

DOE/ORO/2117

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Compiled by
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East Tennessee Technology Park

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ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1. 2000 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	20646	600	4879		
Total Suspended Solids, mg/L	12	3.0	<1.0	<1.2		
pH, Standard Units	12	7.7	6.8	7.3	4.0 - 9.0	0
Oil & Grease	12	7.2	<5.0	<5.2		
Discharge Point SD 100						
Flow, GPD	52	6147400	400000	1529000		
Total Suspended Solids, mg/L	52	105.0	<1.0	<12.3		
pH, Standard Units	52	8.3	6.7	7.5	6.0 - 9.0	0
Oil & Grease	52	5.9	<5.0	<5.1		
Chlorine, Total Residual	52	0.06	<0.0005	<0.018	0.14	0
Discharge Point SD 120						
Flow, GPD	7	826800	0	395200		
Total Suspended Solids, mg/L	7	31.4	<1.0	<10.0		
pH, Standard Units	7	7.5	6.2	7.0	4.0 - 9.0	0
Oil & Grease	7	<5.0	<5.0	<5.0		
Discharge Point SD 124						
Flow, GPD	48	760100	0	197700		
Total Suspended Solids, mg/L	48	3.8	<1.0	<1.4		
pH, Standard Units	48	8.4	6.2	7.7	6.0 - 9.0	0
Oil & Grease	48	5.0	<5.0	<5.0		
Chlorine, Total Residual	48	0.01	<0.0005	<0.0035	0.14	
Discharge Point SD 130						
Flow, GPD	52	11888000	440000	2057900		
Total Suspended Solids, mg/L	52	34.0	8.8	15.3		
pH, Standard Units	52	7.7	6.5	7.2	6.0 - 9.0	0
Oil & Grease	52	5.3	<5.0	<5.0		
Chlorine, Total Residual	52	0.01	<0.0005	<0.006	0.14	
Discharge Point SD 140						
Flow, GPD	4	123300	32378	60985		
Total Suspended Solids, mg/L	4	2.8	<1.0	<1.5		
pH, Standard Units	4	7.9	7.4	7.7	4.0 - 9.0	0
Discharge Point SD 142						
Flow, GPD	10	192000	34420	80445		
Total Suspended Solids, mg/L	10	<1.0	<1.0	<1.0		
pH, Standard Units	10	8.0	7.1	7.7	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 144						
Flow, GPD	7	264900	0	149060		
Total Suspended Solids, mg/L	7	13.8	<1.0	<3.0		
pH, Standard Units	7	8.1	7.2	7.7	4.0 - 9.0	0
Oil & Grease	7	8.2	<5.0	<5.5		
Discharge Point SD 146						
Flow, GPD	8	40500	0	19110		
Total Suspended Solids, mg/L	8	<1.0	<1.0	<1.0		
pH, Standard Units	8	8.1	7.0	7.8	4.0 - 9.0	0
Discharge Point SD 148						
Flow, GPD	8	24670	0	10210		
Total Suspended Solids, mg/L	8	10.0	<1.0	<2.7		
pH, Standard Units	8	8.1	6.9	7.8	4.0 - 9.0	0
Discharge Point SD 150						
Flow, GPD	9	697500	0	304370		
Total Suspended Solids, mg/L	9	<1.0	<1.0	<1.0		
pH, Standard Units	9	7.7	7.0	7.3	4.0 - 9.0	0
Discharge Point SD 154						
Flow, GPD	7	290600	0	142560		
Total Suspended Solids, mg/L	7	3.6	<1.0	<1.7		
pH, Standard Units	7	8.1	7.0	7.6	4.0 - 9.0	0
Oil & Grease	7	<5.0	<5.0	<5.0		
Discharge Point SD 156						
Flow, GPD	1	21600	21600	21600		
pH, Standard Units	1	7.7	7.7	7.7	4.0 - 9.0	
Discharge Point SD 158						
Flow, GPD	3	81149	0	44130		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	7.7	7.1	7.5	4.0 - 9.0	0
Discharge Point SD 160						
Flow, GPD	2	80530	73650	77090		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	7.7	7.4	7.6	4.0 - 9.0	0
Discharge Point SD 162						
Flow, GPD	4	274000	0	170800		
Total Suspended Solids, mg/L	4	51.0	<1.0	13.9		
pH, Standard Units	4	7.9	7.1	7.8	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 170						
Flow, GPD	52	2368900	150000	619700		
Total Suspended Solids, mg/L	52	15.8	<1.0	<3.2		
pH, Standard Units	52	8.3	6.2	7.7	6.0 - 9.0	0
Oil & Grease	52	<5.0	<5.0	<5.0		
TRC	4	0.0025	<0.0005	<0.001	0.019	0
Discharge Point SD 180						
Flow, GPD	52	2052600	71000	513800		
Total Suspended Solids, mg/L	52	31.8	<1.0	<11.5		
pH, Standard Units	52	8.2	6.5	7.7	6.0 - 9.0	0
Oil & Grease	52	6.8	<5.0	<5.2		
TRC	4	0.0030	0.0005	<0.0011	0.019	0
Discharge Point SD 190						
Flow, GPD	52	1844300	235800	508520		
Total Suspended Solids, mg/L	52	68.8	<1.0	<8.0		
pH, Standard Units	52	7.9	6.7	7.2	6.0 - 9.0	0
Oil & Grease	52	7.5	<5.0	<5.4		
TRC	4	0.003	<0.0005	<0.0011	0.019	0
Discharge Point SD 192						
Flow, GPD	1	113100	113100	113100		
pH, Standard Units	1	7.0	7.0	7.0	4.0 - 9.0	0
Discharge Point SD 194						
Flow, GPD	1	113100	113100	113100		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	0
Discharge Point SD 195						
Flow, GPD	2	127200	13950	70575		
pH, Standard Units	2	7.4	6.6	7.0	4.0 - 9.0	0
Discharge Point SD 196						
Flow, GPD	2	110500	15300	62900		
pH, Standard Units	2	7.7	7.5	7.6	4.0 - 9.0	0
Discharge Point SD 197						
Flow, GPD	3	96117	0	62070		
Total Suspended Solids, mg/L	3	15.6	<1.0	<6.5		
pH, Standard Units	3	8.8	7.4	8.1	4.0 - 9.0	0
Discharge Point SD 198						
Flow, GPD	3	396800	0	216100		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	8.6	7.7	8.2	4.0 - 9.0	0
Discharge Point SD 200						
Flow, GPD	6	843300	0	452850		
Total Suspended Solids, mg/L	6	9.6	<1.0	<2.8		
pH, Standard Units	6	8.4	7.6	7.9	4.0-9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 210						
Flow, GPD	2	1364600	0	905100		
Total Suspended Solids, mg/L	2	3.2	<1.0	<2.1		
pH, Standard Units	2	8.0	7.7	7.9	4.0 - 9.0	0
Discharge Point SD 220						
Flow, GPD	6	118000	0	32520		
Total Suspended Solids, mg/L	6	42.6	<1.0	10.3		
pH, Standard Units	6	8.0	7.3	7.6	4.0 - 9.0	0
Oil & Grease	6	6.9	<5.0	<5.3		
Discharge Point SD 230						
Flow, GPD	12	1090200	287800	589770		
Total Suspended Solids, mg/L	12	<1.0	<1.0	<1.0		
pH, Standard Units	12	8.3	6.9	7.8	4.0 - 9.0	0
Discharge Point SD 238						
Flow, GPD	2	9970	2070	6020		
pH, Standard Units	2	7.3	6.8	7.1	4.0 - 9.0	0
Discharge Point SD 240						
Flow, GPD	8	1113100	0	449760		
Total Suspended Solids, mg/L	8	3.4	<1.0	<1.3		
pH, Standard Units	8	7.7	7.2	7.3	4.0 - 9.0	0
Discharge Point SD 250						
Flow	1	314600	0	314600		
pH	1	7.1	7.1	7.1		
TSS	1	3.4	3.4	3.4		
Discharge Point SD 280						
Flow	1	14190	14190	14190		
pH	1	6.3	6.3	6.3		
Discharge Point SD 292						
Flow, GPD	2	87240	13460	50350		
pH, Standard Units	2	8.0	7.5	7.8	4.0 - 9.0	0
Discharge Point SD 294						
Flow, GPD	2	159700	19450	89570		
pH, Standard Units	2	7.9	7.4	7.7	4.0 - 9.0	0
Discharge Point SD 296						
Flow	2	30440	4380	17410		
pH	2	7.8	7.2	7.5		
Discharge Point SD 297						
Flow, GPD	2	70350	7710	39030		
pH, Standard Units	2	7.7	7.0	7.4	4.0 - 9.0	0
Discharge Point SD 300						
Flow	1	85980	85980	85980		
pH	1	7.0	7.0	7.0		

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 320						
Flow	1	358000	358000	358000		
pH	1	6.9	6.9	6.9		
Discharge Point SD 322						
Flow, GPD	2	47790	3430	25610		
pH, Standard Units	2	7.7	7.3	7.5	4.0 - 9.0	0
Discharge Point SD 326						
Flow	2	28990	2080	15530		
pH	2	7.7	7.2	7.5		
Discharge Point SD 330						
Flow, GPD	2	199400	0	317500		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	8.0	7.4	7.7	4.0 - 9.0	0
Discharge Point SD 332						
Flow	1	34880	34880	34880		
pH	1	7.2	7.2	7.2		
Discharge Point SD 334						
Flow	2	47830	3440	25630		
pH	2	7.6	7.6	7.6		
Discharge Point SD 340						
Flow, GPD	2	680800	213200	447000		
pH, Standard Units	2	7.5	7.4	7.5	4.0 - 9.0	0
Discharge Point SD 350						
Flow, GPD	2	76420	11840	44130		
pH, Standard Units	2	7.8	7.2	7.5	4.0 - 9.0	0
Discharge Point SD 352						
Flow	2	450	0	380		
pH	2	7.2	6.9	7.1		
Discharge Point SD 360						
Flow	1	10210	10210	10210		
pH	1	7.4	7.4	7.4		
Discharge Point SD 362						
Flow	1	43340	43340	43350		
pH	1	7.1	7.1	7.1		
Discharge Point SD 370						
Flow	1	1440	1440	1440		
pH	1	7.0	7.0	7.0		
Discharge Point SD 380						
Flow, GPD	6	1376400	0	624480		
Total Suspended Solids, mg/L	6	4.0	<1.0	<1.7		
pH, Standard Units	6	8.4	6.7	7.6	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 382						
Flow, GPD	3	158000	158000	158000		
pH, Standard Units	3	8.0	8.0	8.0	4.0 - 9.0	0
Discharge Point SD 390						
Flow, GPD	2	328800	0	272550		
Suspended Solids,	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	7.2	6.9	7.1	4.0 - 9.0	0
Discharge Point SD 400						
Flow, GPD	2	445	200	320		
pH, Standard Units	2	7.8	7.5	7.7	4.0 - 9.0	0
Discharge Point SD 410						
Flow, GPD	2	66700	14620	41160		
pH, Standard Units	2	7.8	7.6	7.7	4.0 - 9.0	0
Discharge Point SD 420						
Flow, GPD	1	245300	245300	245300		
pH, Standard Units	1	8.0	8.0	8.0	4.0 - 9.0	0
Discharge Point SD 430						
Flow, GPD	12	1292000	6000	462180		
Suspended Solids,	12	<1.0	<1.0	<1.0		
pH, Standard Units	12	8.2	6.9	7.5	4.0 - 9.0	0
Oil & Grease	12	5.9	<5.0	<5.1		
Discharge Point SD 440						
Flow, GPD	11	828800	0	225380		
Total Suspended Solids, mg/L	11	<1.0	<1.0	<1.0		
pH, Standard Units	11	7.9	6.5	7.4	4.0 - 9.0	0
Oil. & Grease	11	6.5	<5.0	<1.9		
Discharge Point SD 450						
Flow, GPD	1	77870	77870	77870		
pH, Standard Units	1	7.5	7.5	7.5	4.0 - 9.0	0
Discharge Point SD 460						
Flow	1	20870	20870	20870		
pH	1	7.4	7.4	7.4		
Discharge Point SD 470						
Flow, GPD	1	51570	51570	51570		
pH, Standard Units	1	7.5	7.5	7.5	4.0 - 9.0	0
Discharge Point SD 490						
Flow, GPD	12	6102500	530000	2332000		
Suspended Solids, mg/L	12	2.2	<1.0	<1.0		
pH, Standard Units	12	8.0	6.1	7.3	4.0 - 9.0	0
Discharge Point SD 500						
Flow, GPD	2	49210	8000	28610		
pH, Standard Units	2	8.1	6.5	7.3	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 510						
Flow, GPD	12	1001300	0	399080		
Total Suspended Solids, mg/L	11	30.4	<1.0	<5.5		
pH, Standard Units	11	7.6	6.2	7.0	4.0 - 9.0	0
Oil & Grease	11	6.7	<5.0	<5.2		
Discharge Point SD 520						
Flow, GPD	2	66670	8140	37900		
pH, Standard Units	2	7.6	6.9	7.3	4.0 - 9.0	0
Discharge Point SD 522						
Flow, GPD	2	143700	21110	82400		
pH, Standard Units	2	8.0	7.6	7.8	4.0 - 9.0	0
Discharge Point SD 530						
Flow, GPD	1	586200	0	586200		
pH, Standard Units	1	6.6	6.6	6.6	4.0 - 9.0	0
Suspended Solids, mg/L	1	16.0	16.0	16.0		
Discharge Point SD 532						
Flow	1	40550	40550	40550		
pH	1	7.2	7.2	7.2		
Discharge Point SD 540						
Flow	2	65450	9340	37390		
pH	2	8.0	6.8	7.4		
Discharge Point SD 550						
Flow	2	71430	7530	39480		
pH	2	8.7	6.9	7.8		
Discharge Point SD 560						
Flow, GPD	3	341100	0	161850		
Total Suspended Solids, mg/L	3	7.4	<1.0	<3.1		
pH, Standard Units	3	7.6	7.0	7.3	4.0 - 9.0	0
Discharge Point SD 570						
Flow	2	187700	29800	108750		
pH	2	8.1	7.1	7.6		
Discharge Point SD 590						
Flow, GPD	1	14	14	14		
pH, Standard Units	1	7.7	7.7	7.7	4.0 - 9.0	0
Discharge Point SD 620						
Flow	2	86120	8630	47380		
pH	2	7.0	6.5	6.8		
Discharge Point SD 640						
Flow, GPD	1	22405	0	22405		
Total Suspended Solids, mg/L	1	5.2	5.2	5.2		
pH, Standard Units	1	8.0	8.0	8.0	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 650						
Flow	2	47210	10	23610		
pH	2	7.2	7.0	7.1		
Discharge Point SD 660						
Flow, GPD	3	28327	0	14580		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	8.0	7.4	7.8	4.0 - 9.0	0
Discharge Point SD 680						
Flow, GPD	3	122400	0	61880		
Total Suspended Solids, mg/L	3	3.6	<1.0	<1.9		
pH, Standard Units	3	8.1	7.5	7.7	4.0 - 9.0	0
Discharge Point SD 690						
Flow, GPD	5	2408500	0	1093460		
Total Suspended Solids, mg/L	5	2.6	<1.0	<1.6		
pH, Standard Units	5	8.0	6.9	7.5	4.0 - 9.0	0
Discharge Point SD 692						
Flow, GPD	1	36930	36930	36930		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	0
Discharge Point SD 694						
Flow, GPD	1	73070	73070	73070		0
pH, Standard Units	1	7.8	7.8	7.8	4.0 - 9.0	0
Discharge Point SD 696						
Flow, GPD	1	17110	17110	17110		
pH, Standard Units	1	6.1	6.1	6.1		
Discharge Point SD 700						
Flow, GPD	7	1269800	0	811670		
Total Suspended Solids, mg/L	7	8.6	<1.0	<4.3		
pH, Standard Units	7	7.9	7.1	7.5	4.0 - 9.0	0
Discharge Point SD 710						
Flow, GPD	11	2856000	0	1110730		
Total Suspended Solids, mg/L	11	7.4	<1.0	<1.7		
pH, Standard Units	11	7.9	6.6	7.3	4.0 - 9.0	0
Oil & Grease	11	6.5	<5.0	<5.1		
Discharge Point SD 720						
Flow, GPD	2	327600	0	262500		
Total Suspended Solids, mg/L	2	82.8	3.2	43.0		
pH, Standard Units	2	8.1	7.2	7.7	4.0 - 9.0	0
Discharge Point SD 750						
Flow, GPD	3	6550	0	4531		
pH, Standard Units	3	7.5	6.7	7.3	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 760						
Flow, GPD	3	5960	0	4125		
Total Suspended Solids, mg/L	3	<1.0	<1.0	<1.0		
pH, Standard Units	3	7.5	6.8	7.2	4.0 - 9.0	0
Discharge Point SD 770						
Flow, GPD	2	7960	0	4970		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	7.5	7.4	7.5	4.0 - 9.0	0
Discharge Point SD 780						
Flow, GPD	2	568800	0	339000		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	8.0	7.6	7.8	4.0 - 9.0	0
Discharge Point SD 800						
Flow, GPD	1	9140	0	9140		
TSS	1	7.8	7.8	7.8		
pH, Standard Units	1	7.6	7.6	7.6		
Discharge Point SD 810						
Flow, GPD	1	761	0	760		
Total Suspended Solids, mg/L	1	5.4	5.4	5.4		
pH, Standard Units	1	7.1	7.1	7.1	4.0 - 9.0	0
Discharge Point SD 820						
Flow, GPD	1	44220	0	44220		
Total Suspended Solids, mg/L	1	2.2	2.2	2.2		
pH, Standard Units	1	7.8	7.8	7.8	4.0 - 9.0	0
Discharge Point SD 830						
Flow, GPD	2	138400	0	109000		
Total Suspended Solids, mg/L	2	<1.0	<1.0	<1.0		
pH, Standard Units	2	7.7	7.3	7.5	4.0 - 9.0	0
Discharge Point SD 860						
Flow, GPD	1	38	0	38		
Total Suspended Solids, mg/L	1	7.6	7.6	7.6		
pH, Standard Units	1	8.3	8.3	8.3	4.0 - 9.0	
Discharge Point SD 870						
Flow, GPD	1	39350	0	39350		
Total Suspended Solids, mg/L	1	4.4	4.4	4.4		
pH, Standard Units	1	7.7	7.7	7.7	4.0 - 9.0	0
Discharge Point SD 880						
Flow, GPD	2	48415	0	38640		
Total Suspended Solids, mg/L	2	7.4	<1.0	<4.2		
pH, Standard Units	2	8.0	7.6	7.8	4.0 - 9.0	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 890						
Flow, GPD	1	74600	0	74600		
Total Suspended Solids, mg/L	1	<1.0	<1.0	<1.0		
pH, Standard Units	1	7.3	7.3	7.3	4.0 - 9.0	0
Discharge Point SD 900						
Flow, GPD	2	135700	0	74820		
Total Suspended Solids, mg/L	2	775.0	<1.0	<388.0		
pH, Standard Units	2	7.3	6.9	7.1	4.0 - 9.0	0
Discharge Point SD 910						
Flow, GPD	1	29800	29800	29800		
pH, Standard Units	1	7.0	7.0	7.0	4.0 - 9.0	0
Discharge Point SD 929						
Flow, GPD	2	1043	130	590		
pH, Standard Units	2	7.3	6.8	7.1	4.0 - 9.0	0
Discharge Point SD 930						
Flow, GPD	1	121800	121800	121800		
pH, Standard Units	1	7.6	7.6	7.6	4.0 - 9.0	0
Discharge Point SD 934						
Flow, GPD	1	37870	37870	37870		
pH, Standard Units	1	7.9	7.9	7.9	4.0-9.0	0
Discharge Point SD 940						
Flow, GPD	2	2230	720	1470		
pH, Standard Units	2	7.0	7.0	7.0		
Discharge Point SD 960						
Flow, GPD	1	2730	2730	2730		
pH, Standard Units	1	7.6	7.6	7.6	4.0-9.0	0
Discharge Point SD 970						
Flow, GPD	1	35800	35800	35800		
pH, Standard Units	1	7.2	7.2	7.2		
Discharge Point SD 980						
Flow, GPD	1	980000	980000	980000		
pH, Standard Units	1	7.3	7.3	7.3		
Discharge Point SD 982						
Flow, GPD	1	92100	92100	92100		
pH, Standard Units	1	7.2	7.2	7.2		
Discharge Point SD 990						
Flow, GPD	1	9980	9980	9980		
pH, Standard Units	1	7.3	7.3	7.3		
Discharge Point SD 992						
Flow, GPD	3	145300	0	97100		
Total Suspended Solids	3	18.6	15.0	16.7		
pH, Standard Units	3	6.1	5.0	5.7	4.0 - 9.0	0
Oil & Grease	3	5.2	<5.0	<5.1		

