DOE/ORO/2135

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2001 RESULTS

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East Tennessee Technology Park

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ENVIRONMENTAL MONITORING ON THE ORR - 2001 RESULTS

Table 1.1. 2001 NPDES Permit Number TN 0002950

ETTP Storm Drain Discharge Points

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 05A						
Flow, GPD	12	17300	400	5395		
Total Suspended Solids, mg/L	12	5.2	<1.0	<1.4		
pH, Standard Units	12	7.9	6.8	7.3	4.0 - 9.0	0
Discharge Point SD 100						
Flow, GPD	52	3764400	462600	938800		
Total Suspended Solids, mg/L	52	18.2	<1.0	<2.7		
pH, Standard Units	52	7.8	6.9	7.4	6.0 - 9.0	0
Discharge Point SD 120						
Flow, GPD	4	524300	0	273250		
Total Suspended Solids, mg/L	4	5.4	<1.0	<2.7		
pH, Standard Units	4	7.3	7.1	7.2	4.0 - 9.0	0
Discharge Point SD 124						
Flow, GPD	52	464400	0	104075		
Total Suspended Solids, mg/L	35	45.8	<1.0	<4.5		
pH, Standard Units	35	8.2	6.9	7.7	6.0 - 9.0	0
Discharge Point SD 130						
Flow, GPD	52	5474700	120400	902425		
Total Suspended Solids, mg/L	52	151.4	3.4	20.1		
pH, Standard Units	52	8.0	6.9	7.2	6.0 - 9.0	0
Discharge Point SD 140						
Flow, GPD	4	78050	24430	50470		
Total Suspended Solids, mg/L	4	2.4	<1.0	<1.4		
pH, Standard Units	4	8.1	7.3	7.5	4.0 - 9.0	0
Discharge Point SD 142						
Flow, GPD	8	125400	0	70930		
Total Suspended Solids, mg/L	8	<6.4	<1.0	<2.3		
pH, Standard Units	8	8.0	7.5	7.7	4.0 - 9.0	0
Discharge Point SD 144						
Flow, GPD	3	104600	0	49730		
pH, Standard Units	3	8.0	7.1	7.5	4.0 - 9.0	0
Discharge Point SD 146						
Flow, GPD	5	17550	0	8810		
Total Suspended Solids, mg/L	5	23.6	<1.0	<5.5		
pH, Standard Units	5	7.7	6.9	7.3	4.0 - 9.0	0

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 148				
Flow, GPD	5	8820	0	4410		
Total Suspended Solids, mg/L	5	8.8	<1.0	<2.6		
pH, Standard Units	5	7.5	7.1	7.2	4.0 - 9.0	0
		Discharge Point SD 150				
Flow, GPD	4	289100	0	173150		
pH, Standard Units	4	7.8	7.0	7.3	4.0 - 9.0	0
		Discharge Point SD 154				
Flow, GPD	5	154800	0	99040		
pH, Standard Units	5	7.7	7.0	7.4	4.0 - 9.0	0
		Discharge Point SD 156				
Flow, GPD	1	5876300	0	5876300		
pH, Standard Units	1	7.3	7.3	7.3	4.0 - 9.0	
		Discharge Point SD 158				
Flow, GPD	3	54020	0	30730		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	7.5	7.0	7.3	4.0 - 9.0	0
		Discharge Point SD 160				
Flow, GPD	3	160800	0	91985		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	7.6	6.8	7.3	4.0 - 9.0	0
		Discharge Point SD 162				
Flow, GPD	2	117200	0	91950		
Total Suspended Solids, mg/L	2	8.4	<1.0	5.4		
pH, Standard Units	2	7.4	7.1	7.2	4.0 - 9.0	0
		Discharge Point SD 170				
Flow, GPD	52	1428500	36700	324490		
Total Suspended Solids, mg/L	52	38.6	<1.0	<4.9		
pH, Standard Units	52	8.3	6.8	7.6	6.0 - 9.0	0
TRC	4	0.23	<0.0005	<0.06	0.019	1
		Discharge Point SD 180				
Flow, GPD	52	1243800	38200	252190		
Total Suspended Solids, mg/L	52	62.2	<1.0	<19.6		
pH, Standard Units	52	8.2	6.9	7.6	6.0 - 9.0	0
TRC	4	0.23	<0.005	<0.06	0.019	1
		Discharge Point SD 190				
Flow, GPD	52	1749600	90300	461825		
Total Suspended Solids, mg/L	52	83.8	<1.0	<10.4		
pH, Standard Units	52	7.7	6.6	7.2	6.0 - 9.0	0
Oil & Grease	52	5.0	<5.0	<5.0		

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 192				
Flow, GPD	1	116100	0	116100		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	0
		Discharge Point SD 194				
Flow, GPD	3	116100	58350	76040		
pH, Standard Units	3	7.1	6.7	6.9	4.0 - 9.0	0
		Discharge Point SD 195				
Flow, GPD	3	130600	60380	85540		
pH, Standard Units	3	7.4	6.9	7.1	4.0 - 9.0	0
		Discharge Point SD 196				
Flow, GPD	1	113400	0	113400		
pH, Standard Units	1	7.2	7.2	7.2	4.0 - 9.0	0
		Discharge Point SD 197				
Flow, GPD	1	21060	0	21060		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	0
		Discharge Point SD 198				
Flow, GPD	2	264500	0	179770		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	7.7	7.5	7.6	4.0 - 9.0	0
		Discharge Point SD 200				
Flow, GPD	4	356900	0	214900		
pH, Standard Units	4	8.0	6.9	7.6	4.0-9.0	0
		Discharge Point SD 210				
Flow, GPD	1	321200	0	321200		
pH, Standard Units	1	7.0	7.0	7.0	4.0 - 9.0	0
		Discharge Point SD 220				
Flow, GPD	1	8330	0	8330		
Total Suspended Solids, mg/L	1	4.6	4.6	4.6		
pH, Standard Units	1	7.2	7.2	7.2	4.0 - 9.0	0
		Discharge Point SD 230				
Flow, GPD	12	1032400	74680	457880		
pH, Standard Units	12	8.4	7.3	7.9	4.0 - 9.0	0
		Discharge Point SD 240				
Flow, GPD	5	654800	0	347680		
Total Suspended Solids, mg/L	5	3.5	<1.0	<1.5		
pH, Standard Units	5	7.8	6.9	7.3	4.0 - 9.0	0
		Discharge Point SD 270				
Flow, GPD	1	17140	0	17140		
pH, Standard Units	1	7.7	7.7	7.7		

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 280				
Flow, GPD	1	52365	0	52365		
pH, Standard Units	1	7.5	7.5	7.5		
		Discharge Point SD 292				
Flow, GPD	2	89375	0	68660		
pH, Standard Units	2	7.8	7.2	7.5	4.0 - 9.0	0
		Discharge Point SD 294				
Flow, GPD	2	163900	0	123880		
pH, Standard Units	2	7.6	6.9	7.3	4.0 - 9.0	0
		Discharge Point SD 296				
Flow, GPD	1	16490	0	16490		
pH, Standard Units	1	7.6	7.6	7.6		
		Discharge Point SD 297				
Flow, GPD	1	36290	0	36290		
pH, Standard Units	1	7.5	7.5	7.5	4.0 - 9.0	0
		Discharge Point SD 300				
Flow, GPD	1	45895	0	45895		
pH, Standard Units	1	7.7	7.7	7.7		
		Discharge Point SD 320				
Flow, GPD	1	191100	0	191100		
pH, Standard Units	1	7.2	7.2	7.2		
		Discharge Point SD 322				
Flow, GPD	2	49202	0	35900		
pH, Standard Units	2	7.0	7.0	7.0	4.0 - 9.0	0
		Discharge Point SD 326				
Flow, GPD	1	29845	0	29845		
pH, Standard Units	1	6.9	6.9	6.9		
		Discharge Point SD 330				
Flow, GPD	1	435600	0	435600		
pH, Standard Units	1	7.2	7.2	7.2	4.0 - 9.0	0
		Discharge Point SD 332				
Flow, GPD	1	16500	0	16500		
pH, Standard Units	1	7.0	7.0	7.0		
		Discharge Point SD 334				
Flow, GPD	1	22625	0	22625		
pH, Standard Units	1	7.0	7.0	7.0		
		Discharge Point SD 340				
Flow, GPD	3	690200	433500	526100		
pH, Standard Units	3	6.9	7.1	7.0	4.0 - 9.0	0

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 350				
Flow, GPD	2	78355	0	59820		
pH, Standard Units	2	7.2	7.0	7.1	4.0 - 9.0	0
		Discharge Point SD 352				
Flow, GPD	1	300	0	300		
pH, Standard Units	1	6.8	6.8	6.8		
		Discharge Point SD 360				
Flow, GPD	1	25470	0	25470		
pH, Standard Units	1	7.3	7.3	7.3		
		Discharge Point SD 362				
Flow, GPD	1	117400	0	117400		
pH, Standard Units	1	7.7	7.7	7.7		
		Discharge Point SD 370				
Flow, GPD	1	2000	0	2000		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 380				
Flow, GPD	4	926000	0	473130		
pH, Standard Units	4	7.9	7.0	7.4	4.0 - 9.0	0
		Discharge Point SD 382				
Flow, GPD	3	160900	97310	120200		
pH, Standard Units	3	7.6	7.4	7.5	4.0 - 9.0	0
		Discharge Point SD 390				
Flow, GPD	1	85400	0	85400		
pH, Standard Units	1	7.0	7.0	7.0	4.0 - 9.0	0
		Discharge Point SD 400				
Flow, GPD	2	635	0	530		
pH, Standard Units	2	7.5	7.4	7.5	4.0 - 9.0	0
		Discharge Point SD 410				
Flow, GPD	2	69200	0	54560		
pH, Standard Units	2	7.6	7.1	7.4	4.0 - 9.0	0
		Discharge Point SD 420				
Flow, GPD	1	250500	0	250500		
pH, Standard Units	1	7.3	7.3	7.3	4.0 - 9.0	0
		Discharge Point SD 430				
Flow, GPD	11	826700	0	377280		
pH, Standard Units	11	8.1	7.1	7.3	4.0 - 9.0	0
		Discharge Point SD 440				
Flow, GPD	7	437700	0	170940		
pH, Standard Units	7	7.6	7.1	7.3	4.0 - 9.0	0

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 450				
Flow, GPD	1	80175	0	80175		
pH, Standard Units	1	7.5	7.5	7.5	4.0 - 9.0	0
		Discharge Point SD 460				
Flow, GPD	1	21490	0	21490		
pH, Standard Units	1	7.5	7.5	7.5		
		Discharge Point SD 470				
Flow, GPD	1	53100	0	53100		
pH, Standard Units	1	7.4	7.4	7.4	4.0 - 9.0	0
		Discharge Point SD 490				
Flow, GPD	12	3904500	527600	1741300		
pH, Standard Units	12	8.0	6.7	7.3	4.0 - 9.0	0
		Discharge Point SD 500				
Flow, GPD	2	50440	0	38670		
pH, Standard Units	2	7.4	7.4	7.4	4.0 - 9.0	0
		Discharge Point SD 510				
Flow, GPD	11	650000	0	299590		
Total Suspended Solids, mg/L	11	14.2	<1.0	<6.5		
pH, Standard Units	11	8.1	6.3	7.2	4.0 - 9.0	0
		Discharge Point SD 520				
Flow, GPD	2	69500	0	52080		
pH, Standard Units	2	7.3	7.2	7.3	4.0 - 9.0	0
		Discharge Point SD 522				
Flow, GPD	2	147400	0	112060		
pH, Standard Units	2	7.8	7.3	7.6	4.0 - 9.0	0
		Discharge Point SD 532				
Flow, GPD	1	22285	0	22285		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 540				
Flow, GPD	1	34715	0	34715		
pH, Standard Units	1	7.0	7.0	7.0		
		Discharge Point SD 550				
Flow, GPD	1	35730	0	35730		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 560				
Flow, GPD	1	8890	0	8890		
Total Suspended Solids, mg/L	1	2.2	2.2	2.2		
pH, Standard Units	1	7.2	7.2	7.2	4.0 - 9.0	0
		Discharge Point SD 570				
Flow, GPD	1	102000	0	102000		
pH, Standard Units	1	7.3	7.3	7.3		

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 590				
Flow, GPD	1	20165	0	20165		
pH, Standard Units	1	7.2	7.2	7.2	4.0 - 9.0	0
		Discharge Point SD 620				
Flow, GPD	1	42715	0	42715		
pH, Standard Units	1	6.7	6.7	6.7		
		Discharge Point SD 640				
Flow, GPD	2	59990	0	37200		
Total Suspended Solids, mg/L	2	2.4	2.2	2.3		
pH, Standard Units	2	7.6	7.1	7.4	4.0 - 9.0	0
		Discharge Point SD 650				
Flow, GPD	2	492000	0	32160		
pH, Standard Units	2	7.1	7.0	7.1		
		Discharge Point SD 660				
Flow, GPD	2	9075	0	4730		
pH, Standard Units	2	7.7	7.3	7.5	4.0 - 9.0	0
		Discharge Point SD 680				
Flow, GPD	2	75830	0	49405		
pH, Standard Units	2	7.7	7.7	7.7	4.0 - 9.0	0
		Discharge Point SD 690				
Flow, GPD	5	1582000	0	777460		
Total Suspended Solids, mg/L	5	2.0	<1.0	<1.2		
pH, Standard Units	5	7.8	6.5	7.2	4.0 - 9.0	0
		Discharge Point SD 692				
Flow, GPD	2	37795	0	29400		
pH, Standard Units	2	7.4	7.3	7.4	4.0 - 9.0	0
		Discharge Point SD 694				
Flow, GPD	2	74780	0	58260		0
pH, Standard Units	2	7.3	7.3	7.3	4.0 - 9.0	0
		Discharge Point SD 696				
Flow, GPD	1	48490	0	48490		
pH, Standard Units	1	7.8	7.8	7.8		
		Discharge Point SD 700				
Flow, GPD	5	1186700	0	500980		
Total Suspended Solids, mg/L	5	12.2	<1.0	<4.1		
pH, Standard Units	5	7.9	7.1	7.5	4.0 - 9.0	0
		Discharge Point SD 710				
Flow, GPD	10	1825800	0	726900		
Total Suspended Solids, mg/L	10	5.4	<1.0	<1.9		
pH, Standard Units	10	7.7	7.1	7.4	4.0 - 9.0	0

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 720				
Flow, GPD	1	61400	0	61400		
pH, Standard Units	1	7.3	7.3	7.3	4.0 - 9.0	0
		Discharge Point SD 724				
Flow, GPD	1	819200	0	819200		
pH, Standard Units	1	7.1	7.1	7.1		
		Discharge Point SD 730				
Flow, GPD	1	45570	0	45570		
pH, Standard Units	1	7.3	7.3	7.3		
		Discharge Point SD 740				
Flow, GPD	1	51050	0	51050		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	
		Discharge Point SD 750				
Flow, GPD	2	34515	0	19095		
pH, Standard Units	2	7.0	6.9	7.0	4.0 - 9.0	0
		Discharge Point SD 760				
Flow, GPD	2	31410	0	17380		
pH, Standard Units	2	7.2	7.1	7.2	4.0 - 9.0	0
		Discharge Point SD 770				
Flow, GPD	1	13570	0	13570		
pH, Standard Units	1	7.5	7.5	7.5	4.0 - 9.0	0
		Discharge Point SD 780				
Flow, GPD	2	327700	0	203800		
pH, Standard Units	2	7.6	7.2	7.4	4.0 - 9.0	0
		Discharge Point SD 810				
Flow, GPD	2	9130	0	5140		
Total Suspended Solids, mg/L	2	104.0	22.0	63.0		
pH, Standard Units	2	7.0	6.9	7.0	4.0 - 9.0	0
		Discharge Point SD 820				
Flow, GPD	2	126100	0	79470		
Total Suspended Solids, mg/L	2	20.4	<1.0	<10.7		
pH, Standard Units	2	7.6	7.2	7.4	4.0 - 9.0	0
		Discharge Point SD 830				
Flow, GPD	1	217400	0	117900		
Total Suspended Solids, mg/L	1	30.0	30.0	30.0		
pH, Standard Units	1	7.7	7.3	7.5	4.0 - 9.0	0
		Discharge Point SD 850				
Flow, GPD	2	1140	0	860		
Total Suspended Solids, mg/L	2	2.0	<1.0	<1.5		
pH, Standard Units	2	7.1	6.9	7.0	4.0 - 9.0	

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 870				
Flow, GPD	1	107600	0	107600		
Total Suspended Solids, mg/L	1	114.6	114.6	114.6		
pH, Standard Units	1	7.7	7.7	7.7	4.0 - 9.0	0
		Discharge Point SD 880				
Flow, GPD	1	73830	0	73830		
Total Suspended Solids, mg/L	1	1210.0	1210.0	1210.0		
pH, Standard Units	1	7.9	7.9	7.9	4.0 - 9.0	0
		Discharge Point SD 890				
Flow, GPD	1	237900	0	237900		
Total Suspended Solids, mg/L	1	114.4	114.4	114.4		
pH, Standard Units	1	7.8	7.8	7.8	4.0 - 9.0	0
		Discharge Point SD 892				
Flow, GPD	1	18540	0	18540		
pH, Standard Units	1	7.7	7.7	7.7		
		Discharge Point SD 900				
Flow, GPD	3	70020	0	28140		
Total Suspended Solids, mg/L	3	3.4	<1.0	<1.8		
pH, Standard Units	3	7.3	6.6	7.0	4.0 - 9.0	0
		Discharge Point SD 910				
Flow, GPD	3	278700	140000	182500		
pH, Standard Units	3	7.3	6.5	7.0	4.0 - 9.0	0
		Discharge Point SD 920				
Flow, GPD	1	116700	0	116700		
pH, Standard Units	1	7.1	7.1	7.1		
		Discharge Point SD 929				
Flow, GPD	3	1070	500	700		
pH, Standard Units	3	7.5	6.9	7.1	4.0 - 9.0	0
		Discharge Point SD 930				
Flow, GPD	3	124300	70860	90070		
pH, Standard Units	3	7.6	7.0	7.3	4.0 - 9.0	0
		Discharge Point SD 934				
Flow, GPD	2	38940	0	28860		
pH, Standard Units	2	7.5	7.3	7.4	4.0-9.0	0
		Discharge Point SD 940				
Flow, GPD	2	2270	0	1890		
pH, Standard Units	2	7.1	7.0	7.1		
		Discharge Point SD 960				
Flow, GPD	3	2815	1175	1760		
pH, Standard Units	3	7.6	7.2	7.4	4.0-9.0	0

Table 1.1 (continued)

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
		Discharge Point SD 970				
Flow, GPD	1	176900	0	176900		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 980				
Flow, GPD	2	776100	0	588900		
pH, Standard Units	2	7.5	7.2	7.4		
		Discharge Point SD 982				
Flow, GPD	1	729900	0	729900		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 990				
Flow, GPD	1	79070	0	79070		
pH, Standard Units	1	7.4	7.4	7.4		
		Discharge Point SD 992				
Flow, GPD	6	729700	0	188420		
Total Suspended Solids	6	162.8	21.6	53.7		
pH, Standard Units	6	7.3	6.4	6.9	4.0 - 9.0	0
		Discharge Point SD 996				
Flow, GPD	2	270100	0	204950		
pH, Standard Units	2	7.5	7.1	7.3		

[a] - Units are mg/L unless otherwise noted

[b] - NPDES permit limit

Table 1.2. 2001 NPDES Permit Number TN 0002950

Discharge Point 005, Sewage Treatment Plant, ETTP

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
			K-1203			
Biological Oxygen Demand	156	11.0	<5.0	<5.3		
Ammonia Nitrogen	156	0.3	<0.1	<0.1	7	0
Dissolved Oxygen, mg/L	365	9.3	5.8	6.8	5.0 min[c]	0
Fecal Coliform, col/100ml	156	209	<1	<6.4	400	0
Flow Total (GPD)	365	897900	147500	248410		
Settleable Solids, ml/L	260	0.5	<0.1	<0.13	0.5	0
Suspended Solids, mg/L	156	40.0	<1.0	<11.3	45	0
pH, Standard Units	365	8.8	7.0	7.9	6.0 - 9.0	0

[a] - Units are mg/L unless otherwise noted

[b] - NPDES permit limit

[c] - Daily minimum

Table 1.3. 2001 NPDES Permit Number TN 0002950

Discharge Point 014, Central Neutralization Facility to Clinch River, ETTP

Parameter	Number of samples	Concentration[a]			Reference Value[b]	No. of values exceeding reference
		Max	Min	Avg		
			K-1407J			
Oil & Grease	104	4.6	<1.0	<2.0		
Cadmium, mg/L	4	0.004	<0.001	<0.002	0.069	0
Chemical Oxygen Demand, mg/L	52	41	12	26		
Chloride, mg/L	208	1540	157	292	70000	0
Chromium, mg/L	4	0.070	0.023	0.037	2.8	0
Copper	4	0.01	<0.001	<0.005	2.15	
Flow, GPD	365	186100	70400	101880		
Lead, mg/L	4	0.009	<0.0005	20.0035	0.69	0
Methylene chloride	12	0.02	<0.01	<0.01		
Nickel, mg/L	4	0.01	0.004	<0.007	4.0	0
pH, Standard Units	365	8.8	5.7	7.2	6.0 - 9.0	1
Suspended Solids, mg/L	208	30	<1.0	<8.4	40	0
Uranium, mg/L	12	0.1910	0.0146	0.0797		
Zinc, mg/L	4	0.045	0.01	0.021	2.6	
Silver	4	0.003	<0.0005	<0.001	0.43	

[a] - Units are mg/L unless otherwise noted

[b] - NPDES permit limit

Table 1.4. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
				CRK-16				
Bi-214	1	3.1e+01	3.1e+01	3.1e+01	3.1e+01	6.0e+05	5.2e-03	5.2e-05
Potassium-40	8	3.8e+02	-2.8e+02	-1.3e+02	-1.2e+01	7.0e+03	1.8e-01	-1.8e-03
H-3	9	1.5e+03	2.4e+02	6.6e+02	3.3e+02	2.0e+06	1.2e-02	1.2e-04
U-234	12	3.1e-01	8.5e-02	3.1e-01	2.9e-01	5.0e+02	5.9e-02	5.9e-04
U-235	12	1.6e-01	8.5e-02	3.1e-01	1.6e-02	1.4e-02	2.4e-03	2.4e-05
U-236	1	-4.7e-02	-4.7e-02	-4.7e-02	-4.7e-02	5.0e+02	9.4e-05	9.4e-07
U-238	12	3.3e-01	1.4e-01	3.3e-01	3.2e-01	6.0e+02	5.3e-02	5.3e-04
Alpha activity	12	2.0e+00	-1.0e+00	1.0e-01	8.9e-01	a	a	a
Beta activity	12	9.0e+00	0.0e+00	5.1e+00	5.1e+00	a	a	a
All listed isotopes								5.1e-01

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.5. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-716 (Poplar Creek)								
U-234	2	5.2e-01	1.9e-01	3.6e-01	3.6e-01	5.0e+02	7.2e-02	7.2e-04
U-235	2	2.6e-02	2.0e-02	2.3e-02	2.3e-02	6.0e+02	3.9e-03	3.9e-05
U-238	2	5.6e-01	9.4e-02	3.3e-01	3.3e-01	6.0e+02	5.4e-02	5.4e-04
All listed isotopes								1.4e-03

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.6. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-901-A (settling basin for surface water runoff)								
U-234	1	9.7e-01	9.7e-01	9.7e-01	9.7e+00	5.0e+02	1.9e-01	1.9e-03
U-235	1	4.8e-02	4.8e-02	4.8e-02	4.8e-02	6.0e+02	8.1e-03	8.1e-05
U-238	1	1.0e+00	1.0e+00	1.0e+00	1.0e+00	6.0e+02	1.7e-01	1.7e-03
Tc-99	1	1.2e+01	1.2e+01	1.2e+01	1.2e+01	1.0e+05	1.2e-02	1.2e-04
Gross Beta	1	1.2e+01	1.2e+01	1.2e+01	1.2e+01	*a*	*a*	*a*
All listed isotopes								3.9e-03

[a]Not applicable.
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.7. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-1007-B (settling basin for surface water runoff)								
U-234	1	3.7e-01	3.7e-01	3.7e-01	3.7e-01	5.0e+02	7.3e-02	7.3e-04
U-235	1	1.8e-02	1.8e-03	1.8e-02	1.8e-02	6.0e+02	3.0e-03	3.0e-05
U-238	1	3.9e-01	3.9e-01	3.9e-01	3.9e-01	6.0e+02	6.5e-02	6.5e-04
Gross Beta	1	1.1e+01	1.1e+01	1.1e+01	1.1e+01	*a*	*a*	*a*
All listed isotopes								1.5e-03

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.8. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-1407-J (treated effluents from Central Neutralization Facility and TSCA Incinerator)								
Am-241	8	3.2e-01	0.0e+00	1.9e-01	1.2e-01	3.0e+01	4.0e-01	4.0e-03
U-234	12	2.7e+01	3.9e+00	1.4e+01	1.4e+01	5.0e+02	2.8e+00	2.8e-02
U-235	12	1.5e+00	1.3e-01	7.2e-01	6.7e-01	6.0e+02	1.1e-01	1.1e-03
U-236	12	1.2e+00	8.0e-02	3.4e-01	4.8e-01	5.0e+02	9.6e-02	9.6e-04
U-238	12	3.4e+02	5.1e+00	2.4e+01	2.9e+01	6.0e+02	4.8e+00	4.8e-02
Cs-137	12	3.3e+02	0.0e+00	2.6e+00	3.5e+01	3.0e+03	1.2e+00	1.2e-02
Tc-99	12	2.0e+03	5.3e-01	1.0e+02	3.5e+02	1.0e+05	3.5e-01	3.5e-03
Np-237	12	2.8e+00	4.8e-01	6.6e-01	8.9e-01	3.0e+01	3.0e+00	3.0e-02
Pu-238	12	4.0e-01	0.0e+00	9.5e-02	1.2e-01	4.0e+01	3.1e-01	3.1e-03
Pu-239	12	3.7e-01	0.0e+00	2.0e-02	8.0e-02	3.0e+01	2.7e-01	2.7e-03
H-3	12	5.5e+03	0.0e+00	3.9e+02	1.4e+03	2.0e+06	7.1e-02	7.1e-04
C-14	12	3.3e+03	0.0e+00	3.8e+02	9.2e+02	7.0e+04	1.3e+00	1.3e-02
Gross Alpha	12	1.1e+02	1.4e+01	3.6e+01	4.0e+01	*a*	*a*	*a*
Gross Beta	12	7.6e+02	2.6e+01	1.0e+02	1.9e+02	*a*	*a*	*a*
All listed isotopes								1.5e-01

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.9. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-1700 (Mitchell Branch)								
U-234	4	9.3e+00	3.1e-01	5.3e+00	5.0e+00	5.0e+02	1.0e+00	1.0e-02
U-235	4	3.4e-01	3.0e-02	2.0e-01	1.9e-01	6.0e+02	3.2e-02	3.2e-04
U-236	1	9.2e-02	9.2e-02	9.2e-02	9.2e-02	5.0e+02	1.8e-02	1.8e-04
U-238	4	5.0e+00	3.3e-01	3.2e+00	2.9e+00	6.0e+02	4.9e-01	4.9e-03
Tc-99	4	1.6e+01	7.0e+00	1.3e+01	1.2e+01	1.0e+05	1.2e-02	1.2e-04
Gross Alpha	4	2.0e+01	1.0e+01	1.6e+00	1.6e+01	*a*	*a*	*a*
Gross Beta	4	1.5e+01	9.0e+00	1.3e+01	1.3e+01	*a*	*a*	*a*
All listed isotopes								1.5e-02

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities

Table 1.10. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
K-1710 (Poplar Creek upstream of the ETTP)								
U-234	2	5.6e-01	4.6e-01	5.1e-01	5.1e-01	5.0e+02	1.0e-01	1.0e-03
U-235	2	2.3e-02	2.0e-02	2.1e-02	2.1e-02	6.0e+02	3.6e-03	3.6e-05
U-238	2	7.6e-01	4.9e-01	6.2e-01	6.3e-01	6.0e+02	1.1e-01	1.1e-03
Gross Alpha	2	5.6e+00	3.0e+00	4.3e+00	4.3e+00	*a*	*a*	*a*
All listed isotopes								2.2e-03

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.11. Radionuclide concentrations at ETTP discharges and surface water monitoring locations

Radionuclide	No. of samples	Concentration (pCi/L)				DCG	Percent of DCG	Sum of the fractions of the DCGs
		Max	Min	Median[b]	Average[b]			
				MIK 0.4				
Tc-99	1	9.7e+00	9.7e+00	9.7e+00	9.7e+00	1.0e+05	9.7e-03	9.7e-05
U-234	1	2.4e+00	2.4e+00	2.4e+00	2.4e+00	5.0e+02	4.8e-01	4.8e-03
U-238	1	1.3e+00	1.3e+00	1.3e+00	1.3e+00	6.0e+02	2.1e-01	2.1e-03
Gross Alpha	1	9.1e+00	9.1e+00	9.1e+00	9.1e+00	a	a	a
Gross Beta	1	1.5e+01	1.5e+01	1.5e+01	1.5e+01	a	a	a
All listed isotopes								7.2e-03

[a]Not applicable
[b]This calculated value includes sampling results that are at or below the detection limits and/or below background activities.

Table 1.12. 2001 ETTP parameters detected at CRK-16

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
Aluminum (mg/L)	11/12	0.19	0.024	0.085		
Barium (mg/L)	12/12	0.039	0.029	0.034		
Calcium (mg/L)	12/12	39	32	35		
Dissolved oxygen (mg/L)	12/12	12	5.8	8.6	5.0 min	0
Iron (mg/L)	12/12	0.24	0.057	0.12		
Magnesium (mg/L)	12/12	12	10	10		
Manganese (mg/L)	12/12	0.065	0.018	0.038		
pH (standard units)	12/12	8.5	7.0	7.7	6.5-8.5	0
Silicon (mg/L)	1/12	1.6	1.0	1.1		
Sodium (mg/L)	6/12	9.1	6.6	7.7		
Temperature (C^{o})	12/12	23	5.0	16		
Zinc (mg/L)	1/12	0.026	0.0015	0.0054		

a All reference values are Tennessee Water Quality Criteria for fish and aquatic life.

Table 1. 13. 2001 ETTP parameters detected at K-716

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
Boron (mg/L)	1/1	0.030	0.030	0.030		
Calcium (mg/L)	1/1	34	34	34		
Dissolved Oxygen (mg/L)	2/2	9.5	5.5	7.5	5.0 min	0
Iron (mg/L)	1/1	0.14	0.14	0.14		
Magnesium (mg/L)	1/1	9.8	9.8	9.8		
Manganese (mg/L)	1/1	0.040	0.040	0.040		
Temperature (C°)	2/2	25	13	19		
Uranium (mg/L)	1/1	0.0017	0.0017	0.0017		
pH (standard units)	2/2	8.2	7.3	7.8	6.5 - 8.5	0

a All reference values are Tennessee Water Quality Criteria for fish and aquatic life.

Table 1.14. 2001 ETTP parameters detected at K-901-A

Parameter	Number detected/ number of samples	Detected Results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
Aluminum (mg/L)	1/1	0.23	0.23	0.23		
Calcium (mg/L)	1/1	39	39	39		
Dissolved Oxygen (mg/L)	2/2	2.1	1.6	1.9	5.0 min	2
Iron (mg/L)	1/1	0.50	0.50	0.50		
Magnesium (mg/L)	1/1	11	11	11		
Manganese (mg/L)	1/1	0.13	0.13	0.13		
Temperature (C^o)	2/2	20.7	20.1	20.4		
Uranium (mg/L)	1/1	0.0031	0.0031	0.0031		
pH (standard units)	2/2	7.2	7.1	7.2	6.5-8.5	0

a All reference values are Tennessee Water Quality Criteria for fish and aquatic life.

