	18-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048697	2403WD	01-Aug-08	0.4164	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0048698	2403WD	28-Aug-08	0.4164	Y	Y	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
0048765	2403WD	12-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048790	2403WD	23-Jan-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048830	2403WD	31-Mar-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048864	2403WD	01-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048871	2403WD	01-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048876	2403WD	01-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048924	2403WD	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048928	2403WD	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048951	2403WD	28-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0048998	2403WD	01-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049087	2403WD	11-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049146	2403WD	05-Aug-08	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0049188	2403WD	23-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049194	2403WD	30-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0049231	2403WD	26-Feb-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0049237	2403WD	23-Apr-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0049277	2403WD	30-Apr-08	0.208	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
0050134	2403WD	05-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050152	2403WD	05-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050161	2403WD	28-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050168	2403WD	12-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050651	2403WD	07-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050738	2403WD	16-Jun-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050833	2403WD	28-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050835	2403WD	28-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050890	2403WD	12-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050900	2403WD	16-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050955	2403WD	16-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0050992	2403WD	12-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0051003	2403WD	16-Apr-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051704	2403WD	12-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051761	2403WD	05-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051772	2403WD	05-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051825	2403WD	23-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051864	2403WD	19-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0051897	2403WD	05-May-08	0.208	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
0051905	2403WD	12-May-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0053795	2403WD	23-Jun-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056306	2403WD	01-Jul-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056638	2403WD	09-Jul-08	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0056651	2403WD	09-Sep-08	0.208	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0056736	2403WD	15-Jul-08	0.208	Y	N	TRU	N	D007 D008 D009 F005
0059417	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059418	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059419	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059420	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059426	2403WD	17-Sep-08	1.515	Y	N	TRU	N	WT02
0059427	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059428	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059429	2403WD	17-Sep-08	1.515	Y	N	TRU	N	WT02
0059430	2403WD	16-Sep-08	1.515	Y	N	TRU	N	WT02
0059431	2403WD	17-Sep-08	1.515	Y	N	TRU	N	WT02
0062366	2403WD	19-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0063136	2403WD	08-Aug-08	6.37	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0065230	2403WD	20-Sep-09	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0065234	2403WD	17-Sep-09	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0068750	2403WD	27-Oct-10	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0068752	2403WD	14-Nov-10	6.37	Y	N	TRU	N	D005 D006 D007
0068755	2403WD	14-Nov-10	6.37	Y	N	TRU	N	D005 D006 D007
0068756	2403WD	14-Feb-07	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0068758	2403WD	27-Oct-10	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0068763	2403WD	03-Aug-10	6.37	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0069206	2403WD	25-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0069212	2403WD	25-Jan-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0069959	2403WD	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0070279	2403WD	26-Feb-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0070567	2403WD	26-Apr-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0073338	2403WD	22-Jun-10	0.208	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0078230	2403WD	13-Mar-11	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0078964	2403WD	02-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0078965	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0078966	2403WD	02-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0078967	2403WD	02-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0079198	2403WD	30-Jun-11	1.8	Y	N	TRU	Y	D006 D007 D008 D018 D019 D043 F002 F003 F005
0079199	2403WD	30-Jun-11	1.8	Y	N	TRU	Y	D006 D007 D008 D018 D019 D043 F002 F003 F005
0079225	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D018 D019 D043 F002 F003 F005
0079532	2403WD	26-Sep-10	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-01	2403WD	27-Jan-09	1.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-02	2403WD	27-Jan-09	1.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-03	2403WD	27-Jan-09	1.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-04	2403WD	27-Jan-09	1.5	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-05	2403WD	28-Jan-09	0.83	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
011309W4BT7-09	2403WD	16-Mar-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-10	2403WD	16-Mar-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
021009W4BT7-2	2403WD	09-Apr-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
021009W4BT7-4	2403WD	10-Apr-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
090808W4BT7-2	2403WD	14-Jan-09	0.83	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
202A75013	2403WD	21-Mar-07	1.0136	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
202A-82-138	2403WD	29-Jun-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
202A-82-92	2403WD	06-Jul-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
209E-83	2403WD	26-Jul-04	0.21	Y	N	TRU	N	D006 D007 D018 D019 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
325-72-0885S	2403WD	17-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
325-72-0886S	2403WD	17-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
325-72-0891S	2403WD	20-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
325-72-0892S	2403WD	20-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
325-72-0893S	2403WD	22-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
327C-71-0065S	2403WD	15-Sep-09	0.7291	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
327C-71-0066S	2403WD	15-Sep-09	0.7291	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
327C-71-0067S	2403WD	15-Sep-09	0.7291	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
327C-71-0069S	2403WD	15-Sep-09	0.7291	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
9803015	2403WD	22-Oct-99	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008
9803017	2403WD	22-Oct-99	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008
9803029	2403WD	21-Oct-99	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008
BP-196019	2403WD	16-Apr-96	0.2082	Y	N	TRU	N	D008
MW08700452	2403WD	05-Feb-09	1.8	Y	N	TRU	Y	D008
MW08700482	2403WD	05-Feb-09	1.8	Y	N	TRU	Y	D008
MW09700028	2403WD	11-Mar-09	1.8	Y	N	TRU	Y	D008
MW09700035	2403WD	11-Mar-09	1.8	Y	N	TRU	Y	D008
MW09700049	2403WD	14-Jul-09	1.8	Y	N	TRU	N	D008
MW09700144	2403WD	14-Jul-09	1.8	Y	N	TRU	N	D008
MW09700228	2403WD	18-Dec-09	1.8	Y	N	TRU	N	D004 D006 D007 D008 D009 D010 F001 F002 F003 F004 F005
MW09700255	2403WD	18-Dec-09	1.99	Y	N	TRU	N	D008
MW09700259	2403WD	18-Dec-09	1.99	Y	N	TRU	N	D008
MW09700271	2403WD	18-Dec-09	1.99	Y	N	TRU	N	D008
MW09700289	2403WD	05-Jan-10	1.99	Y	N	TRU	N	D008
MW10700003	2403WD	02-Feb-10	1.99	Y	N	TRU	N	D008
MW10700005	2403WD	02-Feb-10	1.99	Y	N	TRU	N	D008
MW10700006	2403WD	02-Feb-10	1.8	Y	N	TRU	N	D008
MW10700018	2403WD	24-Feb-10	1.99	Y	N	TRU	N	D008
MW10700019	2403WD	24-Feb-10	1.99	Y	N	TRU	N	D008
MW10700026	2403WD	10-Mar-10	1.99	Y	N	TRU	N	D008
MW10700049	2403WD	06-Apr-10	1.8	Y	N	TRU	N	D008
MW10700050	2403WD	06-Apr-10	1.8	Y	N	TRU	N	D008
MW10700051	2403WD	06-Apr-10	1.8	Y	N	TRU	N	D008

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW10700058	2403WD	20-Apr-10	1.8	Y	N	TRU	N	D008
MW10700061	2403WD	05-May-10	1.8	Y	N	TRU	N	D008
MW10700101	2403WD	29-Jun-10	1.8	Y	N	TRU	N	D008
MW10700155	2403WD	04-Nov-10	1.8	Y	N	TRU	N	D030 D032 F001 F002 F003 F004 F005
MW10800636	2403WD	28-Apr-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW10800638	2403WD	02-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW10800640	2403WD	28-Apr-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D030 D034 D037 D043
MW10800641	2403WD	28-Apr-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D030 D034 D037 D043 F001 F002 F003 F004 F005
MW10800642	2403WD	28-Apr-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D032 D037 D043 F001 F002 F003 F004 F005
MW10800643	2403WD	28-Apr-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW10800644	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW10800645	2403WD	02-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW10800646	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
MW11800016	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW11800017	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW11800018	2403WD	10-May-11	1.8	Y	N	TRU	N	D006 D007 D008 D011 D035
MW11800021	2403WD	07-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
MW11800022	2403WD	07-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
MW11800023	2403WD	07-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
MW11800026	2403WD	07-Jun-11	1.8	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
MW11800035	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW11800036	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
MW11800037	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
MW11800038	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
MW11800039	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
MW11800040	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
MW11800041	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
MW11800044	2403WD	29-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
MW11800045	2403WD	30-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
MW11800046	2403WD	30-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW11800047	2403WD	30-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW11800048	2403WD	30-Jun-11	1.8	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
MW11800049	2403WD	30-Jun-11	1.8	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
MW11800050	2403WD	30-Jun-11	1.8	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
RHZ-85-001	2403WD	08-Aug-89	7.136	Y	N	TRU	N	D006 D009 WC01 WT01
RHZ-85-009	2403WD	29-Aug-94	3.3	Y	N	TRU	N	WC02
RHZ-86-019	2403WD	25-Aug-94	9.607	Y	N	TRU	N	WC02
RHZ-86-020	2403WD	25-Aug-94	9.607	Y	N	TRU	N	WC02
RHZ-87-023	2403WD	08-Aug-89	4.205	Y	N	TRU	N	D008 WT01
RHZ-87-024	2403WD	26-Aug-94	4.2	Y	N	TRU	N	WC02
RHZ-87-026	2403WD	26-Aug-94	4.2	Y	N	TRU	N	WC02
RHZ-87-034	2403WD	25-Aug-94	9.607	Y	N	TRU	N	WC02
RU001002	2403WD	24-Sep-09	16.37	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
WH-73-81	2403WD	28-Aug-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-74-078	2403WD	13-Jan-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-74-079	2403WD	27-Jan-09	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH78H140	2403WD	13-Oct-05	0.299	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
Z5-78-2	2403WD	30-Sep-04	0.208	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
Z72-7-28	2403WD	06-Jan-08	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
Z77A-3007	2403WD	01-Feb-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z78-A3427	2403WD	10-May-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
Z80A-6994	2403WD	14-Oct-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0067252	2404WA	28-Jun-11	0.208	N	N	LLW	Y	
0069706	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	WSC2
0069855	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	WSC2 WT02
0075898	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	WSC2
0075901	2404WA	28-Jun-11	0.208	Y	N	LLW	N	F001 F002 F003 F004 F005
0076006	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	D007 D008 D009
0079916	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	WSC2 WT02
0080115	2404WA	28-Jun-11	0.208	Y	N	LLW	Y	WSC2 WT02

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0066855	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0069280	2404WA	31-May-11	0.208	N	N	TRU	Y	
0069316	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069317	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069339	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0069344	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069376	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069377	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069434	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069435	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0069671	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0069677	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0069697	2404WA	28-Jun-11	0.208	N	Y	TRU	Y	
0069698	2404WA	29-Jun-11	0.208	N	Y	TRU	Y	
0069699	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0069729	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069744	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069746	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0069747	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0069748	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069750	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0069751	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069752	2404WA	10-May-11	0.208	N	N	TRU	Y	
0069753	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069754	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069756	2404WA	29-Jun-11	0.208	N	Y	TRU	Y	
0069797	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069805	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0069806	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0069837	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069838	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0069845	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0069846	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0069857	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0072517	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0075894	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0075899	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0075956	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0075970	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0075973	2404WA	31-May-11	0.208	N	N	TRU	Y	
0076018	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0076063	2404WA	10-May-11	0.208	N	N	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0076078	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0077296	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077297	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077298	2404WA	10-May-11	0.208	N	N	TRU	Y	
0077299	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077301	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0077305	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0077357	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0077358	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0077361	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0077365	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077415	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0077416	2404WA	10-May-11	0.208	N	N	TRU	Y	
0077417	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0077474	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077553	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0077555	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0077599	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077600	2404WA	28-Jun-11	0.208	N	Y	TRU	Y	
0077622	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0077627	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0077629	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0077646	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0078519	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0078520	2404WA	10-May-11	0.208	N	N	TRU	Y	
0078522	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0078571	2404WA	28-Jun-11	0.208	N	Y	TRU	Y	
0078572	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0078573	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0078692	2404WA	31-May-11	0.208	N	Y	TRU	Y	
0078756	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0078794	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0078839	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0078892	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079353	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079377	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079378	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079381	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079382	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079385	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079386	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0079403	2404WA	31-May-11	0.208	N	N	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0079420	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079422	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0079423	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0079438	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0079441	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079459	2404WA	08-Jun-11	0.208	N	N	TRU	Y	
0079475	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079497	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0079499	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0079915	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079917	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079918	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079920	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079921	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079922	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079924	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079925	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0079928	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079929	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079932	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0079933	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079935	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079936	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079937	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079940	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079946	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079956	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079958	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079959	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079969	2404WA	10-May-11	0.208	N	N	TRU	Y	
0079972	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079973	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079974	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079982	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0079983	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0079984	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079985	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079986	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079987	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079990	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0079991	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079994	2404WA	31-May-11	0.208	N	N	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0079995	2404WA	31-May-11	0.208	N	N	TRU	Y	
0079998	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080005	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080014	2404WA	10-May-11	0.208	N	N	TRU	Y	
0080015	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080016	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0080017	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0080018	2404WA	10-May-11	0.208	N	N	TRU	Y	
0080019	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080021	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080022	2404WA	27-Apr-11	0.208	N	N	TRU	Y	
0080023	2404WA	10-May-11	0.208	N	N	TRU	Y	
0080024	2404WA	26-Apr-11	0.208	N	N	TRU	Y	
0080029	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080033	2404WA	10-May-11	0.208	N	N	TRU	Y	
0080034	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0080036	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080041	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080042	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080043	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080044	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080045	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080046	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0080047	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0080048	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080056	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080057	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080059	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080060	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080062	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0080063	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080065	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0080067	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080068	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0080077	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0080093	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080094	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080095	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080096	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080097	2404WA	28-Jun-11	0.208	N	N	TRU	Y	
0080098	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080099	2404WA	09-Jun-11	0.208	N	N	TRU	Y	

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0080100	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0080113	2404WA	31-May-11	0.208	N	N	TRU	Y	
0080114	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0080116	2404WA	10-May-11	0.208	N	N	TRU	Y	
0080121	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082427	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082430	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082440	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082444	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082448	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082451	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082455	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082482	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082486	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082487	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082491	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082518	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082519	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082546	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082547	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082550	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082551	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082564	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082565	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082570	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082597	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082603	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082606	2404WA	29-Jun-11	0.208	N	N	TRU	Y	
0082607	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082610	2404WA	09-Jun-11	0.208	N	N	TRU	Y	
0082624	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082625	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0082629	2404WA	21-Jun-11	0.208	N	N	TRU	Y	
0000905	2404WA	30-Sep-00	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000906	2404WA	29-Sep-00	4.994	Y	N	TRU	N	D008
0000907	2404WA	12-Oct-00	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000908	2404WA	04-Dec-00	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000909	2404WA	11-Jan-01	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000910	2404WA	22-Jan-01	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000911	2404WA	31-Jan-01	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000912	2404WA	11-Feb-01	4.994	Y	N	TRU	N	D004 D006 D007 D008
0000913	2404WA	02-Feb-01	4.994	Y	N	TRU	N	D004 D006 D007 D008