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.1 (continued)

Parameter	Number of samples	Concentration ^a			Reference Value ^b	No. of values exceeding reference
		Max	Min	Avg		
Discharge Point SD 996						
Flow, GPD	2	263300	34090	148700		
pH, Standard Units	2	7.7	7.3	7.5		

^a - Units are mg/L unless otherwise noted

^b - NPDES permit limit

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.2. 2000 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	7.1	<5.0	<5.0		
Ammonia Nitrogen	156	<0.2	<0.2	<0.2	7	0
Dissolved Oxygen, mg/L	365	8.8	6.0	7.7	5.0 min ^c	0
Fecal Coliform, col/100ml	156	340	7	111	400	0
Flow Total (GPD)	365	860700	197400	261100		
Settleable Solids, ml/L	260	0.3	<0.1	<0.13	0.5	0
Suspended Solids, mg/L	156	27.2	<1.0	<9.0	45	0
pH, Standard Units	365	8.0	7.2	7.6	6.0 - 9.0	0

^a - Units are mg/L unless otherwise noted
^b - NPDES permit limit
^c - Daily minimum

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.3. 2000 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	8.1	1.8	4.6		
Acetone, mg/L	4	0.010	<0.01	<0.01		
Cadmium, mg/L	4	0.002	<0.001	<0.001	0.069	0
Chemical Oxygen Demand, mg/L	52	63	12	29		
Chloride, mg/L	208	1500	87	179	70000	0
Chromium, mg/L	4	0.06	0.02	0.04	2.8	0
Copper	4	0.06	0.02	0.04	2.15	
Flow, GPD	365	197700	67300	105200		
Lead, mg/L	4	0.003	<0.0005	<0.002	0.69	0
Methylene chloride	12	0.01	<0.01	<0.01		
Nickel, mg/L	4	0.01	<0.01	<0.01	4.0	0
pH, Standard Units	365	8.9	6.0	6.9	6.0 - 9.0	0
Suspended Solids, mg/L	208	61.0	<1.0	<16.5	40	1
Total Petroleum Hydrocarbons	12	27.3	<0.94	<3.31	<1.0	3
Total Residual Chlorine	104	0.05	<0.01	<0.01	0.14	
Uranium, mg/L	12	0.22	0.01	0.06		
Zinc, mg/L	4	0.05	0.01	0.03	2.6	
Silver	4	0.003	<0.0005	<0.001	0.43	

^a - Units are mg/L unless otherwise noted

^b - NPDES permit limit

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.4. 2000 NPDES Permit Number TN 0002950

Discharge Point 009, Holding Pond, ETTP^a

Parameter	Number of samples	Concentration ^b			Reference Value ^c	No. of values exceeding reference
		Max	Min	Avg		
K-1515-F K-1515F						
Aluminum, mg/L	52	0.55	0.39	0.47	2.0	0
Chlorine, Total Residual, mg/L	52	0.63	<0.25	<0.44	1.0	0
Flow, GPD	365	603400	266400	434900		
Settleable Solids, ml/L	52	<0.1	<0.1	<0.1	0.5	0
Suspended Solids, mg/L	52	2.0	2.0	2.0	40	0
pH, Standard Units	52	7.6	7.1	7.4	6.0 - 9.0	0

^a - Wastewater discharges from Outfall 009 were eliminated from coverage under NPDES Permit No. TN 0002950 effective February 29, 2000. Effective March 1, 2000, discharges from Outfall 009 were covered by a new NPDES permit No. TN 0074233. Therefore, the data in this table is indicative of discharges that occurred in January and February, 2000.

^b - Units are mg/L unless otherwise noted.

^c - NPDES permit limit

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.5. Radionuclide concentrations at ETPP 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								
Potassium-40	11	1.9e+03	-1.1e+03	-7.1e+01	-7.1e+01	7.0e+03	-1.0e+00	-1.0e-02
Radium 226	11	3.7e+02	0.0e+00	5.1e+01	5.1e+01	1.0e+02	5.1e+01	5.1e-01
H-3	11	1.3e+03	0.0e+00	1.1e+02	1.1e+02	2.0e+06	5.7e-03	5.7e-05
U-234	11	3.1e-01	3.1e-01	3.1e-01	3.1e-01	5.0e+02	6.3e-02	6.3e-04
U-235	11	6.5e+01	1.6e-02	1.6e-02	5.9e+00	6.0e+02	9.9e-01	9.9e-03
U-238	11	3.3e-01	3.3e-01	3.3e-01	3.3e-01	6.0e+02	5.6e-02	5.6e-04
Alpha activity	11	8.6e+02	0.0e+00	8.0e+01	8.0e+01	a	a	a
Beta activity	11	2.6e+02	1.0e+00	3.1e+01	2.9e+01	a	a	a
All listed isotopes								5.1e-01

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

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-716 (Poplar Creek)								
Pb-212	1/2	4.2e+01	4.2e+01	4.2e+01	4.2e+01	3.0e+03	7.0e-01	7.0e-03
U-234	2	3.9e-01	3.1e-01	3.5e-01	3.5e-01	5.0e+02	7.0e-02	7.0e-04
U-235	2	1.9e-02	1.6e-02	1.7e-02	1.7e-02	6.0e+02	1.7e-03	2.9e-05
U-238	2	4.1e-01	3.3e-01	3.7e-01	3.7e-01	6.0e+02	6.2e-02	6.2e-04
Tc-99	2	-1.0e+00	-8.0e+00	-4.5e+00	-4.5e+00	1.0e+05	-4.5e-03	-4.5e-05
Gross Alpha	2	2.0e+00	-1.0e+00	5.0e-01	5.0e-01	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	2	9.0e+00	6.0e+00	7.5e+00	7.5e+00	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								8.3e-03

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

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-901-A (settling basin for surface water runoff)								
Pb-212	1/2	3.9e+01	0.0e+00	1.9e+01	2.0e+01	3.0e+03	6.6e-01	6.6e-03
Pb-234m	1/2	3.0e+03	0.0e+00	1.5e+03	1.5e+03	7.0e+04	2.1e+00	2.1e-02
U-234	2	9.6e-01	6.4e-01	7.8e-01	7.8e+00	5.0e+02	1.6e-01	1.6e-03
U-235	2	4.6e-02	3.2e-02	3.9e-02	3.9e-02	6.0e+02	6.5e-03	6.5e-05
U-238	2	9.9e-01	6.9e-01	8.4e-01	8.4e-01	6.0e+02	1.4e-01	1.4e-03
Tc-99	2	1.5e+01	8.0e+00	1.2e+01	1.2e+01	1.0e+05	1.2e-02	1.2e-04
Gross Alpha	2	3.0e+00	2.0e+00	2.5e+00	2.5e+00	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	2	2.2e+01	1.3e+01	1.8e+01	1.8e+01	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								3.1e-02

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

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-1007-B (settling basin for surface water runoff)								
Bi-214	1/2	4.1e+01	0.0e+00	2.0e+01	2.0e+01	6.0e+05	3.4e-03	3.4e-05
Pb-212	1/2	4.8e+01	0.0e+00	2.4e+01	2.4e+01	3.0e+03	7.9e-01	7.9e-03
U-234	2	3.7e-01	3.1e-01	3.4e-01	3.4e-01	5.0e+02	6.8e-02	6.8e-04
U-235	2	1.8e-02	1.6e-03	1.7e-02	1.7e-02	6.0e+02	2.8e-03	2.8e-05
U-238	2	3.9e+00	3.3e-01	3.6e-01	3.6e-01	6.0e+02	6.0e-02	6.0e-04
Gross Alpha	2	2.0e+00	0.0e+00	1.0e+00	1.0e+00	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	2	2.1e+01	1.1e+01	1.6e+01	1.6e+01	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								9.3e-03

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.9. Radionuclide concentrations at ETP 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)								
U-234	12	2.3e+01	5.4e+00	9.9e+00	1.2e+01	5.0e+02	5.0e+00	5.0e-02
U-235	12	2.2e+00	1.4e-01	6.5e-01	8.4e-01	6.0e+02	1.4e-01	1.4e-03
U-236	12	1.7e+00	0.0e+00	5.3e-01	6.3e-01	5.0e+02	1.3e-01	1.3e-03
U-238	12	5.4e+01	5.6e+00	1.4e+01	1.7e+01	6.0e+02	2.8e+00	2.8e-02
Cs-137	12	1.1e+01	-4.2e+00	9.8e-01	2.0e+00	3.0e+03	6.8e-02	6.8e-04
Tc-99	12	4.4e+02	3.7e+01	2.2e+02	2.2e+02	1.0e+05	2.2e-01	2.2e-03
Np-237	12	2.9e+00	5.6e-01	1.2e+00	1.2e+00	3.0e+01	4.2e+00	4.2e-02
Pu-238	12	4.7e-01	-4.0e-02	2.5e-02	6.9e-02	4.0e+01	1.7e-01	1.7e-03
Pu-239	12	5.7e-01	-1.0e-02	4.5e-02	1.3e-01	3.0e+01	4.4e-01	4.4e-03
H ₃	12	7.2e+03	0.0e+00	4.3e+02	9.8e+02	2.0e+06	4.9e-02	4.9e-04
C-14	12	2.1e+03	9.6e+00	2.7e+02	4.3e+02	7.0e+04	6.1e-01	6.1e-03
Co-60	1	1.6e+00	0.0e+00	2.6e-01	2.6e-01	5.0e+03	5.1e-03	5.1e-05
Gross Alpha	12	1.3e+02	4.9e+00	3.8e+01	3.8e+01	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	12	1.5e+02	1.9e+01	8.5e+01	8.5e+01	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								1.1e-01

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

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-1700 (Mitchell Branch)								
U-234	4	4.0e+00	3.0e+00	3.5e+00	3.5e+00	5.0e+02	7.0e-01	7.0e-03
U-235	4	2.0e-01	1.5e-01	1.8e-01	1.7e-01	6.0e+02	2.9e-02	2.9e-04
U-238	4	4.2e+00	3.2e+00	3.8e+00	3.7e+00	6.0e+02	6.2e-01	6.2e-03
Tc-99	4	1.0e+01	0.0e+00	3.0e+00	4.0e+00	1.0e+05	4.0e-03	4.0e-05
Gross Alpha	4	1.7e+01	1.0e+00	1.4e+00	1.4e+01	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	4	3.9e+01	1.6e+01	2.2e+01	2.2e+01	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								1.4e-02

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

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			
K-1710 (Poplar Creek upstream of the ETTP)								
U-234	2	1.8e+00	7.5e-01	1.3e+00	1.3e+00	5.0e+02	2.5e-01	2.5e-03
U-235	2	9.8e-02	3.8e-02	6.3e-02	6.3e-02	6.0e+02	1.1e-02	1.1e-04
U-238	2	1.9e+00	8.1e-01	1.3e+00	1.3e-01	6.0e+02	2.2e-01	2.2e-03
Gross Alpha	2	7.0e+00	2.0e+00	4.5e+00	4.5e+00	<i>a</i>	<i>a</i>	<i>a</i>
Gross Beta	2	1.5e+01	1.1e+01	1.3e+01	1.3e+01	<i>a</i>	<i>a</i>	<i>a</i>
All listed isotopes								4.9e-03

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.12 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 1.4								
Tc-99	1/4	1.8e+02	-6.0e+00	3.8e+01	4.5e+01	1.0e+05	4.5e-02	4.5e-04
Gross Beta	4	6.0e+00	0.0e+00	3.6e+00	3.6e+00	a	a	a
All listed isotopes								4.5e-04

^aNot applicable

^bThis calculated value includes sampling results that are at or below the detection limits and/or below background activities.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1. 13. 2000 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		
Barium (mg/L)	10/11	0.042	0.030	0.035		
Beryllium (mg/L)	1/11	0.0073	0.00017	0.00088		
Boron (mg/L)	1/11	0.063	0.0051	0.020		
Cadmium (mg/L)	1/11	0.0084	0.0013	0.0022		
Calcium (mg/L)	11/11	39	30	34		
Chloroethane (F g/L)	2/11	34	1.6	8.7		
Dissolved oxygen (mg/L)	9/9	11	5.3	8.3	5.0 min	0
Iron (mg/L)	11/11	0.31	0.11	0.17		
Magnesium (mg/L)	11/11	11	8.0	10		
Manganese (mg/L)	11/11	0.072	0.039	0.05		
pH(SU)	9/9	8.2	6.6	7.6	6.5-8.5	0
Sodium (mg/L)	8/11	18	4	7.3		
Temperature (C°)	9/9	29	8.6	17		
Uranium (mg/L)	1/11	0.001	0.001	0.001		

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

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1. 14. 2000 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		
Dissolved Oxygen (mg/L)	2/2	7.5	5.9	6.7	5.0 min	0
Temperature (C°)	2/2	14	14	14		
Uranium (mg/L)	2/2	0.001	0.001	0.001		
pH (standard units)	2/2	7.9	6.6	7.3	6.5 - 8.5	0

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

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.15. 2000 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		
Dissolved Oxygen (mg/L)	4/4	8.7	3.9	6.1	5.0 min	2
Temperature (C°)	4/4	15	9.4	12		
Uranium (mg/L)	2/2	0.003	0.0021	0.0025		
pH (standard units)	4/4	7.6	7.4	7.5	6.5-8.5	0

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

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Table 1.16. 2000 ETPP parameters detected at K-1007-B

Parameter	Number detected/ number of samples	Detected results			Reference Value ^a	Number of exceeding reference
		Max	Min	Avg		
Dissolved Oxygen (mg/L)	4/4	9.6	8	8.9	5.0 min	0
Temperature (C°)	4/4	15	12	13		
Uranium (mg/L)	2/2	0.0012	0.001	0.0011		
pH (standard units)	4/4	8.5	8.2	8.4	6.5 - 8.5	2

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

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.17. 2000 ETPP parameters detected at K-1700

Parameter	Number detected/ number of samples	Detected results			Reference Value ^a	Number of values exceeding reference
		Max	Min	Avg		
1,1 Dichloroethane (F g/L)	1/4	1.1	2	1.8		
1,2 Dichloroethene (F g/L)	2/4	47	2	18		
Chloroethane (F g/L)	1/4	1.2	4	3.3		
Chloroform (F g/L)	1/4	15	1	5		
Dissolved Oxygen (mg/L)	6/6	12	7.9	9.5	5.0 min	0
Temperature (C ^o)	5/5	24	11	16		
Trichloroethene (F g/L)	4/4	61	2	39	810	0
Uranium (mg/L)	4/4	0.013	0.0004	0.011		
Vinyl Chloride (F g/L)	4/4	8	4.3	5.1		
pH (standard units)	7/7	7.4	7.1	7.2	6.5 - 8.5	0

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

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 1.18. 2000 ETPP parameters detected at K-1710

Parameter	Number detected/ number of samples	Detected results			Reference Value ^a	Number of values exceeding reference
		Max	Min	Avg		
Dissolved Oxygen (mg/L)	2/2	7.2	5.6	6.4	5.0 min	0
Temperature (C°)	2/2	13	11	12		
Uranium (mg/L)	2/2	0.0056	0.0024	0.004		
pH (standard units)	2/2	7.2	6.7	7.0	6.5 - 8.5	0

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

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Table 1.19. 2000 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)	4/4	0.3	0.027	0.14		
Barium (mg/L)	4/4	0.047	0.036	0.041		
Boron (mg/L)	3/4	0.012	0.0052	0.008		
Calcium (mg/L)	7/4	21	13	17		
Chloroethane (mg/L)	1/4	1.6	4	3.4		
Dissolved Oxygen (mg/L)	4/4	9.2	6.9	8.4	5.0 min.	0
Iron (mg/L)	4/4	0.32	0.18	0.24		
Magnesium (mg/L)	4/4	12	6.9	9.4		
Manganese (mg/L)	4/4	0.31	0.046	0.13		
pH (SU)	4/4	7.9	7.3	7.6	6.5 - 8.5	0
Silicon (mg/L)	4/4	4.2	3.8	4.0		
Sodium (mg/L)	4/4	1.2	0.70	0.84		
Temperature (C°)	4/4	22	8.0	14		

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

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.1. Y-12 Complex Discharge Point 017, OUTFALL 017

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	366	0.563	0.003	0.05	d	d
pH, Standard Units	52	7.3	6.7	d	9/ 6(e)	0
Kjeldahl Nitrogen	52	24.4	<0.2	<3	d	d
Ammonia as Nitrogen	52	27.0	<0.2	<3	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.2. Y-12 Complex Discharge Point 021, OUTFALL 021

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	334	2.895	0.054	0.28	d	d
pH, Standard Units	158	8.4	6.8	d	9/ 6(e)	0
Temperature, degrees C	158	23.5	13.9	18.4	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.3. Y-12 Complex Discharge Point 051, OUTFALL 051

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	357	0.553	0.022	0.20	d	d
pH, Standard Units	105	7.2	6.8	d	9/ 6(e)	0
Mercury	53	0.00453	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.4. Y-12 Complex Discharge Point 055, OUTFALL 055

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	366	0.13	0.018	0.035	d	d
pH, Standard Units	105	7.8	7.1	d	9/ 6(e)	0
Total Residual Chlorine	105	<0.05	<0.05	<0.05	0.5	0
Mercury	105	0.00127	<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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.5. Y-12 Complex Discharge Point 05A, OUTFALL 05A

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	2	0.1295	0.1162	0.1229	d	d
pH, Standard Units	2	7.6	7.1	d	9/ 6(e)	0
Carbon tetrachloride	2	0.008	0.007	0.008	d	d
Tetrachloroethene	2	0.004J	0.003J	0.004J	d	d
Methylene chloride	2	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.6. Y-12 Complex Discharge Point 073, OUTFALL 073

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	12	0.0086	0.0004	0.002	d	d
pH, Standard Units	12	8.3	7.8	. 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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.7. Y-12 Complex Discharge Point 077, OUTFALL 077

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	12	0.00002	0.00002	0.00002	d	d
pH, Standard Units	12	7.8	7.5	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.8. Y-12 Complex Discharge Point 125, OUTFALL 125

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	14	0.432	0.2592	0.318	d	d
pH, Standard Units	14	7.3	6.8	d	9/ 6(e)	0
Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
Mercury	6	<0.0002	0.00004	<0.0002	d	d
Lead	4	<0.0025	<0.001	<0.001	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.9. Y-12 Complex Discharge Point 135, OUTFALL 135