Table 1.15. 2001 ETTP parameters detected at K-1007-B

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of exceeding reference
		Max	Min	Avg		
Calcium	1/1	40	40	40		
Dissolved Oxygen	2/2	7.7	5.6	6.7	5.0 min	0
Iron	1/1	0.20	0.20	0.20		
Magnesium	1/1	11	11	11		
Manganese	1/1	0.096	0.096	0.096		
Temperature (C^o)	2/2	24	23	24		
Uranium (mg/L)	1/1	0.0012	0.0012	0.0012		
pH (standard units)	2/2	8.2	7.9	8.1	6.5 - 8.5	0

a All Reference values are Tennessee Water Quality Standards for fish and aquatic life.

Table 1.16. 2001 ETTP parameters detected at K-1700

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
1,2 Dichloroethene (mg/L)	3/4	62	2	26		
Barium	3/4	0.063	0.031	0.050		
Boron	1/3	0.054	0.01	0.032		
Calcium	3/4	80	32	58		
Chloroform (μg/L)	1/4	3	2	2		
Dissolved Oxygen (mg/L)	7/7	8.2	3.7	5.8	5.0 min	1
Iron (mg/L)	4/4	0.60	0.26	0.38		
Magnesium (mg/L)	4/4	15	6.4	12		
Manganese (mg/L)	4/4	0.26	0.080	0.16		
Sodium (mg/L)	2/4	10.4	4.2	6.8		
Temperature (C^o)	7/7	19	9.4	14		
Trichloroethene (μg/L)	3/4	79	2	30	810	0
Uranium (mg/L)	2/3	0.017	0.009	0.014		
Vinyl Chloride (μg/L)	3/4	7.0	1.0	4.0		
pH (standard units)	7/7	7.1	6.9	7.0	6.5 - 8.5	0

a All Reference values are Tennessee Water Quality Standards for fish and aquatic life.

Table 1.17. 2001 ETTP parameters detected at K-1710

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
Boron (mg/L)	1/1	0.034	0.034	0.034		
Calcium (mg/L)	1/1	32	32	32		
Dissolved Oxygen (mg/L)	2/2	9.5	6.8	8.2	5.0 min	0
Iron (mg/L)	1/1	0.20	0.20	0.20		
Magnesium (mg/L)	1/1	9.5	9.5	9.5		
Manganese (mg/L)	1/1	0.070	0.070	0.070		
Temperature (C°)	2/2	25	11	18		
Uranium (mg/L)	1/1	0.0015	0.0015	0.0015		
pH (standard units)	2/2	7.4	7.1	7.3	6.5 - 8.5	0

a All Reference values are Tennessee Water Quality Standards for fish and aquatic life.

Table 1.18. 2001 ETTP parameters detected at MIK 1.4

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
Aluminum (mg/L)	1/3	0.71	0.072	0.36		
Barium (mg/L)	2/3	0.054	0.043	0.048		
Calcium (mg/L)	2/3	18	14	16		
Dissolved Oxygen (mg/L)	4/4	8.5	2.4	6.1	5.0 min.	1
Iron (mg/L)	3/3	0.81	0.2	0.59		
Magnesium (mg/L)	3/3	10.7	6.0	7.8		
Manganese (mg/L)	3/3	0.38	0.019	0.22		
pH (standard units)	4/4	7.0	6.7	6.9	6.5 - 8.5	0
Sodium (mg/L)	2/3	1.6	0.68	1.2		
Temperature (C^o)	4/4	18	8.6	14		

a All Reference values are Tennessee Water Quality Standards for fish and aquatic life.

Table 1.19. 2001 ETTP parameters detected at MIK 0.4

Parameter	Number detected/ number of samples	Detected results			Reference Value[a]	Number of values exceeding reference
		Max	Min	Avg		
1,2-Dichlorothene (mg/L)	1/1	410	410	410		
Barium (mg/L)	1/1	0.090	0.090	0.090		
Calcium (mg/L)	1/1	150	150	150		
Dissolved Oxygen (mg/L)	1/1	24	24	24	5.0 min	0
Iron (mg/L)	1/1	1.0	1.0	1.0		
Magnesium (mg/L)	1/1	16	16	16		
Manganese (mg/L)	1/1	1.0	1.0	1.0		
Temperature (C°)	1/1	15	15	15		
Trichloroethene (mg/L)	1/1	190	190	190	810	0
Vinyl chloride (mg/L)	1/1	80	80	80		
pH (standard units)	1/1	6.9	6.9	6.9	6.5 - 8.5	0

a All Reference values are Tennessee Water Quality Standards for fish and aquatic life.

Table 1.20. K2 Soil Sample Results

Parameter	Concentration[a]
Aluminum	9.0e+03
Arsenic	6.1e+01
Barium	4.7e+01
Calcium	5.6e+02
Chromium	1.5e+01
Cobalt	9.9e+00
Copper	1.3e+01
Iron	1.5e+04
Lead	2.9e+01
Nickel	1.7e+01
Phosphorus	1.6e+02
Selenium	1.4e+01
Titanium	1.0e+02
Uranium	3.1e+00
Vanadium	3.2e+01
U-235 (pCi/g)	5.6e-02
U-238 (pCi/g)	1.0e+00

[a] Units are mg/Kg unless otherwise noted.

Table 1.21. K6 Soil Sample Results

Parameter	Concentration[a]
Aluminum	4.8e+03
Arsenic	7.5e+01
Barium	3.0e+01
Beryllium	5.2e-01
Calcium	1.0e+03
Chromium	2.9e+01
Cobalt	1.0e+01
Copper	8.8e+00
Iron	1.9e+04
Lead	1.3e+01
Nickel	8.9e+00
Phosphorus	2.6e+02
Potassium	6.2e+02
Selenium	2.0e+01
Titanium	5.6e+01
Uranium	2.0e+00
Vanadium	2.0e+01
Tc-99 (pCi/g)	3.5e-01
U-235 (pCi/g)	5.9e-02
U-238 (pCi/g)	6.6e-01

[a] Units are mg/Kg unless otherwise noted.

Table 1.22. K9 Soil Sample Results

Parameter	Concentration[a]
Aluminum	4.5e+03
Arsenic	6.7e+01
Calcium	1.1e+05
Chromium	2.1e+01
Copper	1.3e+01
Iron	1.4e+04
Lead	3.8e+01
Magnesium	8.8e+03
Phosphorus	2.8e+02
Selenium	1.9e+01
Tin	7.7e+00
Titanium	5.8e+01
Uranium	1.2e+00
Tc-99 (pCi/g)	3.2e-01
U-235 (pCi/g)	2.0e-02
U-238 (pCi/g)	4.1e-01

[a] Units are mg/Kg unless otherwise noted.

Table 1.23. K10 Soil Sample Results

Parameter	Concentration[a]
Aluminum	1.0e+04
Arsenic	8.0e+01
Barium	7.0e+01
Beryllium	1.0e+00
Calcium	3.7e+03
Chromium	2.3e+01
Cobalt	1.8e+01
Copper	2.6e+01
Iron	2.1e+04
Lead	1.0e+01
Magnesium	3.7e+03
Nickel	2.8e+01
Phosphorus	2.8e+02
Potassium	2.0e+03
Selenium	2.0e+01
Titanium	1.9e+02
Uranium	2.4e+00
Vanadium	2.3e+01
Tc-99 (pCi/g)	1.6e-01
U-234 (pCi/g)	5.7e-02
U-238 (pCi/g)	8.2e-01

[a] Units are mg/Kg unless otherwise noted.

Table 1.24. PAM 35 Soil Sample Results

Parameter	Concentration[a]
Aluminum	4.1e+03
Arsenic	3.5e+01
Barium	1.3e+02
Calcium	8.8e+04
Chromium	7.9e+00
Iron	8.1e+03
Lead	3.0e+01
Magnesium	4.9e+04
Phosphorus	1.9e+02
Silver	1.4e+01
Titanium	7.9e+01
Uranium	2.1e+00
U-235 (pCi/g)	3.4e-02
U-238 (pCi/g)	7.1e-01

[a] Units are mg/Kg unless otherwise noted.

Table 1.25. PAM 42 Soil Sample Results

Parameter	Concentration[a]
Aluminum	6.9e+03
Arsenic	6.4e+01
Barium	1.6e+02
Calcium	4.3e+03
Chromium	2.6e+01
Cobalt	1.7e+01
Copper	2.9e+01
Iron	1.7e+04
Lead	7.1e+01
Nickel	1.2e+01
Phosphorus	1.3e+03
Potassium	8.3e+02
Selenium	1.8e+01
Titanium	1.2e+02
Uranium	2.1e+00
Vanadium	2.5e+01
Tc-99 (pCi/g)	2.1e-01
U-235 (pCi/g)	3.5e-02
U-238 (pCi/g)	8.1e-01

[a] Units are mg/Kg unless otherwise noted.

Table 2.1. Major sources of radiological airborne emissions at ORNL, 2001 (in curies)[a]

Isotope	Stack				
	2026	X-3020	X-3039	X-7503[b]	X-7911
^{241}Am	1.63e-07	1.89e-07	5.85e-07	1.03e-08	1.88e-08
^{41}Ar					2.16e+01
^{139}Ba					5.95e-01
^{140}Ba					1.33e-04
^{7}Be	6.57e-07	8.57e-08	1.61e-05	3.89e-08	
^{141}Ce					3.04e-07
^{252}Cf					4.73e-09
^{244}Cm	1.23e-06	1.44e-08	3.44e-07	2.12e-08	6.86e-08
^{60}Co			5.73e-05		
^{137}Cs	3.86e-06	1.11e-06	1.31e-04	1.86e-06	6.40e-06
^{138}Cs					1.36e+03
^{152}Eu			4.18e-06		
^{155}Eu			2.23e-04		
^{3}H	9.86e-02		1.10e+01	2.79e+00	3.47e+01
^{131}I			5.79e-05		1.28e-01
^{132}I					9.45e-01
^{133}I			1.06e-03		6.26e-01
^{134}I					1.15e+00
^{135}I			1.48e-03		1.67e+00
^{85}Kr					4.90e+02
^{85m}Kr					1.42e+00
^{87}Kr					1.61e+01
^{88}Kr					1.86e+01
^{89}Kr					5.43e+00
^{90}Kr					1.69e-02
^{140}La					2.95e-04
^{191}Os			9.54e-02		
^{212}Pb	2.02e-01		1.82e+00	2.42e-01	1.12e-01
^{238}Pu	4.63e-08	1.07e-08	1.25e-07		
^{239}Pu	1.56e-07	1.77e-07	1.66e-06	1.74e-09	3.16e-09
^{75}Se			1.75e-04		1.56e-05
^{90}Sr	6.85e-07	1.00e-06	6.00e-05	2.17e-08	1.43e-05
^{228}Th	1.99e-08	2.60e-09	9.09e-09	1.23e-09	6.75e-09
^{230}Th	2.35e-09	2.60e-09	7.53e-09	7.93e-10	4.64e-09
^{232}Th	1.10e-09	1.79e-09	4.98e-09	6.92e-10	4.34e-09
^{234}U	1.69e-07	7.95e-08	5.05e-07	6.88e-09	3.01e-08
^{235}U	4.76e-09	2.49e-09	2.00e-08	9.12e-10	2.52e-09
^{238}U	4.86e-09	8.38e-09	3.43e-08	8.20e-10	1.16e-08
^{131m}Xe					1.60e+01
^{133}Xe					4.88e-01
^{133m}Xe					3.87e+00
^{135}Xe			8.53e-04		5.63e+01
^{135m}Xe					1.18e+03
^{137}Xe					9.53e+01
^{138}Xe					2.07e+02
^{90}Y	6.85e-07	1.00e-06	6.00e-05	2.17e-08	1.43e-05

[a]1 Ci = 3.7E+10 Bq.

[b]Formerly 7512.

Table 2.2. Constituents in Waste Area Grouping (WAG) 1 groundwater at ORNL, June and August, 2001

Parameter	N det/ N total	Max	Min	Av	Reference value	Number of values exceeding reference [ref][a]
			Downgradient Wells			
Field measurements, unfiltered						
Conductivity (mS/cm)	5/5	0.91	0.57	0.79	b	[b]
Dissolved oxygen (mg/L)	5/5	5.3	1.3	2.4	b	[b]
Redox (mV)	5/5	290	120	190	b	[b]
Temperature (◦C]	5/5	21	17	19	30.5	0[1]
Turbidity (JTU)	5/5	14	1.0	9.4	1	4[2]
pH (SU)	5/5	8.7	6.7	7.2	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L)[c]						
Co-60	1/6	4.8*	-3.6	0.80	200	0[4]
Cs-137	2/6	12*	-4.6	1.9	120	0[4]
Gross alpha	2/6	6.3*	0.10	3.6*	15	0[2]
Gross beta	2/6	20*	1.8	8.7*	50	0[2]
H-3	5/6	7,000*	820	2,400*	20,000	0[2]
Total rad Sr	1/6	9.3*	0.17	2.8	8	1[2]

[a] If a reference limit exists, the source is coded as:
1 Rules of Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Chapter 1200-4-3, General Water Quality Criteria, Domestic Water Supply, as amended.
2 40 CFR Part 141--National Primary Drinking Water Regulations, Subparts B and G, as amended.
3 40 CFR Part 143--National Secondary Drinking Water Regulations, as amended.
4 DOE Order 5400.5, Chapter III, Derived Concentration Guides for Air and Water.

[b] Not applicable.

[c] Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those whose values are above MDA.

Table 2.3. Constituents in Waste Area Grouping (WAG) 2 groundwater at ORNL, April 30 - May 31, 2001

Parameter	N det/ N total	Max[a]	Min[a]	Av[b]	Reference value	Number of values exceeding reference [ref][c]
Downgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	8/8	0.73	0.20	0.47	d	[d]
Dissolved oxygen (mg/L)	8/8	6.3	1.7	3.4	d	[d]
Redox (mV)	8/8	280	140	190	d	[d]
Temperature (◦C]	8/8	18	15	16	30.5	0[1]
Turbidity (JTU)	8/8	110	0	19	1	5[2]
pH (SU)	8/8	9.6	6.6	7.6	(6.0, 9.0)	2[1]
Metals, unfiltered (mg/L)						
Aluminum, total	1/4	<0.060	<0.020	~0.048	(0.05, 0.20)	1[3]
Barium, total	4/4	1.1	0.14	0.39	2	0[1]
Calcium, total	4/4	150	59	100	d	[d]
Chromium, total	1/4	0.067	<0.0090	~0.026	0.1	0[1]
Cobalt, total	1/4	<0.093	<0.034	~0.063	d	[d]
Iron, total	4/4	6.0	1.2	2.5	0.3	4[3]
Lead, total	1/4	0.0013	<0.00050	~0.00070	0.005	0[1]
Magnesium, total	4/4	22	4.6	14	d	[d]
Manganese, total	3/4	0.26	<0.0010	~0.11	0.05	2[3]
Potassium, total	4/4	3.5	0.83	2.1	d	[d]
Sodium, total	4/4	14	12	13	d	[d]
Radionuclides, unfiltered (pCi/L)[e]						
Co-60	3/8	7.2*	-4.8	1.6	200	0[4]
Cs-137	2/8	7.8*	-27	-4.4	120	0[4]
Gross alpha	4/8	7.0*	-0.50	3.4*	15	0[2]
Gross beta	1/8	290*	0.90	41	50	1[2]
H-3	5/8	72,000*	200	23,000*	20,000	3[2]
Total rad Sr	1/8	200*	-0.70	26	8	1[2]
Upgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	12/12	0.63	0.22	0.43	d	[d]
Dissolved oxygen (mg/L)	12/12	5.3	1.3	3.1	d	[d]
Redox (mV)	12/12	380	220	290	d	[d]
Temperature (◦C]	12/12	18	13	15	30.5	0[1]
Turbidity (JTU)	12/12	10	1.0	3.0	1	8[2]
pH (SU)	12/12	9.0	6.7	7.5	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L)[e]						
Co-60	5/12	13*	0.20	4.2*	200	0[4]
Cs-137	4/12	14*	-17	2.5	120	0[4]
Gross alpha	7/12	8.6*	-1.5	3.6*	15	0[2]
Gross beta	4/12	100*	-2.2	13	50	1[2]
H-3	7/12	510,000*	490	45,000	20,000	1[2]

[a] Prefix "<" indicates the value for a parameter was not quantifiable at the analytical detection limit.

[b] A tilde (~) indicates that estimated and/or undetected values were used in the calculation.

[c] If a reference limit exists, the source is coded as:
1 Rules of Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Chapter 1200-4-3, General Water Quality Criteria, Domestic Water Supply, as amended.
2 40 CFR Part 141--National Primary Drinking Water Regulations, Subparts B and G, as amended.
3 40 CFR Part 143--National Secondary Drinking Water Regulations, as amended.
4 DOE Order 5400.5, Chapter III, Derived Concentration Guides for Air and Water.

[d] Not applicable.

[e] Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those whose values are above MDA.

Table 2.4. Constituents in Waste Area Groupings (WAGs) 8&9 groundwater at ORNL, June 14-21, 2001

Parameter	N det/ N total	Max	Min	Av	Reference value	Number of values exceeding reference [ref][a]
Downgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	9/9	0.68	0.19	0.37	b	[b]
Dissolved oxygen (mg/L)	9/9	11	0.53	2.9	b	[b]
Redox (mV)	9/9	260	150	210	b	[b]
Temperature (◦C]	9/9	18	15	16	30.5	0[1]
Turbidity (JTU)	9/9	31	0	9.0	1	7[2]
pH (SU)	9/9	9.6	6.3	7.5	(6.0, 9.0)	1[1]
Radionuclides, unfiltered (pCi/L)[c]						
Cs-137	4/9	19*	-1.1	5.2*	120	0[4]
Gross beta	3/9	2,700*	0.10	550	50	3[2]
H-3	8/9	40,000*	580	5,600	20,000	1[2]
Total rad Sr	3/9	1,200*	0.10	240	8	3[2]
Upgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	2/2	0.34	0.28	0.31	b	[b]
Dissolved oxygen (mg/L)	2/2	3.7	2.1	2.9	b	[b]
Redox (mV)	2/2	230	160	190	b	[b]
Temperature (◦C]	2/2	18	16	17	30.5	0[1]
Turbidity (JTU)	2/2	27	3.0	15	1	2[2]
pH (SU)	2/2	8.7	6.4	7.6	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L)[c]						
Cs-137	1/2	6.0*	-0.70	2.7	120	0[4]
H-3	2/2	4,000*	2,600*	3,300	20,000	0[2]

[a] If a reference limit exists, the source is coded as:
1 Rules of Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Chapter 1200-4-3, General Water Quality Criteria, Domestic Water Supply, as amended.
2 40 CFR Part 141--National Primary Drinking Water Regulations, Subparts B and G, as amended.
3 40 CFR Part 143--National Secondary Drinking Water Regulations, as amended.
4 DOE Order 5400.5, Chapter III, Derived Concentration Guides for Air and Water.

[b] Not applicable.

[c] Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those whose values are above MDA.

Table 2.5. Constituents in Waste Area Grouping (WAG) 17 groundwater at ORNL, July 2-3, 2001

Parameter	N det/ N total	Max[a]	Min[a]	Av[b]	Reference value	Number of values exceeding reference [ref][c]
			Downgradient Wells			
Field measurements, unfiltered						
Conductivity (mS/cm)	4/4	0.68	0.32	0.56	d	[d]
Dissolved oxygen (mg/L)	4/4	3.3	1.6	2.1	d	[d]
Redox (mV)	4/4	240	160	190	d	[d]
Temperature (◦C]	4/4	22	17	19	30.5	0[1]
Turbidity (JTU)	4/4	3.0	0	1.0	1	1[2]
pH (SU)	4/4	7.3	6.9	7.0	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L)[e]						
Co-60	1/4	5.7*	-2.2	1.3	200	0[4]
Cs-137	2/4	9.8*	1.1	5.6*	120	0[4]
H-3	1/4	2,400*	140	1,100*	20,000	0[2]
Volatile organics, unfiltered (μg/L)						
1,1-Dichloroethene	1/4	25	U5.0	~10	7	1[1]
Benzene	1/4	11	U5.0	~6.5	5	1[1]
Tetrachloroethene	1/4	19	U5.0	~8.5	5	1[1]
Trichloroethene	2/4	D10,000	U5.0	~2,500	5	2[1]
Vinyl chloride	1/4	160	U5.0	~44	2	4[1]
cis-1,2-Dichloroethene	2/4	D3,300	U5.0	~830	d	[d]
trans-1,2-Dichloroethene	1/4	25	U5.0	~10	d	[d]
			Upgradient Wells			
Field measurements, unfiltered						
Conductivity (mS/cm)	4/4	0.65	0.42	0.57	d	[d]
Dissolved oxygen (mg/L)	4/4	3.7	0.72	2.0	d	[d]
Redox (mV)	4/4	220	180	200	d	[d]
Temperature (◦C]	4/4	18	16	17	30.5	0[1]
Turbidity (JTU)	4/4	1.0	0	0.25	1	0[2]
pH (SU)	4/4	7.6	6.8	7.3	(6.0, 9.0)	0[1]

Table 2.5 (continued)

Parameter	N det/ N total	Max[a]	Min[a]	Av[b]	Reference value	Number of values exceeding reference [ref][c]
Radionuclides, unfiltered (pCi/L)[e]						
Cs-137	1/4	9.9*	1.0	4.3	120	0[4]
H-3	3/4	3,700*	590	2,200*	20,000	0[2]
Volatile organics, unfiltered (μg/L)						
Acetone	1/4	J5.0	U5.0	~5.0	d	[d]

[a] "D" indicates that the sample was diluted.
[b] A tilde (~) indicates that estimated and/or undetected values were used in the calculation.
[c] If a reference limit exists, the source is coded as:
1 Rules of Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Chapter 1200-4-3, General Water Quality Criteria, Domestic Water Supply, as amended.
2 40 CFR Part 141--National Primary Drinking Water Regulations, Subparts B and G, as amended.
3 40 CFR Part 143--National Secondary Drinking Water Regulations, as amended.
4 DOE Order 5400.5, Chapter III, Derived Concentration Guides for Air and Water.
[d] Not applicable.
[e] Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those whose values are above MDA.

Table 3.1. ORNL Plant Perimeter Monitoring summary statistics from 2001 sampling events

Parameter	N det/ N total	Concentration Max[a]	Min[a]	Av[b]	Reference value	Number of values exceeding reference [ref][c]
Melton Valley Exit Pathway						
Field Measurements -- Unfiltered						
Conductivity (mS/cm)	11/11	0.81	0.010	0.33	d	[d]
Dissolved oxygen (ppm)	11/11	7.7	1.6	3.8	d	[d]
Temperature (°C)	11/11	20	16	17	30.5	0[2]
pH (SU)	11/11	9.5	5.1	7.3	(6.0, 9.0)	4[2]
Metals (mg/L) -- Unfiltered						
Aluminum	4/10	1.0	< 0.014	~ 0.24	(0.05, 0.20)	7[4]
Barium	10/10	1.1	0.0080	0.22	2	0[2]
Boron	2/10	0.46	< 0.0070	~ 0.059	d	[d]
Calcium	10/10	150	0.79	50	d	[d]
Chromium	1/10	0.067	< 0.0090	~ 0.016	0.1	0[2]
Cobalt	1/10	< 0.093	< 0.034	~ 0.046	d	[d]
Iron	8/10	6.0	< 0.060	~ 1.2	0.3	7[4]
Lead	4/10	0.0064	< 0.00050	~ 0.0015	0.005	1[2]
Magnesium	10/10	22	0.38	7.3	d	[d]
Manganese	3/10	0.26	< 0.0010	~ 0.045	0.05	2[4]
Potassium	9/10	3.5	0.37	~ 1.6	d	[d]
Sodium	10/10	200	1.4	33	d	[d]
Radionuclides (pCi/L) -- Filtered[e]						
Cs-137	1/1	9.2*	9.2*	9.2	120	0[1]
Gross alpha	1/1	4.8*	4.8*	4.8	15	0[3]
Gross beta	1/1	160*	160*	160	50	1[3]
H-3	1/1	21,000*	21,000*	21,000	80,000	0[1]
Total rad Sr	1/1	60*	60*	60	40	1[1]
Total uranium	1/1	2.3*	2.3*	2.3	20	0[1]
U-234	1/1	2.1*	2.1*	2.1	20	0[1]
U-238	1/1	0.17*	0.17*	0.17	24	0[1]
Radionuclides (pCi/L) -- Unfiltered[e]						
Co-60	2/11	7.2*	-5.2	0.86	200	0[1]
Cs-137	1/11	16*	-27	-2.8	120	0[1]
Gross alpha	4/11	7.0*	-1.9	2.4*	15	0[3]
Gross beta	2/11	290*	-0.60	46	50	2[3]
H-3	9/11	72,000*	570	14,000*	80,000	0[1]
Total rad Sr	2/11	200*	-0.50	24	40	2[1]
Total uranium	1/1	2.3*	2.3*	2.3	20	0[1]
U-234	1/1	2.1*	2.1*	2.1	20	0[1]
U-238	1/1	0.24*	0.24*	0.24	24	0[1]

[a] Prefix "<" indicates the value for a parameter was not quantifiable at the analytical detection limit.

[b] A tilde (~) indicates that estimated and/or undetected values were used in the calculation.

[c] If a reference limit exists, the source is coded as:
1 DOE Order 5400.5, Chapter III, Derived Concentration Guides for Air and Water.
2 Rules of Tennessee Department of Environment and Conservation, Division of Water Pollution Control, Chapter 1200-4-3, General Water Quality Criteria, Domestic Water Supply, as amended.
3 40 CFR Part 141--National Primary Drinking Water Regulations, Subparts B and G, as amended.
4 40 CFR Part 143--National Secondary Drinking Water Regulations, as amended.

[d] Not applicable.

[e] Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those whose values are above MDA.

Table 3.2. 2001 tissue concentrations in Sunfish[a]

Parameter	N det/ N total	Concentration First Composite[b]	Second Composite[b]	Av[c]	Standard error[d]
Clinch River downstream from all DOE inputs (CRK 16)					
Metals (mg/kg wet wt)					
Mercury, total	2/2	0.23	0.22	0.23	0.0050
Zinc, total	2/2	16	16	16	0.050
PCBs (μg/kg wet wt)					
Aroclor-1260	2/2	J49	J55	~52	3.0
Radionuclides (pCi/g ash wt)[e]					
Cs-137	2/2	0.71*	0.83*	0.77*	0.060
Gross alpha	1/2	9.9*	-0.50	4.7	5.2
K-40	2/2	180*	180*	180	0
Radionuclides (pCi/g wet wt)[e]					
Cs-137	2/2	0.011*	0.014*	0.013*	0.0012
Gross alpha	1/2	0.16*	-0.0083	0.075	0.083
K-40	2/2	2.9*	3.0*	2.9*	0.051
Clinch River downstream from ORNL (CRK 32)					
Metals (mg/kg wet wt)					
Copper, total	1/2	<0.45	0.42	~0.43	0.017
Mercury, total	2/2	0.075	0.030	0.053	0.023
Zinc, total	2/2	11	11	11	0.10
Pesticides (μg/kg wet wt)					
Beta-BHC	1/2	U13	P38	~26	13
PCBs (μg/kg wet wt)					
Aroclor-1260	2/2	J37	94	~66	29
Radionuclides (pCi/g ash wt)[e]					
Cs-137	2/2	1.1*	0.89*	1.0*	0.11
K-40	2/2	170*	180*	180*	5.0
Total rad Sr	1/2	0.51	0.75*	0.63	0.12
Radionuclides (pCi/g wet wt)[e]					
Cs-137	2/2	0.0099*	0.0074*	0.0086*	0.0012
K-40	2/2	1.5*	1.5*	1.5*	0.017
Total rad Sr	1/2	0.0046	0.0062*	0.0054*	0.00082
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)					
Metals (mg/kg wet wt)					
Chromium, total	1/2	0.82	<0.37	~0.60	0.23
Mercury, total	1/2	<0.022	0.063	~0.042	0.020
Zinc, total	2/2	15	16	16	0.70
PCBs (μg/kg wet wt)					
Aroclor-1260	2/2	J55	J31	~43	12

Table 3.2 (continued)

Parameter	N det/ N total	Concentration First Composite[b]	Second Composite[b]	Av[c]	Standard error[d]
Radionuclides (pCi/g ash wt)[e]					
K-40	2/2	170*	140*	160*	15
Radionuclides (pCi/g wet wt)[e]					
K-40	2/2	2.9*	1.5*	2.2	0.73

[a]All values were included in the calculations. Only parameters that have detections in one or more samples are listed in the table. The sampling and analysis plan contains a complete list of analyses performed.

[b]Prefix "<" indicates the value for a parameter (excluding organics) was not quantifiable at the analytical detection limit; “J" indicates the value was estimated at or below the analytical detection limit by the laboratory; "U" indicates the value for an organic parameter was undetected at the analytical detection limit; and "P" indicates that the quantitative results from the two GC columns differed significantly and the higher result is reported and flagged.

[c]A tilde (~) indicates that estimated values and/or detection limits were used in the calculation.

[d]Standard error of the mean.

[e]Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those detected above MDA.

Table 3.3. 2001 tissue radionuclide concentrations in Catfish[a]

Parameter	N det/ N total	Concentration First Composite	Second Composite	Av	Standard error[b]
Clinch River downstream from all DOE inputs (CRK 16)					
Radionuclides (pCi/g ash wt)[c]					
Cs-137	2/2	1.8*	1.6*	1.7*	0.10
Gross beta	2/2	270*	270*	280*	10
K-40	2/2	300*	300*	320*	15
Radionuclides (pCi/g wet wt)[c]					
Cs-137	2/2	0.021*	0.014*	0.018	0.0036
Gross beta	2/2	3.2*	2.5*	2.8*	0.32
K-40	2/2	3.5*	2.9*	3.2*	0.32
Clinch River downstream from ORNL (CRK 32)					
Radionuclides (pCi/g ash wt)[c]					
Cs-137	2/2	3.0*	1.4*	2.2	0.80
Gross beta	2/2	320*	310*	320*	5.0
K-40	2/2	280*	270*	280*	5.0
Radionuclides (pCi/g wet wt)[c]					
Cs-137	2/2	0.037*	0.015*	0.026	0.011
Gross beta	2/2	3.9*	3.4*	3.7*	0.26
K-40	2/2	3.4*	3.0*	3.2*	0.24
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)					
Radionuclides (pCi/g ash wt)[c]					
Gross beta	2/2	280*	280*	300*	15
K-40	2/2	250*	250*	270*	15
Radionuclides (pCi/g wet wt)[c]					
Gross beta	2/2	2.8*	2.8*	3.2*	0.31
K-40	2/2	2.5*	2.5*	2.8*	0.29

[a]All values were included in the calculations. Only parameters with concentrations above mda in one or both samples are listed in the table. The sampling and analysis plan contains a complete list of analyses performed.

[b]Standard error of the mean.

[c]Individual and average radionuclide concentrations significantly greater than zero are identified by an *. Detected radionuclides are those detected above MDA.