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0003082	2404WA	04-May-01	4.994	Y	N	TRU	N	D004 D006 D007 D008
0003085	2404WA	10-Jan-02	5.66	Y	N	TRU	N	D004 D005 D006 D007 D008
0025380	2404WA	17-Mar-06	6.37	Y	N	TRU	N	D005 D006 D007 D008 D009 D010 D011
0065242	2404WA	09-Dec-10	6.37	Y	N	TRU	Y	D005 D006 D007 D008
0065250	2404WA	09-Dec-10	6.37	Y	N	TRU	Y	D005 D006 D007 D008
0065258	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065268	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065283	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065291	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D007
0065301	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065302	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D007
0065306	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007
0065311	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065312	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065319	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065769	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007
0065770	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065771	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007
0065775	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065776	2404WA	27-Apr-11	0.208	Y	N	TRU	Y	D007
0065781	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007
0065787	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D007
0065788	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D007
0065794	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007
0065808	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D007
0069755	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D008
0069858	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	WSC2 WT02
0070539	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D006 D008
0075893	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D008
0076039	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	WSC2 WT02
0076089	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D008
0077364	2404WA	28-Jun-11	0.208	Y	N	TRU	Y	D008
0077675	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D008
0078742	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D008
0078838	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D008
0080058	2404WA	29-Jun-11	0.208	Y	N	TRU	Y	D007 D008 D009
0809-2399	2404WA	12-Aug-10	0.1416	Y	N	TRU	Y	D005 D006 D007 D008
0809-2400	2404WA	03-Aug-10	0.1416	Y	N	TRU	Y	D005 D006 D007 D008
353616-2	2404WA	29-Oct-04	2.039	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-3-01	2404WA	29-Oct-04	3.808	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-3-02	2404WA	29-Oct-04	3.808	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-4-01	2404WA	29-Oct-04	1.778	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
4242-4-02	2404WA	29-Oct-04	1.778	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
4242-5-02	2404WA	29-Oct-04	3.808	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
WRP-07-291-01	2404WA	03-Sep-08	3.172	Y	N	TRU	N	F001 F002 F003 F004 F005
324GNS1202003	2420W	11-Nov-02	0.5	N	N	TRU	N	
CASTOR-GSF-001	2420W	04-Sep-97	0.79	N	N	TRU	N	
CASTOR-GSF-002	2420W	05-Sep-97	0.79	N	N	TRU	N	
CASTOR-GSF-003	2420W	11-Sep-97	0.79	N	N	TRU	N	
CASTOR-GSF-005	2420W	15-Sep-97	0.79	N	N	TRU	N	
CASTOR-GSF-006	2420W	23-Sep-97	0.79	N	N	TRU	N	
CASTOR-GSF-007	2420W	06-Oct-97	0.79	N	N	TRU	N	
GNS-12-1	2420W	13-Oct-97	0.5	N	N	TRU	N	
GNS-12-2	2420W	13-Oct-97	0.5	N	N	TRU	N	
764DMAF14	CWC Expansion Area	03-Jul-08	38.41	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
WH-74-392	CWC Expansion Area	27-Sep-10	49.4	Y	N	LLW	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0035879	CWC Expansion Area	20-Sep-06	36.25	N	N	TRU	Y	
0035880	CWC Expansion Area	20-Sep-06	36.25	N	N	TRU	Y	
0035881	CWC Expansion Area	18-Sep-06	36.25	N	N	TRU	Y	
0035882	CWC Expansion Area	19-Sep-06	36.25	N	N	TRU	Y	
0035883	CWC Expansion Area	18-Sep-06	36.25	N	N	TRU	Y	
0035884	CWC Expansion Area	19-Sep-06	36.25	N	N	TRU	Y	
100K-06-0006	CWC Expansion Area	10-Dec-08	36.25	N	N	TRU	Y	
100K-98-003700	CWC Expansion Area	24-Sep-09	7.923	N	N	TRU	Y	
100K-98-003800	CWC Expansion Area	24-Sep-09	7.84	N	N	TRU	Y	
0028960	CWC Expansion Area	09-Sep-08	19.48	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
0041591	CWC Expansion Area	05-Sep-07	35.7	Y	N	TRU	N	D019 F002 F003
0041593	CWC Expansion Area	23-Aug-07	36	Y	N	TRU	N	D008 D019 F002 F003
0041596	CWC Expansion Area	18-Jul-07	13.57	Y	N	TRU	N	D008 D019 F002 F003
0041598	CWC Expansion Area	20-Aug-07	34.41	Y	N	TRU	N	D008 D019 F002 F003
0042115	CWC Expansion Area	17-Sep-07	98.89	Y	N	TRU	N	D008 D019 F002 F003
0042917	CWC Expansion Area	08-Aug-07	57.5	Y	N	TRU	N	D008 D019 F002 F003
0052213	CWC Expansion Area	27-Aug-08	6.37	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D032 D033 D034 D035 D037 D038 D043 F001 F002 F003 F004
0055099	CWC Expansion Area	21-Aug-08	49.4	Y	N	TRU	N	D008 D019 F002 F003
0055100	CWC Expansion Area	25-Aug-08	49.4	Y	N	TRU	N	D008 D019 F002 F003
0067886	CWC Expansion Area	27-Jan-09	6.179	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0068829	CWC Expansion Area	17-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0068830	CWC Expansion Area	20-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0068831	CWC Expansion Area	17-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0068834	CWC Expansion Area	20-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0071995	CWC Expansion Area	02-Apr-75	38.51	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0078234	CWC Expansion Area	16-Nov-10	38.51	Y	N	TRU	N	D005 D006 D007
0078418	CWC Expansion Area	15-Dec-10	49	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0080429	CWC Expansion Area	16-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0080430	CWC Expansion Area	16-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0080431	CWC Expansion Area	16-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0080432	CWC Expansion Area	16-Mar-11	3.755	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0080773	CWC Expansion Area	27-Mar-11	77.02	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-06	CWC Expansion Area	17-Feb-09	17.94	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
011309W4BT7-08	CWC Expansion Area	18-Feb-09	4.204	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
021009W4BT7-1	CWC Expansion Area	09-Apr-09	17.94	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
021009W4BT7-3	CWC Expansion Area	09-Apr-09	13.36	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
021009W4BT7-5	CWC Expansion Area	10-Apr-09	14.39	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
090808W4BT7-1	CWC Expansion Area	09-Sep-08	12.23	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
090808W4BT7-3	CWC Expansion Area	14-Jan-09	0.83	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D018 D019 D022 D027 D028 D029 D030 D034 D035 D037 D043 F001 F002 F003 F004 F005
105KE-78-0009S	CWC Expansion Area	02-Jul-07	10.12	N	Y	TRU	N	
202A77-01	CWC Expansion Area	28-Jul-08	43.467	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
202A7804	CWC Expansion Area	05-Feb-07	43.467	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
202A7805	CWC Expansion Area	04-Apr-07	43.467	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
202A7807	CWC Expansion Area	31-May-07	43.467	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
231Z-71-0053S	CWC Expansion Area	09-Oct-09	37.59	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-D-3	CWC Expansion Area	30-Aug-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
231Z-DR-1	CWC Expansion Area	30-Aug-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-10	CWC Expansion Area	18-Apr-07	38.058	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-11	CWC Expansion Area	25-Aug-08	48.139	Y	Y	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-12	CWC Expansion Area	29-May-07	43.523	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-13	CWC Expansion Area	02-Feb-07	43.523	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-14	CWC Expansion Area	23-Jul-07	43.523	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-15	CWC Expansion Area	30-Jul-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-16	CWC Expansion Area	16-Apr-07	32.621	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-17	CWC Expansion Area	31-Jul-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-19	CWC Expansion Area	29-Aug-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231ZDR-20	CWC Expansion Area	17-Oct-07	38.738	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-4	CWC Expansion Area	29-May-07	43.523	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-5	CWC Expansion Area	29-Aug-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-6	CWC Expansion Area	01-Aug-07	64.591	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-7	CWC Expansion Area	24-May-07	43.523	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-8	CWC Expansion Area	21-Mar-07	38.058	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
231Z-DR-9	CWC Expansion Area	27-Jun-07	38.058	Y	N	TRU	N	D006 D007 D008 D009 F001 F002 F003 F005
2345Z1018	CWC Expansion Area	15-Mar-07	32.593	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
2345Z1222	CWC Expansion Area	13-Mar-07	43.467	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
2345Z6-21	CWC Expansion Area	31-May-07	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
2345Z-70-0495S	CWC Expansion Area	16-Jun-11	48.06	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
2345Z-73-0004S	CWC Expansion Area	26-Jan-11	6.796	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
2345Z8-19	CWC Expansion Area	04-Apr-07	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
2345Z9188	CWC Expansion Area	04-Apr-07	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
2345Z9-20	CWC Expansion Area	04-Apr-07	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
236Z1018A	CWC Expansion Area	29-Mar-07	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
236Z9-24	CWC Expansion Area	29-Apr-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
241Z8-23	CWC Expansion Area	12-May-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
315962-04	CWC Expansion Area	20-Oct-07	9.101	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
315962-05	CWC Expansion Area	20-Oct-07	9.101	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
315962-06	CWC Expansion Area	20-Oct-07	9.101	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
315962-10	CWC Expansion Area	08-Apr-08	10.053	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
3597-11-190	CWC Expansion Area	16-May-06	6.739	Y	N	TRU	N	D006 D007 D008 D011 D035
3597-13-193	CWC Expansion Area	15-May-06	11.27	Y	N	TRU	N	D006 D007 D008 D011 D035
3597-13-194	CWC Expansion Area	15-May-06	13.26	Y	N	TRU	N	D006 D007 D008 D011 D035
3597-9-148	CWC Expansion Area	21-Sep-04	11.27	Y	N	TRU	N	D006 D007 D008 D011 D035
7503DMA01	CWC Expansion Area	08-Jul-10	43.495	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
7510DMA05	CWC Expansion Area	26-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7510DMA06	CWC Expansion Area	26-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7510DMA07	CWC Expansion Area	25-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7510DMA14	CWC Expansion Area	25-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7510DMA15	CWC Expansion Area	24-Aug-08	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7512DMA05	CWC Expansion Area	24-Aug-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7512DMA09	CWC Expansion Area	20-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7512DMA10	CWC Expansion Area	20-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7512DMA11	CWC Expansion Area	19-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
7512DMA16	CWC Expansion Area	24-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
752DMA-01	CWC Expansion Area	21-Sep-10	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
753DMA-02	CWC Expansion Area	01-Sep-10	54.397	Y	Y	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
753DMAF02.B	CWC Expansion Area	01-Mar-11	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
753DMAF03.B	CWC Expansion Area	11-Nov-10	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
753DMAI01	CWC Expansion Area	05-Oct-09	11.015	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
757DMA009	CWC Expansion Area	28-Aug-08	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
757DMAF10	CWC Expansion Area	09-Aug-09	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
758DMAF04	CWC Expansion Area	27-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
758DMAF11	CWC Expansion Area	28-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
758DMAF12	CWC Expansion Area	27-Aug-08	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
758DMAF13	CWC Expansion Area	27-Aug-08	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
75DMA12F3	CWC Expansion Area	11-Mar-11	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA16F3	CWC Expansion Area	10-May-11	43.495	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA16F4	CWC Expansion Area	24-Aug-09	43.495	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA20F4	CWC Expansion Area	03-Apr-11	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA20F6	CWC Expansion Area	16-May-11	59.494	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA20F7	CWC Expansion Area	07-Apr-11	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
75DMA20F8	CWC Expansion Area	21-Mar-11	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA005	CWC Expansion Area	08-Aug-08	11.015	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA12F	CWC Expansion Area	19-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA18	CWC Expansion Area	14-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA19	CWC Expansion Area	13-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA20F	CWC Expansion Area	18-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMA22	CWC Expansion Area	12-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
762DMAF21	CWC Expansion Area	13-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
763DMA13	CWC Expansion Area	07-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
763DMA20	CWC Expansion Area	12-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
763DMA23	CWC Expansion Area	12-Aug-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
764CTLF01	CWC Expansion Area	03-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
764PPEF01.A	CWC Expansion Area	03-Aug-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
768DMAF16	CWC Expansion Area	07-Aug-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
778CTLF01	CWC Expansion Area	31-Jul-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
778CTLFS01	CWC Expansion Area	01-Aug-08	38.058	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
778PPEF02	CWC Expansion Area	31-Jul-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
B16751B23	CWC Expansion Area	09-Apr-08	9.863	Y	N	TRU	N	D007 D008 D009 F001 F002 F003 F005
BN-74-021.A	CWC Expansion Area	31-Jan-11	6.759	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
BN-75-200.B	CWC Expansion Area	08-Mar-11	0.765	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
FRP-79-1	CWC Expansion Area	07-Dec-06	43.495	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 F001 F002 F003 F005
I-BOX-3	CWC Expansion Area	08-Nov-07	11.015	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
I-BOX-5	CWC Expansion Area	08-Sep-08	11.015	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
RU001006	CWC Expansion Area	04-Nov-09	20.33	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
RU001021	CWC Expansion Area	20-Oct-09	20.4	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
SB83121.B	CWC Expansion Area	23-Oct-07	14.27	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
W4BT11-0015	CWC Expansion Area	04-May-11	1.464	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-76-630	CWC Expansion Area	26-Mar-07	5.097	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH77-803	CWC Expansion Area	13-Feb-11	13.077	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH82-057	CWC Expansion Area	02-Feb-07	14.272	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH82-058	CWC Expansion Area	02-Feb-07	14.272	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
Z7211-03.B	CWC Expansion Area	22-Apr-11	2.577	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
Z7211-04.B	CWC Expansion Area	22-Apr-11	4.531	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
Z73-1-17	CWC Expansion Area	10-Apr-11	9.571	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
ZB7507001	CWC Expansion Area	03-Jun-07	17.302	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZB754-001	CWC Expansion Area	26-Mar-07	8.778	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZB754-002	CWC Expansion Area	03-Jun-07	17.358	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
ZBB7812-1	CWC Expansion Area	19-Jun-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78121.A	CWC Expansion Area	13-Jun-08	32.621	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78121.B	CWC Expansion Area	17-Jun-08	38.058	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78161.A	CWC Expansion Area	27-May-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78161.B	CWC Expansion Area	13-Jun-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78162	CWC Expansion Area	12-Jun-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78164.B	CWC Expansion Area	25-May-11	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78165	CWC Expansion Area	29-May-08	43.467	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78201.B	CWC Expansion Area	24-Aug-10	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
ZBB78202	CWC Expansion Area	19-Jun-08	54.397	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
9600177	FS02	13-Apr-94	0.3218	Y	N	TRU	N	D001 WT02
0021937	FS03	28-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0024979	FS03	26-May-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025222	FS03	26-May-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0025267	FS03	01-Jun-05	0.3218	Y	N	TRU	N	D005 D006 D007 D008 D009 D011 F001 F002 F003 F005
0028926	FS03	07-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029668	FS03	28-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029675	FS03	28-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0029678	FS03	23-Nov-05	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-200-5	FS03	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-60	FS03	20-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-62	FS03	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-63	FS03	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005

Containers in Storage at Central Waste Complex (CWC)

Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
WH-65	FS03	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH79-185	FS03	20-Feb-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-H-510	FS03	23-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0061446	FS09	03-Dec-87	0.322	N	N	TRU	N	
0025025	FS09	03-May-05	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028928	FS09	09-Feb-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0028947	FS09	07-Feb-06	0.3218	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030841	FS09	29-Mar-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0030851	FS09	29-Mar-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031159	FS09	29-Mar-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031164	FS09	29-Mar-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0031165	FS09	29-Mar-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034274	FS09	31-Jul-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
0034364	FS09	26-Jul-06	0.3218	Y	N	TRU	N	D002 D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-200-6	FS09	28-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
WH-200-7	FS09	23-Nov-05	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D027 D028 D029 D030 D034 D037 D043 F001 F002 F003 F004 F005
9703454	FS11	21-May-98	0.3218	Y	N	TRU	N	D001 D002 WT02
BP191003	FS11	21-May-93	0.2082	Y	N	TRU	N	D001 D002 D007 F003 WP02 WT02
RHZ-103-A13781	FS11	06-Dec-85	0.21	Y	N	TRU	N	D001 D002 D008
0072419	FS14	12-May-11	0.208	Y	N	TRU	N	D001 D003 F001 F002 F003 F004 F005
202A82182	FS17	14-Jun-04	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
RHA-85-024	FS17	08-Sep-03	0.21	Y	N	TRU	N	D005 D006 D008 D009 D011 WSC2
9700802	FS20	23-Sep-98	0.208	Y	Y	LLW	N	D001 D004 D005 D006 D007 D008 D009 D010 D018 D019 D022 D027 D030 D033 D043 F001 F002 F003 F004 F005
RHZ-231-A22541	FS20	08-Feb-93	0.208	N	N	TRU	N	
0029903	FS20	28-Nov-05	0.3218	Y	N	TRU	N	D001 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2

Containers in Storage at Central Waste Complex (CWC)

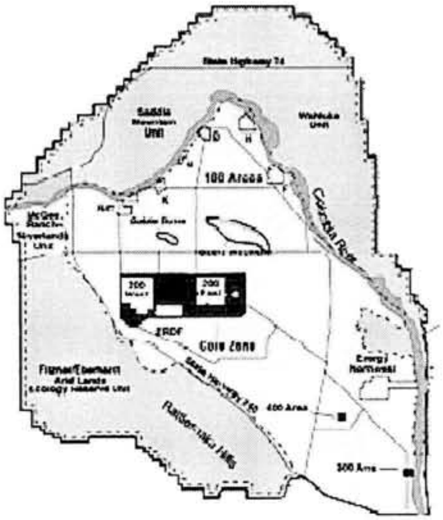
Package ID	Facility	Storage Start Date	Container Volume	Dangerous	TSCA	Rad Code	CERCLA	Dangerous Waste Numbers
0043198	FS20	26-Sep-07	0.322	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0057525	FS20	30-Jul-08	0.322	Y	N	TRU	N	D001 D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
221T-05-000006	FS20	17-Mar-05	0.2082	Y	Y	TRU	N	D006 D010 D011
PNL-188005	FS20	20-Jul-89	0.21	Y	N	TRU	N	D008
RHZ-219-930228	FS20	28-May-93	0.2082	Y	N	TRU	N	D001 WL01 WP01 WT01
WH-86-066	FS20	26-Jan-87	0.21	Y	N	TRU	N	D001 D008 WT02
Z72-7-61	FS20	05-Nov-07	0.21	Y	N	TRU	N	D004 D005 D006 D007 D008 D009 D010 D011 D022 D030 F001 F002 F003 F005
0024601	FS21	28-Apr-05	0.3218	Y	N	TRU	N	D001 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
0024703	FS21	02-May-05	0.3218	Y	N	TRU	N	D001 D004 D005 D006 D007 D008 D009 D010 D011 D019 D030 WSC2
RHZ-241-A18597	FS21	22-Aug-89	0.283	Y	N	TRU	N	D001 F003
RH-A-91-101	FS27	20-Feb-92	0.404	Y	N	TRU	N	D001 F003 WC01 WP01 WT02

Attachment XI

Hanford Facility
Resource Conservation and Recovery Act Permit, Dangerous Waste Portion

Revision 8C

For the Treatment, Storage, and Disposal of Dangerous Waste



Washington State Department of Ecology
Nuclear Waste Program

September 2010

For additional copies of this permit contact:

Washington State Department of Ecology
3100 Port of Benton Boulevard
Richland, Washington 99354-1670
509-372-7950

DANGEROUS WASTE PORTION OF THE RESOURCE CONSERVATION AND RECOVERY ACT PERMIT FOR THE TREATMENT, STORAGE, AND DISPOSAL OF DANGEROUS WASTE

Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Boulevard
Richland, Washington 99354
Telephone: 509-372-7950

Issued in accordance with the applicable provisions of the Hazardous Waste Management Act, Chapter 70.105 Revised Code of Washington (RCW), and the regulations promulgated there under in Chapter 173-303 Washington Administrative Code (WAC).

ISSUED TO:

United States Department of Energy
Richland Operations Office
(Owner/Operator)
P.O. Box 550, MSIN A7-50
Richland, Washington 99352
Telephone: (509) 376-7395

Mission Support Alliance
2490 Garlick, MSIN H1-30
Richland, Washington 99354
Telephone: (509) 376-1310

Washington Closure Hanford, LLC
(Co-operator)
2620 Fermi Avenue, MSIN H4-24
Richland, Washington 99354
Telephone: (509) 372-9951

Pacific Northwest National Laboratory
(Co-operator)
P.O. Box 999, MSIN K1-46
Richland, Washington 99352
Telephone: (509) 375-5911

United States Department of Energy
Office of River Protection
(Owner/Operator)
P.O. Box 450, MSIN H6-60
Richland, Washington 99352
Telephone: (509) 372-3062

Bechtel National, Inc.
(Co-Operator)
2435 Stevens Center Place MSIN H4-02
Richland, Washington 99354
Telephone: (509) 371-2335

Washington River Protection Solutions, LLC
(Co-operator)
P.O. Box 1500, MSIN H6-63
Richland, Washington 99352
Telephone: (509) 372-9138

CH2MHILL Plateau Remediation Company
(Co-operator)
P.O. Box 1600, MSIN H7-30
Richland, Washington 99352
Telephone: (509) 376-0556

This Permit as modified on October 22, 2007, will remain in effect until reissuance of the September 27, 2004 Permit, unless revoked and reissued under WAC 173-303-830(3), terminated under WAC 173-303-830(5), or continued in accordance with WAC 173-303-806(7).