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Max	Concentration(a)		Reference Value(b)	Number of Values Exceeding Reference
			Min	Avg		
Flow, mgd	360	22.3402	0.1267	0.2577	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 2.10. Y-12 Complex Discharge Point 200, OUTFALL 200

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	159	16.2	0.78	1.9	d	d
Beryllium	16	<0.001	<0.0005	<0.0008	d	d
Cadmium	16	<0.01	<0.01	<0.01	d	d
Copper	16	0.0639	<0.02	<0.02	d	d
Iron	16	2.3	<0.05	<0.4	d	d
Fluoride	12	1.26	0.463	0.898	d	d
Mercury	56	0.0019	<0.0002	<0.0005	d	d
Nitrate/Nitrite as Nitrogen	12	9.46	3.26	5.69	d	d
Oil and Grease	158	<6.4	<5.5	<6.1	15	0
Lead	16	<0.1	<0.1	<0.1	d	d
Phosphate as Phosphorus	14	1.38	0.316	0.866	d	d
Sulfate	56	132.0	10.3	39.7	d	d
Uranium	54	0.23	0.003	0.04	d	d
Zinc	16	0.57	0.0527	0.13	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.11. Y-12 Complex Discharge Point 200, OUTFALL 200

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	54	72.0	+/-9.3	1.9*	+/-2.5	16	2.1	e		4.0E-02
Americium-241 (pCi/L)	54	0.31*	+/- .33	-0.043*	+/- .061	0.12	0.012	0.42		3.2E-04
Beta activity (pCi/L)	54	72.0	+/-8	1.8*	+/-3.9	18	1.7	e		4.6E-02
Cobalt-60 (pCi/L)	54	5.6*	+/-9.2	-2.3*	+/-2.9	0.74	0.19	0.015		1.9E-03
Cesium-137 (pCi/L)	54	3.6*	+/-2.3	-2.4*	+/-2.4	0.48	0.16	0.016		1.2E-03
Gamma Activity (pCi/L)	54	25.0	+/-16	-21.0*	+/-16	2.58	1.31	e		6.62E-03
Neptunium-237 (pCi/L)	54	0.63	+/- .34	-0.16*	+/- .13	0.0047	0.017	0.016		1.2E-05
Plutonium-238 (pCi/L)	54	0.35	+/- .24	-0.13*	+/- .13	0.036	0.015	0.091		9.3E-05
Plutonium-239/240 (pCi/L)	54	0.19	+/- .23	-0.067*	+/- .077	0.013	0.0070	0.043		3.3E-05
Radium-228 (pCi/L)	54	3.4*	+/-3	-2.6*	+/-2.9	0.5485	0.1677	0.5485		1.41E-03
Strontium-89/90 (pCi/L)	54	770.0	+/-17	-2.04*	+/-2.4	15.4	14.2	e		3.95E-02
Total Radium Alpha (pCi/L)	54	4.6	+/-1	-0.091*	+/- .23	0.39	0.099	e		9.9E-04
Technetium-99 (pCi/L)	54	44.0	+/-7.6	-6.8*	+/-8.2	14	1.3	0.014		3.6E-02
Thorium-228 (pCi/L)	54	1.3	+/- .57	-0.44*	+/- .35	0.071	0.040	0.018		1.8E-04
Thorium-230 (pCi/L)	54	1.0	+/- .55	-0.048*	+/- .068	0.27	0.038	0.090		6.9E-04
Thorium-232 (pCi/L)	54	0.14	+/- .17	-0.16*	+/- .23	-0.0013	0.0064	-0.0027		-3.5E-06
Thorium-234 (pCi/L)	54	79.0	+/-8.8	1.1	+/- .34	13	2.0	0.13		3.4E-02
Tritium (pCi/L)	52	3400.0	+/-640	-300.0*	+/-500	680	77	0.034		1.7E+00
Uranium-234 (pCi/L)	54	13.0	+/-1.9	0.58	+/- .25	3.7	0.35	0.74		9.5E-03
Uranium-235 (pCi/L)	54	1.2	+/- .45	-0.0042*	+/- .12	0.26	0.035	0.044		6.8E-04
Uranium-238 (pCi/L)	54	79.0	+/-8.8	1.1	+/- .34	13	2.0	2.2		3.4E-02

(e) Not applicable
* Provisional Result

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Table 2.12. Y-12 Complex Discharge Point 201, OUTFALL 201

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
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 with Ceriodaphnia	4	100.0	100.0	100.0	d/ 100(e)	0
NOEC, Reproduction/Growth with Fathead Minnows	4	100.0	100.0	100.0	d/ 100(e)	0
pH, Standard Unit	156	8.1	7.2	d	8.5/ 6.5(e)	0
Temperature, deg C	156	24.9	7.1	15	30.5	0
Total Residual Chlorine	156	<0.05	<0.05	<0.05	0.019	0
Suspended Solids	52	19.0	<1.0	<6.7	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 2.13. Y-12 Complex Discharge Point 501, CENTRAL POLLUTION CONTROL FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
48 Hour Toxicity Test with Ceriodaphnia	4	>100.0	64.8	>78.0	d	d
Flow, mgd	18	0.014	0.0026	0.0055	d	d
pH, Standard Unit	18	8.5	6.5	d	9/ 6(e)	0
Temperature, deg C	18	28.3	18.2	22.6	d	d
Silver	18	<0.002	<0.001	<0.002	0.05	0
Boron	18	1.2	<0.2	<0.4	d	d
Beryllium	18	<0.002	<0.001	<0.002	d	d
Calcium	18	683.0	7.05	322	d	d
Cadmium	18	0.0166	<0.005	<0.006	0.15	0
Chloride	18	446.0	4.38	156	d	d
Chromium	18	0.146	<0.04	<0.05	1	0
Copper	18	<0.08	<0.04	<0.04	1	0
Cyanide	18	0.0789	<0.01	<0.01	1.2	0
Iron	18	1.33	<0.1	<0.2	d	d
Fluoride	18	3.9	0.588	1.3	d	d
Mercury	18	0.0028	<0.0002	<0.0004	d	d
Potassium	18	38.2	8.57	19.3	d	d
Lithium	18	8.17	0.613	2.51	d	d
Magnesium	18	6.03	<0.4	<2	d	d
Sodium	18	1440.0	220.0	790	d	d
Nickel	18	0.208	<0.1	<0.1	3.98	0
Nitrate/Nitrite as Nitrogen	18	13.3	<0.05	<3	100	0
Oil and Grease	18	<7.0	<5.5	<5.8	15	0
Lead	18	<0.005	<0.001	<0.001	0.2	0
PCB, Total	1	0.0005U	0.0005U	0.0005U	0.001	0
Phosphate as Phosphorus	18	4.73	<0.307	<1.31	d	d
Sulfate	18	4140.0	183.0	1960	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.14. Y-12 Complex Discharge Point 501, CENTRAL POLLUTION CONTROL FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Surfactant	1	<0.08	<0.08	<0.08	d	d
Suspended Solids	18	1.8	<1.0	<1.1	40	0
Sum of TTO Analysis	1	<0.01	<0.01	<0.01	2.13	0
Uranium	18	4.0	<0.001	<0.3	d	d
Zinc	18	<0.2	<0.1	<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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.15. Y-12 Complex Discharge Point 501, CENTRAL POLLUTION CONTROL FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	18	6000.0	+/-320	-5.5*	+/-25	390	330	e		3.0E-03
Americium-241 (pCi/L)	18	0.35	+/-23	-0.12*	+/-19	0.077	0.029	0.26		5.9E-07
Beta activity (pCi/L)	18	990.0	+/-91	-20.0*	+/-38	104	54.2	e		7.93E-04
Cobalt-60 (pCi/L)	18	2.6*	+/-2.5	-0.99*	+/-2.1	0.97	0.22	0.019		7.4E-06
Cesium-137 (pCi/L)	18	15.0	+/-3.8	-0.28*	+/-1.7	4.4	1.1	0.15		3.4E-05
Gamma Activity (pCi/L)	18	28.0	+/-17	-10.0*	+/-16	3.89	2.92	e		2.98E-05
Neptunium-237 (pCi/L)	18	0.45	+/-26	-11.0*	+/-14	-0.59	0.61	-2.0		-4.5E-06
Plutonium-238 (pCi/L)	18	0.2*	+/-2	-0.21*	+/-29	-0.02	0.02	-0.05		-1E-07
Plutonium-239/240 (pCi/L)	18	0.1*	+/-15	-0.071*	+/-071	0.02	0.01	0.06		1E-07
Radium-228 (pCi/L)	18	3.6	+/-1.9	-0.69*	+/-1.2	0.78	0.28	0.78		6.0E-06
Strontium-89/90 (pCi/L)	18	4.0*	+/-3.1	-1.3*	+/-1.8	1.8	0.33	e		1.4E-05
Total Radium Alpha (pCi/L)	18	1.5	+/-51	0.13*	+/-21	0.59	0.087	e		4.5E-06
Technetium-99 (pCi/L)	18	180.0	+/-9.9	-5.0*	+/-8.1	23	11	0.023		1.8E-04
Thorium-228 (pCi/L)	18	1.1	+/-61	-0.32*	+/-52	0.070	0.070	0.017		5.3E-07
Thorium-230 (pCi/L)	18	1.3	+/-59	0.074*	+/-15	0.31	0.069	0.10		2.4E-06
Thorium-232 (pCi/L)	18	0.067*	+/-095	-0.033*	+/-066	0.0081	0.0061	0.016		6.2E-08
Thorium-234 (pCi/L)	18	1600.0	+/-230	0.32*	+/-33	110	88	1.1		8.5E-04
Tritium (pCi/L)	18	2900.0	+/-810	27.0*	+/-540	747	199	0.0373		5.72E-03
Uranium-234 (pCi/L)	18	5700.0	+/-790	0.41*	+/-4	3600	320	71		2.7E-03
Uranium-235 (pCi/L)	18	200.0	+/-28	-0.14*	+/-2	13	11	2.1		9.7E-05
Uranium-236 (pCi/L)	1	3.8	+/-9	3.8	+/-9	3.8		0.76		2.9E-05
Uranium-238 (pCi/L)	18	1600.0	+/-230	0.32*	+/-33	110	88	18		8.5E-04

(e) Not applicable
 * Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.16. Y-12 Complex Discharge Point 502, WEST END TREATMENT FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
48 Hour Toxicity Test with Ceriodaphnia	3	50.6	17.3	38.9	d	d
Flow, mgd	74	0.02	0.001	0.008	d	d
pH, Standard Unit	60	8.9	6.6	d	9/ 6(e)	0
Temperature, deg C	60	26.7	9.1	18	d	d
Silver	62	<0.0025	<0.001	<0.002	0.05	0
Arsenic	62	<2.0	<1.0	<2.0	d	d
Boron	62	20.0	1.06	7.41	d	d
Beryllium	62	<0.01	<0.005	<0.01	d	d
Calcium	62	113.0	20.5	61.9	d	d
Cadmium	62	<0.012	<0.005	<0.005	0.15	0
Chloride	62	1610.0	517.0	848.6	d	d
Chromium	62	<0.2	<0.1	<0.2	1	0
Copper	62	<0.2	<0.1	<0.2	1	0
Cyanide	61	<0.02	<0.01	<0.01	1.2	0
Iron	62	3.05	<0.25	<0.57	d	d
Fluoride	25	9.93	0.93	<6.6	d	d
Mercury	62	0.0004	<0.0002	<0.0002	d	d
Potassium	62	185.0	37.7	153	d	d
Lithium	62	3.63	0.741	2.57	d	d
Magnesium	62	35.0	4.96	18.5	d	d
Manganese	62	6.69	0.0766	0.687	d	d
Sodium	62	6430.0	1090.0	4493.7	d	d
Nickel	62	2.21	<0.5	<0.6	3.98	0
Nitrate/Nitrite as Nitrogen	62	13.3	0.536	7.70	150	0
Oil and Grease	61	<6.5	<5.3	<5.7	15	0
Lead	62	<0.0025	<0.001	<0.001	0.2	0
PCB, Total	8	0.0005U	0.0005U	0.0005U	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.17. Y-12 Complex Discharge Point 502, WEST END TREATMENT FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Phosphate as Phosphorus	62	92.8	4.05	50.6	d	d
Selenium	62	<2.0	<1.0	<2.0	d	d
Sulfate	62	12000.0	4110.0	8760	d	d
Suspended Solids	62	7.6	<1.0	<1.9	40	0
Sum of TTO Analysis	8	<0.01	<0.01	<0.01	2.13	0
Zinc	62	1.26	<0.25	<0.51	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.18. Y-12 Complex Discharge Point 502, WEST END TREATMENT FACILITY

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of DCG	Total Curies
		Max	+/-	Min	+/-				
Alpha activity (pCi/L)	25	300.0	+/-98	-48.0*	+/-68	23.6	13.8	e	2.75E-04
Americium-241 (pCi/L)	25	0.41	+/- .27	-0.082*	+/- .27	0.14	0.027	0.46	1.6E-06
Beta activity (pCi/L)	25	890.0	+/-480	-180.0*	+/-460	257.8	39.09	e	3.000E-03
Cobalt-60 (pCi/L)	25	2.1*	+/-2.2	-0.71*	+/-3	0.56	0.15	0.011	6.6E-06
Cesium-137 (pCi/L)	25	120.0	+/-20	21.0	+/-5.5	95.7	6.28	3.19	1.11E-03
Gamma Activity (pCi/L)	25	179.4	+/-27.3	-7.1*	+/-17	100	7.9	e	1.2E-03
Neptunium-237 (pCi/L)	25	0.3*	+/- .24	-0.4*	+/- .77	-0.03	0.02	-0.1	-4E-07
Plutonium-238 (pCi/L)	25	0.66	+/- .34	-0.24*	+/- .48	0.055	0.034	0.14	6.4E-07
Plutonium-239/240 (pCi/L)	25	0.35*	+/- .69	-0.059*	+/- .069	0.034	0.020	0.11	3.9E-07
Radium-228 (pCi/L)	25	8.2*	+/-4.7	0.37*	+/-1.9	2.5	0.40	2.5	2.9E-05
Strontium-89/90 (pCi/L)	25	66.0*	+/-63	1.55*	+/-3.2	10.3	2.51	e	1.20E-04
Total Radium Alpha (pCi/L)	25	2.2	+/- .75	0.074*	+/- .31	1.2	0.12	e	1.4E-05
Technetium-99 (pCi/L)	25	150.0	+/-9.1	-7.3*	+/-8.2	18	6.1	0.018	2.1E-04
Thorium-228 (pCi/L)	25	2.6*	+/-1.8	-1.0*	+/-2.4	0.13	0.13	0.034	1.6E-06
Thorium-230 (pCi/L)	25	1.2	+/-1.6	-0.51*	+/-4.2	0.22	0.071	0.074	2.6E-06
Thorium-232 (pCi/L)	25	0.17	+/- .17	-0.15*	+/-1	-0.016	0.013	-0.032	-1.9E-07
Thorium-234 (pCi/L)	25	180.0	+/-23	0.17*	+/- .15	11	7.1	0.11	1.2E-04
Tritium (pCi/L)	25	20000.0	+/-1000	1800.0	+/-590	15000.0	950	0.74	1.7E-01
Uranium-234 (pCi/L)	25	37.0	+/-7.3	0.062*	+/- .11	3.3	1.5	0.67	3.9E-05
Uranium-235 (pCi/L)	25	4.5	+/-2.5	-0.031*	+/- .063	0.27	0.18	0.045	3.2E-06
Uranium-238 (pCi/L)	25	180.0	+/-23	0.17*	+/- .15	11	7.1	1.8	1.2E-04

(e) Not applicable
 * Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.19. Y-12 Complex Discharge Point 512, OUTFALL 512 (GWTF)

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
48 Hour Toxicity Test with Ceriodaphnia	4	>100.0	40.5	>56.7	d	d
Flow, mgd	194	0.027	0.002	0.01	d	d
pH, Standard Unit	144	8.0	7.2	d	9/ 6(e)	0
Copper	144	<0.04	<0.02	<0.02	d	d
Iron	144	0.58	<0.05	<0.06	1	0
Manganese	144	2.68	0.0246	0.425	d	d
Lead	144	<0.2	<0.1	<0.1	d	d
PCB, Total	12	0.0005U	0.0005U	0.0005U	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.20. Y-12 Complex Discharge Point 512, OUTFALL 512 (GWTF)

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	51	27.0	+/-6	1.4*	+/-1.9	6.8	0.63	e		9.4E-05
Americium-241 (pCi/L)	51	0.34	+/-27	-0.058*	+/-3	0.12	0.013	0.41		1.7E-06
Beta activity (pCi/L)	51	16.0	+/-5.6	2.9*	+/-4.4	9.7	0.45	e		1.4E-04
Cobalt-60 (pCi/L)	51	3.1*	+/-11	-1.8*	+/-2.2	0.66	0.16	0.013		9.2E-06
Cesium-137 (pCi/L)	51	13.0*	+/-16	-1.3*	+/-2.4	0.62	0.27	0.021		8.5E-06
Gamma Activity (pCi/L)	51	22.0*	+/-17	-20.0*	+/-16	1.18	1.16	e		1.63E-05
Neptunium-237 (pCi/L)	51	0.38*	+/-33	-0.16*	+/-14	-0.013	0.014	-0.043		-1.8E-07
Plutonium-238 (pCi/L)	51	0.41	+/-25	-0.17*	+/-16	0.030	0.016	0.074		4.1E-07
Plutonium-239/240 (pCi/L)	51	0.24	+/-19	-0.098*	+/-11	0.0044	0.0074	0.015		6.1E-08
Radium-228 (pCi/L)	51	11.0*	+/-6	-1.2*	+/-1.8	0.90	0.24	0.90		1.2E-05
Strontium-89/90 (pCi/L)	51	10.7	+/-2.8	-1.9*	+/-2.2	1.1	0.29	e		1.6E-05
Total Radium Alpha (pCi/L)	51	1.3	+/-69	0.032*	+/-14	0.37	0.030	e		5.1E-06
Technetium-99 (pCi/L)	51	31.0	+/-7.3	-12.0*	+/-8	4.12	1.12	0.00410		5.70E-05
Thorium-228 (pCi/L)	51	2.7	+/-98	-0.25*	+/-41	0.22	0.072	0.055		3.0E-06
Thorium-230 (pCi/L)	51	1.9	+/-64	-0.26*	+/-36	0.33	0.059	0.11		4.6E-06
Thorium-232 (pCi/L)	51	0.13*	+/-18	-0.095*	+/-11	-0.0044	0.0062	-0.0088		-6.1E-08
Thorium-234 (pCi/L)	51	59.0	+/-6.8	0.8	+/-28	6	1	0.06		8E-05
Tritium (pCi/L)	51	21000.0	+/-1100	740.0*	+/-550	2100	380	0.110		3.0E-02
Uranium-234 (pCi/L)	51	210.0	+/-23	0.35	+/-21	6.2	4.1	1.2		8.5E-05
Uranium-235 (pCi/L)	51	7.8	+/-1.4	-0.018*	+/-13	0.28	0.15	0.046		3.8E-06
Uranium-238 (pCi/L)	51	59.0	+/-6.8	0.8	+/-28	6	1	1		8E-05

(e) Not applicable
* Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.21. Y-12 Complex Discharge Point 520, OUTFALL 520

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
pH, Standard Unit	10	7.8	6.7	d	9/ 6(e)	0
Dissolved Solids	10	331.0	4.0	66	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.22. Y-12 Complex Discharge Point 520, OUTFALL 520