Table 3.4. 2001 tissue metals, pesticides, and PCBs concentrations in Catfish[a]

Parameter	Concentration[b]
Clinch River downstream from all DOE inputs (CRK 16)	
Metals (mg/kg wet wt)	
Mercury, total	0.26
Zinc, total	4.7
Pesticides (μg/kg wet wt)	
4,4'-DDD	36
4,4'-DDE	36
4,4'-DDT	36
Aldrin	18
Alpha-Chlordane	18
Beta-BHC	18
Chlordane	280
Delta-BHC	18
Dieldrin	36
Endosulfan I	18
Endosulfan II	36
Endosulfan sulfate	36
Endrin	36
Endrin aldehyde	36
Endrin ketone	36
Gamma-BHC (Lindane)	18
Gamma-Chlordane	18
Heptachlor	18
Heptachlor epoxide	18
Methoxychlor	180
Toxaphene	280
PCBs (μg/kg wet wt)	
Aroclor-1260	J110
Clinch River downstream from ORNL (CRK 32)	
Metals (mg/kg wet wt)	
Mercury, total	0.086
Zinc, total	15
Pesticides (μg/kg wet wt)	
Alpha-Chlordane	21
Gamma-Chlordane	J8.0
PCBs (μg/kg wet wt)	
Aroclor-1260	350
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)	
Metals (mg/kg wet wt)	
Mercury, total	0.048
Zinc, total	7.7

Table 3.4 (continued)

Parameter	Concentration[b]
Pesticides (μg/kg wet wt)	
4,4'-DDD	26
4,4'-DDE	26
4,4'-DDT	26
Aldrin	13
Alpha-BHC	13
Alpha-Chlordane	13
Beta-BHC	13
Chlordane	200
Delta-BHC	13
Endosulfan I	13
Endosulfan II	26
Endosulfan sulfate	26
Endrin	26
Endrin aldehyde	26
Endrin ketone	26
Gamma-BHC (Lindane)	13
Gamma-Chlordane	13
Heptachlor	13
Heptachlor epoxide	13
Methoxychlor	130
Toxaphene	200
PCBs (μg/kg wet wt)	
Aroclor-1260	300

[a] Only parameters that are detected are listed in the table. The sampling and analysis plan contains a complete list of analyses performed.

[b] Prefix "J" indicates the value was estimated at or below the analytical detection limit by the laboratory.

Table 3.5. Radiological constituents in EMP sediment locations, 2001[a]

Parameter	Concentration[b]
Clinch River downstream from all DOE inputs (CRK 16)	
K-40	6.3
Clinch River downstream from ORNL (CRK 32)	
Cs-137	0.57
K-40	14
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)	
K-40	1.2

[a]Only parameters with concentrations above mda are listed in the table.
[b]All data are given in picocuries per gram (1 pCi = 3.75E-02 Bq).

Table 3.6. Radiological constituents in settleable solids sites near the ORR, 2001[a]

Event	Co-60	Cs-137	Gross alpha	Gross beta
Melton Branch upstream from ORNL (MEK 2.1)				
January	b	29,000	b	b
February	b	b	b	b
White Oak Lake at White Oak Dam (WCK 1.0)				
January	b	640,000	15,000	780,000
February	b	160,000	b	260,000
White Oak Creek downstream from ORNL (WCK 2.6)				
January	b	560,000	b	720,000
February	b	750,000	17,000	900,000

[a]All data are given in picocuries per kilogram (1 pCi = 3.7E-02 Bq).
[b]No value was detected above MDA.

Table 4.1. Y-12 Complex Discharge Point 017, OUTFALL 017
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	358	0.599	0.003	0.04	d	d
pH, Standard Units	54	7.6	6.6	d	9/ 6(e)	0
Kjeldahl Nitrogen	55	6.14	0.278	<2.57	d	d
Ammonia as Nitrogen	52	6.11	<0.2	<2	64.8	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.2. Y-12 Complex Discharge Point 021, OUTFALL 021
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	351	2.059	0.065	0.23	d	d
pH, Standard Units	158	8.1	6.8	d	9/ 6(e)	0
Temperature, degrees C	158	22.7	11.7	17.5	30.5	0
Total Residual Chlorine	156	<0.05	<0.05	<0.05	0.188	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.3. Y-12 Complex Discharge Point 051, OUTFALL 051
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.941	0.016	0.17	d	d
pH, Standard Units	109	8.56	5.7	d	9/ 6(e)	1
Mercury	55	0.003	0.00113	0.002	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.4. Y-12 Complex Discharge Point 055, OUTFALL 055
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.115	0.013	0.029	d	d
pH, Standard Units	104	7.8	7.1	d	9/ 6(e)	0
Total Residual Chlorine	104	<0.05	<0.05	<0.05	0.5	0
Mercury	104	0.0031	<0.0002	<0.0003	0.004	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.5. Y-12 Complex Discharge Point 073, OUTFALL 073
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	7	0.0095	0.000048	0.0034	d	d
pH, Standard Units	7	8.2	7.8	. d	9/ 6(e)	0
Total Residual Chlorine	7	<0.05	<0.05	<0.05	0.5	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.6. Y-12 Complex Discharge Point 077, OUTFALL 077
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	12	0.0114	0.00002	0.009	d	d
pH, Standard Units	12	7.6	7.0	d	9/ 6(e)	0
Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.7. Y-12 Complex Discharge Point 125, OUTFALL 125
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	15	0.6	0.264	0.4	d	d
pH, Standard Units	15	7.3	6.9	d	9/ 6(e)	0
Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
Mercury	7	<0.0002	0.0001	<0.0002	d	d
Lead	5	<0.01	<0.0005	<0.02	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.8. Y-12 Complex Discharge Point 135, OUTFALL 135
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.511	0.042	0.23	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.9. Y-12 Complex Discharge Point 200, OUTFALL 200
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	158	3.96	0.12	1.4	d	d
Beryllium	12	<0.0005	<0.0005	<0.0005	d	d
Cadmium	12	<0.01	<0.01	<0.01	d	d
Copper	12	<0.02	<0.02	<0.02	d	d
Iron	12	0.261	<0.05	<0.1	d	d
Fluoride	12	1.12	0.215	0.782	d	d
Mercury	52	0.001	<0.0002	<0.0005	d	d
Nitrate/Nitrite as Nitrogen	12	7.08	3.93	5.46	d	d
Oil and Grease	156	19.1	<5.8	<6.4	15	1
Lead	12	<0.1	<0.1	<0.1	d	d
Phosphate as Phosphorus	12	<1.23	0.603	<0.818	d	d
Sulfate	52	73.8	1.69	34.5	d	d
Zinc	12	0.0902	<0.05	<0.06	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.10. Y-12 Complex Discharge Point 200, OUTFALL 200
from: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	52	38.0	+/-6.9	0.051*	+/-1	11	1.3	e	2.0E-02
Americium-241 (pCi/L)	52	0.4	+/-.29	-0.079*	+/-.2	0.1	0.02	0.4	2.E-04
Beta activity (pCi/L)	52	35.0	+/-6.5	-5.3*	+/-5.7	14	1.1	e	2.6E-02
Cobalt-60 (pCi/L)	52	3.4*	+/-2.2	-3.3*	+/-2.6	0.28	0.16	0.0057	5.5E-04
Cesium-137 (pCi/L)	52	2.5*	+/-2.1	-1.4*	+/-1.9	0.28	0.12	0.0092	5.3E-04
Gamma Activity (pCi/L)	52	19.0*	+/-16	-8.0*	+/-14	3.1	0.98	e	5.9E-03
Neptunium-237 (pCi/L)	52	0.088*	+/-.15	-0.29*	+/-.18	-0.047	0.010	-0.16	-9.1E-05
Plutonium-238 (pCi/L)	52	0.63	+/-.32	-0.11*	+/-.1	0.025	0.016	0.063	4.8E-05
Plutonium-239/240 (pCi/L)	52	0.1*	+/-.15	-0.13*	+/-.11	0.002	0.006	0.008	4E-06
Radium-226 (pCi/L)	52	0.67	+/-.94	-0.92*	+/-1.8	0.086	0.038	0.086	1.7E-04
Radium-228 (pCi/L)	52	2.4	+/-1.1	-1.5*	+/-1.4	0.71	0.11	0.71	1.4E-03
Strontium-89/90 (pCi/L)	52	7.5	+/-3.7	-5.8*	+/-2.5	-0.052	0.25	e	-9.9E-05
Total Radium Alpha (pCi/L)	52	1.4	+/-.53	0.029*	+/-.17	0.31	0.030	e	6.0E-04
Technetium-99 (pCi/L)	52	23.0	+/-8.2	-1.7*	+/-7.9	10.	0.76	0.010	2.0E-02
Thorium-228 (pCi/L)	52	1.8	+/-.63	-0.28*	+/-.19	0.17	0.059	0.041	3.2E-04
Thorium-230 (pCi/L)	52	2.0	+/-.88	-0.18*	+/-.3	0.42	0.062	0.14	8.1E-04
Thorium-232 (pCi/L)	52	0.092*	+/-.13	-0.1*	+/-.14	-0.003	0.006	-0.006	-5E-06
Thorium-234 (pCi/L)	52	29.0	+/-3.4	1.4	+/-.46	8.6	1.0	0.086	1.6E-02
Tritium (pCi/L)	52	1200.0	+/-610	-1100.0*	+/-440	399.06	56.511	0.020000	7.6900E-01
Uranium-234 (pCi/L)	52	6.8	+/-1.1	0.81	+/-.36	2.5	0.21	0.50	4.8E-03
Uranium-235 (pCi/L)	52	0.58	+/-.38	-0.013*	+/-.097	0.17	0.022	0.028	3.3E-04
Uranium-238 (pCi/L)	52	29.0	+/-3.4	1.4	+/-.46	8.6	1.0	1.4	1.6E-02

(e) Not applicable
* Provisional Result

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Table 4.11. Y-12 Complex Discharge Point 201, OUTFALL 201
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
96 Hour Toxicity Test with Ceriodaphnia	4	>100.0	>100.0	>100.0	d/ 100(e)	0
96 Hour Toxicity Test with Fathead Minnows	4	>100.0	>100.0	>100.0	d/ 100(e)	0
NOEC, Reproduction/Growth in Ceriodaphnia	4	100.0	100.0	100.0	d/ 100(e)	0
NOEC, Reproduction/Growth in Fathead Minnows	4	100.0	100.0	100.0	d/ 100(e)	0
pH, Standard Units	157	8.1	6.9	d	8.5/ 6.5(e)	0
Temperature, degrees C	157	23.1	7.5	15	30.5	0
Total Residual Chlorine	159	0.313	<0.05	<0.05	0.019	2
Suspended Solids	52	27.2	<1.0	<6.6	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.12. Y-12 Complex Discharge Point 501, CENTRAL POLLUTION CONTROL FACILITY
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
48 Hour Toxicity Test with Ceriodaphnia	3	>100.0	>100.0	>100.0	d	d
Flow, mgd	6	0.0131	0.0098	0.012	d	d
pH, Std Unit	6	8.0	7.4	d	9/ 6(e)	0
TEMPERATURE, deg C	6	28.0	18.5	22.1	d	d
Silver	6	<0.002	<0.001	<0.002	0.05	0
Boron	6	0.32	<0.2	<0.2	d	d
Beryllium	6	<0.001	<0.0005	<0.0009	d	d
Calcium	6	247.0	152.0	206.7	d	d
Cadmium	6	<0.005	<0.001	<0.004	0.15	0
Chloride	6	354.0	42.8	138	d	d
Chromium	6	<0.04	<0.02	<0.04	1	0
Copper	6	<0.04	<0.02	<0.04	1	0
Cyanide	6	<0.01	<0.01	<0.01	1.2	0
Iron	6	0.177	0.0614	<0.106	d	d
Fluoride	6	0.527	0.379	0.454	d	d
Mercury	6	0.0003	<0.0002	<0.0002	d	d
Potassium	6	68.2	16.2	39.9	d	d
Lithium	6	3.61	0.761	2.07	d	d
Magnesium	6	5.11	0.403	2.39	d	d
Sodium	6	539.0	76.2	218.	d	d
Nickel	6	<0.1	0.0676	<0.09	3.98	0
Nitrate/Nitrite as Nitrogen	6	1.26	<0.05	<0.3	100	0
Oil and Grease	6	<6.5	<5.5	<6.0	15	0
Lead	6	<0.001	<0.0005	<0.0009	0.2	0
Phosphate as Phosphorus	6	<0.307	<0.307	<0.307	d	d
Sulfate	6	1260.0	518.0	812.2	d	d
Suspended Solids	6	2.6	<1.0	<1.3	40	0
Zinc	6	<0.1	0.0956	<0.1	2	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.13. Y-12 Complex Discharge Point 501, CENTRAL POLLUTION CONTROL FACILITY
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	6	15.0	+/-9.6	-9.4*	+/-17	6.5	4.2	e	1.1E-04
Americium-241 (pCi/L)	6	0.27*	+/-.23	0.028*	+/-.16	0.19	0.037	0.64	3.2E-06
Beta activity (pCi/L)	6	66.0	+/-15	10.0*	+/-43	39.2	8.95	e	6.6E-04
Cobalt-60 (pCi/L)	6	1.9*	+/-2.1	-1.5*	+/-1.9	0.16	0.48	0.0031	2.6E-06
Cesium-137 (pCi/L)	6	6.2	+/-2.9	0.32*	+/-1.7	2.3	0.83	0.076	3.8E-05
Gamma Activity (pCi/L)	6	25.0*	+/-17	-1.0*	+/-15	9.9	4.1	e	1.6E-04
Neptunium-237 (pCi/L)	6	0.16*	+/-.18	-0.05*	+/-.07	0.02	0.03	0.06	3E-07
Plutonium-238 (pCi/L)	6	0.067*	+/-.15	-0.09*	+/-.18	-0.01	0.02	-0.02	-2E-07
Plutonium-239/240 (pCi/L)	6	0.029*	+/-.071	-0.086*	+/-.077	-0.0096	0.017	-0.032	-1.6E-07
Radium-226 (pCi/L)	6	0.6	+/-.61	-0.05*	+/-.03	0.3	0.1	0.3	4E-06
Radium-228 (pCi/L)	6	4.4	+/-1.4	-0.51*	+/-1.3	1.1	0.70	1.1	1.8E-05
Strontium-89/90 (pCi/L)	6	3.9*	+/-3.5	-0.88*	+/-3	1.6	0.69	e	2.6E-05
Total Radium Alpha (pCi/L)	6	1.0	+/-.46	0.23*	+/-.21	0.60	0.13	e	1.0E-05
Technetium-99 (pCi/L)	6	9.4*	+/-8.1	-3.8*	+/-8.2	-0.23	2.0	-0.00020	-3.9E-06
Thorium-228 (pCi/L)	6	0.59	+/-.34	-0.19*	+/-.21	0.12	0.12	0.029	2.0E-06
Thorium-230 (pCi/L)	6	0.76	+/-.42	0.074*	+/-.18	0.23	0.11	0.078	4.0E-06
Thorium-232 (pCi/L)	6	0.015*	+/-.12	-0.034*	+/-.069	-0.0060	0.0083	-0.012	-1.0E-07
Thorium-234 (pCi/L)	6	3.3	+/-.71	1.1	+/-.37	1.8	0.37	0.018	3.0E-05
Tritium (pCi/L)	6	420.0*	+/-510	-310.0*	+/-470	120.5	115.5	0.006000	2.02E-03
Uranium-234 (pCi/L)	6	2.7	+/-.63	0.61	+/-.28	1.3	0.34	0.26	2.2E-05
Uranium-235 (pCi/L)	6	0.14	+/-.14	-0.023*	+/-.047	0.058	0.025	0.0097	9.8E-07
Uranium-238 (pCi/L)	6	3.3	+/-.71	1.1	+/-.37	1.8	0.37	0.29	3.0E-05

(e) Not applicable
* Provisional Result

Table 4.14. Y-12 Complex Discharge Point 512, OUTFALL 512 (GWTF)
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
48 Hour Toxicity Test with	4	>100.0	36.7	>75.3	d	d
Flow, mgd	178	0.037	0.001	0.008	d	d
pH, Sandartd Units	130	8.1	7.0	d	9/ 6(e)	0
Copper	131	<0.02	<0.02	<0.02	d	d
Iron	131	0.101	<0.05	<0.05	1	0
Manganese	131	1.44	0.0222	0.203	d	d
Lead	131	<0.1	<0.1	<0.1	d	d
PCB, Total	12	<0.0005	<0.0005	<0.0005	0.001	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.15. Y-12 Complex Discharge Point 512, OUTFALL 512 (GWTF)
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	45	16.0	+/-6	1.3*	+/-3.5	6.9	0.54	e	7.9E-05
Americium-241 (pCi/L)	45	0.44	+/-.31	-0.077*	+/-.21	0.17	0.016	0.57	2.0E-06
Beta activity (pCi/L)	45	18.0	+/-7.3	-7.2*	+/-7.4	8.3	0.74	e	9.6E-05
Cobalt-60 (pCi/L)	45	2.1*	+/-1.9	-2.9*	+/-2.3	0.24	0.15	0.0049	2.8E-06
Cesium-137 (pCi/L)	45	2.5*	+/-2.4	-1.6*	+/-1.6	0.40	0.14	0.013	4.6E-06
Gamma Activity (pCi/L)	45	15.0*	+/-14	-22.0*	+/-22	2.18	1.18	e	2.51E-05
Neptunium-237 (pCi/L)	45	0.24	+/-.18	-0.23*	+/-.15	-0.039	0.012	-0.13	-4.5E-07
Plutonium-238 (pCi/L)	45	0.81	+/-.35	-0.15*	+/-.13	0.040	0.025	0.10	4.6E-07
Plutonium-239/240 (pCi/L)	45	0.32	+/-.2	-0.11*	+/-.12	0.0095	0.0093	0.032	1.1E-07
Radium-226 (pCi/L)	45	1.3*	+/-1.6	-0.42*	+/-1.3	0.21	0.048	0.21	2.4E-06
Radium-228 (pCi/L)	45	9.4*	+/-10	-1.6*	+/-1.7	0.89	0.23	0.89	1.0E-05
Strontium-89/90 (pCi/L)	45	10.0	+/-3.8	-8.1*	+/-4.2	-0.14	0.36	e	-1.6E-06
Total Radium Alpha (pCi/L)	45	0.93	+/-.44	-0.76*	+/-.29	0.43	0.040	e	5.0E-06
Technetium-99 (pCi/L)	45	9.7*	+/-7.7	-11.0*	+/-9.1	0.93	0.68	0.00090	1.1E-05
Thorium-228 (pCi/L)	45	0.81	+/-.37	-0.22*	+/-.2	0.044	0.030	0.011	5.0E-07
Thorium-230 (pCi/L)	45	1.7	+/-.64	-0.042*	+/-.12	0.41	0.060	0.14	4.7E-06
Thorium-232 (pCi/L)	45	0.067*	+/-.16	-0.086*	+/-.1	-0.0076	0.0053	-0.015	-8.7E-08
Thorium-234 (pCi/L)	45	9.6	+/-1.5	0.097*	+/-.16	5.2	0.28	0.052	6.0E-05
Tritium (pCi/L)	45	2500.0	+/-890	680.0*	+/-550	1600	55.37	0.0786	1.81E-02
Uranium-234 (pCi/L)	45	3.6	+/-.79	1.1	+/-.38	2.1	0.11	0.42	2.4E-05
Uranium-235 (pCi/L)	45	0.38	+/-.26	-0.044*	+/-.063	0.14	0.013	0.023	1.6E-06
Uranium-238 (pCi/L)	45	11.0	+/-1.7	2.8	+/-.63	5.4	0.29	0.90	6.2E-05

(e) Not applicable
* Provisional Result

Table 4.16. Y-12 Complex Discharge Point 520, OUTFALL 520
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
pH, Standard Unit	12	7.6	6.1	d	9/ 6(e)	0
Dissolved Solids	12	89.0	<1.0	<24	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.17. Y-12 Complex Discharge Point 520, OUTFALL 520
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG
Alpha activity (pCi/L)	7	6.5	+/-2.9	-4.3*	+/-3	0.83	1.2	e
Americium-241 (pCi/L)	7	0.2*	+/-.16	-0.004*	+/-.14	0.09	0.03	0.3
Beta activity (pCi/L)	7	5.3	+/-3.5	-9.5*	+/-4.1	-1.3	2.0	e
Cobalt-60 (pCi/L)	7	2.1*	+/-2.1	-0.37*	+/-2.3	0.89	0.31	0.018
Cesium-137 (pCi/L)	7	2.0*	+/-1.7	-1.2*	+/-2.4	0.45	0.42	0.015
Gamma Activity (pCi/L)	7	13.0*	+/-16	-2.0*	+/-15	7.7	2.2	e
Neptunium-237 (pCi/L)	7	0.055*	+/-.14	-0.1*	+/-.1	-0.03	0.02	-0.1
Plutonium-238 (pCi/L)	7	0.78	+/-.36	-0.066*	+/-.099	0.15	0.11	0.37
Plutonium-239/240 (pCi/L)	7	0.11*	+/-.14	-0.093*	+/-.084	-0.025	0.026	-0.082
Radium-226 (pCi/L)	7	0.54*	+/-.21	0.066*	+/-.76	0.28	0.067	0.28
Radium-228 (pCi/L)	7	2.7	+/-.8	-0.12*	+/-.69	1.0	0.34	1.0
Strontium-89/90 (pCi/L)	7	1.2*	+/-1.8	-3.7*	+/-2.6	-0.92	0.70	e
Total Radium Alpha (pCi/L)	7	1.3	+/-.61	-0.05*	+/-.15	0.3	0.2	e
Technetium-99 (pCi/L)	7	12.0*	+/-8.1	-5.7*	+/-8.8	1.3	2.6	0.0013
Thorium-228 (pCi/L)	7	1.2	+/-.63	-0.41*	+/-.34	0.14	0.19	0.034
Thorium-230 (pCi/L)	7	1.5	+/-.64	0.056*	+/-.14	0.60	0.19	0.20
Thorium-232 (pCi/L)	7	0.091	+/-.11	-0.15*	+/-.15	-0.011	0.028	-0.022
Thorium-234 (pCi/L)	7	1.4	+/-.44	-0.094*	+/-.095	0.27	0.20	0.0027
Tritium (pCi/L)	7	10000.0	+/-800	1300.0	+/-540	4814.	1402	0.2407
Uranium-234 (pCi/L)	7	1.7	+/-.49	-0.066*	+/-.067	0.41	0.29	0.082
Uranium-235 (pCi/L)	7	0.23*	+/-.2	0.0*	+/-0	0.061	0.031	0.010
Uranium-238 (pCi/L)	7	1.4	+/-.44	-0.094*	+/-.095	0.27	0.20	0.045

(e) Not applicable
* Provisional Result

Table 4.18. Y-12 Complex Discharge Point 550, OUTFALL 550
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.034	0.007	0.01	d	d
pH, Std Unit	52	7.7	7.0	d	9/ 6(e)	0
Mercury	52	0.0003	<0.0002	<0.0002	0.004	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.19. Y-12 Complex Discharge Point 551, CENTRAL MERCURY TREATMENT UNIT
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.053	0.003	0.01	d	d
pH, Std Unit	52	8.4	6.8	d	9/ 6(e)	0
Mercury	52	0.0118	<0.0002	<0.0009	0.004	4

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.20. Y-12 Complex Discharge Point 551, CENTRAL MERCURY TREATMENT UNIT
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Percentage of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	DCG	Total Curies
Alpha activity (pCi/L)	12	14.0	+/-5.4	-4.8*	+/-5.8	5.0	1.3	e	9.8E-05
Americium-241 (pCi/L)	12	0.23	+/-.17	-0.075*	+/-.14	0.075	0.024	0.25	1.5E-06
Beta activity (pCi/L)	12	160.0	+/-13	5.2	+/-5.5	62	15	e	1.2E-03
Cobalt-60 (pCi/L)	12	2.7*	+/-1.9	-2.0*	+/-2.3	0.027	0.35	0.0005	5.2E-07
Cesium-137 (pCi/L)	12	1.8*	+/-2.3	-0.96*	+/-2	0.58	0.24	0.019	1.1E-05
Gamma Activity (pCi/L)	12	12.0*	+/-15	-7.51*	+/-17	0.749	1.88	e	1.46E-05
Neptunium-237 (pCi/L)	12	0.11*	+/-.14	-0.11*	+/-.095	-0.033	0.017	-0.11	-6.5E-07
Plutonium-238 (pCi/L)	12	0.24	+/-.16	-0.14*	+/-.15	0.0059	0.031	0.015	1.1E-07
Plutonium-239/240 (pCi/L)	12	0.037*	+/-.089	-0.016*	+/-.12	0.013	0.0058	0.042	2.5E-07
Radium-226 (pCi/L)	12	0.55	+/-.45	-0.69*	+/-.81	0.13	0.097	0.13	2.5E-06
Radium-228 (pCi/L)	12	2.2*	+/-1.9	-0.21*	+/-.64	0.76	0.21	0.76	1.5E-05
Strontium-89/90 (pCi/L)	12	1.9*	+/-3.2	-3.0*	+/-2.1	-0.25	0.45	e	-4.9E-06
Total Radium Alpha (pCi/L)	12	1.1	+/-.53	0.32*	+/-.27	0.72	0.069	e	1.4E-05
Technetium-99 (pCi/L)	12	230.0	+/-11	-7.0*	+/-7.7	70	21	0.070	1.4E-03
Thorium-228 (pCi/L)	12	1.7	+/-.57	-0.062*	+/-.088	0.17	0.14	0.042	3.2E-06
Thorium-230 (pCi/L)	12	1.9	+/-.65	-0.081*	+/-.12	0.29	0.15	0.098	5.7E-06
Thorium-232 (pCi/L)	12	0.056*	+/-.08	-0.059*	+/-.084	-0.0028	0.010	-0.0057	-5.5E-08
Thorium-234 (pCi/L)	12	8.7	+/-1.3	0.44	+/-.27	3.6	0.65	0.036	7.0E-05
Tritium (pCi/L)	12	360.0*	+/-840	-670.0*	+/-460	-47.08	98.62	-0.002400	-9.170E-04
Uranium-234 (pCi/L)	12	4.8	+/-.89	0.13*	+/-.14	1.9	0.36	0.37	3.6E-05
Uranium-235 (pCi/L)	12	0.2*	+/-.18	0.014*	+/-.12	0.09	0.02	0.01	2E-06
Uranium-238 (pCi/L)	12	8.7	+/-1.3	0.44	+/-.27	3.6	0.65	0.60	7.0E-05

(e) Not applicable
* Provisional Result

Table 4.21. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	66.4	2.3	8.5	d	d
pH, Standard Units	148	8.5	7.0	d	9/ 6(e)	0
Temperature, degrees C	146	21.6	7.8	16	30.5	0
1,1,1-Trichloroethane	1	0.005U	0.005U	0.005U	170	0
1,1-Dichloroethane	1	0.005U	0.005U	0.005U	d	d
1,1-Dichloroethene	1	0.005U	0.005U	0.005U	0.032	0
1,1,2,2-Tetrachloroethane	1	0.005U	0.005U	0.005U	d	d
1,1,2-Trichloroethane	1	0.005U	0.005U	0.005U	0.42	0
1,2-Dichloroethane	1	0.005U	0.005U	0.005U	0.99	0
1,2-Dichloropropane	1	0.005U	0.005U	0.005U	d	d
Silver	150	<0.08	<0.02	<0.02	d	d
Aluminum	150	5.31	<0.2	<0.5	d	d
Arsenic	150	<0.8	<0.2	<0.2	d	d
Boron	150	<0.4	<0.1	<0.1	d	d
Barium	150	0.0679	0.0371	0.0441	d	d
Bromodichloromethane	1	0.001	0.001	0.001	d	d
Beryllium	150	<0.002	<0.0005	<0.0005	d	d
Benzene	1	0.005U	0.005U	0.005U	0.71	0
Dibromochloromethane	1	0.005U	0.005U	0.005U	4.7	0
Bromoform	1	0.005U	0.005U	0.005U	4.7	0
Calcium	150	48.1	23.9	40.8	d	d
Carbon tetrachloride	1	0.005U	0.005U	0.005U	44	0
Cadmium	150	<0.04	<0.01	<0.01	d	d
cis-1,3-Dichloropropene	1	0.005U	0.005U	0.005U	1.7	0
Chloroethane	1	0.005U	0.005U	0.005U	d	d
2-Chloroethylvinyl ether	1	0.005U	0.005U	0.005U	d	d
Bromomethane	1	0.005U	0.005U	0.005U	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.22. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Chloromethane	1	0.005U	0.005U	0.005U	d	d
Chloroform	1	0.005U	0.005U	0.005U	4.7	0
Tetrachloroethene	1	0.005U	0.005U	0.005U	0.088	0
Chlorobenzene	1	0.005U	0.005U	0.005U	d	d
Cobalt	150	<0.08	<0.02	<0.02	d	d
Chromium	150	<0.08	<0.02	<0.02	d	d
Copper	150	<0.08	<0.02	<0.02	d	d
Ethylbenzene	1	0.005U	0.005U	0.005U	29	0
Iron	150	4.08	0.0712	<0.380	d	d
Trichlorofluoromethane	1	0.005U	0.005U	0.005U	d	d
Mercury	398	0.0132	<0.0002	<0.0005	0.00015	0
Potassium	150	<8.0	<2.0	<2.2	d	d
Lithium	150	0.0504	<0.01	<0.01	d	d
Methylene chloride	1	0.005U	0.005U	0.005U	16	0
Magnesium	150	13.1	5.08	11.3	d	d
Manganese	150	0.541	0.0136	0.0580	d	d
Molybdenum	150	<0.2	<0.05	<0.05	d	d
Sodium	150	23.6	4.46	10.3	d	d
Ammonia as Nitrogen	149	4.42	<0.2	<0.2	d	d
Nickel	150	<0.2	<0.05	<0.05	d	d
Nitrate/Nitrite as Nitrogen	150	1.96	<0.05	<0.8	10	0
Lead	150	<0.4	<0.1	<0.1	d	d
Antimony	150	<0.8	<0.2	<0.2	d	d
Selenium	150	<0.8	<0.2	<0.2	d	d
Strontium	150	0.145	0.06	0.1	d	d
Suspended Solids	150	228.0	<1.0	<10	d	d
trans-1,2-Dichloroethene	1	0.005U	0.005U	0.005U	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.23. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
trans-1,3-Dichloropropene	1	0.005U	0.005U	0.005U	1.7	0
Thorium	150	<0.8	<0.2	<0.2	d	d
Titanium	150	<0.2	<0.05	<0.05	d	d
Thallium	150	<0.8	<0.2	<0.2	d	d
Toluene	1	0.005U	0.005U	0.005U	d	d
Trichloroethene	1	0.005U	0.005U	0.005U	0.807	0
Vanadium	150	<0.08	<0.02	<0.02	d	d
Vinyl chloride	1	0.005U	0.005U	0.005U	d	d
Zinc	150	0.208	<0.05	<0.05	d	d
Zirconium	150	<0.8	<0.2	<0.2	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.24. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	52	9.9	+/-3.5	-0.23*	+/-2.7	3.7	0.37	e	4.3E-02
Americium-241 (pCi/L)	52	0.39	+/-.25	-0.0051*	+/-.16	0.14	0.013	0.48	1.7E-03
Beta activity (pCi/L)	52	17.0	+/-5.6	-8.8*	+/-5.5	4.3	0.63	e	5.1E-02
Cobalt-60 (pCi/L)	52	3.4*	+/-2.7	-2.4*	+/-2.6	0.76	0.16	0.015	8.9E-03
Cesium-137 (pCi/L)	52	2.2*	+/-2.4	-1.4*	+/-2.1	0.61	0.11	0.020	7.2E-03
Gamma Activity (pCi/L)	52	39.0	+/-16	-16.0*	+/-16	3.52	1.41	e	4.13E-02
Neptunium-237 (pCi/L)	52	1.6	+/-.44	-0.19*	+/-.16	-0.010	0.033	-0.034	-1.2E-04
Plutonium-238 (pCi/L)	52	0.38	+/-.22	-0.12*	+/-.12	0.023	0.014	0.057	2.7E-04
Plutonium-239/240 (pCi/L)	52	0.19*	+/-.16	-0.084*	+/-.069	0.0078	0.0067	0.026	9.1E-05
Radium-226 (pCi/L)	52	1.3	+/-1.5	-0.36*	+/-1.1	0.21	0.044	0.22	2.5E-03
Radium-228 (pCi/L)	52	11.0	+/-9	-3.2*	+/-.89	0.85	0.25	0.85	1.0E-02
Strontium-89/90 (pCi/L)	52	14.0	+/-3.8	-4.9*	+/-2.7	0.018	0.37	e	2.1E-04
Total Radium Alpha (pCi/L)	52	0.84*	+/-.71	-0.084*	+/-.13	0.28	0.027	e	3.3E-03
Technetium-99 (pCi/L)	52	15.0	+/-8.9	-9.4*	+/-11	2.1	0.68	0.0021	2.5E-02
Thorium-228 (pCi/L)	52	3.7	+/-.92	-0.27*	+/-.21	0.078	0.075	0.020	9.2E-04
Thorium-230 (pCi/L)	52	6.1	+/-1.7	-0.14*	+/-.2	0.64	0.13	0.21	7.5E-03
Thorium-232 (pCi/L)	52	0.11*	+/-.18	-0.14*	+/-.14	0.0007	0.0069	0.0013	7.7E-06
Thorium-234 (pCi/L)	52	7.7	+/-1.2	0.35	+/-.23	2.5	0.24	0.025	2.9E-02
Tritium (pCi/L)	52	830.0	+/-560	-880.0*	+/-450	171.4	40.53	0.008600	2.010E+00
Uranium-234 (pCi/L)	52	2.7	+/-.6	0.24*	+/-.27	1.2	0.087	0.24	1.4E-02
Uranium-235 (pCi/L)	52	0.29	+/-.22	-0.069*	+/-.13	0.068	0.010	0.011	8.0E-04
Uranium-238 (pCi/L)	52	7.7	+/-1.2	0.35	+/-.23	2.5	0.24	0.41	2.9E-02