ISSUED BY:
WASHINGTON STATE DEPARTMENT OF ECOLOGY

for

Date: 10/17/07

Jane A. Hedges, Program Manager
Nuclear Waste Program, Department of Ecology

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List of Attachments

The following listed documents are attached in their entirety. However, only those portions of the attachments specified in Parts I through VI are enforceable conditions of this Permit and subject to the permit modification requirements of Permit Condition I.C.3. Changes to portions of the attachments, which are not subject to the permit modification process, will be addressed in accordance with Permit Conditions I.E.8, I.E.11, I.E.13, I.E.15, through I.E.20, and I.E.22. Ecology has, as deemed necessary, modified specific language in these attachments. These modifications are described in the conditions (Parts I through VI), and thereby supersede the language of the attachment.

Attachment 1	Hanford Federal Facility Agreement and Consent Order, (as amended) http://www.hanford.gov/tpa/coverpg.htm
Attachment 2	Hanford Facility Legal Description, from Class [1]1 modification, dated January 7, 1999
Attachment 3	Security, dated September 30, 2010
Attachment 4	*Hanford Emergency Management Plan*, DOE/RL-94-02 Revision 2, as amended and approved modifications
Attachment 5	Hanford Facility Personnel Training Program, dated September 30, 2010
Attachment 6	Reports and Records, dated September 30, 2010
Attachment 7	Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA, June 1990
Attachment 8	Hanford Well Maintenance and Inspection Plan, BHI-01265, Revision 0, May 1999
Attachment 9	Permit Applicability Matrix, dated September 30, 2010
Attachment 10	Purgewater Management Plan, July 1990

Introduction

Where information regarding treatment, management, and disposal of the radioactive source, byproduct material, special nuclear material (as defined by the Atomic Energy Act of 1954, as amended) and/or the radionuclide component of mixed waste has been incorporated into this permit, it is not incorporated for the purpose of regulating the radiation hazards of such components under the authority of this permit or Chapter 70.105 RCW.

Pursuant to Chapter 70.105 RCW, the Hazardous Waste Management Act (HWMA) of 1976, as amended, Chapter 70.105D RCW, the Model Toxics Control Act (MTCA), and regulations promulgated there under by the Washington State Department of Ecology (hereafter called Ecology), codified in Chapter 173-303 Washington Administrative Code (WAC), Dangerous Waste Regulations, a Dangerous Waste Permit is issued to the United States Department of Energy (USDOE) - Richland Operations Office (RL) and Office of River Protection (ORP) [owner/operator], and its contractors [co-operators], Bechtel National, Incorporated (BNI), CH2MHILL Plateau Remediation Company (CHPRC), Mission Support Alliance, LLC (MSA)], Pacific Northwest National Laboratory (PNNL), Washington Closure Hanford, LLC (WCH), and Washington River Protection Solutions, LLC (WRPS) and hereafter called the Permittees, for the treatment, storage, and disposal of dangerous waste at the Hanford Facility.

This Dangerous Waste Permit, issued in conjunction with the United States Environmental Protection Agency's (hereafter called EPA) Hazardous and Solid Waste Amendments Portion of the Resource Conservation and Recovery Act (RCRA) Permit for the Treatment, Storage, and Disposal (TSD) of Hazardous Waste (HSWA Permit), constitutes the RCRA Permit for the Hanford Facility. Use of the term "Permit" within the Dangerous Waste Permit will refer to the Dangerous Waste Permit, while use of the term "Permit" within the HSWA Permit, will refer to the HSWA Permit. Use of the same term in both the Dangerous Waste Permit and the HSWA Permit, will have the standard meaning associated with the activities addressed by the permit in which the term is used. Such meanings will prevail, except where specifically stated otherwise.

The Permittees will comply with all terms and conditions set forth in this Permit and those portions of the Attachments that have been specifically incorporated into this Permit. When the Permit and the Attachments (except Permit Attachment 1) conflict, the wording of the Permit will prevail. The Permit is intended to be consistent with the terms and conditions of the Hanford Federal Facility Agreement and Consent Order (HFFACO, Permit Attachment 1). The Permittees will also comply with all applicable state regulations, including Chapter 173-303 WAC.

Applicable state regulations are those which are in effect on the date of issuance, or as specified in subsequent modifications of this Permit. In addition, applicable state regulations include any self-implementing statutory provisions and related regulations which, according to the requirements of the HWMA, as amended, or other law(s), are automatically applicable to the Permittees' dangerous waste management activities, notwithstanding the conditions of this Permit.

This Permit is based upon the Administrative Record, as required by WAC 173-303-840. The Permittees' failure in the application, or during the Permit issuance process, to fully disclose all relevant facts, or the Permittees' misrepresentation of any relevant facts at any time, will be grounds for the termination or modification of this Permit and/or initiation of an enforcement action, including criminal proceedings. The Permittees will inform Ecology of any deviation from the Permit conditions, or changes in the information on which the application is based, which would affect either the Permittees' ability to comply, or actual compliance with the applicable regulations or the Permit conditions, or which alters any condition of this Permit in any way.

Ecology will enforce all conditions of this Permit for which the State of Washington is authorized, or which are "state-only" provisions (i.e., conditions broader in scope or more stringent than the federal RCRA program). Any challenges of any Permit condition may be appealed in accordance with WAC 173-303-845. In the event that any Permit condition is challenged by any Permittee under WAC 173-303-845, Ecology may stay any such Permit condition as it pertains to all Permittees, in accordance with the same terms of any stay it grants to the challenging Permittee. If such a stay is granted, it will constitute a "stay by the issuing agency" within the meaning of RCW 43.21B.320(1).

This Permit has been developed to allow a step-wise permitting process of the Hanford Facility to ensure the proper implementation of the HFFACO. In order to accomplish this, this Permit consists of six (6) parts.

Part I, Standard Conditions, contains conditions which are similar to those appearing in all dangerous waste permits.

Part II, General Facility Conditions, combines typical dangerous waste permit conditions with those conditions intended to address issues specific to the Hanford Facility. Where appropriate, the general facility conditions apply to all final status dangerous waste management activities at the Facility. Where appropriate, the general facility conditions also address dangerous waste management activities which may not be directly associated with distinct TSD units, or which may be associated with many TSD units (i.e., spill reporting, training, contingency planning, etc.). Part II also includes conditions that address corrective action at solid waste management units and areas of concern.

Part III, Unit-Specific Conditions for Operating Units, contains those Permit requirements that apply to each individual TSD unit operating under final status. Conditions for each TSD unit are found in a chapter dedicated to that TSD unit. These unit-specific chapters contain references to Standard Conditions (Part I) and General Conditions (Part II), as well as additional requirements which are intended to ensure that each TSD unit is operated in an efficient and environmentally protective manner. Additional requirements may also be added when an operating unit ceases operations and undergoes closure.

Part IV, Unit-Specific Conditions for Corrective Action, contains those permit requirements which apply to specific RPP units that are undergoing corrective action under the HFFACO. RPP units may include solid waste management units and other areas of concern (i.e., releases that are not at solid waste management units and do not constitute a solid waste management unit) that are undergoing corrective action. For The Comprehensive Environmental Response, Conservation, and Liability Act (CERCLA) and RCRA past practice (RPP) units identified in the HFFACO, the corrective action conditions are structured around continued coordination with, and reliance on, the investigation and cleanup requirements established under the HFFACO. For TSD units identified in the HFFACO, the corrective action conditions contemplate use of closure and post-closure processes to satisfy corrective action.

Part V, Unit-Specific Conditions for Units Undergoing Closure, contains those requirements which apply to those specific TSD units, included in this part, that are undergoing closure. In accordance with Section 5.3 of the Action Plan of the HFFACO, all TSD units that undergo closure, irrespective of permit status, will be closed pursuant to the authorized State Dangerous Waste Program in accordance with WAC 173-303-610. Requirements for each TSD unit undergoing closure are found in a chapter dedicated to that TSD unit. These unit-specific chapters contain references to Standard Conditions (Part I) and General Conditions (Part II), as well as additional requirements which are intended to ensure that each TSD unit is closed in an efficient and environmentally protective manner.

Part VI, Unit-Specific Conditions for Units in Post-Closure, contains those requirements which apply to those specific units in this part that have completed modified or landfill closure requirements, and now only need to meet Post-Closure Standards. As set forth in Section 5.3 of the Action Plan of the HFFACO, certain TSD units will be permitted for post-closure care pursuant to the authorized State Dangerous Waste Program (173-303 WAC) and the Hazardous and Solid Waste Amendments. Requirements for each unit undergoing post-closure care are found in a chapter, within this part, dedicated to that unit. These unit specific chapters may contain references to Standard Conditions (Part I) and General Conditions (Part II), as well as the unit specific conditions, all of which are intended to ensure the unit is managed in an efficient, environmentally protective manner.

Unit Status Table

PERMIT REVISION	REVISION DATE	UNITS INCORPORATED
Permit Revision 0	8/29/94	616 NDWSF, 305-B Storage Facility, 183-H SEB, 300 ASE, 2727-S, NRDWSF
Permit Revision 1	4/28/95	Simulated High-Level Waste Slurry, 218-E-9 Borrow Pit Demo Site, 200 W Area Ash Pit Demo Site, 2101-M Pond, 216-B-3 Expansion Ponds
Permit Revision 2	8/29/95	Hanford Patrol Academy Demolition Site, 105-DR Large Sodium Fire Facility, 304 Concretion Facility
Permit Revision 3	11/25/96	PUREX Storage Tunnels, 4843 Alkali Metal Storage Facility, 3718-F Alkali Metal Treatment & Storage Facility, 303-K Storage Facility, 300 APT
Permit Revision 4	1/28/98	LERF & 200 Area ETF, 242-A Evaporator, 325 HWTUs
Permit Revision 5	5/18/99	100 D Ponds, 1301-N & 1325-Liquid Waste Disposal Facility, 1324-N Surface Impoundment, 1324-NA Percolation Pond
Permit Revision 6	3/28/00	Permit Condition II.Y, Corrective Action
Permit Revision 7	2/27/01	Waste Treatment & Immobilization Plant, 300 Area WATS
Permit Revision 8	9/23/04	No new units, modification updates
Permit Revision 8A	3/6/06	Integrated Disposal Facility
Permit Revision 8B	1/2007	331-C Storage Unit, PFP Treatment Unit, 241-Z Treatment & Storage Tanks, 303-M Oxide Facility
Permit Revision 8C	8/2007	400 Area Waste Management Unit, 224-T TRUSAF

UNIT	Permit Revision		Comments/History
	Incorporated	Retired	
PART III, OPERATING UNITS			
616 Non-Radioactive Dangerous Waste Storage Facility	Rev. 6	Rev. 7	Closed, 9/5/01
242-A Evaporator	Rev. 4		
305-B Storage Facility	Rev. 0		Closed, 7/2/07
325 Hazardous Waste Treatment Units	Rev. 4		RLWT procedural closure, 9/04
LERF & 200 Area ETF	Rev. 4		
PUREX Storage Tunnels	Rev. 3		
Waste Treatment and Immobilization Plant	Rev. 7		Permitted unit under construction
Integrated Disposal Facility	Rev. 8A		
331-C Storage Unit	Rev. 8B		
400 Area Waste Management Unit	Rev. 8C		
PART IV, CORRECTIVE ACTION			
100-NR-1 Operable Unit	Rev. 6		
100-NR-2 Operable Unit	Rev. 6	Rev. 8C	Retired, 9/30/09
PART V, UNDERGOING CLOSURE UNITS			
100-D Ponds	Rev. 5	Rev. 6	Closed, 8/9/99
105 DR Large Sodium Fire Facility	Rev. 2	Rev. 6	Closed, 7/1/04
1301-N Liquid Waste Disposal Facility	Rev. 5		
1324-N Surface Impoundment	Rev. 5		
1324-NA Percolation Pond	Rev. 5		
1325-N Liquid Waste Disposal Facility	Rev. 5		
200 West Area Ash Pit Demo Site	Rev. 1	Rev. 6	Closed, 11/28/95
2101-M Pond	Rev. 1	Rev. 6	Closed, 11/28/95
216-B-3 Expansion Ponds	Rev. 1	Rev. 6	Closed, 7/31/95
218-E-8 Borrow Demolition Site	Rev. 1	Rev. 6	Closed, 11/28/95
2727-S Storage Facility	Rev. 0	Rev. 6	Closed, 7/31/95
300 Area Solvent Evaporator	Rev. 0	Rev. 6	Closed, 7/31/95
300 Area Waste Acid Treatment System	Rev. 6	Rev. 8B	Closed, 1/21/05
303-K Storage Facility	Rev. 4	Rev. 6	Closed, 7/22/02
304 Concretion Facility	Rev. 2	Rev. 6	Closed, 1/21/96
311 Tanks (includes 300 Area WATS)	Rev. 6	Rev. 7	Closed, 5/20/02
3718-F Alkali Metal Treatment /Storage	Rev. 3	Rev. 6	Closed, 8/4/98
4843 Alkali Metal Storage Facility	Rev. 3	Rev. 6	Closed, 4/14/97
Hanford Patrol Academy Demo Site	Rev. 2	Rev. 6	Closed, 11/28/95
Simulated High Level Waste Slurry	Rev. 1	Rev. 6	Closed, 9/6/95

UNIT	Permit Revision		Comments/History
	Incorporated	Retired	
PFP Treatment Unit (HA-20MB)	Rev. 8B	Rev. 8B	Closed 2/8/05
241-Z Treatment and Storage Tanks	Rev. 8B	Rev. 8B	Closed 2/22/07
303-M Oxide Facility	Rev. 8B	Rev. 8B	Closed 6/15/06
224-T Transuranic Waste Storage and Assay Facility	Rev. 8C	Rev. 8C	Closed 11/12/08
PART VI, POSTCLOSURE UNITS			
183-H Solar Evaporation Basin	Rev 4		
300 Area Process Trenches	Rev 3		
PROCEDURALLY CLOSED			
216-U-12 Crib	N/A	N/A	Closed 7/19/07
221-T Test Facility	N/A	N/A	Closed 2/22/99
2727-WA SRE Sodium Storage Bldg	N/A	N/A	Closed 2/22/99
324 Pilot Plant	N/A	N/A	Closed 6/9/97
332 Storage Facility	N/A	N/A	Closed 4/21/97
437 Maintenance and Storage Facility	N/A	N/A	Closed 9/11/03
Biological Treatment Test Facilities	N/A	N/A	Closed12/10/96
Physical/Chemical Treatment Test Facilities	N/A	N/A	Closed 5/13/96
Sodium Storage/Sodium Reaction	N/A	N/A	Closed 9/17/03
Thermal Treatment Test Facilities	N/A	N/A	Closed 5/13/96
TO BE INCORPORATED			
1706-KE Waste Treatment System			
207-A South Retention Basin			
216-A-10 Crib			
216-A-29 Ditch			
216-A-36B Crib			
216-A-37-1 Crib			
216-B-3 Main Pond			
216-B-63 Trench			
216-S-10 Pond & Ditch			
222-S Dangerous & Mixed Waste TSD Unit			
241-CX Tank System			
600 Area Purgewater Storage and Treatment Facility			
Central Waste Complex			
Contact Handled Transuranic Mixed Waste Packaging and Interim Storage Facility			
DST System/204-AR Waste Unloading Station			
Grout Treatment Facility			
Hexone Storage & Treatment Facility			
IHLW Interim Storage/Canister Storage Building			
Low-Level Burial Grounds			
Nonradioactive Dangerous Waste Landfill			
Single-Shell Tank System			
T Plant Complex			
Waste Encapsulation and Storage Facility			
Waste Receiving and Processing Facility			
TRANSITION UNDER HFFACO ACTION PLAN, SECTION 8 (Will not be incorporated into Permit)			
B Plant Complex			
PUREX Plant			

Definitions

Except with respect to those terms specifically defined below, all definitions contained in the HFFACO, May 1989, as amended, and in WAC 173-303-040 and other portions of Chapter 173-303 WAC are hereby incorporated, in their entirety, by reference into this Permit. For terms defined in both Chapter 173-303 WAC and the HFFACO, the definitions contained in Chapter 173-303 WAC will control within this Permit. Nonetheless, this Permit is intended to be consistent with the HFFACO.

Where terms are not defined in the regulations, the Permit, or the HFFACO, a standard dictionary reference, or the generally accepted scientific or industrial meaning of the terms will define the meaning associated with such terms.

As used in this Permit, words in the masculine gender also include the feminine and neuter genders, words in the singular include the plural, and words in the plural include the singular.

The following definitions apply throughout this Permit:

The term "**Area of Concern**" means any area of the Facility where a release of dangerous waste or dangerous constituents has occurred, is occurring, is suspected to have occurred, or threatens to occur.

The term "**Contractor(s)**" means, unless specifically identified otherwise in this Permit, or Attachments, Bechtel National, Inc. (BNI), CH2M HILL Plateau Remediation Company, Inc. (CHPRC), Mission Support Alliance, LLC (MSA), Pacific Northwest National Laboratory (PNNL), Washington Closure Hanford, LLC (WCH), and Washington River Protection Solutions, LLC (WRPS).

The term "**Critical Systems**" as applied to determining whether a Permit modification is required, means those specific portions of a TSD unit's structure, or equipment, whose failure could lead to the release of dangerous waste into the environment, and/or systems which include processes which treat, transfer, store, or dispose of regulated wastes. A list identifying the critical systems of a specific TSD unit may be developed and included in Part III, V, and/or VI of this Permit. In developing a critical system list, or in the absence of a critical system list, WAC 173-303-830 Modifications will be considered.

The term "**Dangerous Constituent**" means any constituent identified in WAC 173-303-9905 or 40 CFR Part 264 Appendix IX, any constituent which caused a waste to be listed or designated as dangerous under Chapter 173-303 WAC, and any constituents within the meaning of hazardous substance at RCW 70.105D.020(7).