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	4	1.1*	+/-1.4	-0.2*	+/- .85	0.2	0.3	e	e	
Americium-241 (pCi/L)	4	0.24*	+/- .2	0.079*	+/- .18	0.19	0.038	0.64	e	
Beta activity (pCi/L)	4	2.3*	+/-4.1	-5.1*	+/-3.4	-0.090	1.7	e	e	
Cobalt-60 (pCi/L)	4	3.6*	+/-18	0.27*	+/-1.7	1.5	0.75	0.029	e	
Cesium-137 (pCi/L)	4	0.6*	+/-2.3	-0.2*	+/-1.6	0.2	0.2	0.008	e	
Gamma Activity (pCi/L)	4	89.3	+/-20.8	-22.0*	+/-16	16.3	24.8	e	e	
Neptunium-237 (pCi/L)	4	0.0094*	+/- .075	-0.12*	+/- .12	-0.045	0.031	-0.15	e	
Plutonium-238 (pCi/L)	4	0.025*	+/- .051	-0.1*	+/- .14	-0.02	0.03	-0.06	e	
Plutonium-239/240 (pCi/L)	4	0.12	+/- .11	0.0077*	+/- .062	0.046	0.025	0.15	e	
Radium-228 (pCi/L)	4	4.2*	+/-15	0.1*	+/- .71	1	1	1	e	
Strontium-89/90 (pCi/L)	4	2.2*	+/-2.2	0.48*	+/-1.9	1.2	0.41	e	e	
Total Radium Alpha (pCi/L)	4	2.1	+/-1.2	0.21*	+/- .22	0.72	0.46	e	e	
Technetium-99 (pCi/L)	4	9.9*	+/-8.4	-1.1*	+/-8.1	5.2	2.3	0.0052	e	
Thorium-228 (pCi/L)	4	0.21*	+/- .24	-0.095*	+/- .27	0.029	0.064	0.0072	e	
Thorium-230 (pCi/L)	4	0.89	+/- .45	0.1*	+/- .16	0.3	0.2	0.1	e	
Thorium-232 (pCi/L)	4	0.02*	+/- .16	-0.04*	+/- .08	-0.002	0.01	-0.004	e	
Thorium-234 (pCi/L)	4	0.049*	+/- .07	-0.028*	+/- .082	0.012	0.016	0.00010	e	
Tritium (pCi/L)	4	20000.0	+/-1000	570.0*	+/-560	7400	4500	0.37	e	
Uranium-234 (pCi/L)	4	1.5	+/- .41	0.015*	+/- .086	0.40	0.37	0.080	e	
Uranium-235 (pCi/L)	4	0.031*	+/- .062	0.0*	+/-0	0.010	0.0073	0.0017	e	
Uranium-238 (pCi/L)	4	0.049*	+/- .07	-0.028*	+/- .082	0.012	0.016	0.0021	e	

(e) Not applicable
* Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.23. Y-12 Complex Discharge Point 550, OUTFALL 550

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	366	0.032	0.004	0.01	d	d
pH, Standard Units	52	7.8	7.0	d	9/ 6(e)	0
Mercury	53	0.000678	<0.00021	<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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.24. Y-12 Complex Discharge Point 551, CENTRAL MERCURY TREATMENT UNIT

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	365	0.051	0.001	0.01	d	d
pH, Standard Units	52	8.2	6.9	d	9/ 6(e)	0
Mercury	52	0.00370	<0.00021	<0.0007	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.25. Y-12 Complex Discharge Point 551, CENTRAL MERCURY TREATMENT UNIT

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	12	15.0	+/-5	0.84*	+/-4.6	5.4	1.2	e		9.6E-05
Americium-241 (pCi/L)	12	0.39	+/-27	-0.016*	+/-17	0.099	0.034	0.33		1.8E-06
Beta activity (pCi/L)	12	140.0	+/-17	5.2*	+/-4.1	49	11	e		8.7E-04
Cobalt-60 (pCi/L)	12	2.8*	+/-2.6	-1.5*	+/-3	1.1	0.33	0.022		1.9E-05
Cesium-137 (pCi/L)	12	2.4*	+/-2.5	-1.2*	+/-1.6	0.31	0.28	0.010		5.6E-06
Gamma Activity (pCi/L)	12	22.0*	+/-16	-11.0*	+/-17	3.34	3.14	e		5.91E-05
Neptunium-237 (pCi/L)	12	0.35	+/-25	-0.13*	+/-14	-0.025	0.0354	-0.0819		-4.34E-07
Plutonium-238 (pCi/L)	12	0.25*	+/-23	-0.035*	+/-14	0.045	0.022	0.11		7.9E-07
Plutonium-239/240 (pCi/L)	12	0.065*	+/-11	-0.031*	+/-0.43	0.017	0.0088	0.057		3.0E-07
Radium-228 (pCi/L)	12	3.0*	+/-2.6	-2.0*	+/-2	0.83	0.38	0.83		1.5E-05
Strontium-89/90 (pCi/L)	12	2.1*	+/-1.8	-1.1*	+/-2	0.57	0.25	e		1.0E-05
Total Radium Alpha (pCi/L)	12	1.0	+/-59	0.33*	+/-27	0.62	0.064	e		1.1E-05
Technetium-99 (pCi/L)	12	150.0	+/-9.9	-2.2*	+/-8.2	62	14	0.062		1.1E-03
Thorium-228 (pCi/L)	12	0.52	+/-32	-0.11*	+/-23	0.066	0.052	0.016		1.2E-06
Thorium-230 (pCi/L)	12	99.0	+/-18	-0.02*	+/-15	9	8	3		2E-04
Thorium-232 (pCi/L)	12	0.16*	+/-2	-0.08*	+/-0.94	0.01	0.02	0.03		3E-07
Thorium-234 (pCi/L)	12	10.0	+/-1.5	0.62	+/-29	3.1	0.71	0.031		5.5E-05
Tritium (pCi/L)	12	1500.0	+/-570	-450.0*	+/-520	180	160	0.0092		3.2E-03
Uranium-234 (pCi/L)	12	5.8	+/-97	0.24*	+/-21	2.0	0.44	0.40		3.6E-05
Uranium-235 (pCi/L)	12	0.29	+/-2	0.0076*	+/-0.06	0.11	0.024	0.018		1.9E-06
Uranium-238 (pCi/L)	12	10.0	+/-1.5	0.62	+/-29	3.1	0.71	0.52		5.5E-05

(e) Not applicable
* Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.26. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Flow, mgd	366	77.7	3.4	9.1	d	d
pH, Standard Unit	153	8.5	7.3	d	9/ 6(e)	0
1,1,1-Trichloroethane	19	0.005U	0.005U	0.005U	d	d
1,1-Dichloroethane	19	0.005U	0.005U	0.005U	d	d
1,1-Dichloroethene	19	0.005U	0.005U	0.005U	0.032	0
1,1,2,2-Tetrachloroethane	19	0.005U	0.005U	0.005U	0.110	0
1,1,2-Trichloroethane	19	0.005U	0.005U	0.005U	0.420	0
1,2-Dichloroethane	19	0.005U	0.005U	0.005U	0.990	0
1,2-Dichloropropane	19	0.005U	0.005U	0.005U	0.039	0
Silver	151	<0.02	<0.02	<0.02	0.0041	0
Aluminum	151	4.35	<0.2	<0.5	d	d
Arsenic	151	<0.2	<0.2	<0.2	0.0014	0
Boron	151	0.112	<0.1	<0.1	d	d
Barium	151	0.072	0.0372	0.045	d	d
Bromodichloromethane	19	0.005U	0.005U	0.005U	0.220	0
Beryllium	151	0.0047	<0.0005	<0.0009	d	d
Benzene	19	0.005U	0.005U	0.005U	0.710	0
Dibromochloromethane	19	0.005U	0.005U	0.005U	0.340	0
Bromoform	19	0.005U	0.005U	0.005U	3.600	0
Calcium	151	46.3	24.7	41.4	d	d
Carbon tetrachloride	19	0.005U	0.005U	0.005U	0.044	0
Cadmium	151	<0.01	<0.01	<0.01	0.0039	0
cis-1,3-Dichloropropene	19	0.005U	0.005U	0.005U	1.700	0
Chloroethane	19	0.005U	0.005U	0.005U	d	d
2-Chloroethylvinyl ether	19	0.005U	0.005U	0.005U	d	d
Bromomethane	19	0.005U	0.005U	0.005U	d	d
Chloromethane	19	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.27. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Chloroform	19	0.005U	0.001J	0.004J	4.700	0
Tetrachloroethene	19	0.005U	0.005U	0.005U	0.0885	0
Chlorobenzene	19	0.005U	0.005U	0.005U	21	0
Cobalt	151	<0.02	<0.02	<0.02	d	d
Chromium	151	<0.02	<0.02	<0.02	d	d
Copper	151	0.0251	<0.02	<0.02	0.0177	1
Ethylbenzene	19	0.005U	0.005U	0.005U	29	0
Iron	151	4.09	0.0717	0.418	d	d
Trichlorofluoromethane	19	0.005U	0.005U	0.005U	d	d
Mercury	401	0.0053	<0.0001	<0.0005	0.000051	393
Potassium	151	2.91	<2.0	<2.1	d	d
Lithium	151	0.0369	<0.01	<0.02	d	d
Methylene chloride	19	0.005U	0.005U	0.005U	16	0
Magnesium	151	12.9	6.42	10.9	d	d
Manganese	151	0.463	0.0135	0.0713	d	d
Molybdenum	151	<0.05	<0.05	<0.05	d	d
Sodium	151	37.8	4.88	10.6	d	d
Ammonia as Nitrogen	151	0.489	<0.2	<0.2	d	d
Nickel	151	<0.05	<0.05	<0.05	1.418	0
Nitrate/Nitrite as Nitrogen	151	2.94	0.371	1.22	d	0
Lead	151	<0.1	<0.1	<0.1	0.0817	0
Antimony	151	<0.2	<0.2	<0.2	4.30	0
Selenium	151	<0.2	<0.2	<0.2	0.02	0
Strontium	151	0.132	0.066	0.11	d	d
Suspended Solids	151	177.0	<1.0	<11	d	d
trans-1,2-Dichloroethene	19	0.005U	0.005U	0.005U	d	d
trans-1,3-Dichloropropene	19	0.005U	0.005U	0.005U	1.7	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.28. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1

From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
		Max	Min	Avg		
Thorium	151	<0.2	<0.2	<0.2	d	d
Titanium	151	0.0935	<0.05	<0.05	d	d
Thallium	151	<0.2	<0.2	<0.2	0.0063	0
Toluene	19	0.005U	0.005U	0.005U	200	0
Trichloroethene	19	0.005U	0.005U	0.005U	0.810	0
Uranium	52	0.027	0.002	0.009	d	d
Vanadium	151	<0.02	<0.02	<0.02	d	d
Vinyl chloride	19	0.005U	0.005U	0.005U	5.250	0
Zinc	151	0.193	<0.05	<0.06	0.117	5
Zirconium	151	<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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.29. Y-12 Complex Discharge Point 94221, SWHISS STATION 9422-1
From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	52	21.0	+/-7	0.67*	+/-1.5	5.0	0.51	e		6.2E-02
Americium-241 (pCi/L)	52	0.52	+/-0.36	-0.13*	+/-0.25	0.12	0.017	0.40		1.5E-03
Beta activity (pCi/L)	52	24.0	+/-9.6	0.77*	+/-5.9	7.0	0.54	e		8.7E-02
Cobalt-60 (pCi/L)	52	2.2*	+/-2.4	-1.8*	+/-2.4	0.44	0.14	0.0089		5.6E-03
Cesium-137 (pCi/L)	52	5.0	+/-3.3	-2.4*	+/-2.1	0.30	0.16	0.010		3.8E-03
Gamma Activity (pCi/L)	52	35.0	+/-18	-23.0*	+/-16	1.8	1.7	e		2.2E-02
Neptunium-237 (pCi/L)	52	0.17*	+/-0.18	-0.17*	+/-0.14	-0.018	0.0082	-0.061		-2.3E-04
Plutonium-238 (pCi/L)	52	0.26*	+/-0.22	-0.18*	+/-0.23	0.0083	0.013	0.021		1.0E-04
Plutonium-239/240 (pCi/L)	52	0.095	+/-0.11	-0.093*	+/-0.14	-0.0090	0.0056	-0.030		-1.1E-04
Radium-228 (pCi/L)	52	4.6*	+/-7.2	-2.2*	+/-2.1	0.81	0.16	0.81		1.0E-02
Strontium-89/90 (pCi/L)	52	4.4	+/-1.4	-1.4*	+/-3.2	1.1	0.18	e		1.4E-02
Total Radium Alpha (pCi/L)	52	2.4	+/-1.3	-0.17*	+/-0.23	0.42	0.061	e		5.3E-03
Technetium-99 (pCi/L)	52	27.0	+/-7.2	-18.0*	+/-8.3	3.02	1.23	0.00300		3.80E-02
Thorium-228 (pCi/L)	52	1.8	+/-0.78	-0.27*	+/-0.24	0.068	0.053	0.017		8.6E-04
Thorium-230 (pCi/L)	52	1.6	+/-0.66	-0.07*	+/-0.1	0.3	0.04	0.09		3E-03
Thorium-232 (pCi/L)	52	0.11*	+/-0.16	-0.1*	+/-0.12	-0.002	0.006	-0.005		-3E-05
Thorium-234 (pCi/L)	52	21.0	+/-3	0.65	+/-0.28	3.3	0.43	0.033		4.1E-02
Tritium (pCi/L)	52	1400.0	+/-810	-300.0*	+/-520	270	50	0.013		3.4E+00
Uranium-234 (pCi/L)	52	7.1	+/-1.4	0.34	+/-0.22	1.6	0.15	0.33		2.1E-02
Uranium-235 (pCi/L)	52	0.38	+/-0.32	-0.077*	+/-0.11	0.094	0.012	0.016		1.2E-03
Uranium-238 (pCi/L)	52	21.0	+/-3	0.65	+/-0.28	3.3	0.43	0.54		4.1E-02

(e) Not applicable
* Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.30. Y-12 Complex Category I Outfalls

From: 2000/01/01 To: 2000/12/31

Outfall	Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
			Max	Min	Avg		
003	Flow, mgd	2	0.0216	0.0086	0.015	d	d
	pH, Standard Units	2	7.6	7.3	d	9/ 4(e)	0
006	Flow, mgd	4	0.0259	0.004	0.01	d	d
	pH, Standard Units	9	7.9	7.1	d	9/ 4(e)	0
007	Flow, mgd	2	0.072	0.00228	0.037	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
008	Flow, mgd	2	0.0864	0.012960	0.050	d	d
	pH, Standard Units	3	7.9	7.1	d	9/ 4(e)	0
009	Flow, mgd	3	0.216	0.0691	0.138	d	d
	pH, Standard Units	3	8.2	7.9	d	9/ 4(e)	0
011	Flow, mgd	4	0.0043	0.00008	0.002	d	d
	pH, Standard Units	2	7.9	7.0	d	9/ 4(e)	0
015	Outfall closed						
018	Outfall closed						
032	Outfall was eliminated						
033	Flow, mgd	2	0.0259	0.00086	0.017	d	d
	pH, Standard Units	2	7.8	7.6	d	9/ 4(e)	0
045	Flow, mgd	2	0.0432	0.0058	0.024	d	d
	pH, Standard Units	2	8.1	7.3	d	9/ 4(e)	0
046	Flow, mgd	2	0.0101	0.0038	0.0069	d	d
	pH, Standard Units	2	8.2	7.4	d	9/ 4(e)	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.30. Y -12 Complex Category I Outfalls (continued)

Outfall	Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
			Max	Min	Avg		
058	Flow, mgd	2	0.0259	0.00576	0.016	d	d
	pH, Standard Units	2	7.9	7.8	d	9/ 4(e)	0
062	Flow, mgd	2	0.013	0.000380	0.007	d	d
	pH, Standard Units	2	7.6	7.1	d	9/ 4(e)	0
086	Flow, mgd	2	0.0029	0.00076	0.002	d	d
	pH, Standard Units	2	8.2	8.1	d	9/ 4(e)	0
087	Flow, mgd	3	0.0173	0.0058	0.012	d	d
	pH, Standard Units	3	7.5	7.2	d	9/ 4(e)	0
098	Flow, mgd	2	0.0216	0.0038	0.013	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
110	Flow, mgd	2	0.0864	0.0259	0.0562	d	d
	pH, Standard Units	2	7.9	7.2	d	9/ 4(e)	0
134	Flow, mgd	3	0.0086	0.0005	0.004	d	d
	pH, Standard Units	3	7.9	7.3	d	9/ 4(e)	0
213	Flow, mgd	2	0.0342	0.013	0.024	d	d
	pH, Standard Units	2	7.7	7.6	d	9/ 4(e)	0
S01	Flow, mgd	2	0.432	0.173	0.302	d	d
	pH, Standard Units	2	7.7	7.5	d	9/ 4(e)	0
S03	Flow, mgd	2	0.0576	0.0004	0.03	d	d
	pH, Standard Units	2	8.1	7.5	d	9/ 4(e)	0
S04	Flow, mgd	3	0.5486	0.0086	0.21	d	d
	pH, Standard Units	3	8.0	7.4	d	9/ 4(e)	0
S06	Flow, mgd	366	21.2011	0.0047	0.44	d	d
	pH, Standard Units	8	9.8	6.8	d	9/ 4(e)	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.30. Y -12 Complex Category I Outfalls (continued)

Outfall	Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
			Max	Min	Avg		
S07	Flow, mgd	4	3.186	0.239	0.992	d	d
	pH, Standard Units	3	7.8	7.6	d	9/ 4(e)	0
S09	Flow, mgd	2	0.864	0.1296	0.497	d	d
	pH, Standard Units	2	7.9	7.7	d	9/ 4(e)	0
S15	Flow, mgd	3	0.0864	0.0045	0.036	d	d
	pH, Standard Units	3	8.1	7.5	d	10/ 6(e)	0
S16	Flow, mgd	3	0.0259	0.0002	0.009	d	d
	pH, Standard Units	3	8.2	7.6	d	10/ 6(e)	0
S18	Flow, mgd	2	0.504	0.0259	0.265	d	d
	pH, Standard Units	2	8.0	7.8	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.31. Y-12 Complex Category II Outfalls

From: 1999/01/01 To: 1999/12/31

Outfall	Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
			Max	Min	Avg		
004	Flow, mgd	4	0.0864	0.0004	0.02	d	d
	pH, Standard Units	4	7.9	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
010	Flow, mgd	4	0.1152	0.0114	0.0482	d	d
	pH, Standard Units	4	7.8	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
014	Flow, mgd	4	0.0518	0.0076	0.038	d	d
	pH, Standard Units	4	8.0	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
016	Flow, mgd	5	1.5077	0.0004	0.3	d	d
	pH, Standard Units	5	7.9	6.9	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
019	Flow, mgd	4	0.0076	0.0002	0.003	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
020	Flow, mgd	4	0.0057	0.0008	0.003	d	d
	pH, Standard Units	4	8.1	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
041	Flow, mgd	3	0.0046	0.0002	0.002	d	d
	pH, Standard Units	3	7.8	7.3	d	9/ 4(e)	0
	Total Residual Chlorine	3	<0.05	<0.05	<0.05	0.5	0
044	Flow, mgd	4	0.0228	0.0002	0.0087	d	d
	pH, Standard Units	4	8.1	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.31. Y-12 Complex Category II Outfalls (continued)