(e) Not applicable
* Provisional Result

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Table 4.25. Y-12 Complex Category I Outfalls
From: 2001/01/01 To: 2001/12/31

Outfall	Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
003	Flow, mgd	2	0.0023	0.0023	0.0023	d	d
	pH, Standard Units	2	7.5	7.3	d	9/ 4(e)	0
006	Flow, mgd	2	0.0011	0.0008	0.001	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
007	Flow, mgd	2	0.0266	0.0228	0.0247	d	d
	pH, Standard Units	2	8.7	7.8	d	9/ 4(e)	0
008	Flow, mgd	2	0.0011	0.0002	0.0007	d	d
	pH, Standard Units	3	7.6	7.2	d	9/ 4(e)	0
009	Flow, mgd	2	0.0457	0.0008	0.0232	d	d
	pH, Standard Units	2	8.3	7.9	d	9/ 4(e)	0
011	Flow, mgd	1	0.000047	0.000047	0.000047	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
015	Outfall closed						
018	Outfall closed						
032	Outfall was eliminated						
033	Flow, mgd	2	0.0023	0.001	0.002	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
045	Flow, mgd	2	0.0144	0.0114	0.0129	d	d
	pH, Standard Units	2	8.1	7.6	d	9/ 4(e)	0

Table 4.25. Y-12 Complex Category I Outfalls (continued)

046	Flow, mgd	2	0.0019	0.0004	0.0011	d	d
	pH, Standard Units	2	8.1	7.3	d	9/ 4(e)	0
058	Flow, mgd	2	0.0114	0.0057	0.0086	d	d
	pH, Standard Units	2	8.9	8.5	d	9/ 4(e)	0
062	Flow, mgd	2	0.0006	0.0001	0.0003	d	d
	pH, Standard Units	2	8.1	8.1	d	9/ 4(e)	0
086	Flow, mgd	2	0.0007	0.0002	0.0005	d	d
	pH, Standard Units	2	8.0	7.8	d	9/ 4(e)	0
087	Flow, mgd	2	0.0091	0.0057	0.0074	d	d
	pH, Standard Units	2	8.5	8.0	d	9/ 4(e)	0
098	Flow, mgd	2	0.0091	0.0001	0.0046	d	d
	pH, Standard Units	2	8.0	7.5	d	9/ 4(e)	0
110	Flow, mgd	3	0.0457	0.0002	0.02	d	d
	pH, Standard Units	3	8.0	7.1	d	9/ 4(e)	0
134	Flow, mgd	3	0.006	0.0008	0.003	d	d
	pH, Standard Units	3	7.9	7.6	d	9/ 4(e)	0
213	Flow, mgd	2	0.0011	0.001	0.0011	d	d
	pH, Standard Units	2	7.3	7.3	d	9/ 4(e)	0
S01	Flow, mgd	2	0.0228	0.0015	0.012	d	d
	pH, Standard Units	2	7.6	7.1	d	9/ 4(e)	0
S03	Flow, mgd	2	0.0513	0.0002	0.03	d	d
	pH, Standard Units	2	8.3	8.0	d	9/ 4(e)	0

Table 4.25. Y-12 Complex Category I Outfalls (continued)

S04	Flow, mgd	2	0.0864	0.0011	0.044	d	d
	pH, Standard Units	2	8.0	7.9	d	9/ 4(e)	0
S06	Flow, mgd	368	6.3	0.0087	0.19	d	d
	pH, Standard Units	17	8.27	7.13	d	9/ 4(e)	0
S07	Flow, mgd	114	0.792	0.0027	0.047	d	d
	pH, Standard Units	5	8.45	7.6	d	9/ 4(e)	0
S09	Flow, mgd	2	0.036	0.003	0.02	d	d
	pH, Standard Units	2	7.6	7.4	d	9/ 4(e)	0
S15	Flow, mgd	2	0.0019	0.0001	0.001	d	d
	pH, Standard Units	2	7.9	7.3	d	10/ 6(e)	0
S16	Flow, mgd	2	0.0057	0.0001	0.003	d	d
	pH, Standard Units	2	7.0	6.9	d	10/ 6(e)	0
S18	Flow, mgd	2	0.792	0.1382	0.465	d	d
	pH, Standard Units	2	8.1	8.0	d	9/ 4(e)	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.26. Y-12 Complex Category II Outfalls
From: 2001/01/01 To: 2001/12/31

Outfall	Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
004	Flow, mgd	4	0.0125	0.0004	0.005	d	d
	pH, Standard Units	4	8.0	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	4	0.16	<0.05	<0.08	0.5	0
010	Flow, mgd	4	0.0114	0.0019	0.0053	d	d
	pH, Standard Units	4	7.8	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
014	Flow, mgd	4	0.0432	0.0019	0.0146	d	d
	pH, Standard Units	4	7.9	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
016	Flow, mgd	4	0.0015	0.0001	0.0006	d	d
	pH, Standard Units	4	7.8	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
019	Flow, mgd	6	0.742	0.0004	0.2	d	d
	pH, Standard Units	6	8.3	7.6	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
020	Flow, mgd	5	0.187	0.0001	0.05	d	d
	pH, Standard Units	5	7.9	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
041	Flow, mgd	6	0.0543	0.0002	0.01	d	d
	pH, Standard Units	6	8.0	7.0	d	9/ 4(e)	0
	Total Residual Chlorine	3	<0.05	<0.05	<0.05	0.5	0
044	Flow, mgd	4	0.0114	0.0001	0.003	d	d
	pH, Standard Units	4	7.9	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0

Table 4.26. Y-12 Complex Category II Outfalls (continued)

057	Flow, mgd	4	0.0004	0.0001	0.0002	d	d
	pH, Standard Units	4	7.9	7.0	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
063	Flow, mgd	4	0.0015	0.000048	0.0006	d	d
	pH, Standard Units	4	7.6	7.0	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
064	Flow, mgd	4	0.0004	0.0001	0.0002	d	d
	pH, Standard Units	4	7.8	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
067	Flow, mgd	5	0.043	0.0004	0.02	d	d
	pH, Standard Units	5	8.1	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
083	Flow, mgd	4	0.0008	0.000048	0.0003	d	d
	pH, Standard Units	4	7.8	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
088	Flow, mgd	4	0.0057	0.0002	0.0019	d	d
	pH, Standard Units	4	8.2	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
099	Flow, mgd	5	0.12	0.0004	0.03	d	d
	pH, Standard Units	5	7.7	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
102	Flow, mgd	5	0.232	0.0011	0.084	d	d
	pH, Standard Units	5	7.8	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0

Table 4.26. Y-12 Complex Category II Outfalls (continued)

126	Flow, mgd	4	0.0029	0.0001	0.001	d	d
	pH, Standard Units	4	7.7	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
S02	Flow, mgd	365	0.653	0.0004	0.02	d	d
	pH, Standard Units	16	8.45	6.43	d	9/ 4(e)	0
	Total Residual Chlorine	4	0.12	<0.05	<0.07	0.5	0
S08	Flow, mgd	254	3.93	0.00005	0.1	d	d
	pH, Standard Units	12	8.77	7.1	d	9/ 4(e)	0
S10	Flow, mgd	4	0.0236	0.0085	0.014	d	d
	pH, Standard Units	4	7.8	7.0	d	9/ 4(e)	0
S11	Flow, mgd	4	1.4544	0.0009	0.4	d	d
	pH, Standard Units	4	7.4	6.8	d	9/ 4(e)	0
S12	Flow, mgd	4	0.0274	0.000036	0.007	d	d
	pH, Standard Units	4	7.7	6.3	d	9/ 4(e)	0
S13	Flow, mgd	5	0.752	0.0003	0.2	d	d
	pH, Standard Units	7	8.86	7.2	d	9/ 4(e)	0
S17	Flow, mgd	5	0.5928	0.0866	0.293	d	d
	pH, Standard Units	5	7.7	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	1	<0.05	<0.05	<0.05	0.5	0
S20	Flow, mgd	4	0.144	0.0004	0.04	d	d
	pH, Standard Units	4	7.7	6.8	d	9/ 4(e)	0
S21	Outfall eliminated						
S22	Flow, mgd	4	0.0046	0.0004	0.002	d	d
	pH, Standard Units	4	7.8	7.4	d	10/ 6(e)	0

Table 4.26. Y-12 Complex Category II Outfalls (continued)

S24	Flow, mgd	168	62.71	0.00002	2	d	d
	pH, Standard Units	7	8.55	7.3	d	9/ 4(e)	0
S25	Flow, mgd	4	0.072	0.0008	0.04	d	d
	pH, Standard Units	5	8.0	7.3	d	10/ 6(e)	0
S26	Flow, mgd	4	0.0076	0.0002	0.002	d	d
	pH, Standard Units	4	7.8	7.3	d	10/ 6(e)	0
S27	Flow, mgd	4	0.288	0.0015	0.075	d	d
	pH, Standard Units	5	8.0	7.6	d	10/ 6(e)	0
S28	Flow, mgd	4	0.1152	0.0114	0.0412	d	d
	pH, Standard Units	4	7.9	7.5	d	10/ 6(e)	0
S29	Flow, mgd	4	0.1584	0.0002	0.05	d	d
	pH, Standard Units	4	7.7	7.2	d	10/ 6(e)	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.27. Y-12 Complex Category III Outfalls
From: 2001/01/01 To: 2001/12/31

Outfall	Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
002	Flow, mgd	13	0.4212	0.0137	0.135	d	d
	pH, Standard Units	13	7.9	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
034	Flow, mgd	15	0.6628	0.0837	0.160	d	d
	pH, Standard Units	15	7.9	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
042	Flow, mgd	13	0.0883	0.0001	0.01	d	d
	pH, Standard Units	13	8.2	7.7	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
047	Flow, mgd	12	0.0864	0.0171	0.0454	d	d
	pH, Standard Units	12	7.8	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
048	Flow, mgd	11	0.144	0.0003	0.02	d	d
	pH, Standard Units	11	8.1	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	11	<0.05	<0.05	<0.05	0.5	0
054	Flow, mgd	13	0.0104	0.0011	0.0025	d	d
	pH, Standard Units	13	8.1	6.5	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
071	Flow, mgd	13	0.0188	0.0086	0.012	d	d
	pH, Standard Units	13	8.1	7.7	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
109	Flow, mgd	17	5.62	0.0837	0.477	d	d
	pH, Standard Units	17	8.1	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	12	0.129	<0.05	<0.06	0.5	0

Table 4.27. Y-12 Complex Category III Outfalls (continued)

113	Flow, mgd	11	0.0114	0.0000025	0.0025	d	d
	pH, Standard Units	11	8.4	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	11	<0.05	<0.05	<0.05	0.5	0
114	Flow, mgd	14	1.692	0.0046	0.14	d	d
	pH, Standard Units	14	8.2	7.6	d	9/ 4(e)	0
	Total Residual Chlorine	12	0.12	<0.05	<0.06	0.5	0
S05	Flow, mgd	13	0.0799	0.0017	0.026	d	d
	pH, Standard Units	26	8.48	5.8	d	9/ 4(e)	0
	Total Residual Chlorine	9	<0.05	<0.05	<0.05	0.5	0
S14	Flow, mgd	13	3.476	0.0029	0.34	d	d
	pH, Standard Units	15	8.7	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	9	<0.05	<0.05	<0.05	0.5	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.28. Y-12 Complex Discharge Point S17, UNNAMED TRIBUTARY TO THE CLINCH RIVER
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	12	12.0	+/-4.5	0.62*	+/-1.8	4.6	0.97	e	1.8E-03
Americium-241 (pCi/L)	12	0.23*	+/-.22	0.012*	+/-.25	0.15	0.024	0.48	5.9E-05
Beta activity (pCi/L)	12	24.0	+/-6.4	-3.7*	+/-5.2	4.3	2.1	e	1.7E-03
Cobalt-60 (pCi/L)	12	2.1*	+/-1.7	-1.8*	+/-2.2	0.35	0.36	0.0070	1.4E-04
Cesium-137 (pCi/L)	12	2.4*	+/-1.8	-1.9*	+/-2	0.52	0.37	0.017	2.1E-04
Gamma Activity (pCi/L)	12	10.0*	+/-15	-10.0*	+/-15	0.751	2.02	e	3.04E-04
Neptunium-237 (pCi/L)	12	0.56	+/-.28	-0.1*	+/-.13	0.02	0.05	0.07	9E-06
Plutonium-238 (pCi/L)	12	0.08	+/-.092	-0.079*	+/-.071	0.02	0.01	0.05	8E-06
Plutonium-239/240 (pCi/L)	12	0.061*	+/-.1	-0.092*	+/-.18	-0.0084	0.012	-0.028	-3.4E-06
Radium-226 (pCi/L)	12	0.82	+/-.83	-2.5*	+/-1.9	-0.075	0.240	-0.075	-3.0E-05
Radium-228 (pCi/L)	12	2.2*	+/-1.7	-0.43*	+/-1.1	0.86	0.25	0.86	3.5E-04
Strontium-89/90 (pCi/L)	12	7.7	+/-2.3	-9.1*	+/-3.9	0.12	1.1	e	4.9E-05
Total Radium Alpha (pCi/L)	12	0.57	+/-.33	-0.072*	+/-.15	0.25	0.060	e	1.0E-04
Technetium-99 (pCi/L)	11	10.0*	+/-7.7	-5.2*	+/-7.9	0.93	1.2	0.00090	3.8E-04
Thorium-228 (pCi/L)	12	0.42*	+/-.6	-0.37*	+/-.41	-0.013	0.052	-0.0033	-5.4E-06
Thorium-230 (pCi/L)	12	1.9	+/-.91	0.12*	+/-.15	0.55	0.15	0.18	2.2E-04
Thorium-232 (pCi/L)	12	0.011*	+/-.088	-0.15*	+/-.18	-0.036	0.015	-0.073	-1.5E-05
Thorium-234 (pCi/L)	12	0.68	+/-.27	0.16*	+/-.15	0.38	0.044	0.0038	1.5E-04
Tritium (pCi/L)	12	670.0*	+/-510	-350.0*	+/-480	199.9	89.62	0.01000	8.090E-02
Uranium-234 (pCi/L)	12	6.6	+/-1.1	0.52	+/-.27	3.1	0.55	0.61	1.2E-03
Uranium-235 (pCi/L)	12	0.22*	+/-.19	-0.041*	+/-.082	0.067	0.023	0.011	2.7E-05
Uranium-238 (pCi/L)	12	0.68	+/-.27	0.16*	+/-.15	0.38	0.044	0.063	1.5E-04

(e) Not applicable
* Provisional Result

Table 4.29. Y-12 Complex Discharge Point S19, S19, ROGER'S QUARRY
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	0.613	0.029	0.11	d	d
pH, Standard Unit	13	8.3	7.5	d	9/ 6(e)	0
Silver	13	<0.02	<0.02	<0.02	d	d
Aluminum	13	0.267	<0.2	<0.2	d	d
Arsenic	13	<0.2	<0.2	<0.2	d	d
Boron	13	<0.1	<0.1	<0.1	d	d
Barium	13	0.0583	0.0502	0.0535	d	d
Beryllium	13	<0.0005	<0.0005	<0.0005	d	d
Calcium	13	40.1	31.7	36.3	d	d
Cadmium	13	<0.01	<0.01	<0.01	d	d
CARBON MONOXIDE	13	<0.02	<0.02	<0.02	d	d
Chromium	13	<0.02	<0.02	<0.02	d	d
Copper	13	<0.02	<0.02	<0.02	d	d
Iron	13	0.225	<0.05	<0.08	d	d
Potassium	13	2.09	<2.0	<2.0	d	d
Lithium	13	0.014	0.0123	0.013	d	d
Magnesium	13	11.7	10.6	11.2	d	d
Manganese	13	0.252	0.0394	0.109	d	d
Molybdenum	13	<0.05	<0.05	<0.05	d	d
Sodium	13	2.12	1.56	1.84	d	d
Nickel	13	<0.05	<0.05	<0.05	d	d
Lead	13	<0.1	<0.1	<0.1	d	d
Antimony	13	<0.2	<0.2	<0.2	d	d
Strontium	13	0.231	0.202	0.216	d	d
Thallium	13	<0.2	<0.2	<0.2	d	d
Vanadium	13	<0.02	<0.02	<0.02	d	d
Zinc	13	<0.05	<0.05	<0.05	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.30. Y-12 Complex Discharge Point S19, S19, ROGER'S QUARRY
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	12	12.0	+/-3.8	-1.6*	+/-2.2	1.3	1.1	e	1.9E-04
Americium-241 (pCi/L)	12	0.26	+/-.18	-0.08*	+/-.16	0.1	0.03	0.3	2E-05
Beta activity (pCi/L)	12	11.0	+/-5.8	-6.7*	+/-5.4	1.8	1.4	e	2.8E-04
Cobalt-60 (pCi/L)	12	2.2*	+/-1.9	-1.6*	+/-2.1	0.53	0.30	0.011	8.2E-05
Cesium-137 (pCi/L)	12	2.1*	+/-2.1	-0.55*	+/-1.7	0.70	0.25	0.023	1.1E-04
Gamma Activity (pCi/L)	12	10.0*	+/-15	-13.0*	+/-15	-0.478	1.98	e	-7.38E-05
Neptunium-237 (pCi/L)	12	0.023*	+/-.13	-0.1*	+/-.17	-0.03	0.01	-0.1	-5E-06
Plutonium-238 (pCi/L)	12	0.39	+/-.2	-0.053*	+/-.061	0.044	0.041	0.11	6.7E-06
Plutonium-239/240 (pCi/L)	12	0.096	+/-.11	-0.047*	+/-.055	0.0059	0.011	0.020	9.2E-07
Radium-226 (pCi/L)	12	1.2	+/-1.5	-0.091*	+/-.19	0.35	0.11	0.35	5.4E-05
Radium-228 (pCi/L)	12	1.5*	+/-.8	-0.64*	+/-.91	0.55	0.22	0.55	8.4E-05
Strontium-89/90 (pCi/L)	12	2.9*	+/-2.9	-5.0*	+/-5.1	0.36	0.56	e	5.5E-05
Total Radium Alpha (pCi/L)	12	0.68	+/-.4	0.001*	+/-.14	0.3	0.05	e	4E-05
Technetium-99 (pCi/L)	12	11.0*	+/-8	-12.0*	+/-7.7	-0.652	2.02	-0.000700	-1.01E-04
Thorium-228 (pCi/L)	12	0.21*	+/-.35	-0.18*	+/-.24	-0.030	0.0296	-0.0076	-4.7E-06
Thorium-230 (pCi/L)	12	1.7	+/-.57	0.038*	+/-.2	0.55	0.17	0.18	8.5E-05
Thorium-232 (pCi/L)	12	0.039*	+/-.094	-0.023*	+/-.047	0.0071	0.0060	0.014	1.1E-06
Thorium-234 (pCi/L)	12	0.26	+/-.17	0.0066*	+/-.13	0.17	0.023	0.0017	2.6E-05
Tritium (pCi/L)	12	280.0*	+/-500	-270.0*	+/-470	97.67	53.50	0.004900	1.510E-02
Uranium-234 (pCi/L)	12	0.35	+/-.21	0.065*	+/-.15	0.24	0.026	0.049	3.8E-05
Uranium-235 (pCi/L)	12	0.037*	+/-.073	-0.039*	+/-.078	0.0040	0.0076	0.00070	6.2E-07
Uranium-238 (pCi/L)	12	0.26	+/-.17	0.0066*	+/-.13	0.17	0.023	0.028	2.6E-05

(e) Not applicable
* Provisional Result

Table 4.31. Y-12 Complex Discharge Point SS6, SANITARY SEWER STATION 6
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, gpd	365	2031000	304000	587000	d	d
pH, Std Unit	51	7.8	6.6	d	9/ 6(e)	0
Silver	52	0.0325	0.0005	0.005	0.1	0
Arsenic	52	0.0057	<0.002	<0.002	0.015	0
Boron	52	<0.1	<0.1	<0.1	d	d
Barium	1	0.0487	0.0487	0.0487	d	d
Beryllium	52	<0.0005	<0.0002	<0.0004	d	d
Benzene	12	<0.005	<0.005	<0.005	0.015	0
Biochemical Oxygen Demand	52	120.0	13.0	39.7	300	
Cadmium	52	<0.001	<0.001	<0.001	0.005	0
Cobalt	11	0.0009	0.0003	0.0006	d	d
Chromium	52	0.0094	<0.004	<0.004	0.075	0
Copper	52	0.0441	0.0109	0.0229	0.21	0
Cyanide	12	<0.02	<0.01	<0.01	0.062	0
Iron	52	5.3	0.142	0.71	15	0
Mercury	52	0.0022	<0.0002	<0.0004	0.035	0
Kjeldahl Nitrogen	52	19.9	2.04	11.5	90	0
Methylene chloride	12	<0.005	<0.005	<0.005	0.041	0
Manganese	52	0.121	0.0201	0.0361	d	d
Nickel	52	0.0183	<0.002	<0.004	0.032	0
Nitrate/Nitrite as Nitrogen	52	1.73	0.214	0.713	10	0
Oil and Grease	52	23.9	<5.7	<8.2	50	0
Lead	52	0.0252	<0.0002	<0.002	0.074	0
Phenols - Total Recoverable	52	0.0171	<0.005	<0.008	0.5	0
Selenium	52	<0.2	<0.002	<0.09	d	d
Suspended Solids	52	139.0	11.8	47.5	300	0
Toluene	12	<0.005	<0.005	<0.005	0.02	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.32. Y-12 Complex Discharge Point SS6, SANITARY SEWER STATION 6
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Trichloroethene	12	<0.005	<0.005	<0.005	0.027	0
Zinc	52	0.173	0.0317	0.0793	0.75	0

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.33. Y-12 Complex Discharge Point SS6, SANITARY SEWER STATION 6
From: 2001/01/01 To: 2001/12/31

Number of Parameter	Concentration Samples	Max	+/-	Percentage of Min	+/-	Average	Standard Error	DCG	Total Curies
Alpha activity (pCi/L)	52	15.0*	+/-6.5	-16.0*	+/-16	3.47	0.675	e	2.81E-03
Beta activity (pCi/L)	52	41.0*	+/-42	-18.0*	+/-44	6.56	1.11	e	5.31E-03
Cobalt-60 (pCi/L)	1	-2.5*	+/-11	-2.5*	+/-11	-2.5		-0.05	-2.03E-03
Cesium-137 (pCi/L)	1	-11.0*	+/-11	-11.0*	+/-11	-11.0		-0.3667	-8.91E-03
Gamma Activity (pCi/L)	52	23.0*	+/-16	-12.0*	+/-16	3.71	1.26	e	3.00E-03
Plutonium-238 (pCi/L)	1	0.1*	+/-.098	0.1*	+/-.098	0.1		0.2	8.E-05
Plutonium-239/240 (pCi/L)	1	0.0*	+/-0	0.0*	+/-0	0.0		0.0	0.0E+00
Radium-228 (pCi/L)	1	83.0	+/-63	83.0	+/-63	83.0		83.0	6.72E-02
Uranium-234 (pCi/L)	52	5.8	+/-1.1	0.92	+/-.5	2.5	0.15	0.50	2.0E-03
Uranium-235 (pCi/L)	52	0.37	+/-.25	-0.055*	+/-.079	0.078	0.012	0.013	6.3E-05
Uranium-238 (pCi/L)	52	8.0	+/-1.3	0.42	+/-.28	1.6	0.16	0.27	1.3E-03

(e) Not applicable
* Provisional Result

Table 4.34. Y-12 Complex Discharge Point STA304, STATION 304, BEAR CREEK AT HIGHWAY 95.
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Flow, mgd	365	76.318	0.294	3.65	d	d
pH, Std Unit	24	8.4	7.0	d	9/ 6(e)	0
Silver	13	<0.02	<0.02	<0.02	0.0041	0
Aluminum	13	11.7	<0.2	<2	d	d
Arsenic	13	<0.2	<0.2	<0.2	0.0014	0
Boron	13	<0.1	<0.1	<0.1	d	d
Barium	13	0.116	0.0464	0.0700	d	d
Beryllium	13	<0.0005	<0.0005	<0.0005	0.0013	0
Calcium	13	63.2	39.1	48.5	d	d
Cadmium	13	<0.01	<0.01	<0.01	0.0039	0
Chloride	12	14.1	4.83	7.60	d	d
CARBON MONOXIDE	13	<0.02	<0.02	<0.02	d	d
Chromium	13	0.0212	<0.02	<0.02	0.016	0
Copper	13	<0.02	<0.02	<0.02	0.0177	0
Iron	13	8.59	0.0679	1.51	d	d
Mercury	13	<0.0002	<0.0002	<0.0002	0.00015	0
Potassium	13	5.28	<2.0	<2.4	d	d
Lithium	13	0.0136	<0.01	<0.01	d	d
Magnesium	13	17.8	10.4	13.3	d	d
Manganese	13	0.174	0.0107	0.0607	d	d
Molybdenum	13	<0.05	<0.05	<0.05	d	d
Sodium	13	7.46	3.05	4.49	d	d
Nickel	13	<0.05	<0.05	<0.05	1.418	0
Nitrite as Nitrogen	12	<0.38	<0.015	<0.17	d	d
Nitrate as Nitrogen	12	9.04	0.842	2.75	d	d
Lead	13	<0.1	<0.1	<0.1	0.0817	0
Phenols - Total Recoverable	13	<0.01	<0.005	<0.006	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

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Table 4.35. Y-12 Complex Discharge Point STA304, STATION 304, BEAR CREEK AT HIGHWAY 95
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration(a) Max	Min	Avg	Reference Value(b)	Number of Values Exceeding Reference
Antimony	13	<0.2	<0.2	<0.2	4.31	0
Selenium	13	<0.2	<0.2	<0.2	0.02	0
Strontium	13	0.128	0.0598	0.0824	d	d
Sulfate	12	17.0	4.98	10.2	d	d
Suspended Solids	13	77.0	<1.0	<13	d	d
Thorium	13	<0.2	<0.2	<0.2	d	d
Titanium	13	0.132	<0.05	<0.06	d	d
Thallium	13	<0.2	<0.2	<0.2	0.0063	0
Vanadium	13	<0.02	<0.02	<0.02	d	d
Zinc	13	<0.05	<0.05	<0.05	0.117	0
Zirconium	13	<0.2	<0.2	<0.2	d	d

(a) Units in mg/L unless otherwise indicated.
(b) NPDES permit limits.
(c) Flow during operations and/or discharging.
(d) Not applicable.
(e) Maximum value/minimum value.