The term "**Dangerous Waste**" means those solid wastes designated under Chapter 173-303 WAC as dangerous or extremely hazardous waste. As used in the Permit, the phrase "dangerous waste" will refer to the full universe of wastes regulated by Chapter 70.105 RCW and Chapter 173-303 WAC (including dangerous waste, hazardous waste, extremely hazardous waste, mixed waste, and acutely hazardous waste).

The term "**Days**" means calendar days, unless specifically identified otherwise. Any submittal, notification, or recordkeeping requirement that would be due, under the Conditions of this Permit, on a Saturday, Sunday, or federal, or state holiday, will be due on the following business day, unless specifically stated otherwise in the Permit.

The term "**Director**" means the Director of the Washington State Department of Ecology, or a designated representative. The Program Manager of the Nuclear Waste Program (with the address as specified on page one [1] of this Permit) is a duly authorized and designated representative of the Director for purposes of this Permit.

The term "**Ecology**" means the Washington State Department of Ecology (with the address as specified on page one [1] of this Permit).

The term "**Facility**" means all contiguous land, structures, other appurtenances, and improvements on the land used for recycling, reusing, reclaiming, transferring, storing, treating, or disposing of dangerous waste. The legal and physical description of the Facility is set forth in Permit Attachment 2.

The term "**Facility**" for the purposes of corrective action under Permit Condition II.Y, means all contiguous property under the control of the Permittees and all property within the meaning of "facility" at RCW 70.105D.020(3) as set forth in Permit Attachment 2.

The term "**HFFACO**" means the Hanford Federal Facility Agreement and Consent Order, as amended (Commonly referred to as Tri-Party Agreement [TPA]).

The term "**Permittees**" means the United States Department of Energy (owner/operator), Bechtel National, Inc. (Co-operator), CH2M HILL Plateau Remediation Company (Co-operator), Mission Support Alliance, LLC (MSA), Pacific Northwest National Laboratory (Co-operator), Washington Closure Hanford, LLC (Co-operator), Washington River Protection Solutions, LLC.

The term "**Permittees**" for purposes of corrective action under Permit Condition II.Y means only the United States Department of Energy (owner/operator).

The term "**Raw Data**" means the initial value of analog or digital instrument output, and/or manually recorded values obtained from measurement tools or personal observation. These values are converted into reportable data (e.g., concentration, percent moisture) via automated procedures and/or manual calculations.

The term "**RCRA Permit**" means the Dangerous Waste Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Dangerous Waste (Dangerous Waste Permit) issued by the Washington State Department of Ecology, pursuant to Chapter 70.105 RCW and Chapter 173-303 WAC, coupled with the HSWA Portion of the RCRA Permit for the Treatment, Storage, and Disposal of Hazardous Waste (HSWA Permit) issued by EPA, Region 10, pursuant to 42 U.S.C. 6901 et seq. and 40 CFR Parts 124 and 270.

The term "**Reasonable Times**" means normal business hours; hours during which production, treatment, storage, construction, disposal, or discharge occurs, or times when Ecology suspects a violation requiring immediate inspection.

The term "**Release**" means any intentional or unintentional spilling, leaking, pouring, emitting, emptying, discharging, injecting, pumping, escaping, leaching, dumping, or disposing of dangerous constituents into the environment and includes the abandonment or discarding of barrels, containers, and other receptacles containing dangerous waste or dangerous constituents, and includes any releases within the meaning of release at RCW 70.105D.020(20).

The term "**Significant Discrepancy**" in regard to a manifest or shipping paper, means a discrepancy between the quantity or type of dangerous waste designated on the manifest, or shipping paper, and the quantity or type of dangerous waste a TSD unit actually receives. A significant discrepancy in quantity is a variation greater than ten (10) percent in weight for bulk quantities (e.g., tanker trucks, railroad tank cars, etc.), or any variation in piece count for nonbulk quantities (i.e., any missing container or package would be a significant discrepancy). A significant discrepancy in type is an obvious physical or chemical difference which can be discovered by inspection or waste analysis (e.g., waste solvent substituted for waste acid).

The term "**Solid Waste Management Unit (SWMU)**" means any discernible location at the Facility where solid wastes have been placed at any time, irrespective of whether the location was intended for the management of solid or dangerous waste, and includes any area at the Facility at which solid wastes have been routinely and systematically released (for example through spills), and includes dangerous waste treatment, storage, and disposal units.

The term **"Unit" or "TSD unit"**, as used in Parts I through VI of this Permit, means the contiguous area of land on or in which dangerous waste is placed, or the largest area in which there is a significant likelihood of mixing dangerous waste constituents in the same area. A TSD unit, for purposes of this Permit, is a subgroup of the Facility which has been identified in a Hanford Facility Dangerous Waste Part A Form.

Acronyms

ALARA	As Low As Reasonably Achievable
AMSF	Alkali Metal Storage Facility
APDS	Ash Pit Demolition Site
APP	Used to Denote Appendix Page Numbers
APT	Area Process Trenches
ARAR	Applicable, Relevant, and Appropriate Requirements
BNI	Bechtel National, Inc
BPDS	Borrow Pit Demolition Site
CD/RR	Chemical Disposal/Recycle Request
CERCLA	Comprehensive Environmental Response Compensation and Liability Act of 1980 (as Amended by the Superfund Reauthorization Act of 1986)
CFR	Code of Federal Regulations
CHPRC	CH2M HILL Plateau Remediation Company
CIP	Construction Inspection Plan
CLARC	Cleanup Levels and Risk Calculations
CLP	Contract Laboratory Program
COC	Chemical Contaminants of Concern
CPP	CERCLA Past Practice
USDOE-RL	U.S. Department of Energy, Richland Operations Office
USDOE-ORP	U.S. Department of Energy, Office of River Protection
DQO	Data Quality Objective
DSC	Differential Scanning Colorimetry
EC	Emergency Coordinator
Ecology	Washington State Department of Ecology
EPA	U.S. Environmental Protection Agency
ERA	Expedited Response Action
ETF	200 Area Effluent Treatment Facility
HFFACO	Hanford Federal Facility Agreement and Consent Order
GW	Ground Water
HPADS	Hanford Patrol Academy Demolition Site
HSWA	Hazardous and Solid Waste Amendments of 1984
HWMA	Hazardous Waste Management Act
ID	Identification
IRM	Interim Remedial Measure
LDR	Land Disposal Restrictions
LERF	Liquid Effluent Retention Facility
LSFF	105-DR Large Sodium Fire Facility
MSA	Mission Support Alliance, LLC
MTCA	Model Toxics Control Act

OSWER	Office of Solid Waste and Emergency Response
PNNL	Pacific Northwest National Laboratory
QA	Quality Assurance
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act of 1976
RCW	Revised Code of Washington
ROD	Record of Decision
RPD	Relative Percent Difference
RPP	RCRA Past Practice
SAP	Sampling and Analysis Plan
SARA	Superfund Amendments and Reauthorization Act of 1986
SCD	Security Control Devices
SHLWS	Simulated High Level Waste Slurry
SOP	Standard Operating Procedure
SWMU	Solid Waste Management Unit
TCLP	Toxicity Characteristic Leaching Procedure
TSD	Treatment, Storage, and/or Disposal
USDOE	United States Department of Energy
U.S.C.	United States Code
WAC	Washington Administrative Code
WAP	Waste Analysis Plan
WCH	Washington Closure Hanford, LLC
WRPS	Washington River Protection Solutions, LLC
WTP	Waste Treatment and Immobilization Plant
183-H	183-H Solar Evaporation Basins
242-A	242-A Evaporator
300 APT	300 Area Process Trenches
300 ASE	300 Area Solar Evaporator
303-K	303-K Storage Facility
305-B	305-B Storage Facility
325 HWTUs	325 Hazardous Waste Treatment Units
616-NRDWSF	616 Nonradioactive Dangerous Waste Storage Facility

PART I STANDARD CONDITIONS

I.A EFFECT OF PERMIT

The Permittees are authorized to treat, store, and dispose of dangerous waste in accordance with the Conditions of this Permit and in accordance with the applicable provisions of Chapter 173-303 WAC (including provisions of the Chapter as they have been applied in the HFFACO). Any treatment, storage, or disposal of dangerous waste by the Permittees at the Facility that is not authorized by this Permit, or by WAC 173-303-400 (including provisions of this regulation as they have been applied in the HFFACO), for those TSD units not subject to this Permit, and for which a Permit is required by Chapter 173-303 WAC, is prohibited.

TSD units operating or closing under interim status will maintain interim status until that TSD unit is incorporated into Part III, V, and/or VI of this Permit, or until interim status is terminated under WAC 173-303-805(8). Interim status units will be incorporated into this Permit through the Permit modification process.

The Conditions of this Permit will be applied to the Facility as defined by the Permit Applicability Matrix (Permit Attachment 9).

I.A.1 USDOE is responsible for activities which include, but are not limited to, the overall management and operation of the Facility.

BNI is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

CHPRC is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

MSA is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

PNNL is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

WCH is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

WRPS is identified as a Permittee for activities subject to the Conditions of this Permit where its agents, employees, or subcontractors have operational and/or management responsibilities and control.

I.A.2 Coordination with the HFFACO

Each TSD unit will have an application for a final status Permit or closure/post-closure plan submitted to Ecology in accordance with the schedules identified in the HFFACO Milestone M-20-00 or in accordance with WAC 173-303-830. After completion of the Permit application or closure/post-closure plan review, a final Permit decision will be made pursuant to WAC 173-303-840. Specific Conditions for each TSD unit will be incorporated into this Permit in accordance with the Class 3 Permit modification procedure identified in Permit Condition I.C.3.

I.B PERSONAL AND PROPERTY RIGHTS

This Permit does not convey property rights of any sort, or any exclusive privilege; nor does it authorize any injury to persons or property, or any invasion of other private rights, or any violation of federal, state, or local laws or regulations.

I.C PERMIT ACTIONS

I.C.1 Modification, Revocation, Reissuance, or Termination

This Permit may be modified, revoked and reissued, or terminated by Ecology for cause per WAC 173-303-810(7) as specified in WAC 173-303-830(3), (4), and (5).

I.C.2 Filing of a Request

The filing of a request for a Permit modification, or revocation and reissuance, or termination, or a notification of planned changes, or anticipated noncompliance on the part of the Permittees, will not stay any Permit condition [WAC 173-303-810(7)]except as provided in WAC 173-303-810(2) under an emergency permit.

I.C.3 Modifications

I.C.3.a Except as provided otherwise by specific language in this Permit, the Permit modification procedures of WAC 173-303-830(2), (3), and (4) will apply to modifications or changes in design or operation of the Facility, or any modification or change in dangerous waste management practices covered by this Permit.

I.C.3.b As an exception, the Permittees will provide notifications to Ecology required by WAC 173-303-830(4)(a)(i)(A) on a quarterly basis. Each quarterly notification will be submitted within ten (10) days of the end of the quarter, and provide the required information for all such modification s put into effect during that reporting period.

I.C.3.c Quarterly reporting periods will be based upon the state Fiscal Year. For notifications required by the Permittees to persons on the facility mailing list described in WAC 173-303-830(4)(a)(i)(B), -830(4)(b)(ii), -830(4)(c)(ii), and -830(4)(e)(ii)(C), use of appropriate HFFACO Community Relations Plan publications and/or list servers for public involvement satisfy the notification requirements.

I.D SEVERABILITY

I.D.1 Effect of Invalidation

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance is contested and/or held invalid, the application of such provision to other circumstances and the remainder of this Permit will not be affected thereby. Invalidation of any state statutory or regulatory provision which forms the basis for any Condition of this Permit does not affect the validity of any other state statutory or regulatory basis for said Condition.

I.D.2 Final Resolution

In the event that a Condition of this Permit is stayed for any reason, the Permittees will continue to comply with the related applicable and relevant interim status standards in WAC 173-303-400 until final resolution of the stayed Condition, unless Ecology determines compliance with the related applicable and relevant interim status standards would be technologically incompatible with compliance with other Conditions of this Permit, which have not been stayed, or unless the HFFACO authorizes an alternative action, in which case the Permittees will comply with the HFFACO.

I.E DUTIES AND REQUIREMENTS

I.E.1 Duty to Comply

The Permittees will comply with all Conditions of this Permit, except to the extent and for the duration such noncompliance is authorized by an emergency Permit issued under WAC 173-303-804. Any Permit noncompliance other than noncompliance authorized by an emergency Permit constitutes a violation of Chapter 70.105 RCW, as amended, and is grounds for enforcement action, Permit termination, modification or revocation and reissuance of the Permit, and/or denial of a Permit renewal application.

I.E.2 Compliance Not Constituting Defense

Compliance with the terms of this Permit does not constitute a defense to any order issued or any action brought under Section 3007, 3008, 3013, or 7003 of RCRA (42 U.S.C. Sections 6927, 6928, 6934, and 6973), Section 104, 106(a) or 107 of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) [42 U.S.C. Sections 9604, 9606(a), and 9607], as amended by the Superfund Amendments and Reauthorization Act of 1986 (42 U.S.C. 9601 et seq.), or any other federal, state, or local law governing protection of public health, or the environment; provided, however, that compliance with this Permit during its term constitutes compliance at those areas subject to this Permit for the purpose of enforcement with WAC 173-303-140, WAC 173-303-180, WAC 173-303-280 through -395, WAC 173-303-600 through -680, WAC 173-303-810, and WAC 173-303-830, except for Permit modification s and those requirements not included in the Permit that become effective by statute, or that are promulgated under 40 CFR Part 268 restricting the placement of dangerous waste in or on the land.

I.E.3 Duty to Reapply

If the Permittees wish to continue an activity regulated by this Permit after the expiration date of this Permit, the Permittees must apply for, and obtain a new Permit, in accordance with WAC 173-303-806(6).

I.E.4 Permit Expiration and Continuation

This Permit, and all Conditions herein, will remain in effect beyond the Permit's expiration date until the effective date of the new Permit, if the Permittees have submitted a timely, complete application for renewal per WAC 173-303-806 and, through no fault of the Permittees, Ecology has not made a final Permit determination as set forth in WAC 173-303-840.

I.E.5 Need to Halt or Reduce Activity Not a Defense

It will not be a defense in the case of an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the Conditions of this Permit.

I.E.6 Duty to Mitigate

In the event of noncompliance with the Permit, the Permittees will take all reasonable steps to minimize releases to the environment, and will carry out such measures as are reasonable to minimize or correct adverse impacts on human health and the environment.

I.E.7 Proper Operation and Maintenance

The Permittees will at all times properly operate and maintain all facilities and systems of treatment and control, which are installed or used by the Permittees, to achieve compliance with the Conditions of this Permit. Proper operation and maintenance includes effective performance, adequate funding, adequate operator staffing and training, and adequate laboratory and process controls, including appropriate quality assurance/quality control procedures. This provision requires the operation of backup or auxiliary facilities, or similar systems only when necessary to achieve compliance with the Conditions of the Permit.

I.E.8 Duty to Provide Information

The Permittees will furnish to Ecology, within a reasonable time, any relevant information which Ecology may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit. The Permittees will also furnish to Ecology, upon request, copies of records required to be kept by this Permit.

I.E.9 Inspection and Entry

The Permittees will allow Ecology, or authorized representatives, upon the presentation of Ecology credentials, to:

I.E.9.a During operating hours, and at all other reasonable times, enter and inspect the Facility or any unit or area within the Facility, where regulated activities are located or conducted, or where records must be kept under the Conditions of this Permit;

I.E.9.b Have access to, and copy, at reasonable times, any records that must be kept under the Conditions of this Permit;

I.E.9.c Inspect at reasonable times any portion of the Facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and,

I.E.9.d Sample or monitor, at reasonable times, for the purposes of assuring Permit compliance, or as otherwise authorized by state law, as amended, for substances or parameters at any location.

I.E.10 Monitoring and Records

I.E.10.a Samples and measurements taken by the Permittees for the purpose of monitoring required by this Permit will be representative of the monitored activity. Sampling methods will be in accordance with WAC 173-303-110 or 40 CFR 261, unless otherwise specified in this Permit, or agreed to in writing by Ecology. Analytical methods will be as specified in the most recently published test procedure of the documents cited in WAC 173-303-110(3)(a) through (h), unless otherwise specified in this Permit, or agreed to in writing by Ecology.

I.E.10.b The Permittees will retain at the TSD unit(s), or other locations approved by Ecology, as specified in Parts III, V, and/or VI of this Permit, records of monitoring information required for compliance with this Permit, including calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of reports and records required by this Permit, and records of data used to complete the application for this Permit for a period of at least ten (10) years from the date of the sample, measurement, report, or application, unless otherwise required for certain information by other Conditions of this Permit. This information may be retained on electronic media.

I.E.10.c The Permittees will retain at the Facility, or other approved location, records of all monitoring and maintenance records, copies of all reports and records required by this Permit, and records of all data used to complete the application for this Permit, which are not associated with a particular TSD unit, for a period of at least ten (10) years from the date of certification of completion of post-closure care, or corrective action for the Facility, whichever is later. This information may be retained on electronic media.

I.E.10.d The record retention period may be extended by request of Ecology at any time by notification, in writing, to the Permittees, and is automatically extended during the course of any unresolved enforcement action regarding this Facility to ten (10) years beyond the conclusion of the enforcement action.

I.E.10.e Records of monitoring information shall include:

I.E.10.e.i The date, exact place and time of sampling or measurements;

I.E.10.e.ii The individual who performed the sampling or measurements and their affiliation;

I.E.10.e.iii The dates the analyses were performed;

I.E.10.e.iv The individual(s) who performed the analyses and their affiliation;

I.E.10.e.v The analytical techniques or methods used; and,

I.E.10.e.vi The results of such analyses

I.E.11 Reporting Planned Changes

The Permittees will give notice to Ecology, as soon as possible, of any planned physical alterations, or additions to the Facility subject to this Permit. Such notice does not authorize any noncompliance with, or modification of, this Permit.