057	Flow, mgd	4	0.0008	0.0002	0.0003	d	d
	pH, Standard Units	4	8.1	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
063	Flow, mgd	4	0.0038	0.0004	0.0013	d	d
	pH, Standard Units	4	8.0	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	4	0.08	<0.05	<0.06	0.5	0
064	Flow, mgd	4	0.0004	0.000095	0.0003	d	d
	pH, Standard Units	6	8.1	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
067	Flow, mgd	4	0.0228	0.0002	0.009	d	d
	pH, Standard Units	4	7.9	7.6	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
083	Flow, mgd	4	0.0609	0.0002	0.02	d	d
	pH, Standard Units	4	8.0	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
088	Flow, mgd	3	0.0008	0.0004	0.0006	d	d
	pH, Standard Units	3	11.2	7.5	d	9/ 4(e)	1
	Total Residual Chlorine	3	<0.05	<0.05	<0.05	0.5	0
099	Flow, mgd	4	0.0057	0.0029	0.0041	d	d
	pH, Standard Units	4	7.9	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
102	Flow, mgd	4	0.0004	0.00005	0.0002	d	d
	pH, Standard Units	4	8.4	7.1	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
126	Flow, mgd	5	0.0259	0.000095	0.005	d	d
	pH, Standard Units	5	8.2	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	4	<0.05	<0.05	<0.05	0.5	0
S02	Flow, mgd	158	6.021	0.0016	0.17	d	d
	pH, Standard Units	9	7.9	6.8	d	9/ 4(e)	0
	Total Residual Chlorine	2	0.09	<0.05	<0.07	0.5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.31. Y-12 Complex Category II Outfalls (continued)

S08	Flow, mgd	259	13.068	0.00003	0.4	d	d
	pH, Standard Units	6	8.2	7.5	d	9/ 4(e)	0
S10	Flow, mgd	5	0.3312	0.0007	0.1	d	d
	pH, Standard Units	5	8.0	7.2	d	9/ 4(e)	0
S11	Flow, mgd	5	2.084	0.0003	0.07	d	d
	pH, Standard Units	5	7.7	7.0	d	9/ 4(e)	0
S12	Flow, mgd	4	0.0457	0.0004	0.02	d	d
	pH, Standard Units	4	7.4	6.2	d	9/ 4(e)	0
S13	Flow, mgd	4	0.4317	0.0032	0.12	d	d
	pH, Standard Units	5	7.8	6.9	d	9/ 4(e)	0
S17	Flow, mgd	7	4.0104	0.0722	0.795	d	d
	pH, Standard Units	6	7.8	7.4	d	9/ 4(e)	0
S20	Flow, mgd	6	0.425	0.0014	0.19	d	d
	pH, Standard Units	6	8.1	7.3	d	9/ 4(e)	0
S21	Outfall eliminated						
S22	Flow, mgd	7	0.0343	0.0011	0.0071	d	d
	pH, Standard Units	7	8.2	6.9	d	10/ 6(e)	0
S24	Flow, mgd	298	38.4322	0.000007	4	d	d
	pH, Standard Units	7	7.9	6.9	d	9/ 4(e)	0
S25	Flow, mgd	6	0.1141	0.0008	0.04	d	d
	pH, Standard Units	6	8.3	7.0	d	10/ 6(e)	0
S26	Flow, mgd	5	0.1141	0.0004	0.04	d	d
	pH, Standard Units	5	7.8	7.6	d	10/ 6(e)	0
S27	Flow, mgd	6	0.864	0.0014	0.29	d	d
	pH, Standard Units	6	8.0	7.5	d	10/ 6(e)	0
S28	Flow, mgd	5	0.0761	0.0072	0.029	d	d
	pH, Standard Units	5	8.4	7.0	d	10/ 6(e)	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.31. Y-12 Complex Category II Outfalls (continued)

S29	Flow, mgd	7	0.038	0.0029	0.015	d	d
	pH, Standard Units	9	8.0	4.7	d	10/ 6(e)	1

- (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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.32. Y-12 Complex Category III Outfalls
From: 2000/01/01 To: 2000/12/31

Outfall	Parameter	Number of Samples	Concentration(a)			Reference Value(b)	Number of Values Exceeding Reference
			Max	Min	Avg		
002	Flow, mgd	13	0.432	0.0058	0.17	d	d
	pH, Standard Units	13	8.0	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
034	Flow, mgd	14	0.1728	0.0274	0.112	d	d
	pH, Standard Units	14	8.0	7.4	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
042	Flow, mgd	12	0.0432	0.00038	0.009	d	d
	pH, Standard Units	12	8.5	7.7	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
047	Flow, mgd	13	0.054	0.0173	0.031	d	d
	pH, Standard Units	14	8.2	7.2	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
048	Flow, mgd	12	0.0046	0.00005	0.002	d	d
	pH, Standard Units	12	8.3	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	12	0.84	<0.05	<0.1	0.5	1
054	Flow, mgd	13	0.0202	0.00114	0.0030	d	d
	pH, Standard Units	13	8.7	7.7	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
071	Flow, mgd	12	0.0138	0.001330	0.0087	d	d
	pH, Standard Units	12	8.2	7.6	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
109	Flow, mgd	17	2.0333	0.0173	0.296	d	d
	pH, Standard Units	17	8.2	7.6	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
113	Flow, mgd	12	0.054	0.00000001	0.006	d	d
	pH, Standard Units	12	8.7	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.32. Y-12 Complex Category III Outfalls (continued)

114	Flow, mgd	13	0.1728	0.0058	0.036	d	d
	pH, Standard Units	15	8.2	7.5	d	9/ 4(e)	0
	Total Residual Chlorine	12	<0.05	<0.05	<0.05	0.5	0
S05	Flow, mgd	10	0.2592	0.0006	0.08	d	d
	pH, Standard Units	12	7.9	6.1	d	9/ 4(e)	0
S14	Flow, mgd	14	2.023	0.0014	0.54	d	d
	pH, Standard Units	16	7.8	6.2	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.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.33. Y-12 Complex Discharge Point S17, UNNAMED TRIBUTARY TO THE CLINCH RIVER
From: 2000/01/01 To: 2000/12/31

Parameter	Number of Samples	Concentration				Average	Standard Error	Percentage of		Total Curies
		Max	+/-	Min	+/-			DCG		
Alpha activity (pCi/L)	14	9.3	+/-3.5	0.55*	+/-1.6	5.0	0.83	e		5.5E-03
Americium-241 (pCi/L)	14	0.3	+/-0.22	-0.0073*	+/-0.19	0.1	0.02	0.4		1E-04
Beta activity (pCi/L)	14	56.0*	+/-46	0.91*	+/-3.9	6.9	3.8	e		7.6E-03
Cobalt-60 (pCi/L)	14	2.8*	+/-1.6	-1.1*	+/-2.7	0.65	0.30	0.013		7.2E-04
Cesium-137 (pCi/L)	14	1.8*	+/-1.8	-2.2*	+/-1.9	0.029	0.30	0.0010		3.2E-05
Gamma Activity (pCi/L)	14	11.0*	+/-17	-13.0*	+/-16	1.02	1.74	e		1.12E-03
Neptunium-237 (pCi/L)	14	0.14	+/-0.16	-0.12*	+/-0.12	-0.024	0.018	-0.081		-2.7E-05
Plutonium-238 (pCi/L)	14	0.092*	+/-0.12	-0.051*	+/-0.06	0.026	0.013	0.066		2.9E-05
Plutonium-239/240 (pCi/L)	14	0.093	+/-0.11	-0.048*	+/-0.056	-0.0021	0.011	-0.0069		-2.3E-06
Radium-228 (pCi/L)	14	5.9*	+/-4.1	-1.0*	+/-0.7	0.74	0.44	0.74		8.2E-04
Strontium-89/90 (pCi/L)	14	12.0	+/-2.3	-0.99*	+/-2.2	1.7	0.85	e		1.9E-03
Total Radium Alpha (pCi/L)	14	3.4	+/-0.77	0.021*	+/-0.17	0.59	0.23	e		6.5E-04
Technetium-99 (pCi/L)	14	19.0	+/-7.2	-6.1*	+/-9.1	3.4	1.6	0.0034		3.7E-03
Thorium-228 (pCi/L)	14	0.5*	+/-0.48	-0.26*	+/-0.28	0.05	0.05	0.01		6E-05
Thorium-230 (pCi/L)	14	16.0	+/-3	-0.0029*	+/-0.13	1.4	1.1	0.47		1.6E-03
Thorium-232 (pCi/L)	14	0.095*	+/-0.15	-0.17*	+/-0.17	-0.012	0.017	-0.025		-1.4E-05
Thorium-234 (pCi/L)	14	0.74	+/-0.28	0.28	+/-0.21	0.44	0.035	0.0044		4.9E-04
Tritium (pCi/L)	12	620.0*	+/-560	-200.0*	+/-510	130	78	0.0066		1.45E-01
Uranium-234 (pCi/L)	14	16.0	+/-2.1	0.87	+/-0.32	4.3	1.1	0.85		4.7E-03
Uranium-235 (pCi/L)	14	0.52	+/-0.27	-0.021*	+/-0.043	0.12	0.036	0.020		1.3E-04
Uranium-238 (pCi/L)	14	0.74	+/-0.28	0.28	+/-0.21	0.44	0.035	0.074		4.9E-04

(e) Not applicable
* Provisional Result

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.34. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Background

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Iron Related Bacteria	(cfu/ml)		5	3	5000	100	1733.333	NR	NA
Slime Forming Bacteria	(cfu/ml)		5	5	500000	1000	310200	NR	NA
Sulfate Reducing Bacteria	(cfu/ml)		5	2	100	100	100	NR	NA
Conductivity, field measurement	(umhos/cm)		5	NA	591	212	369.4	NR	NA
Dissolved Oxygen, field measurement	(ppm)		5	NA	6.29	0.8	2.526	NR	NA
pH, field measurement	(pH)		5	NA	7.45	6.55	7.054	6.5/8.5	0
REDOX, field measurement	(mV)		5	NA	-14	-184	-76.4	NR	NA
Static Water Level	(ft - toc)		5	NA	-9.12	-24.64	-18.71	NR	NA
Temperature, field measurement	(Deg C)		5	NA	17.1	8.7	13.68	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.35. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Bear Creek Burial Grounds WMA

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		10	10	43.7	0.921	20.4475	250	0
Fluoride	(mg/L)		10	5	5.65	0.113	4.4126	4	4
Nitrate Nitrogen	(mg/L)		10	1	0.0502	0.0502	0.0502	10	0
Sulfate	(mg/L)		10	10	33.8	1.47	14.818	250	0
Aluminum, ICAP	(mg/L)		10	1	0.315	0.315	0.315	0.2	1
Barium, ICAP	(mg/L)		10	10	0.21	0.0311	0.09138	2	0
Boron, ICAP	(mg/L)		10	6	0.474	0.291 vw	0.416667	NR	NA
Calcium, ICAP	(mg/L)		10	10	123	0.901	32.5583	NR	NA
Iron, ICAP	(mg/L)		10	7	0.298	0.0574	0.160129	0.3	0
Lead, PMS	(mg/L)		10	2	0.00145	0.000551	0.001001	0.015 c	0
Lithium, ICAP	(mg/L)		10	6	0.46	0.0882	0.206383	NR	NA
Magnesium, ICAP	(mg/L)		10	10	14.5	0.213	4.2017	NR	NA
Manganese, ICAP	(mg/L)		10	5	0.0834	0.0055	0.04026	0.05	2
Potassium, ICAP	(mg/L)		10	2	2.47	2.18	2.325	NR	NA
Selenium, PMS	(mg/L)		10	1	0.0113	0.0113	0.0113	0.05	0
Sodium, ICAP	(mg/L)		10	10	300	1.97	121.661	NR	NA
Strontium, ICAP	(mg/L)		10	10	0.409 w	0.016	0.13139	NR	NA
Uranium, PMS	(mg/L)		10	2	0.00262	0.0023	0.00246	NR	NA
Conductivity, field measurement	(umhos/cm)		10	NA	1169	34	623.8	NR	NA
Dissolved Oxygen, field measurement	(ppm)		10	NA	5.21	0.07	2.32	NR	NA
pH, field measurement	(pH)		10	NA	9.54	5.2	7.371	6.5/8.5	7
REDOX, field measurement	(mV)		10	NA	248	-286	23	NR	NA
Static Water Level	(ft - toc)		10	NA	-4.51	-25.04	-16.817	NR	NA
Temperature, field measurement	(Deg C)		10	NA	17	11.1	14.84	NR	NA
Alkalinity as CO3	(mg/L)		10	4	73.4	5.28	40.57	NR	NA
Alkalinity as HCO3	(mg/L)		10	10	557	3.74	310.374	NR	NA
Conductivity	(umhos/cm)		10	10	1242	30.4	688.49	NR	NA
Dissolved Solids	(mg/L)		10	10	803	38	434.7	500	4
pH	(pH)		10	10	9.31 L	5.5 L	7.602	6.5/8.5	6
Total Suspended Solids	(mg/L)		10	4	5	1	2.5	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.35. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Turbidity	(NTU)		10	10	3.07	0.161	1.2609	1	5
Gross Alpha	(pCi/L)		10	10	3.3	-3.2	0.616	15 f	0
Gross Beta	(pCi/L)		10	10	6.6	-51	-5.942	50 a	0
1,1-Dichloroethane	(ug/L)		10	8	62	4 J	16.25	NR	NA
1,1-Dichloroethene	(ug/L)		10	2	16	9	12.5	7	2
1,2-Dichloroethene (Total)	(ug/L)		10	6	89	5 J	33.16667	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		10	6	89	5 J	33.16667	70	1
Tetrachloroethene	(ug/L)		10	7	500 D	3 J	144.1429	5	5
Trichloroethene	(ug/L)		10	8	170	3 J	37.625	5	4
Vinyl chloride	(ug/L)		10	4	17	3 J	8	2	4

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.36. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Exit Pathway Monitoring Location A

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		8	8	73.7	4.47	40.28375	250	0
Fluoride	(mg/L)		8	4	0.214	0.115	0.15925	4	0
Nitrate Nitrogen	(mg/L)		8	8	9.4	0.339	2.979875	10	0
Sulfate	(mg/L)		8	8	26.1	10.2	21.0875	250	0
Aluminum, ICAP	(mg/L)		8	2	21.4	4.06	12.73	0.2	2
Arsenic, PMS	(mg/L)		8	2	0.0205	0.00699	0.013745	0.05	0
Barium, ICAP	(mg/L)		8	8	0.18	0.0914	0.118613	2	0
Beryllium, ICAP	(mg/L)		8	1	0.00112	0.00112	0.00112	0.004	0
Cadmium, PMS	(mg/L)		8	2	0.00326	0.00124	0.00225	0.005	0
Calcium, ICAP	(mg/L)		8	8	95.1	47.7 k	75.2625	NR	NA
Chromium, ICAP	(mg/L)		8	2	0.584	0.169	0.3765	0.1	2
Copper, ICAP	(mg/L)		8	2	0.0316	0.028	0.0298	1.3	0
Iron, ICAP	(mg/L)		8	5	24	0.0765	8.0613	0.3	4
Lead, PMS	(mg/L)		8	2	0.0398	0.0145	0.02715	0.015 c	1
Lithium, ICAP	(mg/L)		8	3	0.0343	0.0274	0.030233	NR	NA
Magnesium, ICAP	(mg/L)		8	8	30.4	17	22.0125	NR	NA
Manganese, ICAP	(mg/L)		8	6	0.639	0.0454	0.228583	0.05	5
Mercury, CVAA	(mg/L)		8	3	0.0125	0.00198	0.005497	0.002	2
Nickel, ICAP	(mg/L)		8	2	0.292	0.216	0.254	0.1 d	2
Potassium, ICAP	(mg/L)		8	4	8.9	2.07	5.9325	NR	NA
Sodium, ICAP	(mg/L)		8	8	42.1	2.46	23.42875	NR	NA
Strontium, ICAP	(mg/L)		8	8	0.149 w	0.115 w	0.136875	NR	NA
Uranium, PMS	(mg/L)		8	8	0.0667	0.00436	0.020781	NR	NA
Vanadium, ICAP	(mg/L)		8	1	0.0325	0.0325	0.0325	NR	NA
Zinc, ICAP	(mg/L)		8	2	0.468	0.0527	0.26035	5	0
Conductivity, field measurement	(umhos/cm)		8	NA	814	385	594.125	NR	NA
Dissolved Oxygen, field measurement	(ppm)		8	NA	3.26	0.05	1.335	NR	NA
pH, field measurement	(pH)		8	NA	7.46	6.22	7.13125	6.5/8.5	1
REDOX, field measurement	(mV)		8	NA	194	-7	109	NR	NA
Static Water Level	(ft - toc)		8	NA	-7.74	-89.02	-30.18	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.36. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Temperature, field measurement	(Deg C)		8	NA	16.7	13	14.025	NR	NA
Alkalinity as HCO ₃	(mg/L)		8	8	344	176	239.25	NR	NA
Conductivity	(umhos/cm)		8	8	853	395	622.125	NR	NA
Dissolved Solids	(mg/L)		8	8	487	246	361.875	500	0
pH	(pH)		8	8	7.93 L	7.25 L	7.565	6.5/8.5	0
Total Suspended Solids	(mg/L)		8	6	234	1	59.66667	NR	NA
Turbidity	(NTU)		8	8	191	0.398	53.43413	1	5
Gross Alpha	(pCi/L)		8	8	31	4.6	12.3375	15 f	2
Gross Beta	(pCi/L)		8	8	42	7.1	17.575	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		8	1	4 J	4 J	4	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		8	1	4 J	4 J	4	70	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.37. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Exit Pathway Monitoring Location B

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		12	12	44.6	3.48	24.17167	250	0
Fluoride	(mg/L)		12	8	0.477	0.155	0.2595	4	0
Nitrate Nitrogen	(mg/L)		12	12	41.6	1.14	14.29417	10	8
Sulfate	(mg/L)		12	12	50.5	2.66	22.24833	250	0
Aluminum, ICAP	(mg/L)		12	2	2.4	1.8	2.1	0.2	2
Barium, ICAP	(mg/L)		12	12	0.187	0.0276	0.089183	2	0
Boron, ICAP	(mg/L)		12	1	0.102 vw	0.102 vw	0.102	NR	NA
Cadmium, PMS	(mg/L)		12	2	0.000687	0.000639	0.000663	0.005	0
Calcium, ICAP	(mg/L)		12	12	137	14.3	73.26667	NR	NA
Iron, ICAP	(mg/L)		12	9	4.85	0.267	1.300556	0.3	6
Lead, PMS	(mg/L)		12	3	0.00187	0.00119	0.001443	0.015 c	0
Lithium, ICAP	(mg/L)		12	8	0.0234 w	0.0151	0.018425	NR	NA
Magnesium, ICAP	(mg/L)		12	12	33	9.19	23.4325	NR	NA
Manganese, ICAP	(mg/L)		12	8	0.0777	0.00859	0.039036	0.05	3
Mercury, CVAA	(mg/L)		12	2	0.00692	0.00257	0.004745	0.002	2
Potassium, ICAP	(mg/L)		12	10	12.2	2.02	4.841	NR	NA
Sodium, ICAP	(mg/L)		12	12	21	1.56	11.77	NR	NA
Strontium, ICAP	(mg/L)		12	12	0.415	0.0563	0.20855	NR	NA
Uranium, PMS	(mg/L)		12	12	0.277	0.00137	0.054388	NR	NA
Conductivity, field measurement	(umhos/cm)		12	NA	828	323	541.4167	NR	NA
Dissolved Oxygen, field measurement	(ppm)		12	NA	7.87	0.06	2.7125	NR	NA
pH, field measurement	(pH)		12	NA	8.34	7.17	7.5175	6.5/8.5	0
REDOX, field measurement	(mV)		12	NA	179	-221	116.8333	NR	NA
Static Water Level	(ft - toc)		12	NA	-11.18	-44.05	-25.4717	NR	NA
Temperature, field measurement	(Deg C)		12	NA	16.1	10.4	13.66667	NR	NA
Alkalinity as HCO3	(mg/L)		12	12	256	136	201.8333	NR	NA
Conductivity	(umhos/cm)		12	12	992	340	606.75	NR	NA
Dissolved Solids	(mg/L)		12	12	583	199	348.5833	500	1
pH	(pH)		12	12	8.41 L	7.15 L	7.615	6.5/8.5	0
Total Suspended Solids	(mg/L)		12	5	15	2	8	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.37. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Turbidity	(NTU)		12	12	28.1	0.346	7.9025	1	7
Gross Alpha	(pCi/L)		12	12	120	0.057	28.89975	15 f	6
Gross Beta	(pCi/L)		12	12	110	5.8	46.59167	50 a	4
1,1-Dichloroethene	(ug/L)		12	1	5 J	5 J	5	7	0
1,2-Dichloroethene (Total)	(ug/L)		12	5	12	4 J	6.6	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		12	8	12	3 J	5.25	70	0
Trichloroethene	(ug/L)		12	9	69	6	23.55556	5	9