Table 4.36. Y-12 Complex Discharge Point STA304, STATION 304, BEAR CREEK AT HIGHWAY 95.
From: 2001/01/01 To: 2001/12/31

Parameter	Number of Samples	Concentration Max	+/-	Min	+/-	Average	Standard Error	Percentage of DCG	Total Curies
Alpha activity (pCi/L)	12	27.0	+/-5.6	4.1	+/-2.9	13	2.0	e	6.4E-02
Americium-241 (pCi/L)	12	0.18*	+/-.18	-0.058*	+/-.17	0.080	0.021	0.27	4.0E-04
Beta activity (pCi/L)	12	35.0	+/-6.8	4.9*	+/-4.2	18	3.0	e	9.0E-02
Cobalt-60 (pCi/L)	12	1.5*	+/-2.2	-1.0*	+/-2.1	0.38	0.22	0.0076	1.9E-03
Cesium-137 (pCi/L)	12	2.0*	+/-2	-1.1*	+/-2.3	0.14	0.25	0.0047	7.1E-04
Gamma Activity (pCi/L)	12	9.6*	+/-15	-8.0*	+/-14	2.6	1.3	e	1.3E-02
Neptunium-237 (pCi/L)	12	0.16*	+/-.15	-0.06*	+/-.12	0.001	0.02	0.004	5E-06
Plutonium-238 (pCi/L)	12	0.18*	+/-.2	-0.036*	+/-.069	0.043	0.018	0.11	2.2E-04
Plutonium-239/240 (pCi/L)	12	0.085	+/-.098	-0.088*	+/-.079	0.012	0.012	0.042	6.3E-05
Radium-226 (pCi/L)	12	0.63*	+/-.84	-0.023*	+/-.024	0.31	0.056	0.31	1.6E-03
Radium-228 (pCi/L)	12	2.0*	+/-1.3	-0.38*	+/-.74	0.67	0.18	0.67	3.4E-03
Strontium-89/90 (pCi/L)	12	4.3	+/-2.5	-12.0*	+/-4.9	-0.69	1.1	e	-3.5E-03
Total Radium Alpha (pCi/L)	12	0.62	+/-.35	-1.3*	+/-1.8	0.18	0.14	e	9.3E-04
Technetium-99 (pCi/L)	12	42.0	+/-8.8	0.77*	+/-8.1	13	3.3	0.013	6.8E-02
Thorium-228 (pCi/L)	12	1.0	+/-.46	-0.14*	+/-.16	0.17	0.10	0.042	8.5E-04
Thorium-230 (pCi/L)	12	1.0	+/-.46	0.079*	+/-.11	0.41	0.10	0.14	2.1E-03
Thorium-232 (pCi/L)	12	0.079*	+/-.11	-0.045*	+/-.091	0.013	0.012	0.025	6.4E-05
Thorium-234 (pCi/L)	12	17.0	+/-2	1.8	+/-.42	8.6	1.3	0.086	4.3E-02
Tritium (pCi/L)	12	570.0*	+/-600	-60.0*	+/-490	234	65.1	0.0117	1.18E+00
Uranium-234 (pCi/L)	12	7.3	+/-1.1	1.3	+/-.34	4.2	0.57	0.83	2.1E-02
Uranium-235 (pCi/L)	12	0.51	+/-.26	0.015*	+/-.084	0.23	0.044	0.039	1.2E-03
Uranium-238 (pCi/L)	12	17.0	+/-2	1.8	+/-.42	8.6	1.3	1.4	4.3E-02

(e) Not applicable
* Provisional Result

Table 4.37. Storm Water Data Above Screening Levels

Location (Outfall) *011*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Phosphorus	2/16/01 7:25:00 AM	.127	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Total Suspended Solids	2/16/01 7:25:00 AM	81.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433

Location (Outfall) *017*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Nitrate as Nitrogen	5/23/01 9:57:00 AM	10.3	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrate as Nitrogen	5/22/01 10:25:00 AM	11.7	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23

Location (Outfall) *019*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Fecal Coliform Bacteria	6/6/01 3:05:00 PM	1820.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	6/7/01 2:05:00 PM	.124	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	5/31/01 8:45:00 AM	.433	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *020*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
PCB	6/2/01 7:45:00 AM	.0017	mg/L	0.00044	ug/L	TN Water Quality Criteria/Recreation
Zinc	6/2/01 7:45:00 AM	.171	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	5/31/01 9:15:00 AM	.398	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Table 4.37 (continued)

Location (Outfall) *041*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Copper	8/24/01 10:15:00 AM	.372	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Copper	9/19/01 9:25:00 AM	.0721	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Copper	9/19/01 12:35:00 PM	.0574	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Copper	6/6/01 2:55:00 PM	.0551	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Fecal Coliform Bacteria	9/19/01 9:25:00 AM	2200.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Fecal Coliform Bacteria	6/6/01 2:55:00 PM	3300.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Lead	8/24/01 10:15:00 AM	.141	mg/L	0.0871	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Mercury	8/24/01 10:15:00 AM	.000291	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Phosphorus	9/19/01 12:35:00 PM	.145	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Total Suspended Solids	8/24/01 10:15:00 AM	249.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Zinc	9/19/01 12:35:00 PM	.345	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	8/24/01 10:15:00 AM	2.55	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	9/19/01 9:25:00 AM	.471	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	6/6/01 2:55:00 PM	.316	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *042*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Fecal Coliform Bacteria	5/19/01 6:45:00 PM	27000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation

Location (Outfall) *054*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Copper	1/30/01 5:45:00 AM	.173	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Copper	1/29/01 10:30:00 PM	.0479	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Table 4.37 (continued)

Location (Outfall) *099*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Zinc	9/19/01 2:00:00 PM	.123	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *102*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Fecal Coliform Bacteria	8/24/01 10:15:00 AM	1910.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Zinc	8/24/01 10:15:00 AM	.174	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *110*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Zinc	3/13/01 8:30:00 AM	.24	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *114*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Copper	8/24/01 9:50:00 AM	.0255	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Fecal Coliform Bacteria	8/24/01 9:50:00 AM	11000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Mercury	8/24/01 4:35:00 PM	.000293	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Mercury	5/31/01 8:55:00 AM	.000282	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
PCB	8/24/01 9:50:00 AM	.00014	mg/L	0.00044	ug/L	TN Water Quality Criteria/Recreation
Phosphorus	8/24/01 4:35:00 PM	.105	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	8/24/01 4:35:00 PM	.159	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	8/24/01 9:50:00 AM	.164	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Zinc	5/31/01 8:55:00 AM	.134	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Table 4.37. (continued)

Location (Outfall) *125*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Copper	3/12/01 3:00:00 PM	.0345	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Copper	3/13/01 8:15:00 AM	.0247	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish & Aquatic Life

Location (Outfall) *213*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Mercury	5/7/01 7:53:00 AM	.000482	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation

Location (Outfall) *S06*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Alpha activity	3/13/01 12:05:00 PM	69.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Cadmium	3/13/01 12:05:00 PM	.0101	mg/L	0.0039	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Cadmium	3/12/01 2:08:00 PM	.0107	mg/L	0.0039	mg/L	TN Water Quality Criteria/Fish & Aquatic Life
Manganese	3/12/01 2:08:00 PM	1.85	mg/L	0.5	mg/L	NPDES Permit, Part III-A (Toxic Pollutants)
Manganese	3/13/01 12:05:00 PM	1.76	mg/L	0.5	mg/L	NPDES Permit, Part III-A (Toxic Pollutants)
Neptunium-237	3/13/01 12:05:00 PM	1.6	pCi/L	1.5	pCi/L	5% Derived Concentration Guideline
Nitrate as Nitrogen	3/13/01 12:05:00 PM	71.	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrate as Nitrogen	3/12/01 2:08:00 PM	68.7	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Uranium-238	3/13/01 12:05:00 PM	40.	pCi/L	30	pCi/L	5% Derived Concentration Guideline

Location (Outfall) *S09*

Parameter	*Taken Date*	*Result*	*Result Units*	*Screening Level*	*Units*	*Rationale*
Manganese	3/29/01 2:40:00 PM	.601	mg/L	0.5	mg/L	NPDES Permit, Part III-A (Toxic Pollutants)

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.38. REGIME=BC AREA NAME=Bear Creek Burial Grounds WMA

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Chloride	(mg/L)	8	8	139	0.932	45.47288	250	0
Fluoride	(mg/L)	8	3	4.96	0.103	3.251	4	2
Nitrate Nitrogen	(mg/L)	8	1	0.0726	0.0726	0.0726	10	0
Sulfate	(mg/L)	8	8	23.3	1.38	11.03	250	0
Barium, ICAP	(mg/L)	8	8	1.09	0.0304	0.2915	2	0
Boron, ICAP	(mg/L)	8	6	17.2	0.305	4.838667	NR	NA
Calcium, ICAP	(mg/L)	8	8	171	1.2	69.545	NR	NA
Chromium, PMS	(mg/L)	8	4	0.113	0.00289	0.031315	NR	NA
Chromium, ICAP	(mg/L)	8	1	0.0532	0.0532	0.0532	0.1	0
Iron, ICAP	(mg/L)	8	6	1.3	0.0902	0.497033	0.3	3
Lead, PMS	(mg/L)	8	3	0.00907	0.000722	0.003664	0.015	0
Lithium, ICAP	(mg/L)	8	6	0.489	0.0866	0.26355	NR	NA
Magnesium, ICAP	(mg/L)	8	8	17.9	0.24	7.93425	NR	NA
Manganese, ICAP	(mg/L)	8	6	1.4	0.0172	0.395883	0.05	4
Nickel, PMS	(mg/L)	8	4	0.102	0.0253	0.0545	NR	NA
Nickel, ICAP	(mg/L)	8	2	0.0903	0.0568	0.07355	0.1	0
Potassium, ICAP	(mg/L)	8	2	2.35	2.07	2.21	NR	NA
Selenium, PMS	(mg/L)	8	3	0.0232	0.0142	0.017267	0.05	0
Sodium, ICAP	(mg/L)	8	8	312	2.06	80.28125	NR	NA
Strontium, ICAP	(mg/L)	8	8	0.395	0.0164	0.19155	NR	NA
Uranium, PMS	(mg/L)	8	3	0.00282	0.000646	0.002072	0.03	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.38. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Conductivity, field measurement	(umhos/cm)	8	NA	1469	37.4	782.5125	NR	NA
Depth to Water	(ft)	8	NA	25.84	7.04	20.23	NR	NA
Dissolved Oxygen, field measurement	(ppm)	8	NA	5.56	0.39	1.87875	NR	NA
pH, field measurement	(pH)	8	NA	9.03	4.91	6.86125	6.5/8.5	4
REDOX, field measurement	(mV)	8	NA	313	-244	24.75	NR	NA
Static Water Level	(ft - toc)	8	NA	-7.04	-25.84	-20.23	NR	NA
Temperature, field measurement	(Deg C)	8	NA	16.4	12.2	14.175	NR	NA
Alkalinity as CO3	(mg/L)	8	2	90.4	90	90.2	NR	NA
Alkalinity as HCO3	(mg/L)	8	8	478	12.8	264.725	NR	NA
Conductivity	(umhos/cm)	8	8	1236	30.6	708.575	NR	NA
Dissolved Solids	(mg/L)	8	8	723	29	419.25	500	3
pH	(pH)	8	8	9.23	5.52	7.3125	6.5/8.5	4
Total Suspended Solids	(mg/L)	8	1	8	8	8	NR	NA
Turbidity	(NTU)	8	8	19.5	0.332	4.103375	1	5
Uranium-234	(pCi/L)	4	4	1.6	0.0039	0.835975	20	0
Uranium-235	(pCi/L)	4	4	0.047	-0.044	0.00525	24	0
Uranium-238	(pCi/L)	4	4	1.1	0.058	0.5295	24	0
Technetium-99	(pCi/L)	2	2	8.2	8.2	8.2	4000	0
Gross Alpha	(pCi/L)	8	8	2.9	-3.1	-0.17625	15	0
Gross Beta	(pCi/L)	8	8	7.3	-2.4	2.08875	50	0
1,1,1-Trichloroethane	(ug/L)	8	1	7	7	7	200	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.38. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
1,1-Dichloroethane	(ug/L)	8	8	1200	6	210.375	NR	NA
1,1-Dichloroethene	(ug/L)	8	6	27	4	11.16667	7	4
1,2-Dichloroethene (Total)	(ug/L)	8	8	840	6	221.875	NR	NA
Benzene	(ug/L)	8	2	31	8	19.5	5	2
Chloroethane	(ug/L)	8	2	28	18	23	NR	NA
cis-1,2-Dichloroethene	(ug/L)	8	8	840	6	221.875	70	4
Tetrachloroethene	(ug/L)	8	4	390	8	189.5	5	4
Trichloroethene	(ug/L)	8	6	120	3	38.5	5	4
Vinyl chloride	(ug/L)	8	6	240	2	76.5	2	5

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.39. REGIME=BC AREA NAME=Exit Pathway Monitoring Picket/Transect A

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Chloride	(mg/L)	6	6	71.1	12.6	33.4	250	0
Fluoride	(mg/L)	6	5	0.187	0.106	0.1536	4	0
Nitrate Nitrogen	(mg/L)	6	6	13.1	0.479	6.409833	10	1
Sulfate	(mg/L)	6	6	28.3	15.1	20.85	250	0
Aluminum, ICAP	(mg/L)	6	2	4.07	3.31	3.69	0.2	2
Arsenic, PMS	(mg/L)	6	1	0.00537	0.00537	0.00537	0.05	0
Barium, ICAP	(mg/L)	6	6	0.167	0.0957	0.119783	2	0
Cadmium, PMS	(mg/L)	6	1	0.000997	0.000997	0.000997	0.005	0
Calcium, ICAP	(mg/L)	6	6	97.8	66.9	80.26667	NR	NA
Chromium, PMS	(mg/L)	6	3	0.0893	0.00485	0.04185	NR	NA
Chromium, ICAP	(mg/L)	6	2	0.0805	0.0283	0.0544	0.1	0
Copper, ICAP	(mg/L)	6	1	0.0399	0.0399	0.0399	1.3	0
Iron, ICAP	(mg/L)	6	4	4.41	0.144	2.461	0.3	3
Lead, PMS	(mg/L)	6	2	0.00966	0.00536	0.00751	0.015	0
Lithium, ICAP	(mg/L)	6	2	0.0312	0.0281	0.02965	NR	NA
Magnesium, ICAP	(mg/L)	6	6	29.1	19.2	21.96667	NR	NA
Manganese, ICAP	(mg/L)	6	5	0.163	0.0594	0.10696	0.05	5
Nickel, PMS	(mg/L)	6	3	0.0744	0.0103	0.039433	NR	NA
Nickel, ICAP	(mg/L)	6	2	6.74	0.067	3.4035	0.1	1
Potassium, ICAP	(mg/L)	6	3	7.27	2.39	5.173333	NR	NA
Sodium, ICAP	(mg/L)	6	6	49.1	6.87	19.77333	NR	NA
Strontium, ICAP	(mg/L)	6	6	0.17	0.132	0.150167	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.39. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Uranium, PMS	(mg/L)	6	6	0.058	0.00685	0.032825	0.03	4
Conductivity, field measurement	(umhos/cm)	6	NA	963	494	696.1667	NR	NA
Depth to Water	(ft)	6	NA	89.09	8.02	37.69333	NR	NA
Dissolved Oxygen, field measurement	(ppm)	6	NA	7.31	0.56	3.018333	NR	NA
pH, field measurement	(pH)	6	NA	7.44	7.15	7.266667	6.5/8.5	0
REDOX, field measurement	(mV)	6	NA	203	35	136.3333	NR	NA
Static Water Level	(ft - toc)	6	NA	-8.02	-89.09	-37.6933	NR	NA
Temperature, field measurement	(Deg C)	6	NA	14	12.4	13.23333	NR	NA
Alkalinity as HCO3	(mg/L)	6	6	288	210	239.3333	NR	NA
Conductivity	(umhos/cm)	6	6	837	515	620.5	NR	NA
Dissolved Solids	(mg/L)	6	6	466	282	348.8333	500	0
pH	(pH)	6	6	7.84	7.2	7.561667	6.5/8.5	0
Total Suspended Solids	(mg/L)	6	3	147	1	66	NR	NA
Turbidity	(NTU)	6	6	72.1	0.523	26.31883	1	5
Uranium-234	(pCi/L)	4	4	9.7	6.3	8.05	20	0
Uranium-235	(pCi/L)	4	4	0.54	0.34	0.4375	24	0
Uranium-238	(pCi/L)	4	4	18	12	14.25	24	0
Technetium-99	(pCi/L)	4	4	49	30	36.75	4000	0
Gross Alpha	(pCi/L)	6	6	27	1.4	16.36667	15	4
Gross Beta	(pCi/L)	6	6	77	8	33.5	50	1

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.40. REGIME=BC AREA NAME=Exit Pathway Monitoring Picket/Transect B								
Chloride	(mg/L)	8	8	59.2	14.8	27.9625	250	0
Fluoride	(mg/L)	8	8	0.304	0.104	0.190625	4	0
Nitrate Nitrogen	(mg/L)	8	8	99.1	0.387	25.11088	10	7
Sulfate	(mg/L)	8	8	30.5	13.2	22.925	250	0
Barium, ICAP	(mg/L)	8	8	0.246	0.0382	0.103363	2	0
Boron, ICAP	(mg/L)	8	2	0.132	0.11	0.121	NR	NA
Calcium, ICAP	(mg/L)	8	8	177	12.5	81.0625	NR	NA
Chromium, PMS	(mg/L)	8	2	0.0123	0.00768	0.00999	NR	NA
Iron, ICAP	(mg/L)	8	7	0.721	0.0905	0.3034	0.3	3
Lead, PMS	(mg/L)	8	1	0.000762	0.000762	0.000762	0.015	0
Lithium, ICAP	(mg/L)	8	7	0.0249	0.0106	0.019057	NR	NA
Magnesium, ICAP	(mg/L)	8	8	34.1	22.5	28.775	NR	NA
Manganese, ICAP	(mg/L)	8	5	0.0908	0.0144	0.05166	0.05	3
Nickel, PMS	(mg/L)	8	4	0.00953	0.00554	0.007535	NR	NA
Potassium, ICAP	(mg/L)	8	8	11.5	2.17	4.965	NR	NA
Sodium, ICAP	(mg/L)	8	8	28.9	7.48	14.13125	NR	NA
Strontium, ICAP	(mg/L)	8	8	0.519	0.064	0.253413	NR	NA
Uranium, PMS	(mg/L)	8	8	0.12	0.00213	0.033864	0.03	2
Conductivity, field measurement	(umhos/cm)	8	NA	1543	379	808.75	NR	NA
Depth to Water	(ft)	8	NA	46.32	11.16	30.94375	NR	NA
Dissolved Oxygen, field measurement	(ppm)	8	NA	5.3	-0.01	1.365	NR	NA
pH, field measurement	(pH)	8	NA	8.06	7.05	7.46125	6.5/8.5	0
REDOX, field measurement	(mV)	8	NA	204	-287	102.75	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.40. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Static Water Level	(ft - toc)	8	NA	-11.16	-46.32	-30.9438	NR	NA
Temperature, field measurement	(Deg C)	8	NA	16.5	11.8	13.85	NR	NA
Alkalinity as HCO3	(mg/L)	8	8	266	122	218	NR	NA
Conductivity	(umhos/cm)	8	8	1342	369	714.25	NR	NA
Dissolved Solids	(mg/L)	8	8	817	220	428	500	2
pH	(pH)	8	8	8.58	7.34	7.75	6.5/8.5	1
Total Suspended Solids	(mg/L)	8	1	2	2	2	NR	NA
Turbidity	(NTU)	8	8	7.42	1.37	2.8175	1	8
Uranium-234	(pCi/L)	4	4	2	1.3	1.625	20	0
Uranium-235	(pCi/L)	4	4	0.15	0.0095	0.06635	24	0
Uranium-238	(pCi/L)	4	4	1.6	0.98	1.395	24	0
Technetium-99	(pCi/L)	8	8	360	10	92.75	4000	0
Gross Alpha	(pCi/L)	8	8	69	0.61	17.87625	15	2
Gross Beta	(pCi/L)	8	8	310	16	86.25	50	3
1,1-Dichloroethene	(ug/L)	8	2	6	4	5	7	0
1,2-Dichloroethene (Total)	(ug/L)	8	7	14	3	6.571429	NR	NA
cis-1,2-Dichloroethene	(ug/L)	8	8	14	2	6	70	0
Trichloroethene	(ug/L)	8	8	62	6	24.5	5	8

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.41. REGIME=BC AREA NAME=Exit Pathway Monitoring Picket/Transect C								
Chloride	(mg/L)	8	8	84.3	6.3	46.09875	250	0
Fluoride	(mg/L)	8	6	0.266	0.187	0.2275	4	0
Nitrate Nitrogen	(mg/L)	8	8	25.9	2.34	15.62875	10	6
Sulfate	(mg/L)	8	8	42.6	11.7	28.325	250	0
Barium, ICAP	(mg/L)	8	8	0.223	0.0541	0.13625	2	0
Calcium, ICAP	(mg/L)	8	8	159	64.8	112.1875	NR	NA
Iron, ICAP	(mg/L)	8	7	2.63	0.0612	1.017314	0.3	4
Lead, PMS	(mg/L)	8	1	0.00556	0.00556	0.00556	0.015	0
Lithium, ICAP	(mg/L)	8	4	0.0177	0.0147	0.01625	NR	NA
Magnesium, ICAP	(mg/L)	8	8	40.8	23.2	29.75	NR	NA
Manganese, ICAP	(mg/L)	8	4	0.946	0.0135	0.4762	0.05	2
Nickel, PMS	(mg/L)	8	1	0.00718	0.00718	0.00718	NR	NA
Potassium, ICAP	(mg/L)	8	6	3.02	2.15	2.536667	NR	NA
Sodium, ICAP	(mg/L)	8	8	31.2	1.77	17.10375	NR	NA
Strontium, ICAP	(mg/L)	8	8	1.3	0.0536	0.454613	NR	NA
Thallium, PMS	(mg/L)	8	1	0.000525	0.000525	0.000525	0.002	0
Uranium, PMS	(mg/L)	8	6	0.0111	0.000582	0.004514	0.03	0
Conductivity, field measurement	(umhos/cm)	8	NA	1323	568	951.875	NR	NA
Depth to Water	(ft)	8	NA	73.97	9.19	36.05	NR	NA
Dissolved Oxygen, field measurement	(ppm)	8	NA	4.31	0.1	1.38125	NR	NA
pH, field measurement	(pH)	8	NA	7.49	6.7	7.05125	6.5/8.5	0
REDOX, field measurement	(mV)	8	NA	214	41	133.125	NR	NA
Static Water Level	(ft - toc)	8	NA	-9.19	-73.97	-36.05	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.41. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Temperature, field measurement	(Deg C)	8	NA	15.5	11.6	14.0625	NR	NA
Alkalinity as HCO3	(mg/L)	8	8	348	226	291	NR	NA
Conductivity	(umhos/cm)	8	8	1084	542	855.5	NR	NA
Dissolved Solids	(mg/L)	8	8	685	303	502.5	500	4
pH	(pH)	8	8	7.6	6.98	7.31875	6.5/8.5	0
Total Suspended Solids	(mg/L)	8	4	3	1	2.25	NR	NA
Turbidity	(NTU)	8	8	19.8	0.468	5.302625	1	6
Uranium-234	(pCi/L)	8	8	3	0.41	1.07875	20	0
Uranium-235	(pCi/L)	8	8	0.15	-0.072	0.0445	24	0
Uranium-238	(pCi/L)	8	8	3.2	0.049	1.072375	24	0
Technetium-99	(pCi/L)	8	8	81	7.6	40.0125	4000	0
Gross Alpha	(pCi/L)	8	8	10	-0.23	3.52625	15	0
Gross Beta	(pCi/L)	8	8	65	6.4	32.8	50	1
1,2-Dichloroethene (Total)	(ug/L)	8	3	3	2	2.666667	NR	NA
cis-1,2-Dichloroethene	(ug/L)	8	6	3	2	2.333333	70	0
Tetrachloroethene	(ug/L)	8	2	3	2	2.5	5	0
Trichloroethene	(ug/L)	8	8	120	9	51.25	5	8

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.42. REGIME=BC AREA NAME=Exit Pathway Monitoring Picket/Transect W								
Chloride	(mg/L)	4	4	141	81.9	105.825	250	0
Sulfate	(mg/L)	4	4	36.8	25.7	30.125	250	0
Arsenic, PMS	(mg/L)	4	1	0.00513	0.00513	0.00513	0.05	0
Barium, ICAP	(mg/L)	4	4	0.712	0.322	0.51325	2	0
Boron, ICAP	(mg/L)	4	4	0.198	0.154	0.175	NR	NA
Calcium, ICAP	(mg/L)	4	4	241	153	197.25	NR	NA
Iron, ICAP	(mg/L)	4	3	16.3	0.0542	10.31807	0.3	2
Lead, PMS	(mg/L)	4	2	0.0123	0.00939	0.010845	0.015	0
Lithium, ICAP	(mg/L)	4	4	0.0458	0.038	0.041875	NR	NA
Magnesium, ICAP	(mg/L)	4	4	39.2	25.4	32.05	NR	NA
Manganese, ICAP	(mg/L)	4	4	0.914	0.174	0.54275	0.05	4
Mercury, CVAA	(mg/L)	4	1	0.000775	0.000775	0.000775	0.002	0
Nickel, PMS	(mg/L)	4	4	0.072	0.0376	0.053375	NR	NA
Nickel, ICAP	(mg/L)	4	1	0.0669	0.0669	0.0669	0.1	0
Potassium, ICAP	(mg/L)	4	4	4.34	4.02	4.195	NR	NA
Selenium, PMS	(mg/L)	4	2	0.0342	0.0315	0.03285	0.05	0
Sodium, ICAP	(mg/L)	4	4	26.7	18.8	22.525	NR	NA
Strontium, ICAP	(mg/L)	4	4	1.36	0.784	1.06	NR	NA
Thallium, PMS	(mg/L)	4	1	0.000545	0.000545	0.000545	0.002	0
Uranium, PMS	(mg/L)	4	4	0.00213	0.000511	0.001313	0.03	0
Conductivity, field measurement	(umhos/cm)	4	NA	1593	1145	1379.75	NR	NA
Depth to Water	(ft)	4	NA	15.15	9.33	12.125	NR	NA
Dissolved Oxygen, field measurement	(ppm)	4	NA	2.79	0.49	1.4675	NR	NA
pH, field measurement	(pH)	4	NA	7.15	6.44	6.8125	6.5/8.5	1

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.42. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
REDOX, field measurement	(mV)	4	NA	110	-106	2	NR	NA
Static Water Level	(ft - toc)	4	NA	-9.33	-15.15	-12.125	NR	NA
Temperature, field measurement	(Deg C)	4	NA	17.1	12.4	15.075	NR	NA
Alkalinity as HCO3	(mg/L)	4	4	560	410	478	NR	NA
Conductivity	(umhos/cm)	4	4	1449	1065	1244.5	NR	NA
Dissolved Solids	(mg/L)	4	4	922	611	740.75	500	4
pH	(pH)	4	4	7.15	6.78	6.945	6.5/8.5	0
Total Suspended Solids	(mg/L)	4	2	22	21	21.5	NR	NA
Turbidity	(NTU)	4	4	206	0.326	101.4788	1	2
Uranium-234	(pCi/L)	4	4	1.1	0.13	0.56	20	0
Uranium-235	(pCi/L)	4	4	0.038	0	0.02125	24	0
Uranium-238	(pCi/L)	4	4	0.63	0.055	0.38375	24	0
Technetium-99	(pCi/L)	2	2	-3.6	-7	-5.3	4000	0
Gross Alpha	(pCi/L)	4	4	2.3	-7.1	-0.96	15	0
Gross Beta	(pCi/L)	4	4	4.3	-32	-7.1	50	0
1,1,1-Trichloroethane	(ug/L)	4	2	3	2	2.5	200	0
1,1-Dichloroethane	(ug/L)	4	4	6	2	3.75	NR	NA
1,1-Dichloroethene	(ug/L)	4	2	18	16	17	7	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.42. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
1,2-Dichloroethene (Total)	(ug/L)	4	4	19	5	11.5	NR	NA
cis-1,2-Dichloroethene	(ug/L)	4	4	19	5	11.5	70	0
Trichloroethene	(ug/L)	4	4	54	3	26.75	5	2
Vinyl chloride	(ug/L)	4	1	2	2	2	2	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.43. REGIME=BC AREA NAME=Exit Pathway Spring/Surface Water								
Chloride	(mg/L)	25	25	149	1.17	36.6184	250	0
Fluoride	(mg/L)	25	19	4.12	0.107	0.539579	4	1
Nitrate Nitrogen	(mg/L)	25	25	1110	0.104	67.23092	10	13
Sulfate	(mg/L)	25	25	59.6	4.7	24.2796	250	0
Aluminum, ICAP	(mg/L)	25	14	2.65	0.215	0.979857	0.2	14
Barium, ICAP	(mg/L)	25	25	3.62	0.0185	0.26008	2	1
Boron, ICAP	(mg/L)	25	5	0.811	0.123	0.3488	NR	NA
Cadmium, PMS	(mg/L)	25	6	0.189	0.000622	0.03764	0.005	3
Calcium, ICAP	(mg/L)	25	25	1340	14	144.704	NR	NA
Iron, ICAP	(mg/L)	25	20	2.86	0.056	0.506435	0.3	9
Lead, PMS	(mg/L)	25	7	0.00786	0.000506	0.001853	0.015	0
Lithium, ICAP	(mg/L)	25	7	0.101	0.0104	0.0374	NR	NA
Magnesium, ICAP	(mg/L)	25	25	165	6.8	22.8168	NR	NA
Manganese, ICAP	(mg/L)	25	22	39	0.00541	2.121458	0.05	9
Nickel, PMS	(mg/L)	25	9	0.683	0.00528	0.09907	NR	NA
Nickel, ICAP	(mg/L)	25	3	0.696	0.0591	0.278433	0.1	1
Potassium, ICAP	(mg/L)	25	14	21.6	2.11	4.718571	NR	NA
Sodium, ICAP	(mg/L)	25	25	179	0.723	22.39652	NR	NA
Strontium, ICAP	(mg/L)	25	25	4.23	0.0194	0.4112	NR	NA
Uranium, PMS	(mg/L)	25	22	0.259	0.000614	0.084011	0.03	15
Zinc, ICAP	(mg/L)	25	1	0.0775	0.0775	0.0775	5	0
Conductivity, field measurement	(umhos/cm)	25	NA	8440	218	1079.88	NR	NA
Dissolved Oxygen, field measurement	(ppm)	25	NA	7.87	1.93	5.204	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.43. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH, field measurement	(pH)	25	NA	8.11	6.58	7.3264	6.5/8.5	0
REDOX, field measurement	(mV)	25	NA	255	98	201.72	NR	NA
Temperature, field measurement	(Deg C)	25	NA	22	0.4	12.5	NR	NA
Alkalinity as HCO3	(mg/L)	25	25	364	42.2	181.896	NR	NA
Conductivity	(umhos/cm)	25	25	8690	132.4	994.868	NR	NA
Dissolved Solids	(mg/L)	25	25	6920	75	702.64	500	8
pH	(pH)	25	25	8.19	6.54	7.7056	6.5/8.5	0
Total Suspended Solids	(mg/L)	25	14	54	1	10.07143	NR	NA
Turbidity	(NTU)	25	25	26.6	0.854	7.14376	1	24
Iodine-129	(pCi/L)	2	2	5	-7.9	-1.45	NR	NA
Thorium-228	(pCi/L)	2	2	0.03	0.018	0.024	16	0
Thorium-230	(pCi/L)	2	2	0.57	0.23	0.4	12	0
Thorium-231+234	(pCi/L)	2	2	41	31	36	400	0
Thorium-232	(pCi/L)	2	2	0.0091	-0.034	-0.01245	2	0
Uranium-234	(wt %)	1	1	0.008	0.008	0.008	NR	NA
Uranium-234	(pCi/L)	10	10	55	3.3	16.07	20	2
Uranium-235	(wt %)	1	1	0.444	0.444	0.444	NR	NA
Uranium-235	(pCi/L)	10	10	2.8	0.055	0.7565	24	0
Uranium-236	(wt %)	1	1	0.01	0.01	0.01	NR	NA
Neptunium-237	(pCi/L)	2	2	1.8	0.87	1.335	1.2	1
Plutonium-238	(pCi/L)	2	2	0.046	-0.039	0.0035	1.6	0
Uranium-238	(wt %)	1	1	99.54	99.54	99.54	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.43. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Uranium-238	(pCi/L)	10	10	84	5	25.01	24	4
Americium-241	(pCi/L)	2	2	0.31	0.17	0.24	1.2	0
Strontium-89/90	(pCi/L)	2	2	2.2	1.3	1.75	NR	NA
Technetium-99	(pCi/L)	12	12	5900	8	659.1167	4000	1
Gross Alpha	(pCi/L)	25	25	120	-1.5	35.55416	15	15
Gross Beta	(pCi/L)	25	25	4400	-1.5	257.4334	50	13
Radium - Total Alpha	(pCi/L)	2	2	0.4	-0.018	0.191	5	0
Tritium	(pCi/L)	2	2	110	12	61	20000	0
Uranium, Total	(mg/L)	1	1	0.14	0.14	0.14	NR	NA
1,1-Dichloroethane	(ug/L)	25	1	3	3	3	NR	NA
1,2-Dichloroethene (Total)	(ug/L)	25	5	50	2	15	NR	NA
Chloroform	(ug/L)	25	1	3	3	3	100	0
cis-1,2-Dichloroethene	(ug/L)	25	6	50	2	12.83333	70	0
Methylene chloride	(ug/L)	25	1	3	3	3	5	0
Tetrachloroethene	(ug/L)	25	4	62	3	19.5	5	2
Trichloroethene	(ug/L)	25	3	15	3	10	5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.44. REGIME=BC AREA NAME=Oil Landfarm WMA