I.E.12 Certification of Construction or Modification

I.E.12.a The Permittees may not commence treatment, storage, or disposal of dangerous wastes in a new or modified portion of TSD units subject to this Permit until:

I.E.12.b The Permittees have submitted to Ecology, by certified mail, overnight express mail, or hand delivery, a letter signed by the Permittees, and a registered professional engineer, stating that the TSD unit has been constructed or modified in compliance with the Conditions of this Permit; and,

I.E.12.c Ecology has inspected the modified or newly constructed TSD unit, and finds that it is in compliance with the Conditions of this Permit; or

I.E.12.d Within fifteen (15) days of the date of receipt of the Permittees' letter, the Permittees have not received notice from Ecology of its intent to inspect, prior inspection is waived, and the Permittees may commence treatment, storage, and disposal of dangerous waste.

I.E.13 Anticipated Noncompliance

The Permittees will give at least thirty (30) days advance notice to Ecology of any planned changes in the Facility subject to this Permit, or planned activity which might result in noncompliance with Permit requirements.

If thirty (30) days advance notice is not possible, then the Permittees will give notice immediately after the Permittees become aware of the anticipated noncompliance. Such notice does not authorize any noncompliance with, or modification of, this Permit.

I.E.14 Transfer of Permits

I.E.14.a This Permit may be transferred to a new owner/operator only if it is modified, or revoked and reissued, pursuant to WAC 173-303-830(3)(b). Unit-specific portion may be transferred to a new Co-operator as a Class [1]1 modification with prior approval of the Department's director.

I.E.14.b Before transferring ownership or operation of the Facility during its operating life, the owner/operator will notify the new owner/operator in writing, of the requirements of WAC 173-303-290(2), -600 and -806, and this Permit.

I.E.15 Immediate Reporting

I.E.15.a The Permittees will verbally report to Ecology any release of dangerous waste or hazardous substances, or any noncompliance with the Permit which may endanger human health or the environment. Any such information will be reported immediately after the Permittees become aware of the circumstances.

I.E.15.b The immediate verbal report will contain all the information needed to determine the nature and extent of any threat to human health and the environment, including the following:

I.E.15.b.i Name, address, and telephone number of the Permittee responsible for the release or noncompliant activity;

I.E.15.b.ii Name, location, and telephone number of the unit at which the release occurred;

I.E.15.b.iii Date, time, and type of incident;

I.E.15.b.iv Name and quantity of material(s) involved;

I.E.15.b.v The extent of injuries, if any;

I.E.15.b.vi An assessment of actual or potential hazard to the environment and human health, where this is applicable;

I.E.15.b.vii Estimated quantity of released material that resulted from the incident; and,

I.E.15.b.viii Actions which have been undertaken to mitigate the occurrence.

I.E.15.c The Permittees will report, in accordance with Permit Conditions I.E.15.a and I.E.15.b, any information concerning the release, or unpermitted discharge, of any dangerous waste or hazardous substances that may cause an endangerment to drinking water supplies, or ground or surface waters, or of a release, or discharge of dangerous waste, or hazardous substances, or of a fire or explosion at the Facility, which may threaten human health or the environment. The description of the occurrence and its cause will include all information necessary to fully evaluate the situation and to develop an appropriate course of action.

I.E.15.d For any release or noncompliance not required to be reported to Ecology immediately, a brief account must be entered within two (2) working days, into the TSD Operating Record, for a TSD unit, or into the Facility Operating Record, inspection log, or separate spill log, for non-TSD units. This account must include: the time and date of the release, the location and cause of the release, the type and quantity of material released, and a brief description of any response actions taken or planned.

I.E.15.e All releases, regardless of location of release, or quantity of release, will be controlled and mitigated, if necessary, as required by WAC 173-303-145(3).

I.E.16 Written Reporting

Within fifteen (15) days after the time the Permittees become aware of the circumstances of any noncompliance with this Permit, which may endanger human health or the environment, the Permittees will provide to Ecology a written report. The written report will contain a description of the noncompliance and its cause (including the information provided in the verbal notification); the period of noncompliance including exact dates and times; the anticipated time noncompliance is expected to continue, if the noncompliance has not been corrected; corrective measures being undertaken to mitigate the situation, and steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance.

I.E.17 Manifest Discrepancy Report

I.E.17.a For dangerous waste received from outside the Facility, whenever a significant discrepancy in a manifest is discovered, the Permittees will attempt to reconcile the discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will submit a letter report in accordance with WAC 173-303-370(4), including a copy of the applicable manifest or shipping paper, to Ecology.

I.E.17.b For dangerous waste which is being transported within the Facility (i.e., shipment of on-site generated dangerous waste), whenever a significant discrepancy in the shipping papers (see Permit Condition II.Q.1) is discovered, the Permittees will attempt to reconcile the discrepancy. If not reconciled within fifteen (15) days of discovery, the Permittees will note the discrepancy in the receiving unit's Operating Record.

I.E.18 Unmanifested Waste Report

The Permittees will follow the provisions of WAC 173-303-370 for the receipt of any dangerous waste shipment from off-site. The Permittees will also submit a report in accordance with WAC 173-303-390(1) to Ecology within fifteen (15) days of receipt of any unmanifested dangerous waste shipment received from off-site sources.

I.E.19 Other Noncompliance

The Permittees will report to Ecology all instances of noncompliance, not otherwise required to be reported elsewhere in this Permit, at the time the Annual Dangerous Waste Report is submitted.

I.E.20 Other Information

Whenever the Permittees become aware that they have failed to submit any relevant facts in a Permit application, closure plan, or post-closure plan, or submitted incorrect information in a Permit application, closure plan, or post-closure plan, or in any report to Ecology, the Permittees will promptly submit such facts or corrected information.

I.E.21 Reports, Notifications, and Submissions

All written reports, notifications or other submissions, which are required by this Permit to be sent, or given to the Director or Ecology, should be sent certified mail, overnight express mail, or hand delivered, to the current address and telephone number shown below. This address and telephone number may be subject to change.

Washington State Department of Ecology
Nuclear Waste Program
3100 Port of Benton Blvd
Richland, Washington 99354
Telephone: (509) 372-7950

Telephonic and oral reports/notifications also need to be provided to Ecology's Richland Office.

Ecology will give the Permittees written notice of a change in address or telephone number. It is the responsibility of the Permittees to ensure any required reports, notifications, or other submissions are transmitted to the addressee listed in this Condition. However, the Permittees will not be responsible for ensuring verbal and written correspondence reaches a new address or telephone number until after their receipt of Ecology's written notification.

I.E.22 Annual Report

The Permittees will comply with the annual reporting requirements of WAC 173-303-390(2)(a) through (e), and (g).

I.F SIGNATORY REQUIREMENT

All applications, reports, or information submitted to Ecology, which require certification, will be signed and certified in accordance with WAC 173-303-810(12) and (13). All other reports required by this Permit and other information requested by Ecology will be signed in accordance with WAC 173-303-810(12).

I.G CONFIDENTIAL INFORMATION

The Permittees may declare as confidential any information required to be submitted by this Permit, at the time of submission, in accordance with WAC 173-303-810(15).

I.H DOCUMENTS TO BE MAINTAINED AT FACILITY SITE

The Permittees will maintain at the Facility, or some other location approved by Ecology, the following documents and amendments, revisions, and modifications to these documents: (1) This Permit and all Attachments; and (2) The Hanford Facility Operating Record.

All dangerous waste Part B permit applications, post closure permit applications, and closure plan applications are maintained in the Administrative Record located at 2440 Stevens, Room 1101, Richland, WA.

Other approved locations: (1) 700 Area, (2) Locations within the City of Richland under control of one or more of the Permittees, (3) Administrative Record locations within the Stevens Center complex, (4) Consolidated Information Center at Washington State University, Tri-Cities. (5) Archived records at the National Archives and Records Administration (NARA), Pacific Alaska Region, 6125 Sand Point Way NE, Seattle, Washington, 98115-7999.

These documents will be maintained for ten (10) years after post-closure care or corrective action for the Facility, whichever is later, has been completed and certified as complete.

PART II GENERAL FACILITY CONDITIONS

II.A FACILITY CONTINGENCY PLAN

II.A.1 The Permittees will immediately carry out applicable provisions of the *Hanford Emergency Management Plan* as provided in Permit Attachment 4, pursuant to WAC 173-303-360(2), whenever there is an incident meeting the criteria of Permit Attachment 4, Section 4.2. Enforceable portions of Permit Attachment 4, *Hanford Emergency Management Plan* (DOE/RL-94-02) are identified in Permit Attachment 4, Appendix A.

II.A.2 The Permittees will comply with the requirements of WAC 173-303-350(4), as provided in the *Hanford Emergency Management Plan* (Permit Attachment 4). The *Hanford Emergency Management Plan* provides reference to the need for unit-specific contingency documentation. Unit-specific contingency documentation for Part III TSD units is included in Part III of this Permit. Unit-specific contingency documentation for Part V and VI TSD units required by this Permit condition is maintained in the Hanford Facility Operating Record, Unit-Specific files.

II.A.3 The *Permittees* will review and amend, if necessary, the applicable portions of the *Hanford Emergency Management Plan*, as provided in Permit Attachment 4, pursuant to WAC 173-303-350(5), and in accordance with the provisions of WAC 173-303-830(4). The Permittees will be able to demonstrate how Amendments to the applicable portions are controlled. The plan will be amended within a period of time agreed upon by Ecology.

II.A.4 The Permittees will comply with the requirements of WAC 173-303-350(3) and –360(1) concerning the emergency coordinator, except the names and home telephone numbers will be on file with the single point-of-contact, phone number (509) 373-3800 or 375-2400 (for PNNL units) as described in the *Hanford Emergency Management Plan*.

II.B PREPAREDNESS AND PREVENTION

II.B.1 The Permittees will equip the Facility with the equipment specified in WAC 173-303-340(1) as specified in the *Hanford Emergency Management Plan* (Permit Attachment 4). Unit-specific preparedness and prevention provisions are included in Parts III, V, and/or VI of this Permit.

II.B.2 The Permittees will test and maintain the equipment specified in Permit Condition II.B.1 as necessary to assure proper operation in the event of emergency.

II.B.3 The Permittees will maintain access to communications or alarms pursuant to WAC 173-303-340(2), as provided in the *Hanford Emergency Management Plan* (Permit Attachment 4) and unit-specific contingency plans.

II.B.4 The Permittees will comply with WAC 173-303-340(4) and WAC 173-303-355(1) pertaining to arrangements with local authorities.

II.B.5 Based on the arrangements with local authorities required by WAC 173-303-340(4) documented in Permit Attachment 4, Table 3-1, the Permittees will maintain the Memorandums of Understanding to comply with WAC 173-303-350(4)(b). The Hanford Facility Memorandums of Understanding with local authorities provides emergency planning and coordination equivalent to submittal of the contingency plan to local authorities

II.C PERSONNEL TRAINING

II.C.1 The Permittees will conduct personnel training as required by WAC 173-303-330. The Permittees will maintain documents in accordance with WAC 173-303-330(2) and (3). Training records may be maintained in the Hanford Facility Operating Record, or on electronic data storage.

II.C.2 All Hanford Facility personnel will receive general Facility training within six (6) months of hire. This training will provide personnel with orientation of dangerous waste management activities being conducted at the Hanford Facility. This training will include:

II.C.2.a Description of emergency signals and appropriate personnel response;

II.C.2.b Identification of contacts for information regarding dangerous waste management activities;

II.C.2.c Introduction to waste minimization concepts;

II.C.2.d Identification of contact(s) for emergencies involving dangerous waste; and

II.C.2.e Familiarization with the applicable portions of the *Hanford Emergency Management Plan.*

II.C.3 Description of training plans for personnel assigned to TSD units subject to this Permit are delineated in the unit-specific Chapters in Parts III, V, and/or VI of this Permit.

II.C.4 The Permittees will provide the necessary training to non-Facility personnel (i.e., visitors, sub-contractors), as appropriate, for the locations of such personnel, and the activities that will be undertaken. At a minimum, this training will describe dangerous waste management hazards at the Facility.

II.D WASTE ANALYSIS

II.D.1 All waste analyses required by this Permit will be conducted in accordance with a written waste analysis plan (WAP), or sampling and analysis plan (SAP). Operating TSD units will have a WAP, which will be approved through incorporation of the TSD unit into Part III of this Permit. Closing TSD units, and units in post-closure, should have a SAP and, if necessary, a WAP, which will be approved through incorporation of the TSD unit into Part V and/or VI of this Permit.

II.D.2 Until a WAP is implemented in accordance with Permit Condition II.D.1., any unit(s) identified in Parts III, V, and/or VI of this Permit, without a unit-specific WAP approved by Ecology, will not treat, store, or dispose of dangerous waste, unless specified otherwise by Ecology in writing.

II.D.3 Each TSD unit WAP will include:

II.D.3.a The parameters for which each dangerous waste will be analyzed, and the rationale for selecting these parameters; (i.e., how analysis for these parameters will provide sufficient information on the waste properties to comply with WAC 173-303-300(1), (2), (3), and (4);

II.D.3.b The methods of obtaining or testing for these parameters;

II.D.3.c The methods for obtaining representative samples of wastes for analysis (representative sampling methods are discussed in WAC 173-303-110(2);

II.D.3.d The frequency with which analysis of a waste will be reviewed, or repeated, to ensure that the analysis is accurate and current;

II.D.3.e The waste analyses which generators have agreed to supply;

II.D.3.f Where applicable, the methods for meeting the additional waste analysis requirements for specific waste management methods, as specified in WAC 173-303-140(4)(b), 173-303-395(1), 173-303-630 through 173-303-670, and 40 CFR 264.1034, 264.1063, 284(a), and 268.7, for final status facilities;

II.D.3.f.i For off-site facilities, the procedures for confirming that each dangerous waste received matches the identity of the waste specified on the accompanying manifest, or shipping paper. This includes at least:

II.D.3.f.i.a The procedure for identifying each waste movement at the Facility; and,

II.D.3.f.i.b The method for obtaining a representative sample of the waste to be identified, if the identification method includes sampling.

II.D.3.f.ii For surface impoundments exempted from Land Disposal Restrictions (LDR) under 40 CFR 268.4(a), incorporated by reference in WAC 173-303-140(2), the procedures and schedules for:

II.D.3.f.iii The sampling of impoundment contents;

II.D.3.f.iv The analysis of test data; and

II.D.3.f.v The annual removal of residues that are not delisted under 40 CFR 260.22, or which exhibit a characteristic of hazardous waste and either;

II.D.3.f.v.a Do not meet applicable treatment standards of 40 CFR Part 268, Subpart D; or

II.D.3.f.v.b Where no treatment standards have been established:

II.D.3.f.v.b.1 Such residues are prohibited from land disposal under 40 CFR 268.32, or RCRA Section 3004(d); or

II.D.3.f.v.b.2 Such residues are prohibited from land disposal under 40 CFR 268.33(f); and

II.D.4 Should waste analysis be required by this Permit at a location on the Facility, other than at a TSD unit, a SAP will be maintained by the Permittees, and made available upon request from Ecology. Any SAP required by this Permit, not associated with a particular TSD unit, will include the elements of Permit Conditions II.D.3.a.

II.E QUALITY ASSURANCE/QUALITY CONTROL

II.E.1 All WAPs and SAPs required by this Permit will include a quality assurance/quality control (QA/QC) plan, or equivalent, to document all monitoring procedures to ensure that all information, data, and resulting decisions are technically sound, statistically valid, and properly documented in accordance with HFFACO Action Plan §6.5, Quality Assurance, and reported/made available in accordance with HFFACO Action Plan §9.6, Data Access and Delivery Requirements.

II.E.2 The level of QA/QC for the collection, preservation, transportation, and analysis of each sample required for implementation of this Permit may be based upon an Ecology-approved DQO for the sample. These DQOs will be approved by Ecology in writing or through incorporation of unit plans and Permits into Parts III, V, and/or VI of this Permit.

II.F GROUND WATER AND VADOSE ZONE MONITORING

The Permittees will comply with the ground water monitoring requirements of WAC 173-303-645. This Condition will apply only to those wells the Permittees use for the ground water monitoring programs applicable to the TSD units incorporated into Parts III, V, and/or VI of this Permit. Where releases from TSD units subject to this Permit have been documented or confirmed by investigation, or where vadose zone monitoring is proposed for integration with ground water monitoring, the Permittees will evaluate the applicability of vadose zone monitoring. The Permittees will consult with Ecology regarding the implementation of these requirements. If agreed to by Ecology, integration of ground water and vadose zone monitoring, for reasons other than this Permit, may be accommodated by this Permit. Results from other investigation activities will be used whenever possible to supplement and/or replace sampling required by this Permit.

II.F.1 Purgewater Management

Purgewater will be handled in accordance with the requirements set forth in Permit Attachment 10, *Purgewater Management Plan.*

II.F.2 Well Remediation and Abandonment

II.F.2.a The Permittees will inspect the integrity of active resource protection wells as defined by WAC 173-160-030, subject to this Permit, at least once every five (5) years. These inspections will be recorded in the Operating Record. The Permittees will prepare and maintain a plan and schedule by January 26, 1995, specifying the schedule and technical standards for this program. The Permittees will provide a copy of this plan upon the request of Ecology.

II.F.2.b The Permittees will evaluate resource protection wells subject to this Permit according to Sections 4.0 and 5.0 of the *Hanford Well Maintenance Inspection Plan* (Permit Attachment 8) and the *Policy on Remediation of Existing Wells and Acceptance Criteria for RCRA and CERCLA*, June 1990 (Permit Attachment 7), to determine if a well has a potential use as a qualified well. The Permittees will abandon or remediate unusable wells according to the requirements of Chapter 18.104 RCW, Chapter 173-160 WAC, and Chapter 173-162 WAC to ensure that the integrity of wells subject to this Permit is maintained. The time for this remediation will be specified in Parts III, V, and/or VI of this Permit.

II.F.2.c Ecology will receive notice in writing at least seventy-two (72) hours before the Permittees remediate (excluding maintenance activities), or abandon any well subject to this Permit.

II.F.2.d For wells subject to this Permit, the Permittees will achieve full compliance with Chapter 173-160 WAC and Chapter 18.104 RCW consistent with a rolling five (5) year schedule agreed to by Ecology and the Permittees. This process will be completed by the year 2012.

II.F.3 Well Construction

All wells constructed pursuant to this Permit will be constructed in compliance with Chapter 173-160 WAC.