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.38. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Exit Pathway Monitoring Location C

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		10	10	84.7	6.46	49.959	250	0
Fluoride	(mg/L)		10	8	0.249	0.164	0.221	4	0
Nitrate Nitrogen	(mg/L)		10	10	30.5	2.4	17.455	10	7
Sulfate	(mg/L)		10	10	39.1	12.1	28.52	250	0
Barium, ICAP	(mg/L)		10	10	0.257	0.0498	0.15741	2	0
Calcium, ICAP	(mg/L)		10	10	159	64.2	116.05	NR	NA
Iron, ICAP	(mg/L)		10	9	6.78	0.0572	1.241911	0.3	4
Lead, PMS	(mg/L)		10	2	0.00291	0.000966	0.001938	0.015 c	0
Lithium, ICAP	(mg/L)		10	4	0.0188 w	0.0135	0.017075	NR	NA
Magnesium, ICAP	(mg/L)		10	10	41	24	30.37	NR	NA
Manganese, ICAP	(mg/L)		10	7	0.9	0.0062	0.420329	0.05	4
Potassium, ICAP	(mg/L)		10	7	3.43	2.08	2.94	NR	NA
Sodium, ICAP	(mg/L)		10	10	29.3	1.79	18.229	NR	NA
Strontium, ICAP	(mg/L)		10	10	1.28	0.0527	0.43043	NR	NA
Uranium, PMS	(mg/L)		10	8	0.0101	0.000556	0.005103	NR	NA
Conductivity, field measurement	(umhos/cm)		10	NA	1078	419	773.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		10	NA	2.59	0.02	1.207	NR	NA
pH, field measurement	(pH)		10	NA	7.55	6.46	7.043	6.5/8.5	1
REDOX, field measurement	(mV)		10	NA	158	-3	102	NR	NA
Static Water Level	(ft - toc)		10	NA	-11.36	-72.98	-31.534	NR	NA
Temperature, field measurement	(Deg C)		10	NA	16.4	13.1	14.77	NR	NA
Alkalinity as HCO3	(mg/L)		10	10	344	190	290	NR	NA
Conductivity	(umhos/cm)		10	10	1131	539	877.4	NR	NA
Dissolved Solids	(mg/L)		10	10	822	290	525.4	500	5
pH	(pH)		10	10	7.61 L	6.96 L	7.247	6.5/8.5	0
Total Suspended Solids	(mg/L)		10	4	11	1	4.25	NR	NA
Turbidity	(NTU)		10	10	57.3	0.525	8.6635	1	9
Gross Alpha	(pCi/L)		10	10	5.4	-0.35	2.2105	15 f	0
Gross Beta	(pCi/L)		10	10	60	5.3	30.97	50 a	1
cis-1,2-Dichloroethene	(ug/L)		10	3	3 J	3 J	3	70	0
Tetrachloroethene	(ug/L)		10	1	3 J	3 J	3	5	0
Trichloroethene	(ug/L)		10	10	130	12	61.1	5	10

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.39. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Exit Pathway Monitoring Location W

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Iron Related Bacteria	(cfu/ml)		4	2	100	100	100	NR	NA
Slime Forming Bacteria	(cfu/ml)		4	4	500000	50000	162500	NR	NA
Sulfate Reducing Bacteria	(cfu/ml)		4	1	1000 >	1000 >	1000	NR	NA
Conductivity, field measurement	(umhos/cm)		4	NA	516	381	455.25	NR	NA
Dissolved Oxygen, field measurement	(ppm)		4	NA	5.49	0.4	2.22	NR	NA
pH, field measurement	(pH)		4	NA	7.68	6.35	7.1	6.5/8.5	1
REDOX, field measurement	(mV)		4	NA	145	83	123.25	NR	NA
Static Water Level	(ft - toc)		4	NA	-27.71	-30.84	-29.025	NR	NA
Temperature, field measurement	(Deg C)		4	NA	14.6	13	13.725	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.40. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Exit Pathway Spring/Surface Water

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		20	20	123	5.8	34.155	250	0
Fluoride	(mg/L)		20	20	1.18	0.106	0.34655	4	0
Nitrate Nitrogen	(mg/L)		20	20	217	1.19	31.5005	10	13
Sulfate	(mg/L)		20	20	66.3	9.71	30.0555	250	0
Aluminum, ICAP	(mg/L)		20	7	1.46	0.252	0.682714	0.2	7
Barium, ICAP	(mg/L)		20	20	0.775	0.0555	0.155305	2	0
Boron, ICAP	(mg/L)		20	3	0.346 vw	0.188 vw	0.263	NR	NA
Cadmium, PMS	(mg/L)		20	4	0.00359	0.000528	0.00243	0.005	0
Calcium, ICAP	(mg/L)		20	20	334	42.9	112.79	NR	NA
Iron, ICAP	(mg/L)		20	12	1.2	0.0535	0.321342	0.3	4
Lead, PMS	(mg/L)		20	4	0.0752	0.000653	0.020426	0.015 c	1
Lithium, ICAP	(mg/L)		20	8	0.0699 w	0.0104	0.028213	NR	NA
Magnesium, ICAP	(mg/L)		20	20	43	12.7	19.195	NR	NA
Manganese, ICAP	(mg/L)		20	19	0.549	0.00524	0.099682	0.05	4
Mercury, CVAA	(mg/L)		20	1	0.000254	0.000254	0.000254	0.002	0
Potassium, ICAP	(mg/L)		20	14	5.64	2.02	3.502857	NR	NA
Sodium, ICAP	(mg/L)		20	20	43.6	3.74	17.881	NR	NA
Strontium, ICAP	(mg/L)		20	20	0.998	0.0798 w	0.31815	NR	NA
Uranium, PMS	(mg/L)		20	20	0.332	0.00863	0.101317	NR	NA
Conductivity, field measurement	(umhos/cm)		20	NA	1626	309	732.15	NR	NA
Dissolved Oxygen, field measurement	(ppm)		20	NA	8.39	3.4	6.17	NR	NA
pH, field measurement	(pH)		20	NA	8.19	6.67	7.5865	6.5/8.5	0
REDOX, field measurement	(mV)		20	NA	224	69	163.25	NR	NA
Temperature, field measurement	(Deg C)		20	NA	24.4	4.7	13.685	NR	NA
Alkalinity as HCO3	(mg/L)		20	20	366	128	209.2	NR	NA
Conductivity	(umhos/cm)		20	20	2250	326	793.9	NR	NA
Dissolved Solids	(mg/L)		20	20	1670	224	527.85	500	8
pH	(pH)		20	20	8.23 L	6.81 L	7.683	6.5/8.5	0
Total Suspended Solids	(mg/L)		20	10	9	1	3.3	NR	NA
Turbidity	(NTU)		20	20	10.8	0.558	2.94185	1	17
Iodine-129	(pCi/L)		2	2	8.4	6.5	7.45	NR	NA
Thorium-228	(pCi/L)		2	2	0.33	0.059	0.1945	16	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.40. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Thorium-230	(pCi/L)		2	2	0.45	0.22	0.335	12	0
Thorium-231+234	(pCi/L)		2	2	67	35	51	400	0
Thorium-232	(pCi/L)		2	2	0.11	-0.1	0.005	2	0
Uranium-234	(pCi/L)		2	2	38	21	29.5	20	2
Uranium-235	(pCi/L)		2	2	1.9	1.2	1.55	24	0
Neptunium-237	(pCi/L)		2	2	1.1	0.54	0.82	1.2	0
Plutonium-238	(pCi/L)		2	2	0.22	-0.11	0.055	1.6	0
Uranium-238	(pCi/L)		2	2	67	35	51	24	2
Americium-241	(pCi/L)		2	2	0.19	-0.018	0.086	1.2	0
Strontium-89/90	(pCi/L)		2	2	2	0.42	1.21	NR h	NA
Technetium-99	(pCi/L)		2	2	390	350	370	4000	0
Gross Alpha	(pCi/L)		20	20	130	4.9	41.825	15 f	16
Gross Beta	(pCi/L)		20	20	450	9.2	108.26	50 a	11
Radium - Total Alpha	(pCi/L)		2	2	0.64	0.19	0.415	5 g	0
Tritium	(pCi/L)		2	2	400	-450	-25	20000	0
1,1-Dichloroethane	(ug/L)		20	1	2 J	2 J	2	NR	NA
1,2-Dichloroethene (Total)	(ug/L)		20	4	34	3 J	12.5	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		20	5	34	3 J	10.6	70	0
Tetrachloroethene	(ug/L)		20	2	4 J	4 J	4	5	0
Trichloroethene	(ug/L)		20	3	10	3 J	6.666667	5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.41. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Oil Landfarm WMA

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		8	8	58.5	2.53	24.135	250	0
Fluoride	(mg/L)		8	3	0.503	0.114	0.358	4	0
Nitrate Nitrogen	(mg/L)		8	8	734	11.3	237.35	10	8
Sulfate	(mg/L)		8	8	31.8	4.72	14.5875	250	0
Aluminum, ICAP	(mg/L)		8	2	2.04	0.761	1.4005	0.2	2
Barium, ICAP	(mg/L)		8	8	2.4	0.112	0.962875	2	2
Boron, ICAP	(mg/L)		8	4	0.254	0.101 w	0.184	NR	NA
Calcium, ICAP	(mg/L)		8	8	989	12.6	355.3125	NR	NA
Iron, ICAP	(mg/L)		8	4	1.42	0.253	0.71525	0.3	3
Lead, PMS	(mg/L)		8	3	0.00136	0.00128	0.001323	0.015 c	0
Lithium, ICAP	(mg/L)		8	8	0.0538	0.0135 w	0.032638	NR	NA
Magnesium, ICAP	(mg/L)		8	8	74.4	4.49	33.1325	NR	NA
Manganese, ICAP	(mg/L)		8	4	0.839	0.026	0.325	0.05	2
Potassium, ICAP	(mg/L)		8	6	6.63	2.37	4.181667	NR	NA
Sodium, ICAP	(mg/L)		8	8	111	11.4	45.45	NR	NA
Strontium, ICAP	(mg/L)		8	8	2.73 w	0.357 w	1.19325	NR	NA
Uranium, PMS	(mg/L)		8	6	0.015	0.00127	0.004663	NR	NA
Conductivity, field measurement	(umhos/cm)		8	NA	5340	543	2009.375	NR	NA
Dissolved Oxygen, field measurement	(ppm)		8	NA	4	0.29	1.79625	NR	NA
pH, field measurement	(pH)		8	NA	9.04	6.37	7.32	6.5/8.5	3
REDOX, field measurement	(mV)		8	NA	146	83	111.5	NR	NA
Static Water Level	(ft - toc)		8	NA	-6.56	-19.32	-13.0525	NR	NA
Temperature, field measurement	(Deg C)		8	NA	18	14.8	16.2875	NR	NA
Alkalinity as CO3	(mg/L)		8	2	16.4	14.6	15.5	NR	NA
Alkalinity as HCO3	(mg/L)		8	8	336	176	236.25	NR	NA
Conductivity	(umhos/cm)		8	8	5570	577	2238.625	NR	NA
Dissolved Solids	(mg/L)		8	8	5120	378	1776.5	500	5
pH	(pH)		8	8	8.93 L	6.94 L	7.57375	6.5/8.5	2
Total Suspended Solids	(mg/L)		8	3	30	1	17	NR	NA
Turbidity	(NTU)		8	8	16.9	0.386	6.1715	1	5
Gross Alpha	(pCi/L)		8	8	9.1	-8.4	2.355	15 f	0
Gross Beta	(pCi/L)		8	8	620	6.7	199.1375	50 a	4

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.41. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
1,2-Dichloroethene (Total)	(ug/L)		8	1	4 J	4 J	4	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		8	2	4 J	3 J	3.5	70	0
Trichloroethene	(ug/L)		8	2	160	87	123.5	5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.42. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Rust Spoil Area

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	2.3	1.89	2.095	250	0
Nitrate Nitrogen	(mg/L)		2	2	0.348	0.3	0.324	10	0
Sulfate	(mg/L)		2	2	3.82	3.06	3.44	250	0
Barium, ICAP	(mg/L)		2	2	0.0208	0.0203	0.02055	2	0
Calcium, ICAP	(mg/L)		2	2	93.7	88.7	91.2	NR	NA
Magnesium, ICAP	(mg/L)		2	2	6.59	6.22	6.405	NR	NA
Sodium, ICAP	(mg/L)		2	2	3.26	2.95	3.105	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.0832 w	0.0772	0.0802	NR	NA
Uranium, PMS	(mg/L)		2	1	0.000765	0.000765	0.000765	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	609	374	491.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	4.53	4.25	4.39	NR	NA
pH, field measurement	(pH)		2	NA	7.24	7.09	7.165	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	137	129	133	NR	NA
Static Water Level	(ft - toc)		2	NA	-35.71	-40.42	-38.065	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19.2	14.6	16.9	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	264	248	256	NR	NA
Conductivity	(umhos/cm)		2	2	502	458	480	NR	NA
Dissolved Solids	(mg/L)		2	2	285	277	281	500	0
pH	(pH)		2	2	7.46 L	7.21 L	7.335	6.5/8.5	0
Turbidity	(NTU)		2	2	0.838	0.268	0.553	1	0
Gross Alpha	(pCi/L)		2	2	18	2.8	10.4	15 f	1
Gross Beta	(pCi/L)		2	2	32	7.2	19.6	50 a	0
Trichloroethene	(ug/L)		2	2	6	4 J	5	5	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.43. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=BC AREA NAME=Spoil Area I

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	16.7	15.4	16.05	250	0
Nitrate Nitrogen	(mg/L)		2	2	9.06	8.73	8.895	10	0
Sulfate	(mg/L)		2	2	87.1	84.7	85.9	250	0
Barium, ICAP	(mg/L)		2	2	0.0682	0.065	0.0666	2	0
Calcium, ICAP	(mg/L)		2	2	131 k	131 k	131	NR	NA
Magnesium, ICAP	(mg/L)		2	2	16.3	14.6 k	15.45	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.113	0.0316	0.0723	0.05	1
Potassium, ICAP	(mg/L)		2	2	3.61	3.5	3.555	NR	NA
Sodium, ICAP	(mg/L)		2	2	9.41 k	9.32	9.365	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.225 w	0.218	0.2215	NR	NA
Uranium, PMS	(mg/L)		2	2	0.00289	0.00264	0.002765	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	835	641	738	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	0.79	0.41	0.6	NR	NA
pH, field measurement	(pH)		2	NA	7.31	6.95	7.13	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	130	127	128.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-55.21	-62.52	-58.865	NR	NA
Temperature, field measurement	(Deg C)		2	NA	17.7	14.6	16.15	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	308	222	265	NR	NA
Conductivity	(umhos/cm)		2	2	773	767	770	NR	NA
Dissolved Solids	(mg/L)		2	2	483	471	477	500	0
pH	(pH)		2	2	7.49 L	7.42 L	7.455	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	1	1	1	1	NR	NA
Turbidity	(NTU)		2	2	0.433	0.236	0.3345	1	0
Gross Alpha	(pCi/L)		2	2	2.4	1.7	2.05	15 f	0
Gross Beta	(pCi/L)		2	2	34	31	32.5	50 a	0
cis-1,2-Dichloroethene	(ug/L)		2	2	3 J	3 J	3	70	0
Tetrachloroethene	(ug/L)		2	2	13	10	11.5	5	2
Trichloroethene	(ug/L)		2	2	6	5 J	5.5	5	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.44. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=CR AREA NAME=Exit Pathway Spring/Surface Water

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		10	10	14.1	1.08	4.718	250	0
Fluoride	(mg/L)		10	1	0.141	0.141	0.141	4	0
Nitrate Nitrogen	(mg/L)		10	10	4.24	0.208	1.4058	10	0
Sulfate	(mg/L)		10	10	25.4	2.29	9.957	250	0
Aluminum, ICAP	(mg/L)		11	4	1.48	0.31	1.0205	0.2	4
Arsenic, PMS	(mg/L)	FILTERED	9	1	0.00694	0.00694	0.00694	0.05	0
Barium, ICAP	(mg/L)		11	11	0.115	0.0141	0.0418	2	0
Barium, ICAP	(mg/L)	FILTERED	9	9	0.124	0.0142	0.043889	2	0
Calcium, ICAP	(mg/L)		11	11	97.3	13.8	49.56364	NR	NA
Calcium, ICAP	(mg/L)	FILTERED	9	9	96.4	14.1	43.96667	NR	NA
Iron, ICAP	(mg/L)		11	10	1.24	0.0529	0.35687	0.3	3
Iron, ICAP	(mg/L)	FILTERED	9	1	0.546	0.546	0.546	0.3	1
Lead, PMS	(mg/L)		11	2	0.000913	0.000843	0.000878	0.015 c	0
Lead, PMS	(mg/L)	FILTERED	9	1	0.000568	0.000568	0.000568	0.015 c	0
Lithium, ICAP	(mg/L)		11	1	0.0132 w	0.0132 w	0.0132	NR	NA
Lithium, ICAP	(mg/L)	FILTERED	9	1	0.0136 w	0.0136 w	0.0136	NR	NA
Magnesium, ICAP	(mg/L)		11	11	22.2	6.47	12.58273	NR	NA
Magnesium, ICAP	(mg/L)	FILTERED	9	9	22.5	7.95	13.85111	NR	NA
Manganese, ICAP	(mg/L)		11	5	0.127	0.0104	0.04258	0.05	1
Manganese, ICAP	(mg/L)	FILTERED	9	5	0.885	0.0119	0.19586	0.05	2
Potassium, ICAP	(mg/L)	FILTERED	9	2	2.39	2.22	2.305	NR	NA
Sodium, ICAP	(mg/L)		11	11	6.15	0.52	2.693455	NR	NA
Sodium, ICAP	(mg/L)	FILTERED	9	9	4.99	0.642	2.067778	NR	NA
Strontium, ICAP	(mg/L)		11	11	0.232 w	0.0149	0.095655	NR	NA
Strontium, ICAP	(mg/L)	FILTERED	9	9	0.262 w	0.015	0.091511	NR	NA
Uranium, PMS	(mg/L)		11	7	0.00398	0.000519	0.002066	NR	NA
Uranium, PMS	(mg/L)	FILTERED	9	7	0.00556	0.00053	0.002038	NR	NA
Zinc, ICAP	(mg/L)	FILTERED	9	1	0.0555	0.0555	0.0555	5	0
Conductivity, field measurement	(umhos/cm)		10	NA	671	138	375.9	NR	NA
Dissolved Oxygen, field measurement	(ppm)		10	NA	10.5	4.81	6.429	NR	NA
pH, field measurement	(pH)		10	NA	7.19	6.54	6.909	6.5/8.5	0
REDOX, field measurement	(mV)		10	NA	192	48	165.3	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.44. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Temperature, field measurement	(Deg C)		10	NA	20.1	12.8	15.18	NR	NA
Alkalinity as HCO ₃	(mg/L)		10	10	288	62	160.98	NR	NA
Conductivity	(umhos/cm)		10	10	557	133.3	325.73	NR	NA
Dissolved Solids	(mg/L)		10	10	323	72	187.6	500	0
pH	(pH)		10	10	7.72 L	6.72 L	7.338	6.5/8.5	0
Total Suspended Solids	(mg/L)		10	4	322	3	89.25	NR	NA
Turbidity	(NTU)		10	10	73.3	1.61	12.734	1	10
Gross Alpha	(pCi/L)		10	10	2.4	-0.31	1.207	15 f	0
Gross Beta	(pCi/L)		10	10	4.8	-2.5	1.552	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.45. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=CR AREA NAME=Industrial Landfill IV