Chloride	(mg/L)	8	8	58.8	2.3	27.1375	250	0
Fluoride	(mg/L)	8	2	0.486	0.483	0.4845	4	0
Nitrate Nitrogen	(mg/L)	8	8	662	7.98	226.6375	10	6
Sulfate	(mg/L)	8	8	38.6	3.75	15.51125	250	0
Aluminum, ICAP	(mg/L)	8	2	6.61	0.235	3.4225	0.2	2
Barium, ICAP	(mg/L)	8	8	2.37	0.155	0.974125	2	2
Boron, ICAP	(mg/L)	8	4	0.253	0.143	0.207	NR	NA
Calcium, ICAP	(mg/L)	8	8	991	11.3	374.5375	NR	NA
Chromium, PMS	(mg/L)	8	3	0.00531	0.00378	0.004627	NR	NA
Iron, ICAP	(mg/L)	8	5	3.84	0.127	1.1836	0.3	3
Lead, PMS	(mg/L)	8	4	0.00562	0.00051	0.002925	0.015	0
Lithium, ICAP	(mg/L)	8	8	0.0508	0.0164	0.032463	NR	NA
Magnesium, ICAP	(mg/L)	8	8	71.7	4.06	34.785	NR	NA
Manganese, ICAP	(mg/L)	8	4	1.03	0.0264	0.42985	0.05	3
Nickel, PMS	(mg/L)	8	6	0.0308	0.00792	0.014915	NR	NA
Potassium, ICAP	(mg/L)	8	6	6.24	2.36	4.091667	NR	NA
Selenium, PMS	(mg/L)	8	1	0.0183	0.0183	0.0183	0.05	0
Sodium, ICAP	(mg/L)	8	8	107	12.6	45.825	NR	NA
Strontium, ICAP	(mg/L)	8	8	2.69	0.539	1.190875	NR	NA
Uranium, PMS	(mg/L)	8	8	0.0674	0.000506	0.014593	0.03	1
Conductivity, field measurement	(umhos/cm)	8	NA	6360	595	2571.375	NR	NA
Depth to Water	(ft)	8	NA	15.64	6.92	12.89	NR	NA
Dissolved Oxygen, field measurement	(ppm)	8	NA	6.29	0.25	1.45625	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.44. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH, field measurement	(pH)	8	NA	9.05	6.65	7.39	6.5/8.5	2
REDOX, field measurement	(mV)	8	NA	182	70	140.375	NR	NA
Static Water Level	(ft - toc)	8	NA	-6.92	-15.64	-11.87	NR	NA
Temperature, field measurement	(Deg C)	8	NA	17.5	14	15.575	NR	NA
Alkalinity as CO3	(mg/L)	8	1	21.8	21.8	21.8	NR	NA
Alkalinity as HCO3	(mg/L)	8	8	406	165	261.625	NR	NA
Conductivity	(umhos/cm)	8	8	5490	570	2337.75	NR	NA
Dissolved Solids	(mg/L)	8	8	4340	360	1765	500	6
pH	(pH)	8	8	8.91	6.7	7.45125	6.5/8.5	2
Total Suspended Solids	(mg/L)	8	3	69	1	29.66667	NR	NA
Turbidity	(NTU)	8	8	50.8	0.653	10.8975	1	5
Uranium-234	(pCi/L)	4	4	3.4	0.79	2.0575	20	0
Uranium-235	(pCi/L)	4	4	0.24	0	0.1165	24	0
Uranium-238	(pCi/L)	4	4	5.2	0.56	2.735	24	0
Technetium-99	(pCi/L)	8	8	940	-4.2	293.45	4000	0
Gross Alpha	(pCi/L)	8	8	7.7	-10	2.2325	15	0
Gross Beta	(pCi/L)	8	8	670	3.4	212.4875	50	4
1,2-Dichloroethene (Total)	(ug/L)	8	2	7	5	6	NR	NA
Acetone	(ug/L)	8	1	16	16	16	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.44. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Chlorobenzene	(ug/L)	8	1	2	2	2	100	0
Chloroform	(ug/L)	8	2	2	2	2	100	0
cis-1,2-Dichloroethene	(ug/L)	8	2	7	5	6	70	0
Trichloroethene	(ug/L)	8	2	120	79	99.5	5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.45. REGIME=BC AREA NAME=Rust Spoil Area								
Chloride	(mg/L)	2	2	2.25	2.14	2.195	250	0
Nitrate Nitrogen	(mg/L)	2	2	0.292	0.265	0.2785	10	0
Sulfate	(mg/L)	2	2	3.36	3.03	3.195	250	0
Barium, ICAP	(mg/L)	2	2	0.0179	0.0174	0.01765	2	0
Calcium, ICAP	(mg/L)	2	2	82.5	82.2	82.35	NR	NA
Chromium, PMS	(mg/L)	2	2	0.00702	0.00395	0.005485	NR	NA
Lead, PMS	(mg/L)	2	1	0.00703	0.00703	0.00703	0.015	0
Magnesium, ICAP	(mg/L)	2	2	5.47	4.93	5.2	NR	NA
Sodium, ICAP	(mg/L)	2	2	2.96	2.87	2.915	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.0709	0.07	0.07045	NR	NA
Uranium, PMS	(mg/L)	2	1	0.000513	0.000513	0.000513	0.03	0
Conductivity, field measurement	(umhos/cm)	2	NA	542	449	495.5	NR	NA
Depth to Water	(ft)	2	NA	38.08	37.29	37.685	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	6.53	6.2	6.365	NR	NA
pH, field measurement	(pH)	2	NA	7.29	6.35	6.82	6.5/8.5	1
REDOX, field measurement	(mV)	2	NA	174	152	163	NR	NA
Static Water Level	(ft - toc)	2	NA	-37.29	-38.08	-37.685	NR	NA
Temperature, field measurement	(Deg C)	2	NA	17.8	12.1	14.95	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	216	210	213	NR	NA
Conductivity	(umhos/cm)	2	2	440	411	425.5	NR	NA
Dissolved Solids	(mg/L)	2	2	260	238	249	500	0
pH	(pH)	2	2	7.34	7.22	7.28	6.5/8.5	0
Turbidity	(NTU)	2	2	0.424	0.199	0.3115	1	0
Uranium-234	(pCi/L)	2	2	0.2	0.03	0.115	20	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.45. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Uranium-235	(pCi/L)	2	2	0.033	-0.065	-0.016	24	0
Uranium-238	(pCi/L)	2	2	0.12	0.11	0.115	24	0
Technetium-99	(pCi/L)	2	2	1	-2.8	-0.9	4000	0
Gross Alpha	(pCi/L)	2	2	1.4	-0.59	0.405	15	0
Gross Beta	(pCi/L)	2	2	4.4	1.5	2.95	50	0
Trichloroethene	(ug/L)	2	2	3	3	3	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.46. REGIME=BC AREA NAME=S-3 Site								
Chloride	(mg/L)	8	8	59.3	18.1	33.9375	250	0
Fluoride	(mg/L)	8	5	0.699	0.119	0.512	4	0
Nitrate Nitrogen	(mg/L)	8	8	277	0.251	81.73238	10	6
Sulfate	(mg/L)	8	8	138	14.6	53.45	250	0
Aluminum, ICAP	(mg/L)	8	1	0.34	0.34	0.34	0.2	1
Barium, ICAP	(mg/L)	8	8	0.195	0.122	0.152	2	0
Boron, ICAP	(mg/L)	8	5	0.874	0.129	0.4246	NR	NA
Calcium, ICAP	(mg/L)	8	8	163	2.34	87.62625	NR	NA
Chromium, PMS	(mg/L)	8	1	0.00309	0.00309	0.00309	NR	NA
Iron, ICAP	(mg/L)	8	6	3.61	0.0802	0.816367	0.3	3
Lead, PMS	(mg/L)	8	2	0.0288	0.00229	0.015545	0.015	1
Lithium, ICAP	(mg/L)	8	6	0.294	0.0117	0.108317	NR	NA
Magnesium, ICAP	(mg/L)	8	8	47.6	0.844	20.84338	NR	NA
Manganese, ICAP	(mg/L)	8	6	0.092	0.00607	0.030428	0.05	1
Nickel, PMS	(mg/L)	8	2	0.0128	0.0076	0.0102	NR	NA
Potassium, ICAP	(mg/L)	8	8	6.27	3.04	4.53625	NR	NA
Selenium, PMS	(mg/L)	8	1	0.0176	0.0176	0.0176	0.05	0
Sodium, ICAP	(mg/L)	8	8	535	5.11	142.0338	NR	NA
Strontium, ICAP	(mg/L)	8	8	2.27	0.305	0.87325	NR	NA
Thallium, PMS	(mg/L)	8	4	0.000675	0.000527	0.000612	0.002	0
Uranium, PMS	(mg/L)	8	6	0.00534	0.00265	0.003697	0.03	0
Conductivity, field measurement	(umhos/cm)	8	NA	2910	497	1380.25	NR	NA
Depth to Water	(ft)	8	NA	21.41	8.74	14.18375	NR	NA
Dissolved Oxygen, field measurement	(ppm)	8	NA	1.38	0.43	0.9425	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.46. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH, field measurement	(pH)	8	NA	9.95	6.64	7.8725	6.5/8.5	2
REDOX, field measurement	(mV)	8	NA	209	76	141.375	NR	NA
Static Water Level	(ft - toc)	8	NA	-8.74	-21.41	-14.1838	NR	NA
Temperature, field measurement	(Deg C)	8	NA	19.9	13.2	15.6125	NR	NA
Alkalinity as CO3	(mg/L)	8	2	60.8	52.4	56.6	NR	NA
Alkalinity as HCO3	(mg/L)	8	8	278	58.2	189.6	NR	NA
Conductivity	(umhos/cm)	8	8	2540	427	1258.375	NR	NA
Dissolved Solids	(mg/L)	8	8	1870	236	841.125	500	6
pH	(pH)	8	8	9.78	7	8.03	6.5/8.5	2
Total Suspended Solids	(mg/L)	8	2	7	1	4	NR	NA
Turbidity	(NTU)	8	8	41.7	0.51	6.876	1	6
Uranium-234	(pCi/L)	8	8	2.1	-0.015	1.020375	20	0
Uranium-235	(pCi/L)	8	8	0.25	-0.027	0.04725	24	0
Uranium-238	(pCi/L)	8	8	2.2	0.031	0.973625	24	0
Technetium-99	(pCi/L)	8	8	130	-13	27.0375	4000	0
Gross Alpha	(pCi/L)	8	8	7.5	-1.8	2.0245	15	0
Gross Beta	(pCi/L)	8	8	110	-4.7	26.42625	50	2
1,1-Dichloroethane	(ug/L)	8	1	3	3	3	NR	NA
1,1-Dichloroethene	(ug/L)	8	2	4	2	3	7	0
1,2-Dichloroethene (Total)	(ug/L)	8	2	8	3	5.5	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.46. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Carbon tetrachloride	(ug/L)	8	1	4	4	4	5	0
cis-1,2-Dichloroethene	(ug/L)	8	3	8	2	4.333333	70	0
Tetrachloroethene	(ug/L)	8	1	2	2	2	5	0
Trichloroethene	(ug/L)	8	4	220	7	109.75	5	4

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.47. REGIME=BC AREA NAME=Spoil Area I								
Chloride	(mg/L)	2	2	17.4	17.3	17.35	250	0
Nitrate Nitrogen	(mg/L)	2	2	11.1	10.7	10.9	10	2
Sulfate	(mg/L)	2	2	61.6	59.1	60.35	250	0
Barium, ICAP	(mg/L)	2	2	0.0646	0.0614	0.063	2	0
Calcium, ICAP	(mg/L)	2	2	131	127	129	NR	NA
Magnesium, ICAP	(mg/L)	2	2	15	14.2	14.6	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.0528	0.0281	0.04045	0.05	1
Potassium, ICAP	(mg/L)	2	2	3.78	3.67	3.725	NR	NA
Sodium, ICAP	(mg/L)	2	2	9.7	9.32	9.51	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.215	0.207	0.211	NR	NA
Uranium, PMS	(mg/L)	2	2	0.00248	0.00208	0.00228	0.03	0
Conductivity, field measurement	(umhos/cm)	2	NA	918	798	858	NR	NA
Depth to Water	(ft)	2	NA	56.62	56.51	56.565	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.82	0.25	0.535	NR	NA
pH, field measurement	(pH)	2	NA	7.32	7.05	7.185	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	184	127	155.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-56.51	-56.62	-56.565	NR	NA
Temperature, field measurement	(Deg C)	2	NA	16	14.3	15.15	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	276	154	215	NR	NA
Conductivity	(umhos/cm)	2	2	753	747	750	NR	NA
Dissolved Solids	(mg/L)	2	2	455	447	451	500	0
pH	(pH)	2	2	7.23	7.2	7.215	6.5/8.5	0
Turbidity	(NTU)	2	2	0.449	0.423	0.436	1	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.47. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Gross Alpha	(pCi/L)	2	2	0.96	0.32	0.64	15	0
Gross Beta	(pCi/L)	2	2	47	35	41	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	1	2	2	2	NR	NA
cis-1,2-Dichloroethene	(ug/L)	2	2	2	2	2	70	0
Tetrachloroethene	(ug/L)	2	2	11	10	10.5	5	2
Trichloroethene	(ug/L)	2	2	5	5	5	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.48. REGIME=CR AREA NAME=Chestnut Ridge Security Pits								
Chloride	(mg/L)	11	11	12.7	1.71	4.061818	250	0
Nitrate Nitrogen	(mg/L)	11	10	0.667	0.0489	0.30289	10	0
Sulfate	(mg/L)	11	11	8.08	0.761	2.915182	250	0
Aluminum, ICAP	(mg/L)	11	1	0.344	0.344	0.344	0.2	1
Barium, ICAP	(mg/L)	11	11	0.0516	0.0141	0.026927	2	0
Boron, ICAP	(mg/L)	11	2	0.116	0.105	0.1105	NR	NA
Calcium, ICAP	(mg/L)	11	11	56.8	20.3	43.63636	NR	NA
Chromium, PMS	(mg/L)	11	5	0.0188	0.00441	0.010506	NR	NA
Chromium, ICAP	(mg/L)	11	1	0.0228	0.0228	0.0228	0.1	0
Iron, ICAP	(mg/L)	11	6	6.95	0.0892	1.449033	0.3	3
Lead, PMS	(mg/L)	11	3	0.0214	0.00191	0.008737	0.015	1
Lithium, ICAP	(mg/L)	11	2	0.0518	0.0512	0.0515	NR	NA
Magnesium, ICAP	(mg/L)	11	11	34.7	20.5	28.91818	NR	NA
Manganese, ICAP	(mg/L)	11	5	0.0811	0.00646	0.03309	0.05	2
Nickel, PMS	(mg/L)	11	3	0.0227	0.00562	0.01147	NR	NA
Potassium, ICAP	(mg/L)	11	6	19.4	2.06	7.875	NR	NA
Sodium, ICAP	(mg/L)	11	11	8.7	0.578	2.609273	NR	NA
Strontium, ICAP	(mg/L)	11	11	0.061	0.0155	0.026473	NR	NA
Uranium, PMS	(mg/L)	11	5	0.00226	0.000604	0.001239	0.03	0
Conductivity, field measurement	(umhos/cm)	11	NA	564	354	484.1818	NR	NA
Depth to Water	(ft)	11	NA	139.43	103.37	121.6282	NR	NA
Dissolved Oxygen, field measurement	(ppm)	11	NA	6.91	0.96	3.553636	NR	NA
pH, field measurement	(pH)	11	NA	8	7.17	7.644545	6.5/8.5	0
REDOX, field measurement	(mV)	11	NA	197	-46	134.1818	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.48. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Static Water Level	(ft - toc)	11	NA	-103.37	-139.43	-121.628	NR	NA
Temperature, field measurement	(Deg C)	11	NA	18.8	9.6	14.18182	NR	NA
Alkalinity as HCO3	(mg/L)	11	11	268	154	226.9091	NR	NA
Conductivity	(umhos/cm)	11	11	507	323	427.7273	NR	NA
Dissolved Solids	(mg/L)	11	11	261	158	227.2727	500	0
pH	(pH)	11	11	8.22	7.34	7.871818	6.5/8.5	0
Total Suspended Solids	(mg/L)	11	3	12	1	6.333333	NR	NA
Turbidity	(NTU)	11	11	45.3	0.342	6.016182	1	7
Gross Alpha	(pCi/L)	11	11	6.1	-1.3	1.025455	15	0
Gross Beta	(pCi/L)	11	11	13	-3.1	3.762727	50	0
1,1,1-Trichloroethane	(ug/L)	11	3	26	11	19.33333	200	0
1,1-Dichloroethane	(ug/L)	11	3	41	18	31	NR	NA
1,1-Dichloroethene	(ug/L)	11	3	24	4	16.66667	7	2
Tetrachloroethene	(ug/L)	11	6	22	5	10.83333	5	5
Trichlorofluoromethane	(ug/L)	11	6	9	4	6.666667	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.49. REGIME=CR AREA NAME=Chestnut Ridge Sediment Disposal Basin								
Chloride	(mg/L)	2	2	0.791	0.704	0.7475	250	0
Nitrate Nitrogen	(mg/L)	2	2	0.0417	0.0384	0.04005	10	0
Sulfate	(mg/L)	2	2	2.06	1.29	1.675	250	0
Aluminum, ICAP	(mg/L)	2	1	0.262	0.262	0.262	0.2	1
Barium, ICAP	(mg/L)	2	2	0.0171	0.017	0.01705	2	0
Calcium, ICAP	(mg/L)	2	2	33	32.2	32.6	NR	NA
Iron, ICAP	(mg/L)	2	2	0.379	0.0848	0.2319	0.3	1
Lead, PMS	(mg/L)	2	1	0.00111	0.00111	0.00111	0.015	0
Magnesium, ICAP	(mg/L)	2	2	19.6	19.4	19.5	NR	NA
Manganese, ICAP	(mg/L)	2	1	0.0151	0.0151	0.0151	0.05	0
Nickel, PMS	(mg/L)	2	1	0.00596	0.00596	0.00596	NR	NA
Potassium, ICAP	(mg/L)	2	1	2.18	2.18	2.18	NR	NA
Sodium, ICAP	(mg/L)	2	2	0.711	0.636	0.6735	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.0184	0.0182	0.0183	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	324	305	314.5	NR	NA
Depth to Water	(ft)	2	NA	54.81	48.43	51.62	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	5.12	2.47	3.795	NR	NA
pH, field measurement	(pH)	2	NA	7.73	7.42	7.575	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	219	173	196	NR	NA
Static Water Level	(ft - toc)	2	NA	-48.43	-54.81	-51.62	NR	NA
Temperature, field measurement	(Deg C)	2	NA	15.5	13.6	14.55	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	157	152	154.5	NR	NA
Conductivity	(umhos/cm)	2	2	296	287	291.5	NR	NA
Dissolved Solids	(mg/L)	2	2	167	147	157	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.49. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	2	2	7.89	7.84	7.865	6.5/8.5	0
Total Suspended Solids	(mg/L)	2	1	2	2	2	NR	NA
Turbidity	(NTU)	2	2	7.68	2.29	4.985	1	2
Gross Alpha	(pCi/L)	2	2	0.34	-0.17	0.085	15	0
Gross Beta	(pCi/L)	2	2	1.5	-2.5	-0.5	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.50. REGIME=CR AREA NAME=Exit Pathway Spring/Surface Water								
Chloride	(mg/L)	9	9	9.73	1.31	4.295556	250	0
Nitrate Nitrogen	(mg/L)	9	9	4.16	0.169	1.833111	10	0
Sulfate	(mg/L)	9	9	20.3	2.67	9.252222	250	0
Aluminum, ICAP	(mg/L)	9	3	0.447	0.257	0.355667	0.2	3
Barium, ICAP	(mg/L)	9	9	0.0546	0.0144	0.032589	2	0
Calcium, ICAP	(mg/L)	9	9	101	11.1	48.25556	NR	NA
Copper, ICAP	(mg/L)	9	1	0.182	0.182	0.182	1.3	0
Iron, ICAP	(mg/L)	9	7	0.317	0.0622	0.163957	0.3	1
Magnesium, ICAP	(mg/L)	9	9	21.1	5.49	11.55778	NR	NA
Manganese, ICAP	(mg/L)	9	4	0.0163	0.00789	0.010858	0.05	0
Sodium, ICAP	(mg/L)	9	9	4.74	0.529	2.149222	NR	NA
Strontium, ICAP	(mg/L)	9	9	0.174	0.0158	0.073689	NR	NA
Uranium, PMS	(mg/L)	9	3	0.00372	0.000972	0.002461	0.03	0
Zinc, ICAP	(mg/L)	9	1	0.111	0.111	0.111	5	0
Conductivity, field measurement	(umhos/cm)	9	NA	1737	223	574.2222	NR	NA
Dissolved Oxygen, field measurement	(ppm)	9	NA	6.94	1.48	4.614444	NR	NA
pH, field measurement	(pH)	9	NA	7.59	6.47	6.983333	6.5/8.5	1
REDOX, field measurement	(mV)	9	NA	239	141	190.3333	NR	NA
Temperature, field measurement	(Deg C)	9	NA	17.7	11.5	14.01111	NR	NA
Alkalinity as HCO3	(mg/L)	9	9	248	56.2	148.2222	NR	NA
Conductivity	(umhos/cm)	9	9	560	107.5	323.2	NR	NA
Dissolved Solids	(mg/L)	9	9	328	59	178.7778	500	0
pH	(pH)	9	9	7.68	6.79	7.242222	6.5/8.5	0
Total Suspended Solids	(mg/L)	9	4	51	1	14	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.50. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Turbidity	(NTU)	9	9	19.4	0.913	5.604778	1	8
Gross Alpha	(pCi/L)	9	9	3.5	-1	0.834444	15	0
Gross Beta	(pCi/L)	9	9	2.4	-4.2	-0.29444	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.51. REGIME=CR AREA NAME=Filled Coal Ash Pond								
Chloride	(mg/L)	2	2	1.36	1.18	1.27	250	0
Nitrate Nitrogen	(mg/L)	2	1	0.141	0.141	0.141	10	0
Sulfate	(mg/L)	2	2	3.41	3.1	3.255	250	0
Barium, ICAP	(mg/L)	2	2	0.00622	0.00555	0.005885	2	0
Calcium, ICAP	(mg/L)	2	2	38.6	38	38.3	NR	NA
Iron, ICAP	(mg/L)	2	2	2.61	0.298	1.454	0.3	1
Lead, PMS	(mg/L)	2	1	0.000611	0.000611	0.000611	0.015	0
Magnesium, ICAP	(mg/L)	2	2	23.3	23.3	23.3	NR	NA
Manganese, ICAP	(mg/L)	2	1	0.0283	0.0283	0.0283	0.05	0
Potassium, ICAP	(mg/L)	2	1	2.19	2.19	2.19	NR	NA
Sodium, ICAP	(mg/L)	2	2	0.578	0.45	0.514	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.0252	0.0238	0.0245	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	397	378	387.5	NR	NA
Depth to Water	(ft)	2	NA	30.3	24.39	27.345	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	8.89	0.76	4.825	NR	NA
pH, field measurement	(pH)	2	NA	7.93	7.32	7.625	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	58	-145	-43.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-24.39	-30.3	-27.345	NR	NA
Temperature, field measurement	(Deg C)	2	NA	15.9	14	14.95	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	185	180	182.5	NR	NA
Conductivity	(umhos/cm)	2	2	371	343	357	NR	NA
Dissolved Solids	(mg/L)	2	2	199	180	189.5	500	0
pH	(pH)	2	2	7.88	7.85	7.865	6.5/8.5	0
Total Suspended Solids	(mg/L)	2	1	2	2	2	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.51. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Turbidity	(NTU)	2	2	23.1	4.05	13.575	1	2
Gross Alpha	(pCi/L)	2	2	0.67	0.61	0.64	15	0
Gross Beta	(pCi/L)	2	2	3.1	-1.4	0.85	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.52. REGIME=EF AREA NAME=B8110								
Chloride	(mg/L)	2	2	24.4	23.4	23.9	250	0
Nitrate Nitrogen	(mg/L)	2	2	221	177	199	10	2
Sulfate	(mg/L)	2	2	52.5	44.3	48.4	250	0
Aluminum, ICAP	(mg/L)	2	1	0.574	0.574	0.574	0.2	1
Barium, ICAP	(mg/L)	2	2	0.352	0.276	0.314	2	0
Cadmium, PMS	(mg/L)	2	1	0.000611	0.000611	0.000611	0.005	0
Calcium, ICAP	(mg/L)	2	2	295	256	275.5	NR	NA
Iron, ICAP	(mg/L)	2	2	0.512	0.166	0.339	0.3	1
Lead, PMS	(mg/L)	2	1	0.0027	0.0027	0.0027	0.015	0
Magnesium, ICAP	(mg/L)	2	2	91.2	78.3	84.75	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.353	0.299	0.326	0.05	2
Mercury, CVAA	(mg/L)	2	2	0.00137	0.00067	0.00102	0.002	0
Nickel, PMS	(mg/L)	2	2	0.00868	0.00536	0.00702	NR	NA
Potassium, ICAP	(mg/L)	2	2	4.86	4	4.43	NR	NA
Sodium, ICAP	(mg/L)	2	2	36	29.2	32.6	NR	NA
Strontium, ICAP	(mg/L)	2	2	1.02	0.806	0.913	NR	NA
Uranium, PMS	(mg/L)	2	2	0.00124	0.00123	0.001235	0.03	0
Conductivity, field measurement	(umhos/cm)	2	NA	2530	2430	2480	NR	NA
Depth to Water	(ft)	2	NA	42.94	38.06	40.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.23	0.12	0.175	NR	NA
pH, field measurement	(pH)	2	NA	7.17	6.95	7.06	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	169	159	164	NR	NA
Static Water Level	(ft - toc)	2	NA	-38.06	-42.94	-40.5	NR	NA
Temperature, field measurement	(Deg C)	2	NA	17.2	16.4	16.8	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.52. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Alkalinity as HCO3	(mg/L)	2	2	280	266	273	NR	NA
Conductivity	(umhos/cm)	2	2	2290	2080	2185	NR	NA
Dissolved Solids	(mg/L)	2	2	1610	1500	1555	500	2
pH	(pH)	2	2	7.06	6.96	7.01	6.5/8.5	0
Total Suspended Solids	(mg/L)	2	1	6	6	6	NR	NA
Turbidity	(NTU)	2	2	9.91	4.42	7.165	1	2
Technetium-99	(pCi/L)	2	2	-1.4	-2.5	-1.95	4000	0
Gross Alpha	(pCi/L)	2	2	2.9	2.5	2.7	15	0
Gross Beta	(pCi/L)	2	2	5.7	5.3	5.5	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	2	27	15	21	NR	NA
Carbon tetrachloride	(ug/L)	2	2	18	16	17	5	2
Chloroform	(ug/L)	2	2	20	19	19.5	100	0
cis-1,2-Dichloroethene	(ug/L)	2	2	27	15	21	70	0
Tetrachloroethene	(ug/L)	2	2	210	160	185	5	2
Trichloroethene	(ug/L)	2	2	540	450	495	5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.53. REGIME=EF AREA NAME=Beta-4 Security Pits

Chloride	(mg/L)	2	2	22.7	17	19.85	250	0
Fluoride	(mg/L)	2	2	0.303	0.153	0.228	4	0
Sulfate	(mg/L)	2	2	3.76	2.52	3.14	250	0
Arsenic, PMS	(mg/L)	2	2	0.0106	0.00644	0.00852	0.05	0
Barium, ICAP	(mg/L)	2	2	0.221	0.156	0.1885	2	0
Calcium, ICAP	(mg/L)	2	2	131	105	118	NR	NA
Iron, ICAP	(mg/L)	2	2	8.46	5.29	6.875	0.3	2
Lead, PMS	(mg/L)	2	1	0.000962	0.000962	0.000962	0.015	0
Lithium, ICAP	(mg/L)	2	2	0.0151	0.0102	0.01265	NR	NA
Magnesium, ICAP	(mg/L)	2	2	18.7	11	14.85	NR	NA
Manganese, ICAP	(mg/L)	2	2	2.3	1.97	2.135	0.05	2
Sodium, ICAP	(mg/L)	2	2	8.1	7.57	7.835	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.294	0.184	0.239	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	880	680	780	NR	NA
Depth to Water	(ft)	2	NA	7.08	6.24	6.66	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.14	0.06	0.1	NR	NA
pH, field measurement	(pH)	2	NA	6.52	6.25	6.385	6.5/8.5	1
REDOX, field measurement	(mV)	2	NA	48	-109	-30.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-6.24	-7.08	-6.66	NR	NA
Temperature, field measurement	(Deg C)	2	NA	18.1	14.1	16.1	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	406	286	346	NR	NA
Conductivity	(umhos/cm)	2	2	776	620	698	NR	NA
Dissolved Solids	(mg/L)	2	2	474	366	420	500	0
pH	(pH)	2	2	6.77	6.61	6.69	6.5/8.5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.53. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Total Suspended Solids	(mg/L)	2	2	6	5	5.5	NR	NA
Turbidity	(NTU)	2	2	67.6	36.3	51.95	1	2
Gross Alpha	(pCi/L)	2	2	0.063	-2.7	-1.3185	15	0
Gross Beta	(pCi/L)	2	2	11	8.3	9.65	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	2	25	12	18.5	NR	NA
cis-1,2-Dichloroethene	(ug/L)	2	2	25	12	18.5	70	0
Tetrachloroethene	(ug/L)	2	2	4	2	3	5	0
Trichloroethene	(ug/L)	2	2	6	3	4.5	5	1

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.54. REGIME=EF AREA NAME=Exit Pathway Monitoring Picket/Transect J								
Chloride	(mg/L)	24	24	146	2.44	32.58625	250	0
Fluoride	(mg/L)	24	16	1.23	0.163	0.57375	4	0
Nitrate Nitrogen	(mg/L)	24	16	1.7	0.0628	0.7998	10	0
Sulfate	(mg/L)	24	23	63.5	0.449	25.89735	250	0
Arsenic, PMS	(mg/L)	24	2	0.00802	0.00747	0.007745	0.05	0
Barium, ICAP	(mg/L)	24	24	0.797	0.0312	0.156708	2	0
Boron, ICAP	(mg/L)	24	12	0.704	0.109	0.272917	NR	NA
Calcium, ICAP	(mg/L)	24	24	146	18.1	60.2875	NR	NA
Chromium, PMS	(mg/L)	24	3	0.00363	0.00297	0.003267	NR	NA
Iron, ICAP	(mg/L)	24	19	1.35	0.0501	0.237316	0.3	3
Lead, PMS	(mg/L)	24	5	0.0024	0.00055	0.001065	0.015	0
Lithium, ICAP	(mg/L)	24	14	0.13	0.0106	0.043007	NR	NA
Magnesium, ICAP	(mg/L)	24	24	29.9	10.3	19.52917	NR	NA
Manganese, ICAP	(mg/L)	24	13	0.111	0.00545	0.031305	0.05	3
Potassium, ICAP	(mg/L)	24	12	5.45	2.07	3.504167	NR	NA
Selenium, PMS	(mg/L)	24	7	0.0515	0.0106	0.024057	0.05	1
Sodium, ICAP	(mg/L)	24	24	180	0.691	34.70796	NR	NA
Strontium, ICAP	(mg/L)	24	24	4.24	0.0686	1.097138	NR	NA
Thallium, PMS	(mg/L)	24	4	0.00069	0.000528	0.000615	0.002	0
Uranium, PMS	(mg/L)	24	3	0.000603	0.000541	0.000582	0.03	0
Zinc, ICAP	(mg/L)	24	7	0.119	0.0656	0.091129	5	0
Conductivity, field measurement	(umhos/cm)	24	NA	943	309	581.4167	NR	NA
Depth to Water	(ft)	24	NA	73.11	14.24	61.74792	NR	NA
Dissolved Oxygen, field measurement	(ppm)	24	NA	18	0.18	8.190417	NR	NA
pH, field measurement	(pH)	24	NA	7.98	6.11	6.935417	6.5/8.5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.54. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
REDOX, field measurement	(mV)	24	NA	227	-75	75.33333	NR	NA
Static Water Level	(ft - toc)	24	NA	-14.24	-73.11	-61.7479	NR	NA
Temperature, field measurement	(Deg C)	24	NA	19.3	11.9	15.38333	NR	NA
Alkalinity as HCO3	(mg/L)	24	24	342	145	225	NR	NA
Conductivity	(umhos/cm)	24	24	998	295	578.4583	NR	NA
Dissolved Solids	(mg/L)	24	24	589	162	324.9167	500	3
pH	(pH)	24	24	8.12	7.06	7.681667	6.5/8.5	0
Total Suspended Solids	(mg/L)	24	7	3	1	2	NR	NA
Turbidity	(NTU)	24	24	8.29	0.398	2.672417	1	17
Technetium-99	(pCi/L)	14	14	2.9	-17	-4.15643	4000	0
Gross Alpha	(pCi/L)	24	24	4	-1.8	0.457083	15	0
Gross Beta	(pCi/L)	24	24	8.9	-0.7	2.77375	50	0
1,2-Dichloroethene (Total)	(ug/L)	24	4	4	2	3	NR	NA
Acetone	(ug/L)	24	1	7	7	7	NR	NA
Carbon tetrachloride	(ug/L)	24	8	440	84	266.75	5	8
Chloroform	(ug/L)	24	8	54	10	29.375	100	0
cis-1,2-Dichloroethene	(ug/L)	24	7	4	1	2.428571	70	0
Ethylbenzene	(ug/L)	24	1	2	2	2	700	0
Styrene	(ug/L)	24	1	2	2	2	100	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.54. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Tetrachloroethene	(ug/L)	24	8	36	6	21.875	5	8
Toluene	(ug/L)	24	1	2	2	2	1000	0
Trichloroethene	(ug/L)	24	7	5	2	3.428571	5	0
Trichlorofluoromethane	(ug/L)	24	7	6	2	3.285714	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.55. REGIME=EF AREA NAME=Exit Pathway Scarboro Road/Pine Rid								
Chloride	(mg/L)	6	6	13.6	1.38	5.425	250	0
Fluoride	(mg/L)	6	4	0.318	0.194	0.25525	4	0
Nitrate Nitrogen	(mg/L)	6	1	0.148	0.148	0.148	10	0
Sulfate	(mg/L)	6	6	116	4.54	58.15667	250	0
Aluminum, ICAP	(mg/L)	6	1	0.397	0.397	0.397	0.2	1
Arsenic, PMS	(mg/L)	6	1	0.0226	0.0226	0.0226	0.05	0
Barium, ICAP	(mg/L)	6	6	0.35	0.0408	0.142733	2	0
Boron, ICAP	(mg/L)	6	4	0.244	0.123	0.1835	NR	NA
Cadmium, PMS	(mg/L)	6	1	0.000616	0.000616	0.000616	0.005	0
Calcium, ICAP	(mg/L)	6	6	85	57.7	70.25	NR	NA
Cobalt, ICAP	(mg/L)	6	1	0.021	0.021	0.021	NR	NA
Iron, ICAP	(mg/L)	6	6	91.9	0.351	17.91433	0.3	6
Lead, PMS	(mg/L)	6	5	0.00803	0.000758	0.003398	0.015	0
Lithium, ICAP	(mg/L)	6	4	0.0365	0.0336	0.0349	NR	NA
Magnesium, ICAP	(mg/L)	6	6	39.8	17.2	28.46667	NR	NA
Manganese, ICAP	(mg/L)	6	6	1.86	0.0159	0.480633	0.05	2
Nickel, PMS	(mg/L)	6	1	0.00641	0.00641	0.00641	NR	NA
Potassium, ICAP	(mg/L)	6	6	6.23	3.18	4.071667	NR	NA
Sodium, ICAP	(mg/L)	6	6	17	5.06	11.23	NR	NA
Strontium, ICAP	(mg/L)	6	6	1.47	0.106	0.702833	NR	NA
Uranium, PMS	(mg/L)	6	1	0.00124	0.00124	0.00124	0.03	0
Zinc, ICAP	(mg/L)	6	2	1.8	1.78	1.79	5	0
Conductivity, field measurement	(umhos/cm)	6	NA	732	579	657.5	NR	NA
Depth to Water	(ft)	6	NA	14.45	3.08	8.078333	NR	NA
Dissolved Oxygen, field measurement	(ppm)	6	NA	2.75	1.11	1.563333	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.55. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH, field measurement	(pH)	6	NA	8.02	6.26	7.243333	6.5/8.5	1
REDOX, field measurement	(mV)	6	NA	7	-136	-59	NR	NA
Static Water Level	(ft - toc)	6	NA	-3.08	-14.45	-8.07833	NR	NA
Temperature, field measurement	(Deg C)	6	NA	15.7	13.2	14.93333	NR	NA
Alkalinity as HCO3	(mg/L)	6	6	288	202	244.6667	NR	NA
Conductivity	(umhos/cm)	6	6	631	456	574.5	NR	NA
Dissolved Solids	(mg/L)	6	6	407	247	342.5	500	0
pH	(pH)	6	6	7.84	6.76	7.338333	6.5/8.5	0
Total Suspended Solids	(mg/L)	6	3	106	2	43.33333	NR	NA
Turbidity	(NTU)	6	6	318	3.38	64.065	1	6
Technetium-99	(pCi/L)	6	6	30	-9.8	3.535	4000	0
Gross Alpha	(pCi/L)	6	6	3.1	0.26	1.44	15	0
Gross Beta	(pCi/L)	6	6	12	1.1	6.616667	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.56. REGIME=EF AREA NAME=Exit Pathway Spring/Surface Water