II.G SITING CRITERIA

The Permittees will comply with the applicable notice of intent and siting criteria of WAC 173-303-281 and WAC 173-303-282, respectively.

II.H RECORDKEEPING AND REPORTING

The provisions of WAC 173-303-620 are not applicable to the Hanford Facility because the USDOE is both owner and operator of the Hanford Facility. WAC 173-303-620(1)(c).

II.I FACILITY OPERATING RECORD

II.I.1 The Permittees will maintain a written Facility Operating Record until ten (10) years after post-closure, or corrective action is complete and certified for the Facility, whichever is later. Except as specifically provided otherwise in this Permit, the Permittees will also record all information referenced in this Permit in the Facility Operating Record within seven (7) working days after the information becomes available. A TSD unit-specific Operating Record will be maintained for each TSD unit at a location identified in Parts III, V, and VI of this Permit. This information may be maintained on electronic media. Each TSD unit-specific Operating Record will be included by reference in the Facility Operating Record. Information required in each TSD unit-specific Operating Record is identified on a unit-by-unit basis in Part III, V, or VI of this Permit. The Facility Operating Record will include, but not be limited to, the following information.

II.I.1.a A description of the system(s) currently utilized to identify and map solid waste management units and their locations. The description of the system(s) is required to include an identification of on-site access to the system's data, and an on-site contact name and telephone number. In addition to, or as part of, this system(s), the Permittees will also maintain a list identifying active ninety (90)-day waste storage areas, and dangerous waste satellite accumulation areas and their locations. The list will identify the location, the predominant waste types managed at the area, and a date identifying when the list was compiled. Maps will be provided by the Permittees upon request by Ecology;

II.I.1.b Records and results of waste analyses required by WAC 173-303-300;

II.I.1.c An identification of the system(s) currently utilized to generate Occurrence Reports. The identification of the system(s) is required to include a description, an identification of an on-site location of hard-copy Occurrence Reports, an identification of on-site access to the system's data, and an on-site contact name and telephone number;

II.I.1.d Copies of all unmanifested waste reports;

II.I.1.e The *Hanford Emergency Management Plan*, as well as summary reports, and details of all incidents that require implementing the contingency plan, as specified in WAC 173-303-360(2)(k);

II.I.1.f An identification of the system(s) currently utilized and being developed to record personnel training records and to develop training plans. The identification of the system(s) is required to include a description, an identification of on-site access to the system's data, and an on-site contact name and telephone number;

II.I.1.g Preparedness and prevention arrangements made pursuant to WAC 173-303-340(4) and documentation of refusal by state or local authorities that have declined to enter into agreements in accordance with WAC 173-303-340(5);

II.I.1.h Reserved Condition;

II.I.1.i Reserved Condition;

II.I.1.j Documentation (e.g., waste profile sheets) of all dangerous waste transported to or from any TSD unit subject to this Permit. This documentation will be maintained in the receiving unit's Operating Record from the time the waste is received;

II.I.1.k An identification of the system(s) currently utilized to cross-reference waste locations to specific manifest document numbers. The identification of the system(s) is required to include a thorough description, an identification of an on-site location of a hard-copy data report, an identification of on-site access to the system's data, and an on-site contact name and telephone number;

II.I.1.l Reserved Condition;

II.I.1.m Annual Reports required by this Permit;

II.I.1.n An identification of all systems currently utilized to record monitoring information, including all calibration and maintenance records, and all original strip chart recordings for continuous monitoring instrumentation. The identification of systems will include a description of the systems. The descriptions will include a confirmation that the criteria of Permit Condition I.E.10 is provided by the utilization of the system. The identification of the systems will also include an identification of on-site access to the system's data, an on-site contact name and telephone number;

II.I.1.o Reserved Condition;

II.I.1.p Summaries of all records of ground water corrective action required by WAC 173-303-645;

II.I.1.q An identification of the system(s) currently being utilized and being developed to evaluate compliance with the Conditions of this Permit and with Chapter 173-303 WAC. The identification of the system(s) will include a description of the system(s), an identification of on-site access to the system's data, and an on-site contact name and telephone number. The description of the system(s) will also include a definition of which portion(s) of the system(s) is accessible to Ecology;

II.I.1.r All deed notifications required by this Permit (to be included by reference);

II.I.1.s All inspection reports required by this Permit; and

II.I.1.t All other reports as required by this Permit, including design change documentation and nonconformance documentation.

II.J FACILITY CLOSURE

II.J.1 Final closure of the Hanford Facility will be achieved when closure activities for all TSD units have been completed, as specified in Parts III, IV, V, or VI of this Permit. Completion of these activities will be documented using either certifications of closure, in accordance with WAC 173-303-610(6), or certifications of completion of post-closure care, in accordance with WAC 173-303-610(11).

II.J.2 The Permittees will close all TSD units as specified in Parts III, V, and/or VI of this Permit.

II.J.3 The Permittees will submit a written notification of, or request for, a Permit modification in accordance with the provisions of WAC 173-303-610(3)(b), whenever there is a change in operating plans, facility design, or the approved closure plan. The written notification or request must include a copy of the amended closure plan for review, or approval, by Ecology.

II.J.4 The Permittees will close the Facility in a manner that:

II.J.4.a Minimizes the need for further maintenance;

II.J.4.b Controls, minimizes or eliminates, to the extent necessary to protect human health and the environment, post-closure escape of dangerous waste, dangerous constituents, leachate, contaminated run-off, or dangerous waste decomposition products, to the ground, surface water, ground water, or the atmosphere; and

II.J.4.c Returns the land to the appearance and use of surrounding land areas to the degree possible, given the nature of the previous dangerous waste activity.

II.J.4.d Meets the requirements of WAC 173-303-610(2)(b).

II.K SOIL/GROUND WATER CLOSURE PERFORMANCE STANDARDS

II.K.1 For purposes of Permit Condition II.K, the term "clean closure" shall mean the status of a TSD unit at the Facility which has been closed to the cleanup levels prescribed by WAC 173-303-610(2)(b), provided certification of such closure has been accepted by Ecology.

II.K.2 The Permittees may close a TSD unit to background levels as defined in Ecology approved Hanford Site Background Documents, if background concentrations exceed the levels prescribed by Permit Condition II.K.1. Closure to these levels, provided the Permittees comply with all other closure requirements for a TSD unit as identified in Parts III, V, and/or VI of this Permit, shall be deemed as "clean closure".

II.K.3 Except for those TSD units identified in Permit Conditions II.K.1, II.K.2, or II.K.4, the Permittees may close a TSD unit to a cleanup level specified under Method C of Chapter 173-340 WAC. Closure of a TSD unit to these levels, provided the Permittees comply with all other closure requirements for the TSD unit as specified in Parts III, V, and/or VI of the Permit, and provided the Permittees comply with Permit Conditions II.K.3.a through II.K.3.c, shall be deemed as a "modified closure".

II.K.3.a For "modified closures", the Permittees shall provide institutional controls in accordance with WAC 173-340-440 which restricts access to the TSD unit for a minimum of five (5) years following completion of closure. The specific details and duration of institutional controls shall be specified in Parts III, V, and/or VI of this Permit for a particular TSD unit.

II.K.3.b For "modified closures", the Permittees shall provide periodic assessments of the TSD unit to determine the effectiveness of the closure. The specific details of the periodic assessments shall be specified in Parts III, V, and/or VI of this Permit. The periodic assessments shall include, as a minimum, a compliance monitoring plan in accordance with WAC 173-340-410 that will address the assessment requirements on a unit-by-unit basis. At least one (1) assessment activity shall take place after a period of five (5) years from the completion of closure, which will demonstrate whether the soils and ground water have been maintained at or below the allowed concentrations as specified in Parts III, V, or VI of this Permit. Should the required assessment activities identify contamination above the allowable limits as specified in Parts III, V, and/or VI, the TSD unit must be further remediated, or the requirements of II.K.4 must be followed. Should the required assessment activities demonstrate that contamination has diminished, or remained the same, the Permittees may request that Ecology reduce, or eliminate the assessment activities and/or institutional controls.

II.K.3.c For "modified closures", the Permittees shall specify the particular activities required by this Condition in a Post-Closure Permit application.

II.K.4 Any TSD unit for which Permit Conditions II.K.1, II.K.2, or II.K.3, are not chosen as the closure option, closing the TSD unit as a landfill may be selected. Closure and post-closure of the TSD unit as a landfill, must follow the procedures and requirements specified in WAC 173-303-610.

II.K.5 The cleanup option selected shall be specified in Parts III, V, and/or VI of this Permit, and shall be chosen with consideration of the potential future site use for that TSD unit/area. Definitions contained within Chapter 173-340 WAC shall apply to Permit Condition II.K. Where definitions are not otherwise provided by this Permit, the HFFACO, or Chapter 173-303 WAC.

II.K.6 Deviations from a TSD unit closure plan required by unforeseen circumstances encountered during closure activities, which do not impact the overall closure strategy, but provide equivalent results, shall be documented in the TSD unit-specific Operating Record and made available to Ecology upon request, or during the course of an inspection.

II.K.7 Where agreed to by Ecology, integration of other statutorily or regulatory mandated cleanups may be accommodated by this Permit. Results from other cleanup investigation activities shall be used whenever possible to supplement and/or replace TSD unit closure investigation activities. All, or appropriate parts of, multipurpose cleanup and closure documents can be incorporated into this Permit through the Permit modification process. Cleanup and closures conducted under any statutory authority, with oversight by either Ecology or the EPA, which meet the equivalent of the technical requirements of Permit Conditions II.K.1 through II.K.4, may be considered as satisfying the requirements of this Permit.

II.L DESIGN AND OPERATION OF THE FACILITY

II.L.1 Proper Design and Construction

The Permittees will design, construct, maintain, and operate the Facility to minimize the possibility of a fire, explosion, or any unplanned sudden or non-sudden release of hazardous substances to air, soil, ground water, or surface water, which could threaten human health, or the environment.

II.L.2 Design Changes, Nonconformance, and As-Built Drawings

II.L.2.a After completing the Permit modification process in Permit Condition I.C.3, the Permittees will conduct all construction subject to this Permit in accordance with the approved designs, plans and specifications that are required by this Permit, unless authorized otherwise in Permit Conditions II.L.2.b or II.L.2.c. For purposes of Permit Conditions II.L.2.b and II.L.2.c, an Ecology construction inspector, or TSD unit manager, are designated representatives of Ecology.

II.L.2.b During construction of a project subject to this Permit, changes to the approved designs, plans and specifications will be formally documented. All design change documentation will be maintained in the TSD unit-specific Operating Record and will be made available to Ecology upon request or during the course of an inspection. The Permittees will provide copies of design change documentation affecting any critical system to Ecology within five (5) working days of initiating the design change documentation. Identification of critical systems will be included by the Permittees in each TSD unit-specific dangerous waste Permit application, closure plan or Permit modification, as appropriate. Ecology will review a design change documentation modifying a critical system, and inform the Permittees in writing within two (2) working days, whether the proposed design change documentation, when issued, will require a Class 1, 2, or 3

Permit modification. If after two (2) working days Ecology has not responded, it will be deemed as acceptance of the design change documentation by Ecology.

II.L.2.c During construction of a project subject to this Permit, any work completed which does not meet or exceed the standards of the approved design, plans and specifications will be formally documented with nonconformance documentation. All nonconformance documentation will be maintained in the TSD unit-specific Operating Record and will be made available to Ecology upon request, or during the course of an inspection. The Permittees will provide copies of nonconformance documentation affecting any critical system to Ecology within five (5) working days after identification of the nonconformance. Ecology will review nonconformance documentation affecting a critical system and inform the Permittees in writing, within two (2) working days, whether a Permit modification is required for any nonconformance, and whether prior approval is required from Ecology before work proceeds, which affects the nonconforming item. If Ecology does not respond within two (2) working days, it will be deemed as acceptance and no Permit modification will be required.

II.L.2.d Upon completion of a construction project subject to this Permit, the Permittees will produce as-built drawings of the project which incorporate the design and construction modifications resulting from all project design change documentation and nonconformance documentation, as well as modifications made pursuant to WAC 173-303-830. The Permittees will place the drawings into the Operating Record within twelve (12) months of completing construction, or within an alternate period of time specified in a unit-specific Permit Condition in Part III or V of this Permit.

II.L.2.e Facility Compliance

The Permittees in receiving, storing, transferring, handling, treating, processing, and disposing of dangerous waste, will design, operate, and/or maintain the Facility in compliance with all applicable federal, state, and local laws and regulations.

II.M SECURITY

The Permittees will comply with the security provisions of WAC 173-303-310. The Permittees may comply with the requirements of WAC 173-303-310(2) on a unit-by-unit basis.

II.N RECEIPT OF DANGEROUS WASTES GENERATED OFF-SITE

II.N.1 Receipt of Off-Site Waste

The Permittees will comply with Permit Conditions II.N.2 and II.N.3 for any dangerous wastes which are received from sources outside the United States, or from off-site generators.

II.N.2 Waste from Sources Outside the United States

The Permittees will meet the requirements of WAC 173-303-290(1) for waste received from outside the United States.

II.N.3 Notice to Generator

For waste received from off-site sources (except where the owner/operator is also the generator), the Permittees will inform the generator in writing that they have the appropriate Permits for, and will accept, the waste the generator is shipping, as required by WAC 173-303-290(3). The Permittees will keep a copy of this written notice as part of the TSD unit-specific Operating Record.

II.O GENERAL INSPECTION REQUIREMENTS

II.O.1 The Permittees will inspect the Facility to prevent malfunctions and deterioration, operator errors, and discharges, which may cause or lead to the release of dangerous waste constituents to the environment, or threaten human health. Inspections must be conducted in accordance with the provisions of WAC 173-303-320(2). In addition to the TSD unit inspections specified in Parts III, V, and/or VI, the following inspections will also be conducted:

II.O.1.a The 100, 200 East, 200 West, 300, and 400 areas will be inspected annually.

II.O.1.b The Permittees will inspect the banks of the Columbia River, contained within the Facility boundary, once a year. The inspection will be performed from the river, by boat, and the inspectors will follow the criteria in Permit Condition II.O.1.c.

II.O.1.c The Permittees will visually inspect the areas identified in Permit Conditions II.O.1.a and II.O.1.b for malfunctions, deterioration, operator errors, and discharges which may cause or lead to the release of dangerous waste constituents to the environment, or that threaten human health. Specific items to be noted are as follows:

II.O.1.c.i Remains of waste containers, labels, or other waste management equipment;

II.O.1.c.ii Solid waste disposal sites not previously identified for remedial action;

II.O.1.c.iii Uncontrolled waste containers (e.g., orphan drums);

II.O.1.c.iv Temporary or permanent activities that could generate an uncontrolled waste form; and

II.O.1.c.v Unpermitted waste discharges.

II.O.1.d The Permittees will notify Ecology at least seven (7) days prior to conducting these inspections in order to allow representatives of Ecology to be present during the inspections.

II.O.2 If the inspection by the Permittees, conducted pursuant to Permit Condition II.O.1, reveals any problems, the Permittees will take remedial action on a schedule agreed to by Ecology.

II.O.3 The inspection of high radiation areas will be addressed on a case-by-case basis in either Part III of this Permit, or prior to the inspections required in Permit Condition II.O.1.

II.P MANIFEST SYSTEM

II.P.1 The Permittees will comply with the manifest requirements of WAC 173-303-370 for waste received from off-site and WAC 173-303-180 for waste shipped off-site.

II.P.2 Transportation of dangerous wastes along roadways, if such routes are not closed to general public access at the time of transport, can be manifested pursuant to an alternate tracking system as allowed by WAC 173-303-180(6). The alternate tracking system can be a paper system or an electronic system. The roadways addressed by this condition are a public or private right-of-way within or along the border of contiguous property where the movement is under control of the USDOE. The alternate tracking system will consist of documentation between the offering Hanford Facility location and the receiving Hanford Facility location containing the following information:

II.P.2.a Hanford Facility offeror name, location, and telephone number;

II.P.2.b Hanford Facility receiver name, location, and telephone number;

II.P.2.c Description of waste;

II.P.2.d Number and type of containers;

II.P.2.e Total quantity of waste;

II.P.2.f Unit volume/weight;

II.P.2.g Dangerous waste number(s) or U.S. Department of Transportation hazard class; and

II.P.2.h Special handling instructions including emergency contacts.

II.P.3 The Hanford Facility offeror and receiver will resolve any discrepancies of information found related to Permit Conditions II.P.2.a through II.P.2.h.

II.P.4 If the discrepancies cannot be resolved at the Hanford Facility receiving location, a new Hanford Facility receiver location will be agreed upon, or the dangerous waste will be returned to the offeror location. The documentation accompanying the movement of dangerous waste will be updated to reflect the new receiving location.

II.Q ON-SITE TRANSPORTATION

II.Q.1 Documentation must accompany any on-site dangerous waste which is transported to or from any TSD unit subject to this Permit, through or within the 600 Area, unless the roadway is closed to general public access at the time of shipment. Waste transported by rail or by pipeline is exempt from this Condition. This documentation will include the following information, unless other unit-specified provisions are designated in Part III or V of this Permit:

II.Q.1.a Generator's name, location, and telephone number;

II.Q.1.b Receiving TSD unit's name, location, and telephone number;

II.Q.1.c Description of waste;

II.Q.1.d Number and type of containers;

II.Q.1.e Total quantity of waste;

II.Q.1.f Unit volume/weight;

II.Q.1.g Dangerous waste number(s); and

II.Q.1.h Any special handling instructions.

II.Q.2 All non-containerized solid, dangerous waste transported to or from TSD units, subject to this Permit, will be covered to minimize the potential for material to escape during transport.

II.R EQUIVALENT MATERIALS

II.R.1 The Permittees may substitute an equivalent or superior product for any equipment or materials specified in this Permit. Use of equivalent or superior products will not be considered a modification of this Permit. A substitution will not be considered equivalent unless it is at least as effective as the original equipment or materials in protecting human health and the environment.

II.R.2 The Permittees will place in the Operating Record (within seven [7] days after the change is put into effect) the substitution documentation, accompanied by a narrative explanation, and the date the substitution became effective. Ecology may judge the soundness of the substitution.