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Iron Related Bacteria	(cfu/ml)		2	1	5000	5000	5000	NR	NA
Slime Forming Bacteria	(cfu/ml)		2	1	500000	500000	500000	NR	NA
Sulfate Reducing Bacteria	(cfu/ml)		2	2	100	100	100	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	408	330	369	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	10.95	5.32	8.135	NR	NA
pH, field measurement	(pH)		2	NA	8.58	8	8.29	6.5/8.5	1
REDOX, field measurement	(mV)		2	NA	231	186	208.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-90.27	-125.97	-108.12	NR	NA
Temperature, field measurement	(Deg C)		2	NA	12.9	10.1	11.5	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.46. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=CR AREA NAME=United Nuclear Corporation Site

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Iron Related Bacteria	(cfu/ml)		6	2	5000	5000	5000	NR	NA
Slime Forming Bacteria	(cfu/ml)		6	3	50000	100 >	33366.67	NR	NA
Conductivity, field measurement	(umhos/cm)		6	NA	658	330	481.6667	NR	NA
Dissolved Oxygen, field measurement	(ppm)		6	NA	7.99	2.75	6.078333	NR	NA
pH, field measurement	(pH)		6	NA	7.61	7.15	7.303333	6.5/8.5	0
REDOX, field measurement	(mV)		6	NA	179	36	132.6667	NR	NA
Static Water Level	(ft - toc)		3	NA	-71.82	-102.7	-86.6367	NR	NA
Temperature, field measurement	(Deg C)		6	NA	19.5	13.6	16.95	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.47. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=B8110

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Chloride	(mg/L)		2	2	25.6	21.8	23.7	250	0
Fluoride	(mg/L)		2	1	0.118	0.118	0.118	4	0
Nitrate Nitrogen	(mg/L)		2	2	0.19	0.091	0.1405	10	0
Sulfate	(mg/L)		2	2	111	106	108.5	250	0
Barium, ICAP	(mg/L)		2	2	0.0445	0.0408	0.04265	2	0
Boron, ICAP	(mg/L)		2	2	0.12 w	0.105 vw	0.1125	NR	NA
Calcium, ICAP	(mg/L)		2	2	122	103	112.5	NR	NA
Iron, ICAP	(mg/L)		2	1	0.101	0.101	0.101	0.3	0
Magnesium, ICAP	(mg/L)		2	2	11.1	8.98	10.04	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.585	0.103	0.344	0.05	2
Sodium, ICAP	(mg/L)		2	2	20.1	17.9	19	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.17 w	0.147 w	0.1585	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000702	0.000702	0.000702	0.002	0
Uranium, PMS	(mg/L)		2	2	0.00119	0.000761	0.000976	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	675	616	645.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	1.22	0.16	0.69	NR	NA
pH, field measurement	(pH)		2	NA	7.09	6.6	6.845	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	155	74	114.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-19.58	-20.49	-20.035	NR	NA
Temperature, field measurement	(Deg C)		2	NA	18.9	17	17.95	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	232	198	215	NR	NA
Conductivity	(umhos/cm)		2	2	761	649	705	NR	NA
Dissolved Solids	(mg/L)		2	2	462	419	440.5	500	0
pH	(pH)		2	2	7.17 L	6.93 L	7.05	6.5/8.5	0
Turbidity	(NTU)		2	2	1.09	0.444	0.767	1	1
Gross Alpha	(pCi/L)		2	2	1.7	0.74	1.22	15 f	0
Gross Beta	(pCi/L)		2	2	6.7	-0.79	2.955	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		2	2	66	63	64.5	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		2	2	66	63	64.5	70	0
Tetrachloroethene	(ug/L)		2	2	190	150	170	5	2
Trichloroethene	(ug/L)		2	2	20	11	15.5	5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.48. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Beta-4 Security Pits

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	24.4	21.6	23	250	0
Fluoride	(mg/L)		2	1	0.216	0.216	0.216	4	0
Nitrate Nitrogen	(mg/L)		2	1	0.0294	0.0294	0.0294	10	0
Sulfate	(mg/L)		2	2	4.87	4.15	4.51	250	0
Arsenic, PMS	(mg/L)		2	1	0.00814	0.00814	0.00814	0.05	0
Barium, ICAP	(mg/L)		2	2	0.149	0.14	0.1445	2	0
Calcium, ICAP	(mg/L)		2	2	97	95.5	96.25	NR	NA
Iron, ICAP	(mg/L)		2	2	5.98	2.67	4.325	0.3	2
Lead, PMS	(mg/L)		2	1	0.00102	0.00102	0.00102	0.015 c	0
Lithium, ICAP	(mg/L)		2	2	0.0169 w	0.0168	0.01685	NR	NA
Magnesium, ICAP	(mg/L)		2	2	11.6	8.48	10.04	NR	NA
Manganese, ICAP	(mg/L)		2	2	1.7	1.19	1.445	0.05	2
Potassium, ICAP	(mg/L)		2	1	4.59	4.59	4.59	NR	NA
Sodium, ICAP	(mg/L)		2	2	8.13	7.87	8	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.188 w	0.154	0.171	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000577	0.000577	0.000577	0.002	0
Uranium, PMS	(mg/L)		2	1	0.000648	0.000648	0.000648	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	638	593	615.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	2.98	0.89	1.935	NR	NA
pH, field measurement	(pH)		2	NA	6.88	6.36	6.62	6.5/8.5	1
REDOX, field measurement	(mV)		2	NA	93	-23	35	NR	NA
Static Water Level	(ft - toc)		2	NA	-6.2	-7.05	-6.625	NR	NA
Temperature, field measurement	(Deg C)		2	NA	17.3	17.3	17.3	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	266	264	265	NR	NA
Conductivity	(umhos/cm)		2	2	612	563	587.5	NR	NA
Dissolved Solids	(mg/L)		2	2	349	320	334.5	500	0
pH	(pH)		2	2	7.13 L	6.55 L	6.84	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	2	7	4	5.5	NR	NA
Turbidity	(NTU)		2	2	67.8	24.7	46.25	1	2
Gross Alpha	(pCi/L)		2	2	0.62	-0.084	0.268	15 f	0
Gross Beta	(pCi/L)		2	2	1.2	0.44	0.82	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		2	2	28	12	20	NR b	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.48 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
cis-1,2-Dichloroethene	(ug/L)		2	2	28	12	20	70	0
Tetrachloroethene	(ug/L)		2	1	5 J	5 J	5	5	0
Trichloroethene	(ug/L)		2	2	7	3 J	5	5	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.49. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Building 9201-2

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	29.4	21.6	25.5	250	0
Fluoride	(mg/L)		2	2	0.225	0.222	0.2235	4	0
Sulfate	(mg/L)		2	2	40.1	36.3	38.2	250	0
Barium, ICAP	(mg/L)		2	2	0.227	0.21	0.2185	2	0
Calcium, ICAP	(mg/L)		2	2	73.1	69.9 k	71.5	NR	NA
Iron, ICAP	(mg/L)		2	2	1.19	0.714	0.952	0.3	2
Magnesium, ICAP	(mg/L)		2	2	12	11.2 k	11.6	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.817 k	0.797	0.807	0.05	2
Potassium, ICAP	(mg/L)		2	2	2.59	2.52	2.555	NR	NA
Sodium, ICAP	(mg/L)		2	2	13	10.8 k	11.9	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.272 w	0.267 w	0.2695	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000662	0.000662	0.000662	0.002	0
Conductivity, field measurement	(umhos/cm)		2	NA	552	477	514.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	0.91	0.62	0.765	NR	NA
pH, field measurement	(pH)		2	NA	7.33	7.16	7.245	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	-97	-110	-103.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-9.63	-9.84	-9.735	NR	NA
Temperature, field measurement	(Deg C)		2	NA	21.6	19.9	20.75	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	188	180	184	NR	NA
Conductivity	(umhos/cm)		2	2	527	494	510.5	NR	NA
Dissolved Solids	(mg/L)		2	2	315	301	308	500	0
pH	(pH)		2	2	7.6 L	7.39 L	7.495	6.5/8.5	0
Turbidity	(NTU)		2	2	16.5	9.08	12.79	1	2
Gross Alpha	(pCi/L)		2	2	2	0.9	1.45	15 f	0
Gross Beta	(pCi/L)		2	2	8.2	-0.58	3.81	50 a	0
1,1-Dichloroethene	(ug/L)		2	2	6	4	5	7	0
1,2-Dichloroethene (Total)	(ug/L)		2	2	1200 D	1000 D	1100	NR b	NA
1,4-Dichlorobenzene	(ug/L)		2	2	5 J	5 J	5	75	0
cis-1,2-Dichloroethene	(ug/L)		2	2	1200 D	1000 D	1100	70	2
Dichlorodifluoromethane	(ug/L)		2	1	4 J	4 J	4	NR	NA
Tetrachloroethene	(ug/L)		2	2	3500 D	2600 D	3050	5	2
trans-1,2-Dichloroethene	(ug/L)		2	2	8	5	6.5	100	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.49 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Trichloroethene	(ug/L)		2	2	560 D	480 D	520	5	2
Vinyl chloride	(ug/L)		2	2	110	89	99.5	2	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.50. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=CPT

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	38.3	29.3	33.8	250	0
Nitrate Nitrogen	(mg/L)		2	2	3.72	1.77	2.745	10	0
Sulfate	(mg/L)		2	2	460	368	414	250	2
Barium, ICAP	(mg/L)		2	2	0.026	0.0256	0.0258	2	0
Calcium, ICAP	(mg/L)		2	2	268	228	248	NR	NA
Iron, ICAP	(mg/L)		2	2	0.0814	0.0616	0.0715	0.3	0
Lithium, ICAP	(mg/L)		2	1	0.0102 w	0.0102 w	0.0102	NR	NA
Magnesium, ICAP	(mg/L)		2	2	32.9	32.1	32.5	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0264	0.0207	0.02355	0.05	0
Potassium, ICAP	(mg/L)		2	2	4.56	4.33	4.445	NR	NA
Sodium, ICAP	(mg/L)		2	2	7.15	6.84	6.995	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.376 w	0.342 w	0.359	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000657	0.000657	0.000657	0.002	0
Conductivity, field measurement	(umhos/cm)		2	NA	1267	1127	1197	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	3.35	1.69	2.52	NR	NA
pH, field measurement	(pH)		2	NA	7.09	6.87	6.98	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	118	73	95.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-10.63	-11.36	-10.995	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19	19	19	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	296	268	282	NR	NA
Conductivity	(umhos/cm)		2	2	1403	1294	1348.5	NR	NA
Dissolved Solids	(mg/L)		2	2	1110	914	1012	500	2
pH	(pH)		2	2	7.2 L	7.05 L	7.125	6.5/8.5	0
Turbidity	(NTU)		2	2	2.29	1.93	2.11	1	2
Technetium-99	(pCi/L)		2	2	12	-4.2	3.9	4000	0
Gross Alpha	(pCi/L)		2	2	6.3	-3.1	1.6	15 f	0
Gross Beta	(pCi/L)		2	2	6	-0.88	2.56	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		2	2	71	12	41.5	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		2	2	71	12	41.5	70	1
Tetrachloroethene	(ug/L)		2	2	180	66	123	5	2
Trichloroethene	(ug/L)		2	2	34	6	20	5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.51. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Exit Pathway Monitoring Location J

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		24	24	141	1.97	30.80125	250	0
Fluoride	(mg/L)		24	16	1.21	0.174	0.54925	4	0
Nitrate Nitrogen	(mg/L)		24	15	2.51	0.195	1.230067	10	0
Sulfate	(mg/L)		24	22	55.8	8.28	26.12227	250	0
Aluminum, ICAP	(mg/L)		24	2	0.579	0.468	0.5235	0.2	2
Arsenic, PMS	(mg/L)		24	2	0.00979	0.00799	0.00889	0.05	0
Arsenic, PMS	(mg/L)	FILTERED	20	2	0.0111	0.00859	0.009845	0.05	0
Barium, ICAP	(mg/L)		24	24	0.738	0.0309	0.159667	2	0
Barium, ICAP	(mg/L)	FILTERED	20	20	0.261	0.032	0.08328	2	0
Boron, ICAP	(mg/L)		24	5	0.63 vw	0.106 w	0.4266	NR	NA
Boron, ICAP	(mg/L)	FILTERED	20	4	0.628 vw	0.381	0.50475	NR	NA
Cadmium, PMS	(mg/L)		24	4	0.000669	0.000529	0.000576	0.005	0
Cadmium, PMS	(mg/L)	FILTERED	20	5	0.00083	0.000556	0.000694	0.005	0
Calcium, ICAP	(mg/L)		24	24	138	19.4	58.82083	NR	NA
Calcium, ICAP	(mg/L)	FILTERED	20	20	71.5	18.6	49.245	NR	NA
Iron, ICAP	(mg/L)		24	22	2.68	0.0507	0.433573	0.3	6
Iron, ICAP	(mg/L)	FILTERED	20	6	2.63	0.0572	0.884333	0.3	2
Lead, PMS	(mg/L)		24	4	0.0376	0.000815	0.010138	0.015 c	1
Lead, PMS	(mg/L)	FILTERED	20	1	0.00114	0.00114	0.00114	0.015 c	0
Lithium, ICAP	(mg/L)		24	13	0.127 w	0.01	0.041962	NR	NA
Lithium, ICAP	(mg/L)	FILTERED	20	12	0.125 w	0.0119	0.044267	NR	NA
Magnesium, ICAP	(mg/L)		24	24	31.5	9.5	19.94042	NR	NA
Magnesium, ICAP	(mg/L)	FILTERED	20	20	31.7	10.2	21.765	NR	NA
Manganese, ICAP	(mg/L)		24	15	0.464	0.00609	0.060083	0.05	4
Manganese, ICAP	(mg/L)	FILTERED	20	8	0.12	0.00692	0.035469	0.05	2
Mercury, CVAA	(mg/L)		27	3	0.0289	0.00454	0.01898	0.002	3
Mercury, CVAA	(mg/L)	FILTERED	23	4	0.0696	0.000204	0.01772	0.002	1
Potassium, ICAP	(mg/L)		24	11	5.14	2.13	3.508182	NR	NA
Potassium, ICAP	(mg/L)	FILTERED	20	6	5.09	2.62	3.79	NR	NA
Selenium, PMS	(mg/L)		24	4	0.0593	0.0157	0.035275	0.05	1
Selenium, PMS	(mg/L)	FILTERED	20	4	0.0673	0.0158	0.04035	0.05	2
Sodium, ICAP	(mg/L)		24	24	174	0.598	31.12471	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.51 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Sodium, ICAP	(mg/L)	FILTERED	20	20	172	0.968	35.9719	NR	NA
Strontium, ICAP	(mg/L)		24	24	4.33	0.0698 w	1.053688	NR	NA
Strontium, ICAP	(mg/L)	FILTERED	20	20	4.19 k	0.073	1.169795	NR	NA
Thallium, PMS	(mg/L)		24	1	0.000688	0.000688	0.000688	0.002	0
Uranium, PMS	(mg/L)		24	2	0.00136	0.000501	0.000931	NR	NA
Uranium, PMS	(mg/L)	FILTERED	20	2	0.00142	0.000552	0.000986	NR	NA
Zinc, ICAP	(mg/L)		24	5	0.112	0.0575	0.08064	5	0
Conductivity, field measurement	(umhos/cm)		24	NA	900	0	410.5458	NR	NA
Dissolved Oxygen, field measurement	(ppm)		24	NA	11.2	0	3.715833	NR	NA
pH, field measurement	(pH)		24	NA	7.94	0	7.065833	6.5/8.5	1
REDOX, field measurement	(mV)		24	NA	226	-97	71.08333	NR	NA
Static Water Level	(ft - toc)		27	NA	-12.18	-81.31	-62.12	NR	NA
Temperature, field measurement	(Deg C)		24	NA	21	0	16.40417	NR	NA
Alkalinity as HCO ₃	(mg/L)		24	24	344	139	223.7083	NR	NA
Conductivity	(umhos/cm)		24	24	1002	300	574.2083	NR	NA
Dissolved Solids	(mg/L)		24	24	571	155	315.875	500	2
pH	(pH)		24	24	8.1 L	7.02 L	7.670833	6.5/8.5	0
Total Suspended Solids	(mg/L)		24	9	7	1	3.444444	NR	NA
Turbidity	(NTU)		24	24	10.9	0.635	4.271083	1	21
Gross Alpha	(pCi/L)		24	24	3.5	-1	1.313292	15 f	0
Gross Beta	(pCi/L)		24	24	8	-6.6	2.675	50 a	0
1,1,1-Trichloroethane	(ug/L)		24	1	2 J	2 J	2	200	0
1,2-Dichloroethene (Total)	(ug/L)		24	5	7	4 J	5	NR b	NA
2-Butanone	(ug/L)		24	1	9	9	9	NR	NA
Acetone	(ug/L)		24	1	27	27	27	NR	NA
Acrylonitrile	(ug/L)		24	1	23	23	23	NR	NA
Carbon tetrachloride	(ug/L)		24	10	890 D	41	421.6	5	10
Chloroform	(ug/L)		24	10	73	19	44.4	100 i	0
cis-1,2-Dichloroethene	(ug/L)		24	7	7	3 J	4.571429	70	0
Tetrachloroethene	(ug/L)		24	10	61	6	29.9	5	10
Toluene	(ug/L)		24	1	3 J	3 J	3	1000	0
Trichloroethene	(ug/L)		24	8	8	3 J	5.25	5	3
Trichlorofluoromethane	(ug/L)		24	6	7	4 J	5.166667	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.52. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Exit Pathway Scarboro Road/Pine Rid