Chloride	(mg/L)	2	2	12.9	11.9	12.4	250	0
Fluoride	(mg/L)	2	2	0.339	0.171	0.255	4	0
Nitrate Nitrogen	(mg/L)	2	2	1.37	1.21	1.29	10	0
Sulfate	(mg/L)	2	2	30.6	29.3	29.95	250	0
Barium, ICAP	(mg/L)	2	2	0.0466	0.041	0.0438	2	0
Calcium, ICAP	(mg/L)	2	2	51.1	42.1	46.6	NR	NA
Iron, ICAP	(mg/L)	2	1	0.062	0.062	0.062	0.3	0
Lead, PMS	(mg/L)	2	1	0.00164	0.00164	0.00164	0.015	0
Lithium, ICAP	(mg/L)	2	1	0.0156	0.0156	0.0156	NR	NA
Magnesium, ICAP	(mg/L)	2	2	13	11.6	12.3	NR	NA
Manganese, ICAP	(mg/L)	2	1	0.00643	0.00643	0.00643	0.05	0
Potassium, ICAP	(mg/L)	2	1	2.14	2.14	2.14	NR	NA
Sodium, ICAP	(mg/L)	2	2	10.8	9.68	10.24	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.125	0.122	0.1235	NR	NA
Uranium, PMS	(mg/L)	2	2	0.00533	0.00442	0.004875	0.03	0
Conductivity, field measurement	(umhos/cm)	2	NA	486	396	441	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	3.38	2.95	3.165	NR	NA
pH, field measurement	(pH)	2	NA	7.59	6.81	7.2	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	232	196	214	NR	NA
Temperature, field measurement	(Deg C)	2	NA	17.3	15.1	16.2	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	138	128	133	NR	NA
Conductivity	(umhos/cm)	2	2	380	349	364.5	NR	NA
Dissolved Solids	(mg/L)	2	2	229	210	219.5	500	0
pH	(pH)	2	2	7.78	7.47	7.625	6.5/8.5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.56. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Turbidity	(NTU)	2	2	2.09	1.36	1.725	1	2
Iodine-129	(pCi/L)	2	2	7	-15	-4	NR	NA
Thorium-228	(pCi/L)	2	2	0.14	0.067	0.1035	16	0
Thorium-230	(pCi/L)	2	2	0.37	0.31	0.34	12	0
Thorium-231+234	(pCi/L)	2	2	1.8	1.7	1.75	400	0
Thorium-232	(pCi/L)	2	2	0.044	-0.014	0.015	2	0
Uranium-234	(pCi/L)	2	2	1	0.84	0.92	20	0
Uranium-235	(pCi/L)	2	2	0.11	0	0.055	24	0
Neptunium-237	(pCi/L)	2	2	-0.076	-0.082	-0.079	1.2	0
Plutonium-238	(pCi/L)	2	2	-0.031	-0.052	-0.0415	1.6	0
Uranium-238	(pCi/L)	2	2	1.8	1.7	1.75	24	0
Americium-241	(pCi/L)	2	2	0.27	0.16	0.215	1.2	0
Strontium-89/90	(pCi/L)	2	2	1.4	-1.8	-0.2	NR	NA
Technetium-99	(pCi/L)	2	2	-0.96	-3.6	-2.28	4000	0
Gross Alpha	(pCi/L)	2	2	3.6	0.51	2.055	15	0
Gross Beta	(pCi/L)	2	2	5.4	3.7	4.55	50	0
Radium - Total Alpha	(pCi/L)	2	2	0.77	-0.54	0.115	5	0
Tritium	(pCi/L)	2	2	210	-170	20	20000	0
Carbon tetrachloride	(ug/L)	2	2	8	3	5.5	5	1
Chloroform	(ug/L)	2	2	6	3	4.5	100	0
Tetrachloroethene	(ug/L)	2	2	3	2	2.5	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.57. REGIME=EF AREA NAME=Fire Training Facility								
Chloride	(mg/L)	2	2	2.74	2.05	2.395	250	0
Fluoride	(mg/L)	2	2	0.17	0.135	0.1525	4	0
Nitrate Nitrogen	(mg/L)	2	2	1.36	1.13	1.245	10	0
Sulfate	(mg/L)	2	2	6.18	5.7	5.94	250	0
Aluminum, ICAP	(mg/L)	2	1	1.4	1.4	1.4	0.2	1
Barium, ICAP	(mg/L)	2	2	0.0295	0.0282	0.02885	2	0
Cadmium, PMS	(mg/L)	2	1	0.00051	0.00051	0.00051	0.005	0
Calcium, ICAP	(mg/L)	2	2	118	17.8	67.9	NR	NA
Iron, ICAP	(mg/L)	2	1	0.165	0.165	0.165	0.3	0
Lithium, ICAP	(mg/L)	2	2	0.0243	0.0232	0.02375	NR	NA
Magnesium, ICAP	(mg/L)	2	1	0.244	0.244	0.244	NR	NA
Potassium, ICAP	(mg/L)	2	2	19.1	14.4	16.75	NR	NA
Sodium, ICAP	(mg/L)	2	2	2.58	2.37	2.475	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.379	0.365	0.372	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	1607	217	912	NR	NA
Depth to Water	(ft)	2	NA	29.4	25.79	27.595	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	4.87	0.62	2.745	NR	NA
pH, field measurement	(pH)	2	NA	11.62	10.6	11.11	6.5/8.5	2
REDOX, field measurement	(mV)	2	NA	68	-52	8	NR	NA
Static Water Level	(ft - toc)	2	NA	-25.79	-29.4	-27.595	NR	NA
Temperature, field measurement	(Deg C)	2	NA	15.7	15	15.35	NR	NA
Alkalinity as CO3	(mg/L)	2	2	28	14.4	21.2	NR	NA
Conductivity	(umhos/cm)	2	2	1300	207	753.5	NR	NA
Dissolved Solids	(mg/L)	2	2	317	75	196	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.57. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	2	2	11.8	10.52	11.16	6.5/8.5	2
Turbidity	(NTU)	2	2	2.87	0.894	1.882	1	1
Gross Alpha	(pCi/L)	2	2	1	-1.8	-0.4	15	0
Gross Beta	(pCi/L)	2	2	12	9.4	10.7	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	2	15	4	9.5	NR	NA
cis-1,2-Dichloroethene	(ug/L)	2	2	15	4	9.5	70	0
Tetrachloroethene	(ug/L)	2	2	18	11	14.5	5	2
Toluene	(ug/L)	2	1	2	2	2	1000	0
Trichloroethene	(ug/L)	2	2	7	2	4.5	5	1
Xylenes	(ug/L)	2	1	4	4	4	10000	0
Xylenes	(ug/L)	2	1	4	4	4	10000	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.58. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location C1								
Chloride	(mg/L)	4	4	34.6	7.17	20.9125	250	0
Fluoride	(mg/L)	4	3	0.116	0.1	0.107	4	0
Nitrate Nitrogen	(mg/L)	4	1	0.042	0.042	0.042	10	0
Sulfate	(mg/L)	4	4	21.2	6.59	14.3725	250	0
Barium, ICAP	(mg/L)	4	4	0.147	0.048	0.098325	2	0
Calcium, ICAP	(mg/L)	4	4	77.8	12.1	44.4	NR	NA
Cobalt, ICAP	(mg/L)	4	1	0.0294	0.0294	0.0294	NR	NA
Iron, ICAP	(mg/L)	4	2	29.5	15.5	22.5	0.3	2
Lead, PMS	(mg/L)	4	2	0.00378	0.000814	0.002297	0.015	0
Lithium, ICAP	(mg/L)	4	2	0.0104	0.0103	0.01035	NR	NA
Magnesium, ICAP	(mg/L)	4	4	9.14	7.64	8.2125	NR	NA
Manganese, ICAP	(mg/L)	4	4	8.28	0.216	3.70825	0.05	4
Nickel, PMS	(mg/L)	4	1	0.00656	0.00656	0.00656	NR	NA
Sodium, ICAP	(mg/L)	4	4	21.3	6.11	12.9925	NR	NA
Strontium, ICAP	(mg/L)	4	4	0.188	0.0418	0.114525	NR	NA
Thallium, PMS	(mg/L)	4	1	0.000579	0.000579	0.000579	0.002	0
Conductivity, field measurement	(umhos/cm)	4	NA	513	349	429	NR	NA
Depth to Water	(ft)	4	NA	14.1	10.58	12.185	NR	NA
Dissolved Oxygen, field measurement	(ppm)	4	NA	1.47	0.17	0.8175	NR	NA
pH, field measurement	(pH)	4	NA	7.55	5.96	6.6425	6.5/8.5	2
REDOX, field measurement	(mV)	4	NA	189	-5	74.75	NR	NA
Static Water Level	(ft - toc)	4	NA	-10.58	-14.1	-12.185	NR	NA
Temperature, field measurement	(Deg C)	4	NA	20.2	16.5	18.425	NR	NA
Alkalinity as HCO3	(mg/L)	4	4	206	101	152	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.58. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Conductivity	(umhos/cm)	4	4	441	333	387.5	NR	NA
Dissolved Solids	(mg/L)	4	4	274	165	219	500	0
pH	(pH)	4	4	7.67	6.34	6.93	6.5/8.5	2
Total Suspended Solids	(mg/L)	4	1	2	2	2	NR	NA
Turbidity	(NTU)	4	4	155	0.333	40.06725	1	2
Iodine-129	(pCi/L)	4	4	9.2	-13.4	-0.53	NR	NA
Thorium-228	(pCi/L)	4	4	0.61	0	0.18175	16	0
Thorium-230	(pCi/L)	4	4	0.84	0.31	0.4625	12	0
Thorium-231+234	(pCi/L)	4	4	0.28	-0.02	0.0641	400	0
Thorium-232	(pCi/L)	4	4	0.059	-0.078	0.00325	2	0
Uranium-234	(pCi/L)	4	4	0.091	-0.043	0.022	20	0
Uranium-235	(pCi/L)	4	4	0.12	0	0.05775	24	0
Neptunium-237	(pCi/L)	4	4	0.04	-0.12	-0.03275	1.2	0
Plutonium-238	(pCi/L)	4	4	0.015	-0.067	-0.01903	1.6	0
Uranium-238	(pCi/L)	4	4	0.0084	-0.02	-0.0044	24	0
Americium-241	(pCi/L)	4	4	0.14	0.058	0.093	1.2	0
Strontium-89/90	(pCi/L)	4	4	-0.57	-8.2	-4.5675	NR	NA
Technetium-99	(pCi/L)	4	4	1.9	-5.4	-1.7975	4000	0
Gross Alpha	(pCi/L)	4	4	1.2	-0.6	0.1375	15	0
Gross Beta	(pCi/L)	4	4	6.6	1.1	3.35	50	0
Radium - Total Alpha	(pCi/L)	4	4	0.45	0.14	0.28	5	0
Tritium	(pCi/L)	4	4	370	74	203.5	20000	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.59. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location D1								
Chloride	(mg/L)	4	4	76.9	27.5	42.625	250	0
Sulfate	(mg/L)	4	2	15.9	15.6	15.75	250	0
Barium, ICAP	(mg/L)	4	4	0.268	0.0296	0.150125	2	0
Calcium, ICAP	(mg/L)	4	4	106	2.21	53.11	NR	NA
Iron, ICAP	(mg/L)	4	4	35.7	0.119	17.369	0.3	2
Lead, PMS	(mg/L)	4	2	0.00387	0.00312	0.003495	0.015	0
Lithium, ICAP	(mg/L)	4	2	0.019	0.0176	0.0183	NR	NA
Magnesium, ICAP	(mg/L)	4	4	10.7	1.72	6.0925	NR	NA
Manganese, ICAP	(mg/L)	4	4	1.72	0.502	1.10125	0.05	4
Nickel, PMS	(mg/L)	4	2	0.0155	0.00603	0.010765	NR	NA
Potassium, ICAP	(mg/L)	4	1	2.15	2.15	2.15	NR	NA
Selenium, PMS	(mg/L)	4	1	0.0108	0.0108	0.0108	0.05	0
Sodium, ICAP	(mg/L)	4	4	11.5	10.5	11.05	NR	NA
Strontium, ICAP	(mg/L)	4	4	0.32	0.0132	0.1657	NR	NA
Thallium, PMS	(mg/L)	4	2	0.000596	0.000545	0.000571	0.002	0
Conductivity, field measurement	(umhos/cm)	4	NA	695	230	458.75	NR	NA
Depth to Water	(ft)	4	NA	14.05	13.13	13.585	NR	NA
Dissolved Oxygen, field measurement	(ppm)	4	NA	1.71	0.13	0.705	NR	NA
pH, field measurement	(pH)	4	NA	6.86	5.65	6.26	6.5/8.5	2
REDOX, field measurement	(mV)	4	NA	215	-33	63.5	NR	NA
Static Water Level	(ft - toc)	4	NA	-13.13	-14.05	-13.585	NR	NA
Temperature, field measurement	(Deg C)	4	NA	19	15.7	17.725	NR	NA
Alkalinity as HCO3	(mg/L)	4	4	254	59	152.7	NR	NA
Conductivity	(umhos/cm)	4	4	619	208	413.25	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.59. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Dissolved Solids	(mg/L)	4	4	355	101	227.25	500	0
pH	(pH)	4	4	7.46	6.09	6.775	6.5/8.5	2
Turbidity	(NTU)	4	4	93.3	1.2	32.745	1	4
Iodine-129	(pCi/L)	4	4	12	3.18	7.8125	NR	NA
Thorium-228	(pCi/L)	4	4	0.095	-0.032	0.026225	16	0
Thorium-230	(pCi/L)	4	4	0.33	0.15	0.245	12	0
Thorium-231+234	(pCi/L)	4	4	0.079	0.007	0.03675	400	0
Thorium-232	(pCi/L)	4	4	0	-0.035	-0.018	2	0
Uranium-234	(pCi/L)	4	4	0.37	-0.03	0.12675	20	0
Uranium-235	(pCi/L)	4	4	0.028	-0.015	0.00325	24	0
Neptunium-237	(pCi/L)	4	4	0.021	-0.17	-0.05775	1.2	0
Plutonium-238	(pCi/L)	4	4	0.0086	-0.053	-0.02835	1.6	0
Uranium-238	(pCi/L)	4	4	0.079	0.007	0.03675	24	0
Americium-241	(pCi/L)	4	4	0.26	0.08	0.18	1.2	0
Strontium-89/90	(pCi/L)	4	4	0.077	-9.5	-2.93575	NR	NA
Technetium-99	(pCi/L)	4	4	-2.2	-5.1	-3.425	4000	0
Gross Alpha	(pCi/L)	4	4	1.4	-0.83	0.01525	15	0
Gross Beta	(pCi/L)	4	4	15	0.64	4.955	50	0
Radium - Total Alpha	(pCi/L)	4	4	0.3	-0.028	0.1555	5	0
Tritium	(pCi/L)	4	4	360	98	249.5	20000	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.60. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location D2								
Chloride	(mg/L)	2	2	7.34	6.66	7	250	0
Sulfate	(mg/L)	2	2	11.6	11	11.3	250	0
Barium, ICAP	(mg/L)	2	2	0.267	0.263	0.265	2	0
Calcium, ICAP	(mg/L)	2	2	67.8	65.7	66.75	NR	NA
Iron, ICAP	(mg/L)	2	2	0.298	0.0702	0.1841	0.3	0
Lead, PMS	(mg/L)	2	1	0.000534	0.000534	0.000534	0.015	0
Lithium, ICAP	(mg/L)	2	2	0.014	0.0139	0.01395	NR	NA
Magnesium, ICAP	(mg/L)	2	2	14.9	14.9	14.9	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.0176	0.0146	0.0161	0.05	0
Potassium, ICAP	(mg/L)	2	1	2.1	2.1	2.1	NR	NA
Sodium, ICAP	(mg/L)	2	2	7.47	7.43	7.45	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.437	0.425	0.431	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	522	497	509.5	NR	NA
Depth to Water	(ft)	2	NA	23.89	23.19	23.54	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	1.05	0.39	0.72	NR	NA
pH, field measurement	(pH)	2	NA	7.41	7.24	7.325	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	18	2	10	NR	NA
Static Water Level	(ft - toc)	2	NA	-23.19	-23.89	-23.54	NR	NA
Temperature, field measurement	(Deg C)	2	NA	18.4	18.3	18.35	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	230	216	223	NR	NA
Conductivity	(umhos/cm)	2	2	450	444	447	NR	NA
Dissolved Solids	(mg/L)	2	2	279	268	273.5	500	0
pH	(pH)	2	2	7.59	7.33	7.46	6.5/8.5	0
Turbidity	(NTU)	2	2	0.512	0.405	0.4585	1	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.60. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Gross Alpha	(pCi/L)	2	2	-1.1	-1.5	-1.3	15	0
Gross Beta	(pCi/L)	2	2	4	3.3	3.65	50	0
Tetrachloroethene	(ug/L)	2	2	100	53	76.5	5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.61. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location E3								
Chloride	(mg/L)	3	3	14.4	11.9	13.26667	250	0
Nitrate Nitrogen	(mg/L)	3	2	0.175	0.081	0.128	10	0
Sulfate	(mg/L)	3	3	18.4	16.5	17.6	250	0
Barium, ICAP	(mg/L)	3	3	0.588	0.459	0.526667	2	0
Boron, ICAP	(mg/L)	3	3	0.134	0.119	0.125333	NR	NA
Calcium, ICAP	(mg/L)	3	3	77.9	70.9	75.13333	NR	NA
Chromium, PMS	(mg/L)	3	2	0.00395	0.00272	0.003335	NR	NA
Iron, ICAP	(mg/L)	3	3	0.96	0.279	0.670333	0.3	2
Lithium, ICAP	(mg/L)	3	3	0.0204	0.0196	0.0201	NR	NA
Magnesium, ICAP	(mg/L)	3	3	16.4	16.1	16.26667	NR	NA
Manganese, ICAP	(mg/L)	3	3	0.0319	0.0304	0.031167	0.05	0
Potassium, ICAP	(mg/L)	3	3	5.3	5.06	5.19	NR	NA
Sodium, ICAP	(mg/L)	3	3	9.75	8.82	9.38	NR	NA
Strontium, ICAP	(mg/L)	3	3	1.15	1.1	1.116667	NR	NA
Uranium, PMS	(mg/L)	3	3	0.00204	0.00109	0.001467	0.03	0
Conductivity, field measurement	(umhos/cm)	3	NA	637	558	592	NR	NA
Depth to Water	(ft)	3	NA	9.5	8.96	9.233333	NR	NA
Dissolved Oxygen, field measurement	(ppm)	3	NA	0.23	0.03	0.136667	NR	NA
pH, field measurement	(pH)	3	NA	7.12	7.08	7.106667	6.5/8.5	0
REDOX, field measurement	(mV)	3	NA	147	-7	57.66667	NR	NA
Static Water Level	(ft - toc)	3	NA	-8.96	-9.5	-9.23333	NR	NA
Temperature, field measurement	(Deg C)	3	NA	17.8	15.4	16.9	NR	NA
Alkalinity as HCO3	(mg/L)	3	3	258	240	246	NR	NA
Conductivity	(umhos/cm)	3	3	534	501	516	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.61. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Dissolved Solids	(mg/L)	3	3	316	301	307	500	0
pH	(pH)	3	3	7.56	7.44	7.483333	6.5/8.5	0
Total Suspended Solids	(mg/L)	3	1	1	1	1	NR	NA
Turbidity	(NTU)	3	3	8.4	1.82	4.75	1	3
Iodine-129	(pCi/L)	2	2	4	2.6	3.3	NR	NA
Thorium-228	(pCi/L)	2	2	-0.048	-0.055	-0.0515	16	0
Thorium-230	(pCi/L)	2	2	0.38	0.14	0.26	12	0
Thorium-231+234	(pCi/L)	2	2	0.56	0.38	0.47	400	0
Thorium-232	(pCi/L)	2	2	-0.0025	-0.048	-0.02525	2	0
Uranium-234	(pCi/L)	3	3	57	36	44.66667	20	3
Uranium-235	(wt %)	3	3	8	7.75	7.863333	NR	NA
Uranium-235	(pCi/L)	3	3	0.6	0.36	0.496667	24	0
Neptunium-237	(pCi/L)	2	2	0.02	-0.15	-0.065	1.2	0
Plutonium-238	(pCi/L)	2	2	0.14	0.017	0.0785	1.6	0
Uranium-238	(wt %)	1	1	91	91	91	NR	NA
Uranium-238	(pCi/L)	3	3	0.56	0.28	0.406667	24	0
Americium-241	(pCi/L)	2	2	0.087	-0.079	0.004	1.2	0
Gross Alpha	(pCi/L)	3	3	64	25	43.33333	15	3
Gross Beta	(pCi/L)	3	3	13	-13	4.333333	50	0
Radium - Total Alpha	(pCi/L)	2	2	0.14	-1.1	-0.48	5	0
Uranium, Total	(mg/L)	3	3	0.002	0.0011	0.0015	NR	NA
1,1,1-Trichloroethane	(ug/L)	3	3	26	2	13.66667	200	0
1,1-Dichloroethane	(ug/L)	3	3	240	120	180	NR	NA
1,1-Dichloroethene	(ug/L)	3	3	65	28	46	7	3

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.61. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
1,2-Dichloroethene (Total)	(ug/L)	3	3	18	15	16	NR	NA
Chloroethane	(ug/L)	3	2	26	8	17	NR	NA
cis-1,2-Dichloroethene	(ug/L)	3	3	15	12	13.33333	70	0
Tetrachloroethene	(ug/L)	3	3	200	190	196.6667	5	3
trans-1,2-Dichloroethene	(ug/L)	3	3	3	2	2.666667	100	0
Trichloroethene	(ug/L)	3	3	63	54	58.66667	5	3
Vinyl chloride	(ug/L)	3	2	4	2	3	2	1

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.62. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location F3								
Chloride	(mg/L)	2	2	11.2	10.7	10.95	250	0
Nitrate Nitrogen	(mg/L)	2	2	0.989	0.518	0.7535	10	0
Sulfate	(mg/L)	2	2	22.7	20.3	21.5	250	0
Barium, ICAP	(mg/L)	2	2	0.395	0.379	0.387	2	0
Calcium, ICAP	(mg/L)	2	2	67.1	65.3	66.2	NR	NA
Lithium, ICAP	(mg/L)	2	2	0.0133	0.0127	0.013	NR	NA
Magnesium, ICAP	(mg/L)	2	2	12.4	11.9	12.15	NR	NA
Manganese, ICAP	(mg/L)	2	1	0.0121	0.0121	0.0121	0.05	0
Potassium, ICAP	(mg/L)	2	2	3.18	3.06	3.12	NR	NA
Sodium, ICAP	(mg/L)	2	2	6.17	6.12	6.145	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.354	0.34	0.347	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	546	483	514.5	NR	NA
Depth to Water	(ft)	2	NA	3.84	3.42	3.63	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.96	0.36	0.66	NR	NA
pH, field measurement	(pH)	2	NA	7.45	7.32	7.385	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	183	170	176.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-3.42	-3.84	-3.63	NR	NA
Temperature, field measurement	(Deg C)	2	NA	19.7	18.3	19	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	185	179	182	NR	NA
Conductivity	(umhos/cm)	2	2	428	425	426.5	NR	NA
Dissolved Solids	(mg/L)	2	2	258	238	248	500	0
pH	(pH)	2	2	7.64	7.58	7.61	6.5/8.5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.62. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Turbidity	(NTU)	2	2	1.07	0.373	0.7215	1	1
Gross Alpha	(pCi/L)	2	2	0	-1.7	-0.85	15	0
Gross Beta	(pCi/L)	2	2	4.8	3.8	4.3	50	0
Chloroform	(ug/L)	2	1	1	1	1	100	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.63. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location G3								
Chloride	(mg/L)	4	4	15.6	14.5	14.9	250	0
Fluoride	(mg/L)	4	2	0.233	0.209	0.221	4	0
Nitrate Nitrogen	(mg/L)	4	4	0.826	0.0856	0.55815	10	0
Sulfate	(mg/L)	4	4	29.7	19.3	26.75	250	0
Barium, ICAP	(mg/L)	4	4	0.379	0.0644	0.21935	2	0
Calcium, ICAP	(mg/L)	4	4	80.2	61.7	71.15	NR	NA
Chromium, PMS	(mg/L)	4	2	0.0234	0.0225	0.02295	NR	NA
Chromium, ICAP	(mg/L)	4	2	0.0233	0.0202	0.02175	0.1	0
Iron, ICAP	(mg/L)	4	3	0.275	0.0593	0.1551	0.3	0
Lithium, ICAP	(mg/L)	4	2	0.0147	0.0128	0.01375	NR	NA
Magnesium, ICAP	(mg/L)	4	4	9.53	5.02	7.07	NR	NA
Manganese, ICAP	(mg/L)	4	1	0.0109	0.0109	0.0109	0.05	0
Nickel, PMS	(mg/L)	4	2	0.113	0.0498	0.0814	NR	NA
Nickel, ICAP	(mg/L)	4	1	0.101	0.101	0.101	0.1	1
Potassium, ICAP	(mg/L)	4	4	2.78	2.15	2.4875	NR	NA
Sodium, ICAP	(mg/L)	4	4	9.2	7.41	8.435	NR	NA
Strontium, ICAP	(mg/L)	4	4	0.38	0.0846	0.223575	NR	NA
Uranium, PMS	(mg/L)	4	2	0.000991	0.000531	0.000761	0.03	0
Conductivity, field measurement	(umhos/cm)	4	NA	574	440	508.75	NR	NA
Depth to Water	(ft)	4	NA	13.54	8.32	10.9025	NR	NA
Dissolved Oxygen, field measurement	(ppm)	4	NA	4.81	0.06	1.985	NR	NA
pH, field measurement	(pH)	4	NA	7.45	6.8	7.1125	6.5/8.5	0
REDOX, field measurement	(mV)	4	NA	174	10	100.25	NR	NA
Static Water Level	(ft - toc)	4	NA	-8.32	-13.54	-10.9025	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.63. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Temperature, field measurement	(Deg C)	4	NA	21.5	14.4	17.625	NR	NA
Alkalinity as HCO3	(mg/L)	4	4	212	138	177.75	NR	NA
Conductivity	(umhos/cm)	4	4	481	380	430.25	NR	NA
Dissolved Solids	(mg/L)	4	4	287	214	253.5	500	0
pH	(pH)	4	4	7.47	7.15	7.3575	6.5/8.5	0
Turbidity	(NTU)	4	4	8.5	1.25	3.22	1	4
Gross Alpha	(pCi/L)	4	4	0.4	-1.2	-0.29	15	0
Gross Beta	(pCi/L)	4	4	4.9	2.2	3.1	50	0
1,2-Dichloroethene (Total)	(ug/L)	4	1	4	4	4	NR	NA
Carbon tetrachloride	(ug/L)	4	3	73	4	38.33333	5	2
Chloroform	(ug/L)	4	4	8	4	6	100	0
cis-1,2-Dichloroethene	(ug/L)	4	1	4	4	4	70	0
Tetrachloroethene	(ug/L)	4	2	15	12	13.5	5	2
Trichloroethene	(ug/L)	4	2	4	3	3.5	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.64. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location K1								
Chloride	(mg/L)	2	2	8.39	7.92	8.155	250	0
Fluoride	(mg/L)	2	1	0.107	0.107	0.107	4	0
Sulfate	(mg/L)	2	2	12.7	11.9	12.3	250	0
Antimony, PMS	(mg/L)	2	1	0.00424	0.00424	0.00424	0.006	0
Barium, ICAP	(mg/L)	2	2	0.298	0.293	0.2955	2	0
Calcium, ICAP	(mg/L)	2	2	45.1	45	45.05	NR	NA
Iron, ICAP	(mg/L)	2	2	0.345	0.113	0.229	0.3	1
Lead, PMS	(mg/L)	2	1	0.0014	0.0014	0.0014	0.015	0
Lithium, ICAP	(mg/L)	2	2	0.0283	0.0275	0.0279	NR	NA
Magnesium, ICAP	(mg/L)	2	2	12	11.5	11.75	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.0278	0.0224	0.0251	0.05	0
Potassium, ICAP	(mg/L)	2	2	3.52	3.39	3.455	NR	NA
Sodium, ICAP	(mg/L)	2	2	38	36.6	37.3	NR	NA
Strontium, ICAP	(mg/L)	2	2	1.34	1.33	1.335	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	545	490	517.5	NR	NA
Depth to Water	(ft)	2	NA	7.47	6.78	7.125	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.39	0.1	0.245	NR	NA
pH, field measurement	(pH)	2	NA	7.78	7.7	7.74	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	-205	-273	-239	NR	NA
Static Water Level	(ft - toc)	2	NA	-6.78	-7.47	-7.125	NR	NA
Temperature, field measurement	(Deg C)	2	NA	17	16	16.5	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	216	212	214	NR	NA
Conductivity	(umhos/cm)	2	2	452	436	444	NR	NA
Dissolved Solids	(mg/L)	2	2	274	260	267	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.64. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	2	2	7.88	7.88	7.88	6.5/8.5	0
Turbidity	(NTU)	2	2	0.492	0.376	0.434	1	0
Technetium-99	(pCi/L)	2	2	5.1	-2.5	1.3	4000	0
Gross Alpha	(pCi/L)	2	2	2.8	0.55	1.675	15	0
Gross Beta	(pCi/L)	2	2	6.7	4.5	5.6	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.65. REGIME=EF AREA NAME=GW Monitoring Plan Grid Location K2								
Chloride	(mg/L)	2	2	2.09	1.99	2.04	250	0
Fluoride	(mg/L)	2	2	0.19	0.181	0.1855	4	0
Sulfate	(mg/L)	2	2	16	15.8	15.9	250	0
Barium, ICAP	(mg/L)	2	2	0.163	0.16	0.1615	2	0
Calcium, ICAP	(mg/L)	2	2	46.8	45.3	46.05	NR	NA
Lithium, ICAP	(mg/L)	2	2	0.0168	0.0164	0.0166	NR	NA
Magnesium, ICAP	(mg/L)	2	2	11	10.8	10.9	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.0166	0.0132	0.0149	0.05	0
Potassium, ICAP	(mg/L)	2	2	2.29	2.27	2.28	NR	NA
Sodium, ICAP	(mg/L)	2	2	31.2	30.5	30.85	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.645	0.627	0.636	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	508	439	473.5	NR	NA
Depth to Water	(ft)	2	NA	7.08	6.23	6.655	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	1.48	0.61	1.045	NR	NA
pH, field measurement	(pH)	2	NA	7.59	6.75	7.17	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	99	-70	14.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-6.23	-7.08	-6.655	NR	NA
Temperature, field measurement	(Deg C)	2	NA	18	15.1	16.55	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	208	204	206	NR	NA
Conductivity	(umhos/cm)	2	2	426	411	418.5	NR	NA
Dissolved Solids	(mg/L)	2	2	251	234	242.5	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.65. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	2	2	7.75	7.71	7.73	6.5/8.5	0
Turbidity	(NTU)	2	2	0.358	0.302	0.33	1	0
Technetium-99	(pCi/L)	2	2	4.2	-8.4	-2.1	4000	0
Gross Alpha	(pCi/L)	2	2	2.2	0.86	1.53	15	0
Gross Beta	(pCi/L)	2	2	4.1	3.1	3.6	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.66. REGIME=EF AREA NAME=Grid J Primary