II.R.3 If Ecology determines that a substitution was not equivalent to the original, it will notify the Permittees that the Permittees' claim of equivalency has been denied, of the reasons for the denial, and that the original material or equipment must be used. If the product substitution is denied, the Permittees will comply with the original approved product specification, or find an acceptable substitution.

II.S LAND DISPOSAL RESTRICTIONS (LDR)

Unless specifically identified otherwise in the HFFACO, the Permittees will comply with all LDR requirements as set forth in WAC 173-303-140.

II.T ACCESS AND INFORMATION

To the extent that work required by this Permit must be done on property not owned or controlled by the Permittees, the Permittees must utilize their best efforts to obtain access and information at these locations.

II.U MAPPING OF UNDERGROUND PIPING

II.U.1 Reserved.

II.U.2 Reserved.

II.U.3 The Permittees will maintain piping maps for existing, newly identified, and/or new dangerous waste underground pipelines (including active, inactive, and abandoned pipelines, which contain or contained dangerous waste subject to the provisions of Chapter 173-303 WAC) at the Hanford Facility. The maps will identify the origin, destination, direction of flow, size, depth and type (i.e., reinforced concrete, stainless steel, cast iron, etc.), of each pipe, and the location of their diversion boxes, valve pits, seal pots, catch tanks, receiver tanks, and pumps, and utilize Washington State Plane Coordinates, NAD 83(91), meters. If the type of pipe material is not documented on existing drawings, the most probable material type will be provided. The maps will also identify whether the pipe is active, inactive, or abandoned. The age of all pipes requiring identification pursuant to this Condition will be documented in an Attachment to the submittal. If the age cannot be documented, an estimate of the age of the pipe will be provided based upon best engineering judgment. These maps need not include the pipes within a fenced tank farm or within a building/structure. These maps will be compiled using documented QA/QC control methods and procedures outlined in DOE/RL-96-50, *Hanford Facility RCRA Permit Mapping and Marking of Dangerous Waste Underground Pipelines Report*, September 1996. These maps and any Attachments will be maintained in the Facility Operating Record and be updated annually as required by Permit Condition II.U.4.

II.U.4 Permittees will maintain current all maps required by Permit Condition II.U.3. These maps will be updated to incorporate new or revised information available by March 30th of each year. By September 30th of each year, the Permittees will submit to Ecology a list of maps that have been updated. The updated maps (including any Attachments) and the annual list submitted to Ecology will be maintained in the Facility Operating Record.

II.V MARKING OF UNDERGROUND PIPING

The Permittees will maintain marking of underground pipelines located outside the 200 East, 200 West, 300, 400, 100N, and 100K Areas. These pipelines will be marked at the point they pass beneath an area fence, at their origin and destination, at any point they cross an improved road, and every 100 meters along the pipeline corridor where practicable. The markers will be labeled with a sign that reads "Buried Dangerous Waste Pipe" and will be visible from a distance of fifteen (15) meters.

II.W OTHER PERMITS AND/OR APPROVALS

II.W.1 The Permittees will be responsible for obtaining all other applicable federal, state, and local permits authorizing the development and operation of the Facility. To the extent that work required by this Permit must be done under a permit and/or approval pursuant to other regulatory authority, the Permittees will use their best efforts to obtain such permits.

II.W.2 All other permits related to dangerous waste management activities are severable and enforceable through the permitting authority under which they are issued.

II.W.3 All air emissions from units subject to this Permit will comply with all applicable state and federal regulations pertaining to air emission controls, including but not limited to, Chapter 173-400 WAC, General Regulations for Air Pollution Sources; Chapter 173-460 WAC, Controls for New Sources of Toxic Air Pollutants; and Chapter 173-480 WAC, Ambient Air Quality Standards and Emission Limits for Radionuclides.

II.X SCHEDULE EXTENSIONS

II.X.1 The Permittees will notify Ecology in writing, as soon as possible, of any deviations or expected deviations, from the schedules of this Permit. The Permittees will include with the notification all information supporting their claim that they have used best efforts to meet the required schedules. If Ecology determines that the Permittees have made best efforts to meet the schedules of this Permit, Ecology will notify the Permittees in writing by certified mail, that the Permittees have been granted an extension. Such an extension will not require a Permit modification under Permit Condition I.C.3. Should Ecology determine that the Permittees have not made best efforts to meet the schedules of this Permit, Ecology may take such action as deemed necessary.

Copies of all correspondence regarding schedule extensions will be kept in the Operating Record.

II.X.2 Any schedule extension granted through the approved change control process identified in the HFFACO will be incorporated into this Permit. Such a revision will not require a Permit modification under Permit Condition I.C.3.

II.Y CORRECTIVE ACTION

In accordance with WAC 173-303-646 and WAC 173-303-815(2)(b)(ii), the Permittee must conduct corrective action, as necessary to protect human health and the environment, for releases of dangerous waste and dangerous constituents from solid waste management units and areas of concern at the facility, including releases that have migrated beyond the facility boundary. The Permittee may be required to implement measures within the facility to address releases, which have migrated beyond the facility's boundary. As specified in Permit Conditions II.Y.1.g, II.Y.2.a.iii, and II.Y.2.a.ii, the Permittee's right to challenge Ecology's authority to impose corrective action with respect to radionuclides, CERCLA Past Practice (CPP) Units (as identified under Permit Condition II.Y.2.a.) and selected solid waste management units not covered by the HFFACO at property currently subleased to US Ecology, Inc. (as identified under Permit Condition II.Y.3.a.i), is reserved until such time as Ecology chooses to impose corrective action in accordance with the Permit modification procedures of WAC 173-303-830.

II.Y.1 Compliance with Chapter 173-340 WAC

In accordance with WAC 173-303-646, the Permittee must conduct corrective action "as necessary to protect human health and the environment". To ensure that corrective action will be conducted as necessary to protect human health and the environment, except as provided in Permit Condition II.Y.2, the Permittee must conduct corrective action in a manner that complies with the following provisions of Chapter 173-340 WAC:

II.Y.1.a As necessary to select a cleanup action in accordance with WAC 173-340-360 and WAC 173-340-350 State Remedial Investigation and Feasibility Study;

II.Y.1.b WAC 173-340-360 Selection of Cleanup Actions;

II.Y.1.c WAC 173-340-400 Cleanup Actions;

II.Y.1.d WAC 173-340-410 Compliance Monitoring Requirements;

II.Y.1.e WAC 173-340-420 Periodic Site Reviews;

II.Y.1.f WAC 173-340-440 Institutional Controls; and

II.Y.1.g WAC 173-340-700 through -760 Cleanup Standards, except that to the extent that Ecology seeks to impose corrective action with respect to radionuclides regulated under the provisions of the Atomic Energy Act, as amended, 42 U.S.C. § 2011 et.seq. (AEA), the Permittee may challenge Ecology's authority to impose such corrective action through a timely appeal of the permit modification issued by Ecology without argument from Ecology that such right has been waived by a failure to fully litigate that issue through an appeal taken within thirty (30) days of the issuance of this permit, and without argument from the Permittee that such requirement fails to satisfy a cause for Permit modification under WAC 173-303-830(3)(a).

II.Y.2 Acceptance of Work under Other Authorities or Programs and Integration with the HFFACO.

Corrective action is necessary to protect human health and the environment for all units identified in Appendix B and Appendix C of the HFFACO. Notwithstanding Permit Condition II.Y.1, work under other cleanup authorities or programs, including work under the HFFACO, may be used to satisfy corrective action requirements, provided it protects human health and the environment.

II.Y.2.a For units identified in Appendix C of the HFFACO, as amended, as CERCLA Past Practice (CPP) Units, Ecology accepts work under the HFFACO, as amended, and under the CERCLA program, as satisfying corrective action requirements to the extent provided for in, and subject to the reservations and requirements of, Permit Conditions II.Y.2.a.i through II.Y.2.a.iv.

II.Y.2.a.i For any unit identified in Appendix C of the HFFACO as a CPP unit, the Permittee must comply with the requirements and schedules related to investigation and cleanup of the CPP unit(s) developed and approved under the HFFACO, as amended. The requirements and schedules related to investigation and cleanup of CPP units currently in place under the HFFACO, as amended, and in the future developed and approved under the FFAOC, as amended, are incorporated into this Permit by this reference and apply under this Permit as if they were fully set forth herein. If the Permittee is not in compliance with requirements of the HFFACO, as amended, that relate to investigation or cleanup of CPP unit(s), Ecology may take action to independently enforce the requirements as corrective action requirements under this Permit.

II.Y.2.a.ii For any unit identified in Appendix C of the HFFACO as a CPP unit, in the case of an interim ROD, a final decision about satisfaction of corrective action requirements will be made in the context of issuance of a final ROD.

II.Y.2.a.iii If EPA and Ecology, after exhausting the dispute resolution process under Section XXVI of the HFFACO, cannot agree on requirements related to investigation or cleanup of CPP unit(s), Ecology will notify the Permittee, in writing, of the disagreement and impose, in accordance with the Permit Modification Procedures of WAC 173-303-830, a requirement for the Permittee to conduct corrective action for the subject units(s) in accordance with Permit Condition II.Y.1. The Permittee may challenge Ecology's authority to impose such corrective action requirements through a timely appeal of such permit modification, without argument from Ecology that the Permittee's right to raise such challenge has been waived by a failure to fully litigate that issue through an appeal taken within thirty (30) days of the issuance of this permit, and without argument from the Permittee that such requirement fails to satisfy a cause for Permit modification under WAC 173-303-830(3)(a). Within sixty (60) days of receipt of the above permit modification, or within some other reasonable period of time agreed to by Ecology and the Permittee, the Permittee must submit for Ecology review and approval, a plan to conduct corrective action in accordance with Permit Condition II.Y.1 for the subject unit(s). The Permittee's plan may include a request that Ecology evaluate work under another authority or program. Approved corrective action plans under this Condition will be incorporated into this Permit in accordance with the Permit Modification Procedures of WAC 173-303-830.

II.Y.2.a.iv The Permittee must maintain information on corrective action for CPP units covered by the HFFACO in accordance with the HFFACO Action Plan §9.0 and §10.0. In addition, the Permittee must maintain all reports and other information developed in whole, or in part, to implement the requirements of Permit Condition II.Y.2.a, including reports of investigations and all raw data, in the Facility Operating Record in accordance with Permit Condition II.I. Information that is maintained in the Hanford Site Administrative Record may be incorporated by reference into the Facility Operating Record.

II.Y.2.b For units identified in Appendix C of the HFFACO, as amended, as RPP units, Ecology accepts work under the HFFACO, as amended, as satisfying corrective action requirements to the extent provided for, and subject to the reservations and requirements of, Permit Conditions II.Y.2.b.i through II.Y.2.b.iv.

II.Y.2.b.i For any unit identified in Appendix C of the HFFACO, as amended, as RPP unit, until a Permit modification is complete under Permit Condition II.Y.2.b.iii., the Permittee must comply with the requirements and schedules related to investigation and cleanup of RPP units developed and approved under the HFFACO, as amended. The requirements and schedules related to investigation and cleanup of RPP units currently in place under the HFFACO, as amended, and in the future developed and approved under the HFFACO, as amended, are incorporated into this Permit by this reference and apply under this Permit as if they were fully set forth herein. Until a permit modification is complete under Permit Condition II.Y.2.b.iii, if the Permittee is not in compliance with requirements and schedules related to investigation and cleanup of RPP units developed and approved under the HFFACO, as amended, Ecology may take action to independently enforce the requirements as corrective action requirements under this Permit.

II.Y.2.b.ii When the Permittee submits a corrective measures study for an individual RPP unit or a group of RPP units, the Permittee must, at the same time, recommend a remedy for the unit(s). The remedy recommendation must contain all the elements of a draft cleanup action plan under WAC 173-340-360(10).

II.Y.2.b.iii After considering the Permittees' corrective measures study and remedy recommendation, Ecology will make a tentative remedy selection decision and publish the decision for public review and comment. Public review and comment may be accomplished by publishing the tentative decision as a draft Permit under WAC 173-303-840(10), or by a method that provides an equivalent opportunity for public review and participation. Following public review and comment, Ecology will make a final remedy selection decision. Final remedy decisions will be incorporated into the Permit using the Permit Modification Procedures of WAC 173-303-830.

II.Y.2.b.iv The Permittee must maintain information on corrective action for RPP units covered by the HFFACO, as amended, in accordance with HFFACO Action Plan §9.0 and §10.0. In addition, the Permittee must maintain all reports and other information developed in whole, or in part, to implement the requirements of Permit Condition II.Y.2.b, including reports of investigations and all raw data, in the Facility Operating Record in accordance with Permit Condition II.I. Information that is maintained in the Hanford Site Administrative Record may be incorporated into the Facility Operating Record by reference.

II.Y.2.c For each TSD unit or group of units, when the Permittee submits a certification of closure or a certification of completion of post-closure care, or at an earlier time agreed to by Ecology and the Permittee, the Permittee must, at the same time, either:

II.Y.2.c.i Document that the activities completed under closure and/or post-closure satisfy the requirements for corrective action; or

II.Y.2.c.ii If the activities completed under closure and/or post-closure care do not satisfy corrective action requirements, identify the remaining corrective action requirements and the schedule under which they will be satisfied, if remaining corrective action requirements will be satisfied by work developed and carried out under the HFFACO provisions for RPP units or CPP units, a reference to the appropriate RPP or CPP process and schedule will suffice.

II.Y.2.c.iii Ecology will make final decisions as to whether the work completed under closure and/or post-closure care satisfies corrective action, specify any unit-specific corrective action requirements, and incorporate the decision into this Permit in accordance with the Permit Modification Procedures of WAC 173-303-830.

II.Y.2.d Notwithstanding any other condition in this Permit, Ecology may directly exercise any administrative or judicial remedy under the following circumstances:

II.Y.2.d.i Any discharge or release of dangerous waste, or dangerous constituents, which are not addressed by the HFFACO, as amended;

II.Y.2.d.ii Discovery of new information regarding dangerous constituents or dangerous waste management, including but not limited to, information about releases of dangerous waste or dangerous constituents which are not addressed under the HFFACO, as amended; or

II.Y.2.d.iii A determination that action beyond the terms of the HFFACO, as amended, is necessary to abate an imminent and substantial endangerment to the public health, or welfare, or to the environment.

II.Y.3 Releases of Dangerous Waste or Dangerous Constituents Not Covered By the HFFACO

II.Y.3.a US Ecology

II.Y.3.a.i The following solid waste management units are not covered by the HFFACO:

II.Y.3.a.i.a US Ecology, Inc., SWMU 1: Chemical Trench;

II.Y.3.a.i.b US Ecology, Inc., SWMU 2-13: Low-level radioactive waste trenches 1 through 11A; and

II.Y.3.a.i.c US Ecology, Inc., SWMU 17: Underground resin tank.

II.Y.3.a.ii Selected solid waste management units identified in Permit Condition II.Y.3.a.i are currently being investigated by US Ecology in accordance with the Comprehensive Investigation US Ecology – Hanford Operations Workplan. Following completion of this investigation and any closure required of such solid waste management unit under the authority of the Washington State Department of Health, or within one (1) year of the effective date of this Permit Condition, whichever is earlier, Ecology will make a tentative decision as to whether additional investigation or cleanup is necessary to protect human health or the environment for the solid waste management units identified in Permit Condition II.Y.3.a.i, and publish that decision as a draft permit in accordance with WAC 173-303-840(10). Following the associated public comment period, and consideration of any public comments received during the public comment period, Ecology will publish as final permit conditions under WAC 173-303-840(8) either:

II.Y.3.a.ii.a A decision that corrective action is not necessary to protect human health or the environment;

II.Y.3.a.ii.b An extension to the schedule established under Permit Condition II.l.Y.3.a.ii; or

II.Y.3.a.ii.c A decision that corrective action in accordance with Permit Condition II.Y.1 is necessary to protect human health or the environment.

II.Y.3.a.iii If Ecology decides under Permit Condition II.Y.3.a.ii that corrective action is necessary to protect human health or the environment, the Permittee may challenge Ecology's authority to impose such corrective action requirements through a timely appeal of such permit modification, without argument from Ecology that the right to raise such challenge has been waived by a failure to fully litigate that issue through an appeal taken within thirty (30) days of the issuance of this permit, and with argument from the Permittee that such requirement fails to satisfy a cause for permit modification under WAC 173-303-830(3)(a). Within one hundred and eighty (180) days of receipt of the above Permit modification, the Permittee must submit, for Ecology review and approval, a plan to conduct corrective action in accordance with Permit Condition II.Y.1. Approved corrective action plans under this condition will be incorporated into this Permit in accordance with the Permit Modification Procedures of WAC 173-303-830.

II.Y.3.b Newly Identified Solid Waste Management Units and Newly Identified Releases of Dangerous Waste or Dangerous Constituents.

The Permittee must notify Ecology of all newly-identified solid waste management units and all newly-identified areas of concern at the Facility. For purposes of this condition, a 'newly-identified' solid waste management unit or a 'newly-identified' area of concern is a unit or area not identified in the HFFACO, as amended, on the effective date of this condition and not identified by Permit Condition II.Y.3.a. Notification to Ecology must be in writing and must include, for each newly-identified unit or area, the information required by WAC 173-303-806(4)(a)(xxiii) and WAC 173-303-806(4)(a)(xxiv). Notification to Ecology must occur at least once every calendar year, in January, and must include all units and areas newly identified since the last notification, except that if a newly identified unit or area may present an imminent and substantial endangerment to human health or the environment, notification must occur within five (5) days of identification of the unit or area. If information required by WAC 173-303-806(4)(a)(xxiii) or WAC 173-303-806(4)(a)(xxiv) is already included in the Waste Information Data System, it may be incorporated by reference into the required notification.

II.Z WASTE MINIMIZATION

In accordance with WAC 173-303-380(1)(q), and Section 3005(h) of RCRA, 42 U.S.C. 6925(h), the Permittee must place a certification in the Hanford Facility Operating Record, Unit-Specific Files on an annual basis that:

II.Z.1.a A program is in place to reduce the volume and toxicity of hazardous waste generated to the degree determined by the Permittee to be economically practicable; and,

II.Z.1.b The proposed method of treatment, storage or disposal is that practicable method currently available to the Permittee, which minimizes the present and future threat to human health and the environment.

