

FW MDA waste volume estimates for SWEIS.txt

From: Owens, Kirk W.  
Sent: Monday, August 08, 2005 4:32 PM  
To: Roles, Gary W.  
Cc: 'davisma@sai.c.com'  
Subject: FW: MDA waste volume estimates for SWEIS

Attachments: SWEIS\_MDA\_Waste\_Volumes\_Aug.xls

Gary,

Here is the latest from LANL on the volumes of waste from MDAs. Please give this a quick look and see if it appears to make sense. I was told that the calculation method was to assume that the trench or pit bottom was projected 15 feet below the actual bottom and the excavated volume was everything from the projected volume back to the surface with 2:1 run:rise sides.

Kirk Owens  
SAIC  
(301) 601-5611 (voice)  
(301) 353-8300 (fax)

-----Original Message-----

From: isaacson@lanl.gov [mailto:isaacson@lanl.gov]  
Sent: Monday, August 08, 2005 3:41 PM  
To: KIRK.W.OWENS@sai.c.com  
Subject: MDA waste volume estimates for SWEIS

Kirk, we have just received new waste volume estimates for the SWEIS. These have been calculated and then verified by the project leaders for the MDA clean-ups. Please distribute to those that need it. Call if you have questions.

Thanks, JI

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S-SWEIS Project Leader  
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ENV-ECR/ERS Data for LANL SWEIS Estimates - August 3, 2005

Notes & Assumptions	MDA UNIT	PRS ID(s)	Industrial Solid (cu yd)	Industrial Liquid (gal)	Hazardous Solid (cu yd)	Hazardous Liquid (gal)	LLW Solid (cu yd)	LLW Liquid (gal)	Mixed LLW Solid (cu yd)	Mixed LLW Liquid (gal)	TRU Solid (cu yd)	TRU Liquid (gal)	Mixed TRU Solid (cu yd)	Mixed TRU Liquid (gal)	Affected Area Volume (cu yd)	Overburden Volume (cu yd)	acre	depth	r1 (in yds)	r2 (in yds)	h (in yds)	Total Volume (cu yd)	Total Volume (gal)	*Dimensions of Affected Area	
A1 A2 A3 A4	A	21-014	698.07				138916.09	75.00							80666.67	58947.49	1.25	25.00	43.88	70.55	13.33	139614.16	75.00	1.25 acres; 25 ft deep	
A1 A2 A3 A4	AB	49-001(a)-00	1968285.90		13121.91		629851.49						13121.91		1742400.00	881981.20	12.00	75.00	135.97	195.97	30.00	2624381.20	0.00	12 acres; 75 ft deep	
A1 A2 A3 A4	B	21-015	19524.89	2000.00	1774.99		330148.15	450.00	1774.99		1774.99				290400.00	64598.01	6.00	15.00	96.14	116.14	10.00	354998.01	2450.00	6 acres; 15 ft deep	
A1 A2 A3 A4	C	50-009	82959.81	55.00			746638.31								677600.00	151998.12	10.50	25.00	127.19	153.85	13.33	829598.12	55.00	10.5 acres; 25 ft deep	
A1 A2 A3 A4 A6	G	54-013(b)-99			85193.92		8093422.32		340775.68						7260000.00	1259391.92	60.00	60.00	304.03	354.03	25.00	8519391.92	0.00	60 acres; 60 ft deep	
N5	J	54-005																							See Note
A1 A2 A3 A4	H	54-004			1861.74		182450.81		1861.74						36300.00	149874.30	0.30	60.00	21.50	71.50	25.00	186174.30	0.00	0.3 acres; 60 ft deep	
A1 A2 A3 A4	L & L	54-006 & 54-014(a)			435728.66	10000.00									181500.00	254228.66	1.50	60.00	48.07	98.07	25.00	435728.66	10000.00	1.5 acres; 60 ft deep	
N1	P	16-018																							See Note
A1 A2 A3 A4	T	21-016(a)-99	42.89				853006.88				4674.60				484000.00	373724.36	4.00	60.00	78.50	128.50	25.00	857724.36	0.00	4 acres; 60 ft deep	
N2	U	21-017(a)-99																							See Note
N2	V	21-018(a)-99																							See Note
A1 A2 A3 A4	Y	39-001(b)-00	13726.65			110.00		103.00							4356.00	9370.65	0.10	12.00	12.41	30.41	9.00	13726.65	213.00	0.1 acres; 12 ft deep	
A1 A2 A3 A4	AA	36-001	14414.16		4118.33		22650.82			100.00					22586.67	18596.63	0.50	13.00	27.75	46.42	9.33	41183.30	100.00	0.5 acres; 13 ft deep	
A1 A2 A3 A4	D	33-003(a)-99	70113.56				67364.01	100.00							31460.00	106017.57	0.30	50.00	21.50	64.83	21.67	137477.57	100.00	0.3 acres; 50 ft deep	
A1 A2 A3 A4	E & K	33-001(a)-99 & 33-002(a)-99	273871.98		341.70	5.00	67314.76	55.00	170.85						157300.00	184399.29	1.50	50.00	48.07	91.41	21.67	341699.29	60.00	1.5 acres; 50 ft deep	
A1 A2 A3 A4	F	06-007(a)-99					167056.83								112933.33	54123.50	2.00	20.00	55.51	78.84	11.67	167056.83	0.00	2 acres; 20 ft deep	
N3	M	09-013																							See Note
A1 A2 A3 A4	N	15-002-00	44912.82		1497.09		11976.75		1497.09	100.00					40333.33	19550.43	1.00	10.00	39.25	55.92	8.33	59883.76	100.00	1 acre; 10 ft deep	
A1 A2 A3 A4	Q	08-006(a)	30024.10		150.87	25.00									3630.00	26544.98	0.05	30.00	8.78	38.78	15.00	30174.98	25.00	0.05 acres; 30 ft deep	
A1 A2 A3 A4	R	16-019	93296.39		27867.75	5.00									92766.67	28397.48	2.30	10.00	59.53	76.19	8.33	121164.15	5.00	2.3 acres; 10 ft deep	
A1 A2 A3 A4	S	11-009	958.68		319.56	10.00									82.28	1195.96	0.00	2.00	2.15	13.48	5.67	1278.24	10.00	0.003 acres; 2 ft deep	
N4	W	35-001																							See Note
A1 A2 A3 A4	X	35-002	1212.34		3030.84		7880.19								2420.00	9703.37	0.05	15.00	8.78	28.78	10.00	12123.37	0.00	0.05 acres; 15 ft deep	
A1 A2 A3 A4	Z	15-007(a)	9561.83		3585.68	55.00	9561.83	500.00	1195.23						12100.00	11804.56	0.30	10.00	21.50	38.17	8.33	23904.56	555.00	0.3 acres; 10 ft deep	
A1 A2 A3 A4	R-44	15-006(a)-99					172698.52								154880.00	17818.52	6.00	1.00	96.14	106.81	5.33	172698.52	0.00	6 acres, surface only	
A5	16-260 Outfall	N/A	19500 tons		19710 tons																	39210 tons	0.00	TBD	
N6	Firing Sites																								See Note
A7	Canyons						10.00	9907.00	24.00													34.00	9907.00	TBD	
A5	Sec. Perimeter Rd.	TBD	3000.00				500.00															3500.00	0.00	TBD	