Chloride	(mg/L)	2	2	79.4	79.2	79.3	250	0
Fluoride	(mg/L)	2	2	0.265	0.225	0.245	4	0
Sulfate	(mg/L)	2	2	2.03	0.516	1.273	250	0
Barium, ICAP	(mg/L)	2	2	0.0517	0.0512	0.05145	2	0
Calcium, ICAP	(mg/L)	2	2	108	104	106	NR	NA
Iron, ICAP	(mg/L)	2	2	28.9	25.1	27	0.3	2
Magnesium, ICAP	(mg/L)	2	2	15.2	15.2	15.2	NR	NA
Manganese, ICAP	(mg/L)	2	2	1.08	0.736	0.908	0.05	2
Sodium, ICAP	(mg/L)	2	2	17.6	16	16.8	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.219	0.208	0.2135	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	942	883	912.5	NR	NA
Depth to Water	(ft)	2	NA	10.19	9.78	9.985	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.38	0.06	0.22	NR	NA
pH, field measurement	(pH)	2	NA	6.88	6.7	6.79	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	-103	-206	-154.5	NR	NA
Static Water Level	(ft - toc)	2	NA	-9.78	-10.19	-9.985	NR	NA
Temperature, field measurement	(Deg C)	2	NA	22	16.7	19.35	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	274	254	264	NR	NA
Conductivity	(umhos/cm)	2	2	756	747	751.5	NR	NA
Dissolved Solids	(mg/L)	2	2	405	402	403.5	500	0
pH	(pH)	2	2	6.77	6.74	6.755	6.5/8.5	0
Total Suspended Solids	(mg/L)	2	2	47	31	39	NR	NA
Turbidity	(NTU)	2	2	296	264	280	1	2
Gross Alpha	(pCi/L)	2	2	27	0.78	13.89	15	1

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.66. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Gross Beta	(pCi/L)	2	2	3.3	1.8	2.55	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	1	4	4	4	NR	NA
cis-1,2-Dichloroethene	(ug/L)	2	2	4	2	3	70	0
Vinyl chloride	(ug/L)	2	1	1	1	1	2	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.67. REGIME=EF AREA NAME=New Hope Pond

Chloride	(mg/L)	10	10	82	13.3	34.81	250	0
Fluoride	(mg/L)	10	4	0.234	0.166	0.195	4	0
Nitrate Nitrogen	(mg/L)	10	6	1.48	0.778	0.962667	10	0
Sulfate	(mg/L)	10	10	23	0.662	14.2302	250	0
Barium, ICAP	(mg/L)	10	10	0.643	0.0395	0.20497	2	0
Boron, ICAP	(mg/L)	10	1	0.111	0.111	0.111	NR	NA
Calcium, ICAP	(mg/L)	10	10	95.1	42.9	64.75	NR	NA
Chromium, PMS	(mg/L)	10	2	0.00603	0.00268	0.004355	NR	NA
Iron, ICAP	(mg/L)	10	8	9.21	0.0523	1.982788	0.3	4
Lead, PMS	(mg/L)	10	5	0.000639	0.000521	0.000561	0.015	0
Lithium, ICAP	(mg/L)	10	2	0.0172	0.016	0.0166	NR	NA
Magnesium, ICAP	(mg/L)	10	10	26	12	19.76	NR	NA
Manganese, ICAP	(mg/L)	10	6	0.457	0.00529	0.163037	0.05	4
Nickel, PMS	(mg/L)	10	1	0.0115	0.0115	0.0115	NR	NA
Potassium, ICAP	(mg/L)	10	8	3.09	2.06	2.5975	NR	NA
Selenium, PMS	(mg/L)	10	1	0.0111	0.0111	0.0111	0.05	0
Sodium, ICAP	(mg/L)	10	10	19.7	5.17	13.127	NR	NA
Strontium, ICAP	(mg/L)	10	10	0.447	0.0687	0.25868	NR	NA
Uranium, PMS	(mg/L)	10	4	0.00381	0.00089	0.002413	0.03	0
Conductivity, field measurement	(umhos/cm)	10	NA	829	440	601.5	NR	NA
Depth to Water	(ft)	10	NA	21.81	9.6	15.829	NR	NA
Dissolved Oxygen, field measurement	(ppm)	10	NA	6.7	0.03	1.818	NR	NA
pH, field measurement	(pH)	10	NA	7.79	7.06	7.415	6.5/8.5	0
REDOX, field measurement	(mV)	10	NA	202	-156	60.8	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.67. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Static Water Level	(ft - toc)	10	NA	-9.6	-21.81	-15.829	NR	NA
Temperature, field measurement	(Deg C)	10	NA	18.5	13.9	15.96	NR	NA
Alkalinity as HCO3	(mg/L)	10	10	298	166	214.3	NR	NA
Conductivity	(umhos/cm)	10	10	758	400	533.5	NR	NA
Dissolved Solids	(mg/L)	10	10	414	226	297.2	500	0
pH	(pH)	10	10	7.91	7.35	7.634	6.5/8.5	0
Total Suspended Solids	(mg/L)	10	2	13	8	10.5	NR	NA
Turbidity	(NTU)	10	10	116	0.791	20.6481	1	9
Gross Alpha	(pCi/L)	10	10	4.3	-1.5	0.509	15	0
Gross Beta	(pCi/L)	10	10	7.7	-0.65	3.373	50	0
1,1-Dichloroethene	(ug/L)	10	1	3	3	3	7	0
1,2-Dichloroethene (Total)	(ug/L)	10	5	130	3	59.2	NR	NA
Bromodichloromethane	(ug/L)	10	1	7	7	7	100	0
Bromoform	(ug/L)	10	1	22	22	22	100	0
Carbon disulfide	(ug/L)	10	1	3	3	3	NR	NA
Carbon tetrachloride	(ug/L)	10	8	1200	4	364.375	5	7
Chlorodibromomethane	(ug/L)	10	1	14	14	14	100	0
Chloroform	(ug/L)	10	7	300	2	65.71429	100	1
cis-1,2-Dichloroethene	(ug/L)	10	5	130	3	59.2	70	2
Methylene chloride	(ug/L)	10	1	2	2	2	5	0
Tetrachloroethene	(ug/L)	10	8	640	2	180.5	5	4

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.67. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
trans-1,2-Dichloroethene	(ug/L)	10	1	2	2	2	100	0
Trichloroethene	(ug/L)	10	5	190	2	92.4	5	4
Trichlorofluoromethane	(ug/L)	10	1	2	2	2	NR	NA
Vinyl chloride	(ug/L)	10	1	2	2	2	2	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.68. REGIME=EF AREA NAME=S-2 Site

Chloride	(mg/L)	2	2	7.88	4.75	6.315	250	0
Fluoride	(mg/L)	2	2	1.21	0.958	1.084	4	0
Nitrate Nitrogen	(mg/L)	2	2	55.7	20.4	38.05	10	2
Sulfate	(mg/L)	2	2	14.8	6.45	10.625	250	0
Aluminum, ICAP	(mg/L)	2	1	0.248	0.248	0.248	0.2	1
Barium, ICAP	(mg/L)	2	2	0.103	0.0551	0.07905	2	0
Cadmium, PMS	(mg/L)	2	2	0.118	0.0496	0.0838	0.005	2
Calcium, ICAP	(mg/L)	2	2	105	71.2	88.1	NR	NA
Copper, ICAP	(mg/L)	2	2	0.241	0.101	0.171	1.3	0
Iron, ICAP	(mg/L)	2	2	0.239	0.156	0.1975	0.3	0
Lead, PMS	(mg/L)	2	2	0.00114	0.000734	0.000937	0.015	0
Magnesium, ICAP	(mg/L)	2	2	14.4	8.53	11.465	NR	NA
Manganese, ICAP	(mg/L)	2	2	3.41	0.959	2.1845	0.05	2
Nickel, PMS	(mg/L)	2	2	0.0316	0.00927	0.020435	NR	NA
Potassium, ICAP	(mg/L)	2	2	3.08	2.16	2.62	NR	NA
Sodium, ICAP	(mg/L)	2	2	13.4	6.18	9.79	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.219	0.182	0.2005	NR	NA
Thallium, PMS	(mg/L)	2	2	0.00211	0.000935	0.001523	0.002	1
Uranium, PMS	(mg/L)	2	2	0.00349	0.00183	0.00266	0.03	0
Conductivity, field measurement	(umhos/cm)	2	NA	980	593	786.5	NR	NA
Depth to Water	(ft)	2	NA	22.97	16.74	19.855	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.15	0.11	0.13	NR	NA
pH, field measurement	(pH)	2	NA	6.59	6.01	6.3	6.5/8.5	1
REDOX, field measurement	(mV)	2	NA	302	229	265.5	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.68. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Static Water Level	(ft - toc)	2	NA	-16.74	-22.97	-19.855	NR	NA
Temperature, field measurement	(Deg C)	2	NA	14.9	13.1	14	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	165	156	160.5	NR	NA
Conductivity	(umhos/cm)	2	2	862	514	688	NR	NA
Dissolved Solids	(mg/L)	2	2	632	325	478.5	500	1
pH	(pH)	2	2	6.88	6.53	6.705	6.5/8.5	0
Total Suspended Solids	(mg/L)	2	1	3	3	3	NR	NA
Turbidity	(NTU)	2	2	3.21	2.82	3.015	1	2
Gross Alpha	(pCi/L)	2	2	7.4	2.8	5.1	15	0
Gross Beta	(pCi/L)	2	2	1.4	0.099	0.7495	50	0
1,2-Dichloroethene (Total)	(ug/L)	2	1	8	8	8	NR	NA
Carbon tetrachloride	(ug/L)	2	1	4	4	4	5	0
Chloroform	(ug/L)	2	2	10	4	7	100	0
cis-1,2-Dichloroethene	(ug/L)	2	1	8	8	8	70	0
Tetrachloroethene	(ug/L)	2	2	200	50	125	5	2
Trichloroethene	(ug/L)	2	2	100	18	59	5	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.69. REGIME=EF AREA NAME=GW-204

Chloride	(mg/L)	3	3	5.03	2.18	3.743333	250	0
Fluoride	(mg/L)	3	3	0.861	0.81	0.828333	4	0
Nitrate Nitrogen	(mg/L)	3	2	1.28	0.0863	0.68315	10	0
Sulfate	(mg/L)	3	3	39.7	22.3	31.33333	250	0
Antimony, PMS	(mg/L)	3	1	0.00357	0.00357	0.00357	0.006	0
Barium, ICAP	(mg/L)	3	3	0.0784	0.0611	0.0707	2	0
Boron, ICAP	(mg/L)	3	1	0.142	0.142	0.142	NR	NA
Calcium, ICAP	(mg/L)	3	3	58.2	37.5	50.23333	NR	NA
Chromium, PMS	(mg/L)	3	1	0.00276	0.00276	0.00276	NR	NA
Iron, ICAP	(mg/L)	3	3	0.221	0.0738	0.1291	0.3	0
Lead, PMS	(mg/L)	3	1	0.000664	0.000664	0.000664	0.015	0
Lithium, ICAP	(mg/L)	3	3	0.2	0.12	0.152333	NR	NA
Magnesium, ICAP	(mg/L)	3	3	9.89	6.28	8.6	NR	NA
Manganese, ICAP	(mg/L)	3	3	0.654	0.0186	0.303867	0.05	2
Potassium, ICAP	(mg/L)	3	3	3.04	2.17	2.606667	NR	NA
Sodium, ICAP	(mg/L)	3	3	6.71	3.64	4.706667	NR	NA
Strontium, ICAP	(mg/L)	3	3	0.139	0.0944	0.123133	NR	NA
Uranium, PMS	(mg/L)	3	3	0.104	0.0316	0.066433	0.03	3
Conductivity, field measurement	(umhos/cm)	3	NA	469	304	385.3333	NR	NA
Depth to Water	(ft)	3	NA	9.18	8.56	8.93	NR	NA
Dissolved Oxygen, field measurement	(ppm)	3	NA	2.62	0.58	1.56	NR	NA
pH, field measurement	(pH)	3	NA	7.73	7.34	7.483333	6.5/8.5	0
REDOX, field measurement	(mV)	3	NA	89	-191	-71	NR	NA
Static Water Level	(ft - toc)	3	NA	-8.56	-9.18	-8.93	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.69. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Temperature, field measurement	(Deg C)	3	NA	23.4	19	21.3	NR	NA
Alkalinity as HCO3	(mg/L)	3	3	133	103	121.6667	NR	NA
Conductivity	(umhos/cm)	3	3	369	251	321.6667	NR	NA
Dissolved Solids	(mg/L)	3	3	223	143	188.3333	500	0
pH	(pH)	3	3	7.98	7.64	7.76	6.5/8.5	0
Turbidity	(NTU)	3	3	1.98	0.971	1.377	1	2
Iodine-129	(pCi/L)	2	2	0.15	0.055	0.1025	NR	NA
Thorium-228	(pCi/L)	2	2	0.37	0.083	0.2265	16	0
Thorium-230	(pCi/L)	2	2	0.28	0.012	0.146	12	0
Thorium-231+234	(pCi/L)	2	2	29	11	20	400	0
Thorium-232	(pCi/L)	2	2	-0.0033	-0.038	-0.02065	2	0
Uranium-234	(wt %)	3	3	0.01	0.007	0.008333	NR	NA
Uranium-234	(pCi/L)	3	3	33	14	24	20	2
Uranium-235	(wt %)	3	3	0.75	0.65	0.716667	NR	NA
Uranium-235	(pCi/L)	3	3	1.6	0.63	1.243333	24	0
Uranium-236	(wt %)	3	3	0.023	0.02	0.021667	NR	NA
Neptunium-237	(pCi/L)	2	2	0.067	0.0076	0.0373	1.2	0
Plutonium-238	(pCi/L)	2	2	0.018	0.012	0.015	1.6	0
Uranium-238	(wt %)	3	3	99.32	99.22	99.25333	NR	NA
Uranium-238	(pCi/L)	3	3	29	11	19.66667	24	1
Americium-241	(pCi/L)	2	2	0.31	0.15	0.23	1.2	0
Strontium-89/90	(pCi/L)	2	2	-0.12	-4.6	-2.36	NR	NA
Technetium-99	(pCi/L)	2	2	1.4	-3	-0.8	4000	0
Gross Alpha	(pCi/L)	3	3	74	21	39	15	3

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.69. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Gross Beta	(pCi/L)	3	3	37	-53	-2.26667	50	0
Radium - Total Alpha	(pCi/L)	2	2	0.12	0.067	0.0935	5	0
Tritium	(pCi/L)	2	2	200	-55	72.5	20000	0
Uranium, Total	(mg/L)	3	3	0.095	0.032	0.063333	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.70. REGIME=EF AREA NAME=Underground Tank T0134-U								
Chloride	(mg/L)	2	2	56	55.2	55.6	250	0
Sulfate	(mg/L)	2	2	57	55.7	56.35	250	0
Barium, ICAP	(mg/L)	2	2	0.17	0.169	0.1695	2	0
Calcium, ICAP	(mg/L)	2	2	124	122	123	NR	NA
Chromium, PMS	(mg/L)	2	2	0.0672	0.00456	0.03588	NR	NA
Chromium, ICAP	(mg/L)	2	1	0.0638	0.0638	0.0638	0.1	0
Iron, ICAP	(mg/L)	2	2	1.09	1.03	1.06	0.3	2
Magnesium, ICAP	(mg/L)	2	2	6.82	6.55	6.685	NR	NA
Manganese, ICAP	(mg/L)	2	2	0.518	0.393	0.4555	0.05	2
Nickel, PMS	(mg/L)	2	2	0.0695	0.0321	0.0508	NR	NA
Nickel, ICAP	(mg/L)	2	1	0.0708	0.0708	0.0708	0.1	0
Potassium, ICAP	(mg/L)	2	2	2.27	2.21	2.24	NR	NA
Sodium, ICAP	(mg/L)	2	2	11.1	10.9	11	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.231	0.225	0.228	NR	NA
Conductivity, field measurement	(umhos/cm)	2	NA	826	798	812	NR	NA
Depth to Water	(ft)	2	NA	10.45	10.28	10.365	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	0.3	0.18	0.24	NR	NA
pH, field measurement	(pH)	2	NA	6.81	6.77	6.79	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	5	-25	-10	NR	NA
Static Water Level	(ft - toc)	2	NA	-10.28	-10.45	-10.365	NR	NA
Temperature, field measurement	(Deg C)	2	NA	20.1	18.1	19.1	NR	NA
Alkalinity as HCO3	(mg/L)	2	2	226	218	222	NR	NA
Conductivity	(umhos/cm)	2	2	701	696	698.5	NR	NA
Dissolved Solids	(mg/L)	2	2	467	432	449.5	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.70. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	2	2	6.94	6.89	6.915	6.5/8.5	0
Turbidity	(NTU)	2	2	7.68	6.14	6.91	1	2
Iodine-129	(pCi/L)	2	2	7	-4.7	1.15	NR	NA
Thorium-228	(pCi/L)	2	2	-0.096	-0.13	-0.113	16	0
Thorium-230	(pCi/L)	2	2	0.78	0.32	0.55	12	0
Thorium-231+234	(pCi/L)	2	2	0.28	0.073	0.1765	400	0
Thorium-232	(pCi/L)	2	2	-0.037	-0.095	-0.066	2	0
Uranium-234	(pCi/L)	2	2	0.26	0.21	0.235	20	0
Uranium-235	(pCi/L)	2	2	0	-0.018	-0.009	24	0
Neptunium-237	(pCi/L)	2	2	-0.034	-0.052	-0.043	1.2	0
Plutonium-238	(pCi/L)	2	2	0.053	0.039	0.046	1.6	0
Uranium-238	(pCi/L)	2	2	0.28	0.073	0.1765	24	0
Americium-241	(pCi/L)	2	2	0.21	0.12	0.165	1.2	0
Strontium-89/90	(pCi/L)	2	2	0.39	-10	-4.805	NR	NA
Technetium-99	(pCi/L)	2	2	4.1	-3.4	0.35	4000	0
Gross Alpha	(pCi/L)	2	2	1	-0.063	0.4685	15	0
Gross Beta	(pCi/L)	2	2	1.8	-2.1	-0.15	50	0
Radium - Total Alpha	(pCi/L)	2	2	0.32	0.092	0.206	5	0
Tritium	(pCi/L)	2	2	650	6.9	328.45	20000	0
1,1,1-Trichloroethane	(ug/L)	2	2	3	3	3	200	0
1,1-Dichloroethane	(ug/L)	2	2	32	30	31	NR	NA
1,1-Dichloroethene	(ug/L)	2	2	490	400	445	7	2
1,2-Dichloroethene (Total)	(ug/L)	2	2	180	170	175	NR	NA
Benzene	(ug/L)	2	2	2	2	2	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.70. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
cis-1,2-Dichloroethene	(ug/L)	2	2	150	150	150	70	2
Tetrachloroethene	(ug/L)	2	2	54	49	51.5	5	2
trans-1,2-Dichloroethene	(ug/L)	2	2	25	24	24.5	100	0
Trichloroethene	(ug/L)	2	2	4700	3800	4250	5	2
Vinyl chloride	(ug/L)	2	2	10	9	9.5	2	2

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.71. REGIME=EF AREA NAME=Uranium Oxide Vault								
Chloride	(mg/L)	2	2	4.17	2.35	3.26	250	0
Fluoride	(mg/L)	2	2	0.16	0.128	0.144	4	0
Nitrate Nitrogen	(mg/L)	2	2	0.286	0.0563	0.17115	10	0
Sulfate	(mg/L)	2	2	29.9	23.7	26.8	250	0
Barium, ICAP	(mg/L)	2	2	0.07	0.0678	0.0689	2	0
Calcium, ICAP	(mg/L)	2	2	84.4	80.5	82.45	NR	NA
Chromium, PMS	(mg/L)	2	2	0.0101	0.00325	0.006675	NR	NA
Iron, ICAP	(mg/L)	2	2	0.12	0.102	0.111	0.3	0
Lead, PMS	(mg/L)	2	1	0.00147	0.00147	0.00147	0.015	0
Magnesium, ICAP	(mg/L)	2	2	11.1	8.15	9.625	NR	NA
Manganese, ICAP	(mg/L)	2	2	1.34	0.0179	0.67895	0.05	1
Nickel, PMS	(mg/L)	2	2	0.215	0.0199	0.11745	NR	NA
Nickel, ICAP	(mg/L)	2	1	0.207	0.207	0.207	0.1	1
Potassium, ICAP	(mg/L)	2	2	4.95	2.96	3.955	NR	NA
Sodium, ICAP	(mg/L)	2	2	13.5	9.1	11.3	NR	NA
Strontium, ICAP	(mg/L)	2	2	0.188	0.133	0.1605	NR	NA
Uranium, PMS	(mg/L)	2	2	0.6	0.569	0.5845	0.03	2
Conductivity, field measurement	(umhos/cm)	2	NA	587	555	571	NR	NA
Depth to Water	(ft)	2	NA	13.52	9.84	11.68	NR	NA
Dissolved Oxygen, field measurement	(ppm)	2	NA	5.12	1.8	3.46	NR	NA
pH, field measurement	(pH)	2	NA	7.07	6.84	6.955	6.5/8.5	0
REDOX, field measurement	(mV)	2	NA	220	-96	62	NR	NA
Static Water Level	(ft - toc)	2	NA	-9.84	-13.52	-11.68	NR	NA
Temperature, field measurement	(Deg C)	2	NA	16.6	13.2	14.9	NR	NA

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.71. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
Alkalinity as HCO3	(mg/L)	2	2	240	228	234	NR	NA
Conductivity	(umhos/cm)	2	2	517	499	508	NR	NA
Dissolved Solids	(mg/L)	2	2	297	287	292	500	0
pH	(pH)	2	2	7.47	7.15	7.31	6.5/8.5	0
Turbidity	(NTU)	2	2	1.68	0.785	1.2325	1	1
Uranium-234	(pCi/L)	2	2	29	22	25.5	20	2
Uranium-235	(pCi/L)	2	2	2.8	2.1	2.45	24	0
Uranium-238	(pCi/L)	2	2	190	150	170	24	2
Technetium-99	(pCi/L)	2	2	16	11	13.5	4000	0
Gross Alpha	(pCi/L)	2	2	200	140	170	15	2
Gross Beta	(pCi/L)	2	2	150	77	113.5	50	2
Trichloroethene	(ug/L)	2	1	2	2	2	5	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.72. REGIME=PR AREA NAME=Country Club Estates

Chloride	(mg/L)	3	3	1.03	0.941	0.983	250	0
Nitrate Nitrogen	(mg/L)	3	3	0.0463	0.0321	0.041267	10	0
Sulfate	(mg/L)	3	3	29.1	21.3	24.86667	250	0
Aluminum, ICAP	(mg/L)	3	2	9.16	0.24	4.7	0.2	2
Barium, ICAP	(mg/L)	3	3	0.0865	0.0591	0.069733	2	0
Calcium, ICAP	(mg/L)	3	3	73	28.8	45.03333	NR	NA
Chromium, PMS	(mg/L)	3	1	0.00968	0.00968	0.00968	NR	NA
Iron, ICAP	(mg/L)	3	3	6.54	0.194	2.322667	0.3	1
Lead, PMS	(mg/L)	3	1	0.00823	0.00823	0.00823	0.015	0
Magnesium, ICAP	(mg/L)	3	3	10.2	4.13	7.8	NR	NA
Manganese, ICAP	(mg/L)	3	3	0.374	0.0303	0.1467	0.05	1
Nickel, PMS	(mg/L)	3	1	0.0058	0.0058	0.0058	NR	NA
Potassium, ICAP	(mg/L)	3	3	3.21	2.35	2.636667	NR	NA
Sodium, ICAP	(mg/L)	3	3	2.61	1.07	1.99	NR	NA
Strontium, ICAP	(mg/L)	3	3	0.112	0.0919	0.104633	NR	NA
Uranium, PMS	(mg/L)	3	1	0.000889	0.000889	0.000889	0.03	0
Conductivity, field measurement	(umhos/cm)	3	NA	484	312	386.6667	NR	NA
Dissolved Oxygen, field measurement	(ppm)	3	NA	6.91	3.56	5.356667	NR	NA
pH, field measurement	(pH)	3	NA	7.11	6.51	6.863333	6.5/8.5	0
REDOX, field measurement	(mV)	3	NA	240	215	223.6667	NR	NA
Temperature, field measurement	(Deg C)	3	NA	14.4	12	13.4	NR	NA
Alkalinity as HCO3	(mg/L)	3	3	173	79.2	118.0667	NR	NA
Conductivity	(umhos/cm)	3	3	370	224	281	NR	NA
Dissolved Solids	(mg/L)	3	3	226	142	173.6667	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.72. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	3	3	7.85	6.96	7.52	6.5/8.5	0
Total Suspended Solids	(mg/L)	3	2	23	2	12.5	NR	NA
Turbidity	(NTU)	3	3	19.4	3.41	8.75	1	3
Uranium-234	(pCi/L)	3	3	0.17	-0.085	0.061333	20	0
Uranium-235	(pCi/L)	3	3	0.049	0	0.016333	24	0
Uranium-238	(pCi/L)	3	3	0.063	0	0.03	24	0
Gross Alpha	(pCi/L)	3	3	1.2	0	0.486667	15	0
Gross Beta	(pCi/L)	3	3	6.7	1.6	4.133333	50	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.73. REGIME=PR AREA NAME=Scarboro Community								
Chloride	(mg/L)	6	6	1.33	0.812	0.999833	250	0
Sulfate	(mg/L)	6	6	13.9	8.67	11.33167	250	0
Aluminum, ICAP	(mg/L)	6	4	3.4	0.376	1.441	0.2	4
Barium, ICAP	(mg/L)	6	6	0.139	0.058	0.0905	2	0
Calcium, ICAP	(mg/L)	6	6	23.5	14.6	18.48333	NR	NA
Chromium, PMS	(mg/L)	6	1	0.00391	0.00391	0.00391	NR	NA
Iron, ICAP	(mg/L)	6	6	4.7	0.14	1.374333	0.3	4
Lead, PMS	(mg/L)	6	3	0.00443	0.000659	0.00221	0.015	0
Lithium, ICAP	(mg/L)	6	1	0.0114	0.0114	0.0114	NR	NA
Magnesium, ICAP	(mg/L)	6	6	12.3	7.98	9.501667	NR	NA
Manganese, ICAP	(mg/L)	6	6	0.475	0.0107	0.172733	0.05	4
Nickel, PMS	(mg/L)	6	1	0.00952	0.00952	0.00952	NR	NA
Potassium, ICAP	(mg/L)	6	6	4.35	2.47	3.48	NR	NA
Sodium, ICAP	(mg/L)	6	6	5.6	2.93	4.301667	NR	NA
Strontium, ICAP	(mg/L)	6	6	0.121	0.0653	0.0866	NR	NA
Uranium, PMS	(mg/L)	6	1	0.000572	0.000572	0.000572	0.03	0
Conductivity, field measurement	(umhos/cm)	6	NA	260	180	233.8333	NR	NA
Dissolved Oxygen, field measurement	(ppm)	6	NA	5.42	4.5	5.093333	NR	NA
pH, field measurement	(pH)	6	NA	7.58	6.81	7.19	6.5/8.5	0
REDOX, field measurement	(mV)	6	NA	232	57	178.6667	NR	NA
Temperature, field measurement	(Deg C)	6	NA	15.6	12.3	13.81667	NR	NA
Alkalinity as HCO3	(mg/L)	6	6	104	60.8	83.9	NR	NA
Conductivity	(umhos/cm)	6	6	241	151.2	201.5667	NR	NA
Dissolved Solids	(mg/L)	6	6	138	102	121.6667	500	0

Constituents Detected in Groundwater at the Y-12 Complex Site for 2001

Table 4.73. (continued)

COMPOUND	UNITS	# SAMPLES	# DETECTED	MAXIMUM DETECTED	MINIMUM DETECTED	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS .> REF
pH	(pH)	6	6	7.85	7.41	7.645	6.5/8.5	0
Total Suspended Solids	(mg/L)	6	3	171	7	66	NR	NA
Turbidity	(NTU)	6	6	48.4	1.07	11.08833	1	6
Uranium-234	(pCi/L)	6	6	0.33	-0.06	0.166667	20	0
Uranium-235	(pCi/L)	6	6	0.084	0	0.029833	24	0
Uranium-238	(pCi/L)	6	6	0.055	-0.11	0.0162	24	0
Gross Alpha	(pCi/L)	6	6	3.5	-1	0.842	15	0
Gross Beta	(pCi/L)	6	6	10	3.3	5.566667	50	0