II.Z.2 The Permittee will maintain each such certification of waste minimization in the operating record as required by Permit Condition II.I.1.

II.AA AIR EMISSION STANDARDS FOR PROCESS VENTS

The Permittees will comply with applicable requirements of WAC 173-303-690 for process vents associated with Part III units performing specific separations processes unless exempted by WAC 173-303-690(1)(d). Threshold limits applied to process vents potentially requiring emission controls subject to WAC 173-303-690 are evaluated based on the summation of applicable emission sources for the entire Hanford Facility. When the summed emissions fall below threshold limits in 40 CFR 264.1032(a)(1), no emission control devices are required. If threshold limits in 40 CFR 264.1032(a)(1) are predicted to be exceeded, the Permittees will notify Ecology to determine the appropriate course of action. Unit-specific information is contained in Part III of the Permit for applicable units.

II.BB AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS

The Permittees will comply with applicable requirements of WAC 173-303-691 for certain equipment leaks associated with Part III units unless exempted by WAC 173-303-691(1)(e) or (f). Air emission standards apply to equipment that contacts or contains hazardous wastes with organic concentrations of at least 10 percent by weight. Unit-specific information is contained in Part III of the Permit for applicable units.

II.CC AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS

The Permittees shall comply with applicable requirements of WAC 173-303-692 for containers, tanks, and surface impoundment areas associated with Part III units unless exempted by WAC 173-303-692(1)(b). Unit-specific information is contained in Part III of the Permit for applicable units.

PART III UNIT-SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS

Operating Unit 2, PUREX Storage Tunnels
Operating Unit 3, Liquid Effluent Retention Facility and 200 Area Effluent Treatment Facility
Operating Unit 4, 242-A Evaporator
Operating Unit 5, 325 Hazardous Waste Treatment Units
Operating Unit 10, Waste Treatment and Immobilization Plant
Operating Unit 11, Integrated Disposal Facility
Operating Unit 15, 331-C Storage Unit
Operating Unit 16, 400 Area Waste Management Unit

PART IV UNIT SPECIFIC CONDITIONS FOR CORRECTIVE ACTION

Corrective Action Unit 1, 100-NR-1

PART V UNIT-SPECIFIC CONDITIONS FOR UNITS UNDERGOING CLOSURE

Closure Unit 1, 1325-N Liquid Waste Disposal Facility
Closure Unit 2, 1301-N Liquid Waste Disposal Facility
Closure Unit 3, 1324-N Surface Impoundment and 1324-NA Percolation Pond

PART VI UNIT-SPECIFIC CONDITIONS FOR UNITS IN POST-CLOSURE

Post Closure Unit 1, 300 Area Process Trenches
Post Closure Unit 2, 183-H Solar Evaporation Basins

UNITS RETIRED FROM THE PERMIT

100 D Ponds (Closed 8/9/99)
105-DR Large Sodium Fire Facility (Closed 7/1/04)
100-NR-2 Operable Unit (9/30/09)
200 West Area Ash Pit Demolition Site (Closed 11/28/95)
2101-M Pond (Closed 11/28/95)
216-B-3 Expansion Ponds (Closed 7/31/95)
218-E-8 Borrow Pit Demolition Site (Closed 11/28/95)
224-T Transuranic Waste Storage and Assay Facility (Closed 11/12/08)
241-Z Treatment and Storage Tanks (Closed 2/22/07)
2727-S Nonradioactive Dangerous Waste Storage Facility (Closed 7/31/95)
300 Area Solvent Evaporator (Closed 7/31/95)
300 Area Waste Acid Treatment System (Closed 10/30/2005)
303-K Storage Facility (Closed 7/22/02)
303-M Oxide Facility (Closed 6/15/06)
304 Concretion Facility (Closed 1/21/96)
305-B Storage Facility (Closed 7/2/07)
3718-F Alkali Metal Treatment and Storage Facility Closure Plan (Closed 8/4/98)
4843 Alkali Metal Storage Facility Closure Plan (Closed 4/14/97)
Hanford Patrol Academy Demolition Site (Closed 11/28/95)
Plutonium Finishing Plant Treatment Unit (Closed 2/8/05)
Simulated High Level Waste Slurry Treatment and Storage Unit (Closed 10/23/95)

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Permit Attachment 9 — Permit Applicability Matrix

PART I									
CONDITION		CATEGORY							QUALIFIERS
PART	TITLE	A	B	C	D	E	F	G	
I.A.	**EFFECT OF PERMIT**								
I.A.1.		*	*	*	*	*	*	*	
I.A.2.		*	*	*	*	*	*	*	
I.A.3.		*	*		*	*	*	*	
I.A.4.	Coordination with the HFFACO		*		*	*	*	*	
I.B.	**PERSONAL AND PROPERTY RIGHTS**		*		*	*	*	*	
I.C.	**PERMIT ACTIONS**								
I.C.1.	Modification, Revocation, Reissuance, or Termination		*		*	*	*	*	
I.C.2.	Filing of a Request		*		*	*	*	*	
I.C.3.	Modifications		*		*	*	*	*	
I.D.	**SEVERABILITY**								
I.D.1.	Effect of Invalidation		*		*	*	*	*	
I.D.2.	Final Resolution		*		*	*	*	*	
I.E.	**DUTIES AND REQUIREMENTS**								
I.E.1.	Duty to Comply		*		*	*	*	*	
I.E.2.	Compliance Not Constituting Defense		*		*	*	*	*	
I.E.3.	Duty to Reapply		*		*	*	*	*	
I.E.4.	Permit Expiration & Continuation		*		*	*	*	*	
I.E.5.	Need to Halt or Reduce Activity Not a Defense		*		*	*	*	*	
I.E.6.	Duty to Mitigate		*		*	*	*	*	
I.E.7.	Proper Operation & Maintenance		*			*	*	*	
I.E.8.	Duty to Provide Information		*		*	*	*	*	
I.E.9.	Inspection & Entry		*		*	*	*	*	
I.E.10.	Monitoring & Records								
I.E.11.	Reporting Planned Changes		*			*	*	*	
I.E.12.	Certification of Construction or Modification		*				*		
I.E.13.	Anticipated Noncompliance		*		*	*	*	*	
I.E.14.	Transfer of Permits		*			*	*	*	
I.E.15.	Immediate Reporting		*		*	*	*	*	
I.E.16.	Written Reporting		*		*	*	*	*	
I.E.17.	Manifest Discrepancy Report								
I.E.17.a			*			*	*	*	
I.E.17.b			*		*	*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (in Part V)
F. TSD Operating Units (in Part III)
G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.
2 – For Category C, all Part I Conditions apply to activities subject to Conditions II.U. and II.V.
3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.3., II.O., II.Q., II.S., II.T., II.X., and II.Y.

PART I									
CONDITION		CATEGORY							QUALIFIERS
PART	TITLE	A	B	C	D	E	F	G	
I.E.18.	Unmanifested Waste Report		*			*	*	*	
I.E.19.	Other Noncompliance		*		*	*	*	*	
I.E.20.	Other Information		*		*	*	*	*	
I.E.21.	Reports, Notifications, & Submissions		*		*	*	*	*	
I.E.22.	Annual Report		*		*	*	*	*	
I.F.	**SIGNATORY REQUIREMENT**		*		*	*	*	*	
I.G.	**CONFIDENTIAL INFORMATION**		*		*	*	*	*	
I.H.	**DOCUMENTS TO BE MAINTAINED AT FACILITY SITE**		*		*	*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (in Part V)
F. TSD Operating Units (in Part III)
G. TSD Units in Post-Closure/Modified Closure (in Part VI)

* Condition applies to this category, as modified by applicable footnotes and qualifiers.

1 – For Category B, Part I Conditions only apply if future TSD activities are begun on the North Slope or ALE.
2 – For Category C, all Part I Conditions apply to activities subject to Conditions II.U. and II.V.
3 – For Category D, Part I Conditions only apply to activities subject to Conditions II.A., II.C., II.D.4., II.G., II.I., II.L.3., II.O., II.Q., II.S., II.T., II.X., and II.Y.

PART II									
CONDITION		CATEGORY							QUALIFIERS
PART	TITLE	A	B	C	D	E	F	G	
II.A.	**FACILITY CONTINGENCY PLAN**								
II.A.1.					*	*	*	*	For Category D, II.A Conditions only apply to releases of hazardous substances that threaten human health or the environment.
II.A.2.					*	*	*	*	
II.A.3.					*	*	*	*	
II.A.4.					*	*	*	*	
II.B.	**PREPAREDNESS AND PREVENTION**								
II.B.1.						*	*		
II.B.2.						*	*		
II.B.3.						*	*		
II.B.4.						*	*		
II.B.5						*	*		
II.C.	**PERSONNEL TRAINING**								
II.C.1.						*	*	*	
II.C.2.					*	*	*	*	
II.C.3.						*	*	*	
II.C.4.					*	*	*	*	For Category D, Condition II.C.4 will not apply to unrestricted (publicly accessible) areas.
II.D.	**WASTE ANALYSIS**								
II.D.1.						*	*	*	
II.D.2.						*	*	*	
II.D.3						*	*	*	
II.E.	**QUALITY ASSURANCE/ QUALITY CONTROL**								
II.E.1.						*	*	*	
II.E.2.						*	*	*	
II.F.	**GROUND WATER AND VADOSE ZONE MONITORING**					*	*	*	
II.F.1.	Purgewater Management					*	*	*	
II.F.2.	Well Remediation and Abandonment					*	*	*	
II.F.3.	Well Construction					*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.

PART II									
CONDITION		**CATEGORY**							**QUALIFIERS**
PART	**TITLE**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
II.G.	**SITING CRITERIA**				*		*		**For Category D, Condition II.G only applies if a new TSD unit is to be sited.**
II.H.	**RECORDKEEPING AND REPORTING**					*	*	*	
II.I.	**FACILITY OPERATING RECORD**								For Category D, II.I Conditions only apply to activities subject to this Permit as defined by this matrix. For Category E, Condition applicability to be specified in Part V. Condition II.I only applies to existing records and records prepared after the date of Permit issuance.
II.I.1.		*	*		*	*	*	*	
II.I.1.a.		*	*		*	*	*	*	
II.I.1.b.							*	*	
II.I.1.c.					*	*	*	*	
II.I.1.d.						*	*	*	
II.I.1.e.			*		*				
II.I.1.f.					*	*	*	*	
II.I.1.g.						*	*	*	
II.I.1.h.	Reserved Condition								
II.I.1.i.	Reserved Condition								
II.I.1.j.						*	*	*	
II.I.1.k.					*	*	*	*	
II.I.1.l.	Reserved Condition								
II.I.1.m.						*	*	*	
II.I.1.n.					*	*	*	*	
II.I.1.o.	Reserved Condition								
II.I.1.p.			*		*	*	*	*	
II.I.1.q.			*		*	*	*	*	
II.I.1.r.					*	*	*	*	
II.I.1.s.					*	*	*	*	
II.I.1.t.					*	*	*	*	
II.J.	**FACILITY CLOSURE**								
II.J.1.						*	*	*	
II.J.2.						*	*	*	
II.J.3.						*	*	*	
II.J.4.						*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.

PART II

CONDITION		CATEGORY							QUALIFIERS
PART	**TITLE**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
II.K.	**SOIL/GROUND WATER CLOSURE PERFORMANCE STANDARDS**								
II.K.1.						*	*	*	
II.K.2.						*	*	*	
II.K.3.						*	*	*	
II.K.4.						*	*	*	
II.K.5.						*	*	*	
II.K.6.						*	*	*	
II.K.7.						*	*	*	
II.L.	**DESIGN AND OPERATION OF FACILITY**								
II.L.1.	Proper Design and Construction					*	*	*	
II.L.2.	Design Changes, Nonconformance and as-built Drawings					*	*	*	Condition II.L.2, applies to Categories E & G only if it is a landfill closure.
II.L.2.a.						*	*	*	
II.L.2.b.						*	*	*	
II.L.2.c.						*	*	*	
II.L.2.d.						*	*	*	
II.L.2.e	Facility Compliance				*	*	*	*	
II.M.	SECURITY					*	*	*	
II.N.	**RECEIPT OF DANGEROUS WASTES GENERATED OFF-SITE**								
II.N.1.	Receipt of Off-Site Waste						*		
II.N.2.	Waste From Sources Outside the U.S.						*		
II.N.3.	Notice to Generator						*		
II.O.	**GENERAL INSPECTION REQUIREMENTS**								
II.O.1.					*	*	*	*	
II.O.1.a.					*				
II.O.1.b.					*				
II.O.1.c.					*				
II.O.1.d.					*				
II.O.2.					*	*	*	*	
II.O.3.					*	*	*	*	
II.P.	**MANIFEST SYSTEM**								
II.P.1.						*	*	*	
II.P.2.						*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.

PART II									
CONDITION		**CATEGORY**							**QUALIFIERS**
PART	**TITLE**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
II.Q.	**ON-SITE TRANSPORTATION**								
II.Q.1.					*	*	*	*	
II.Q.2.					*	*	*	*	
II.R.	**EQUIVALENT MATERIALS**								
II.R.1.						*	*	*	
II.R.2.						*	*	*	
II.R.3.						*	*	*	
II.S.	**LAND DISPOSAL RESTRICTIONS**				*	*	*	*	
II.T.	**ACCESS AND INFORMATION**				*	*	*	*	
II.U.	**MAPPING OF UNDERGROUND PIPING**								
II.U.1.	Reserved Condition								
II.U.2.	Reserved Condition								
II.U.3.				*		*	*	*	
II.U.4.				*		*	*	*	
II.V.	**MARKING OF UNDERGROUND PIPING**			*		*	*	*	
II.W.	**OTHER PERMITS AND/OR APPROVALS**								
II.W.1.						*	*	*	
II.W.2.						*	*	*	
II.W.3.						*	*	*	
II.X.	**SCHEDULE EXTENSIONS**								Condition II.X, only applies to Category C if activities are subject to Conditions II.U, and II.V.
II.X.1.				*	*	*	*	*	
II.X.2.				*	*	*	*	*	Condition II.X, only applies to Category D if activities are subject to this Permit as defined by this matrix.
II.Y.	**CORRECTIVE ACTION**	*	*	*	*	*	*	*	
II.Y.1.	Compliance with Chapter 173-340 WAC	*	*	*	*	*	*	*	
II.Y.1.a.		*	*	*	*	*	*	*	
II.Y.1.b.		*	*	*	*	*	*	*	
II.Y.1.c.		*	*	*	*	*	*	*	
II.Y.1.d.		*	*	*	*	*	*	*	
II.Y.1.e.		*	*	*	*	*	*	*	
II.Y.1.f.		*	*	*	*	*	*	*	
II.Y.1.g.		*	*	*	*	*	*	*	

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.

PART II									
CONDITION		**CATEGORY**							**QUALIFIERS**
PART	**TITLE**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
II.Y.2.	Acceptance of Work Under Other Authorities or Programs and Integration with the FFACO	*	*	*	*	*	*	*	
II.Y.2.a.		*	*	*	*	*	*	*	
II.Y.2.b.		*	*	*	*	*	*	*	
II.Y.2.c.		*	*	*	*	*	*	*	
II.Y.2.d.		*	*	*	*	*	*	*	
II.Y.3.	Releases of Dangerous Waste or Dangerous Constituents Not Covered by the FFACO	*	*	*	*	*	*	*	
II.Y.3.a.	U.S. Ecology	*	*	*	*	*	*	*	
II.Y.3.b.	Newly Identified Solid Waste Management Units and Newly Identified Releases of Dangerous Waste or Dangerous Waste Constituents	*	*	*	*	*	*	*	
II.Z	**WASTE MINIMIZATION**								
II.Z.1							*		
II.Z.1.a							*		
II.Z.1.b							*		
II.Z.2							*		
II.AA	**AIR EMISSION STANDARDS FOR PROCESS VENTS**						*		
II.BB	**AIR EMISSION STANDARDS FOR EQUIPMENT LEAKS**						*		
II.CC	**AIR EMISSION STANDARDS FOR TANKS, SURFACE IMPOUNDMENTS, AND CONTAINERS**						*		

CATEGORIES ARE DEFINED AS FOLLOWS:

A. Leased Land
B. North Slope and ALE
C. Interim Status TSD Units
D. Areas Between TSDs (excluding A and B)
E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.

PART III									
CONDITION		**CATEGORY**							**QUALIFIERS**
PART	**TITLE**	**A**	**B**	**C**	**D**	**E**	**F**	**G**	
III.	**UNIT SPECIFIC CONDITIONS FOR FINAL STATUS OPERATIONS**								
III.2	PUREX Storage Tunnels						*		
III.3	Liquid Effluent Retention Facility & 200 Area Effluent Treatment Facility						*		
III.4	242-A Evaporator						*		
III.5	325 Hazardous Waste Treatment Units						*		
III.10	Waste Treatment and Immobilization Plant						*		
III.11	Integrated Disposal Facility						*		
III.15	331-C Storage Unit						*		
III.16	400 Area Waste Management Unit						*		
PART IV									
IV.	**UNIT SPECIFIC CONDITIONS FOR CORRECTIVE ACTION**								
IV.1	100-NR-1				*	*			
PART V									
V.	**UNIT SPECIFIC CONDITIONS FOR UNITS UNDERGOING CLOSURE**								
V.1	1325-N Liquid Waste Disposal Facility					*			
V.2	1301-N Liquid Waste Disposal Facility					*			
V.3	1324-N Surface Impoundment &1324-NA Surface Impoundment					*			
PART VI									
VI.	**UNIT SPECIFIC CONDITIONS FOR UNITS IN POST CLOSURE**								
VI.1	300 Area Process Trenches							*	
VI.2	183-H Solar Evaporation Basins							*	

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E. TSD Unit Closures (Part V)
F. TSD Operating Units (Part III)
G. TSD Units in Post Closure/Modified Closure (Part VI)

*Condition applies to this category, as modified by applicable footnotes and qualifiers.