\*\*Dimensions of Affected Area\* is defined by the boundaries of the unit as described in ENV-ECR/ERS documents, databases, etc.

Notes:

- N1 - No data provided as site has been officially closed (per Site Closure Certification Report [ER2003-0643])
- N2 - Site is under current investigation and scheduled for completion prior to SWEIS Report time period.
- N3 - No data provided as site has been officially closed (per Expedited Cleanup Completion Report [ER62053]).
- N4 - No data provided as site has been administratively closed (per prior decision by U.S. EPA [ltr: 01/21/2005])
- N5 - Closure approved by NMED as a solid waste landfill.
- N6 - Sites are active/semi-active and are not scheduled for closure during this SWEIS Report time period.

Assumptions:

- A1 - Worst case scenario of complete removal of affected area + 15 additional feet in depth (for potential contamination).
- A2 - Total Volume calculated from:
  - <http://grapevine.abe.msstate.edu/~fro/tools/vol/cone.html>
  - <http://www.lmnoeng.com/Volume/CylConeSphere.htm>
- A3 - Total Affected Area = acreage \* (4840 sq yd/acre) \* ((depth + 15)/3)
- A4 - Overburden Volume = Total Volume - Affected Area Volume
- A5 - Projected volumes as estimated by Project Leader.
- A6 - Post 1970 TRU will be removed and disposed at WIPP.
- A7 - Projected volumes as estimated within Primavera Resource Loading Database.