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		6	6	8.77	0.872	3.753667	250	0
Fluoride	(mg/L)		6	5	0.286	0.105	0.1904	4	0
Sulfate	(mg/L)		6	6	115	1.26	45.74333	250	0
Arsenic, PMS	(mg/L)		6	1	0.00574	0.00574	0.00574	0.05	0
Barium, ICAP	(mg/L)		6	6	0.385	0.0424	0.1168	2	0
Boron, ICAP	(mg/L)		6	4	0.233	0.111	0.1735	NR	NA
Cadmium, PMS	(mg/L)		6	1	0.00259	0.00259	0.00259	0.005	0
Calcium, ICAP	(mg/L)		6	6	82.8	52.6	64.45	NR	NA
Iron, ICAP	(mg/L)		6	6	23.2	0.447	7.188833	0.3	6
Lead, PMS	(mg/L)		6	5	0.00902	0.000601	0.002727	0.015 c	0
Lithium, ICAP	(mg/L)		6	4	0.033	0.0313 w	0.032475	NR	NA
Magnesium, ICAP	(mg/L)		6	6	39.5 k	11.7	27.1	NR	NA
Manganese, ICAP	(mg/L)		6	6	0.976	0.0136	0.305567	0.05	2
Potassium, ICAP	(mg/L)		6	6	5.65	3.04	3.778333	NR	NA
Sodium, ICAP	(mg/L)		6	6	17	4.28	10.705	NR	NA
Strontium, ICAP	(mg/L)		6	6	1.61	0.0836	0.7266	NR	NA
Zinc, ICAP	(mg/L)		6	2	6.29	1.97	4.13	5	1
Conductivity, field measurement	(umhos/cm)		6	NA	605	423	520.3333	NR	NA
Dissolved Oxygen, field measurement	(ppm)		6	NA	4.45	0.76	2.205	NR	NA
pH, field measurement	(pH)		6	NA	7.91	6.53	7.346667	6.5/8.5	0
REDOX, field measurement	(mV)		6	NA	-40	-149	-90.3333	NR	NA
Static Water Level	(ft - toc)		6	NA	0	-14.36	-6.50833	NR	NA
Temperature, field measurement	(Deg C)		6	NA	18.4	13.9	15.65	NR	NA
Alkalinity as HCO3	(mg/L)		6	6	268	200	232	NR	NA
Conductivity	(umhos/cm)		6	6	656	424	559.5	NR	NA
Dissolved Solids	(mg/L)		6	6	411	208	320.6667	500	0
pH	(pH)		6	6	7.71 L	6.88 L	7.398333	6.5/8.5	0
Total Suspended Solids	(mg/L)		6	5	30	2	13.6	NR	NA
Turbidity	(NTU)		6	6	171	4.15	63.13667	1	6
Technetium-99	(pCi/L)		3	3	3.8	-9.8	-4.53333	4000	0
Gross Alpha	(pCi/L)		6	6	3.4	0.4	1.955	15 f	0
Gross Beta	(pCi/L)		6	6	10	1.4	5.766667	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.53. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Exit Pathway Spring/Surface Water

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	24.4	11.2	17.8	250	0
Fluoride	(mg/L)		2	2	0.261	0.234	0.2475	4	0
Nitrate Nitrogen	(mg/L)		2	2	1.56	1.5	1.53	10	0
Sulfate	(mg/L)		2	2	26.6	25.4	26	250	0
Barium, ICAP	(mg/L)		2	2	0.0544	0.0526	0.0535	2	0
Calcium, ICAP	(mg/L)		2	2	63.9 k	55 k	59.45	NR	NA
Iron, ICAP	(mg/L)		2	2	0.136	0.0649	0.10045	0.3	0
Lead, PMS	(mg/L)		2	1	0.000633	0.000633	0.000633	0.015 c	0
Lithium, ICAP	(mg/L)		2	2	0.0158	0.0112 w	0.0135	NR	NA
Magnesium, ICAP	(mg/L)		2	2	11.8 k	10.2 k	11	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0108	0.00732	0.00906	0.05	0
Potassium, ICAP	(mg/L)		2	2	2.14	2.09	2.115	NR	NA
Sodium, ICAP	(mg/L)		2	2	14.8 k	9.72 k	12.26	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.134 w	0.123	0.1285	NR	NA
Uranium, PMS	(mg/L)		2	2	0.00908	0.00906	0.00907	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	807	616	711.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	5.32	2.58	3.95	NR	NA
pH, field measurement	(pH)		2	NA	7.24	7.1	7.17	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	204	177	190.5	NR	NA
Temperature, field measurement	(Deg C)		2	NA	16	11.7	13.85	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	180	159	169.5	NR	NA
Conductivity	(umhos/cm)		2	2	447	439	443	NR	NA
Dissolved Solids	(mg/L)		2	2	256	239	247.5	500	0
pH	(pH)		2	2	7.52 L	7.3 L	7.41	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	2	2	1	1.5	NR	NA
Turbidity	(NTU)		2	2	3.61	1.09	2.35	1	2
Technetium-99	(pCi/L)		1	1	-8.2	-8.2	-8.2	4000	0
Gross Alpha	(pCi/L)		2	2	7.6	4.9	6.25	15 f	0
Gross Beta	(pCi/L)		2	2	5.3	4.9	5.1	50 a	0
Carbon tetrachloride	(ug/L)		2	2	35	11	23	5	2
Chloroform	(ug/L)		2	2	6	3 J	4.5	100 i	0
Tetrachloroethene	(ug/L)		2	2	6	5 J	5.5	5	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.54. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Fire Training Facility

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	2.35	2.05	2.2	250	0
Fluoride	(mg/L)		2	2	0.158	0.129	0.1435	4	0
Nitrate Nitrogen	(mg/L)		2	2	1.37	1.11	1.24	10	0
Sulfate	(mg/L)		2	2	5.34	5.22	5.28	250	0
Aluminum, ICAP	(mg/L)		2	1	0.838	0.838	0.838	0.2	1
Barium, ICAP	(mg/L)		2	2	0.0374	0.0362	0.0368	2	0
Calcium, ICAP	(mg/L)		2	2	96.8	7.4	52.1	NR	NA
Chromium, PMS	(mg/L)		1	1	0.00323	0.00323	0.00323	NR	NA
Lithium, ICAP	(mg/L)		2	2	0.0223	0.0219 w	0.0221	NR	NA
Magnesium, ICAP	(mg/L)		2	1	0.324	0.324	0.324	NR	NA
Potassium, ICAP	(mg/L)		2	2	17.1	14.7	15.9	NR	NA
Sodium, ICAP	(mg/L)		2	2	2.52	2.33	2.425	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.442 w	0.378	0.41	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	1328	234	781	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	3.37	1.56	2.465	NR	NA
pH, field measurement	(pH)		2	NA	12.12	9.96	11.04	6.5/8.5	2
REDOX, field measurement	(mV)		2	NA	139	-35	52	NR	NA
Static Water Level	(ft - toc)		2	NA	-25.75	-30.55	-28.15	NR	NA
Temperature, field measurement	(Deg C)		2	NA	16.8	15.4	16.1	NR	NA
Alkalinity as CO3	(mg/L)		2	1	24	24	24	NR	NA
Conductivity	(umhos/cm)		2	2	1113	144.4	628.7	NR	NA
Dissolved Solids	(mg/L)		2	2	257	65	161	500	0
pH	(pH)		2	2	11.71 L	10.4 L	11.055	6.5/8.5	2
Turbidity	(NTU)		2	2	1.8	0.492	1.146	1	1
Gross Alpha	(pCi/L)		2	2	0.59	0.57	0.58	15 f	0
Gross Beta	(pCi/L)		2	2	17	7.1	12.05	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		2	1	20	20	20	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		2	2	20	3 J	11.5	70	0
Tetrachloroethene	(ug/L)		2	2	23	8	15.5	5	2
Trichloroethene	(ug/L)		2	1	9	9	9	5	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.55. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location B3

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Chloride	(mg/L)		2	2	13.4	13.3	13.35	250	0
Nitrate Nitrogen	(mg/L)		2	2	154	144	149	10	2
Sulfate	(mg/L)		2	2	18.7	18.7	18.7	250	0
Barium, ICAP	(mg/L)		2	2	1.33	1.32	1.325	2	0
Calcium, ICAP	(mg/L)		2	2	221	215	218	NR	NA
Lead, PMS	(mg/L)		2	2	0.000705	0.000692	0.000699	0.015 c	0
Lithium, ICAP	(mg/L)		2	2	0.0397 w	0.0389	0.0393	NR	NA
Magnesium, ICAP	(mg/L)		2	2	37.5	34.1	35.8	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.529	0.526	0.5275	0.05	2
Nickel, PMS	(mg/L)		1	1	0.00992	0.00992	0.00992	NR	NA
Potassium, ICAP	(mg/L)		2	2	12.2	11.7	11.95	NR	NA
Selenium, PMS	(mg/L)		2	2	0.0135	0.013	0.01325	0.05	0
Sodium, ICAP	(mg/L)		2	2	65.5	59.4	62.45	NR	NA
Strontium, ICAP	(mg/L)		2	2	4.49 w	4.26	4.375	NR	NA
Thallium, PMS	(mg/L)		2	2	0.000681	0.000508	0.000595	0.002	0
Conductivity, field measurement	(umhos/cm)		2	NA	1819	1730	1774.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	2.31	0.73	1.52	NR	NA
pH, field measurement	(pH)		2	NA	6.97	6.87	6.92	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	168	150	159	NR	NA
Static Water Level	(ft - toc)		2	NA	-7.89	-8.54	-8.215	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19.8	19	19.4	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	222	212	217	NR	NA
Conductivity	(umhos/cm)		2	2	1772	1740	1756	NR	NA
Dissolved Solids	(mg/L)		2	2	1540	1290	1415	500	2
pH	(pH)		2	2	6.97 L	6.88 L	6.925	6.5/8.5	0
Turbidity	(NTU)		2	2	0.581	0.225	0.403	1	0
Gross Alpha	(pCi/L)		2	2	2.8	1	1.9	15 f	0
Gross Beta	(pCi/L)		2	2	12	8.2	10.1	50 a	0
1,1,1-Trichloroethane	(ug/L)		2	2	7	6	6.5	200	0
1,1-Dichloroethane	(ug/L)		2	2	30	28	29	NR	NA
1,1-Dichloroethene	(ug/L)		2	2	38	35	36.5	7	2
1,2-Dichloroethene (Total)	(ug/L)		2	2	1600 D	1600 D	1600	NR b	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.55. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
cis-1,2-Dichloroethene	(ug/L)		2	2	1600 D	1600 D	1600	70	2
Dichlorodifluoromethane	(ug/L)		2	2	15	13	14	NR	NA
Tetrachloroethene	(ug/L)		2	2	580 D	530 D	555	5	2
trans-1,2-Dichloroethene	(ug/L)		2	2	17	16	16.5	100	0
Trichloroethene	(ug/L)		2	2	310 D	310 D	310	5	2
Trichlorofluoromethane	(ug/L)		2	1	6	6	6	NR	NA
Vinyl chloride	(ug/L)		2	2	33	33	33	2	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.56. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location C3

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	19.2	17.5	18.35	250	0
Fluoride	(mg/L)		2	2	0.244	0.228	0.236	4	0
Nitrate Nitrogen	(mg/L)		2	1	0.0847	0.0847	0.0847	10	0
Sulfate	(mg/L)		2	2	30.4	29.3	29.85	250	0
Aluminum, ICAP	(mg/L)		2	1	0.264	0.264	0.264	0.2	1
Barium, ICAP	(mg/L)		2	2	0.145	0.142	0.1435	2	0
Boron, ICAP	(mg/L)		2	2	0.68 w	0.654	0.667	NR	NA
Calcium, ICAP	(mg/L)		2	2	6.73	6.32	6.525	NR	NA
Iron, ICAP	(mg/L)		2	1	0.237	0.237	0.237	0.3	0
Lead, PMS	(mg/L)		2	2	0.00696	0.00216	0.00456	0.015 c	0
Lithium, ICAP	(mg/L)		2	2	0.0701	0.067 w	0.06855	NR	NA
Magnesium, ICAP	(mg/L)		2	2	1.96	1.78	1.87	NR	NA
Potassium, ICAP	(mg/L)		2	2	4.94	4.49	4.715	NR	NA
Sodium, ICAP	(mg/L)		2	2	108	105	106.5	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.373 w	0.346	0.3595	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000511	0.000511	0.000511	0.002	0
Conductivity, field measurement	(umhos/cm)		2	NA	526	514	520	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	3.51	1.67	2.59	NR	NA
pH, field measurement	(pH)		2	NA	8.4	8.18	8.29	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	85	68	76.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-9.65	-9.9	-9.775	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19.6	18.9	19.25	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	194	190	192	NR	NA
Conductivity	(umhos/cm)		2	2	510	509	509.5	NR	NA
Dissolved Solids	(mg/L)		2	2	326	306	316	500	0
pH	(pH)		2	2	8.47 L	8.39 L	8.43	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	1	2.5	2.5	2.5	NR	NA
Turbidity	(NTU)		2	2	4.47	0.912	2.691	1	1
Gross Alpha	(pCi/L)		2	2	0.65	-0.29	0.18	15 f	0
Gross Beta	(pCi/L)		2	2	5.2	3.2	4.2	50 a	0
1,1-Dichloroethene	(ug/L)		2	2	15	14	14.5	7	2
1,2-Dichloroethene (Total)	(ug/L)		2	2	760 D	740 D	750	NR b	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.56 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
2-Butanone	(ug/L)		2	1	54	54	54	NR	NA
cis-1,2-Dichloroethene	(ug/L)		2	2	760 D	730 D	745	70	2
Tetrachloroethene	(ug/L)		2	2	2600 D	1900 D	2250	5	2
trans-1,2-Dichloroethene	(ug/L)		2	2	10	9	9.5	100	0
Trichloroethene	(ug/L)		2	2	1100 D	900 D	1000	5	2
Vinyl chloride	(ug/L)		2	2	20	17	18.5	2	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.57. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location D2

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	6.99	6.07	6.51	250	0
Sulfate	(mg/L)		4	4	11.2	10.3	10.75	250	0
Barium, ICAP	(mg/L)		4	4	0.27	0.261	0.26575	2	0
Calcium, ICAP	(mg/L)		4	4	71.1	63.9	67.425	NR	NA
Iron, ICAP	(mg/L)		4	4	0.597	0.0899	0.227625	0.3	1
Lithium, ICAP	(mg/L)		4	4	0.0137	0.0126 w	0.0131	NR	NA
Magnesium, ICAP	(mg/L)		4	4	14.8	13.9	14.35	NR	NA
Manganese, ICAP	(mg/L)		4	4	0.0199	0.017	0.01835	0.05	0
Potassium, ICAP	(mg/L)		4	2	2.21	2.07	2.14	NR	NA
Sodium, ICAP	(mg/L)		4	4	7.56	7.22	7.4275	NR	NA
Strontium, ICAP	(mg/L)		4	4	0.44 w	0.379	0.407	NR	NA
Conductivity, field measurement	(umhos/cm)		3	NA	481	468	476.6667	NR	NA
Dissolved Oxygen, field measurement	(ppm)		3	NA	2.52	0.66	1.28	NR	NA
pH, field measurement	(pH)		3	NA	7.43	7.33	7.363333	6.5/8.5	0
REDOX, field measurement	(mV)		3	NA	90	7	34.66667	NR	NA
Static Water Level	(ft - toc)		4	NA	-23.37	-23.92	-23.6575	NR	NA
Temperature, field measurement	(Deg C)		3	NA	22.5	19.9	20.76667	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	228	214	220	NR	NA
Conductivity	(umhos/cm)		4	4	456	437	448.25	NR	NA
Dissolved Solids	(mg/L)		4	4	277	236	261.5	500	0
pH	(pH)		4	4	7.6 L	7.41 L	7.4975	6.5/8.5	0
Total Suspended Solids	(mg/L)		4	1	1	1	1	NR	NA
Turbidity	(NTU)		4	4	3.12	0.587	1.323	1	1
Gross Alpha	(pCi/L)		4	4	2.4	0.058	1.3895	15 f	0
Gross Beta	(pCi/L)		4	4	13	0.34	6.885	50 a	0
Tetrachloroethene	(ug/L)		4	4	1200 D	21	497.75	5	4
Trichloroethene	(ug/L)		4	1	3 J	3 J	3	5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.58. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location E3

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	13.6	12.3	12.95	250	0
Nitrate Nitrogen	(mg/L)		2	1	0.197	0.197	0.197	10	0
Sulfate	(mg/L)		2	2	19.5	17.4	18.45	250	0
Barium, ICAP	(mg/L)		2	2	0.61	0.584	0.597	2	0
Boron, ICAP	(mg/L)		2	2	0.123 w	0.119	0.121	NR	NA
Calcium, ICAP	(mg/L)		2	2	80.6 k	77.3	78.95	NR	NA
Iron, ICAP	(mg/L)		2	2	1.86	1.17	1.515	0.3	2
Iron Related Bacteria	(cfu/ml)		3	3	5000	100	1733.333	NR	NA
Lead, PMS	(mg/L)		2	1	0.000772	0.000772	0.000772	0.015 c	0
Lithium, ICAP	(mg/L)		2	2	0.0211	0.0199 w	0.0205	NR	NA
Magnesium, ICAP	(mg/L)		2	2	17.3	16 k	16.65	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0558	0.0519	0.05385	0.05	2
Potassium, ICAP	(mg/L)		2	2	5.24	4.99	5.115	NR	NA
Slime Forming Bacteria	(cfu/ml)		3	1	1000	1000	1000	NR	NA
Sodium, ICAP	(mg/L)		2	2	10.1 k	8.7	9.4	NR	NA
Strontium, ICAP	(mg/L)		2	2	1.16 w	1.14	1.15	NR	NA
Sulfate Reducing Bacteria	(cfu/ml)		3	2	1000	100	550	NR	NA
Thallium, PMS	(mg/L)		2	1	0.000783	0.000783	0.000783	0.002	0
Uranium, PMS	(mg/L)		2	2	0.00202	0.00142	0.00172	NR	NA
Conductivity, field measurement	(umhos/cm)		3	NA	642	433	572.3333	NR	NA
Dissolved Oxygen, field measurement	(ppm)		3	NA	5.2	0.46	2.04	NR	NA
pH, field measurement	(pH)		3	NA	7.45	7.38	7.403333	6.5/8.5	0
REDOX, field measurement	(mV)		3	NA	81	80	80.66667	NR	NA
Static Water Level	(ft - toc)		3	NA	-8.99	-10.6	-9.73333	NR	NA
Temperature, field measurement	(Deg C)		3	NA	17.5	16.9	17.3	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	268	240	254	NR	NA
Conductivity	(umhos/cm)		2	2	545	540	542.5	NR	NA
Dissolved Solids	(mg/L)		2	2	315	313	314	500	0
pH	(pH)		2	2	7.42 L	7.42 L	7.42	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	2	3	2	2.5	NR	NA
Turbidity	(NTU)		2	2	13.6	12.9	13.25	1	2
Gross Alpha	(pCi/L)		2	2	62	54	58	15 f	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.58 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Gross Beta	(pCi/L)		2	2	10	7.5	8.75	50 a	0
1,1,1-Trichloroethane	(ug/L)		2	1	8	8	8	200	0
1,1-Dichloroethane	(ug/L)		2	2	150	92	121	NR	NA
1,1-Dichloroethene	(ug/L)		2	2	33	24	28.5	7	2
1,2-Dichloroethene (Total)	(ug/L)		2	2	17	15	16	NR b	NA
cis-1,2-Dichloroethene	(ug/L)		2	2	14	12	13	70	0
Tetrachloroethene	(ug/L)		2	2	220 D	160	190	5	2
Trichloroethene	(ug/L)		2	2	63	49	56	5	2
Vinyl chloride	(ug/L)		2	1	2	2	2	2	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.59. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location F3

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	10.2	8.81	9.505	250	0
Fluoride	(mg/L)		2	1	0.116	0.116	0.116	4	0
Nitrate Nitrogen	(mg/L)		2	2	0.897	0.824	0.8605	10	0
Sulfate	(mg/L)		2	2	18.4	18	18.2	250	0
Barium, ICAP	(mg/L)		2	2	0.374	0.353	0.3635	2	0
Calcium, ICAP	(mg/L)		2	2	62.5	62.1 k	62.3	NR	NA
Lithium, ICAP	(mg/L)		2	2	0.014 w	0.0111	0.01255	NR	NA
Magnesium, ICAP	(mg/L)		2	2	12 k	10.9	11.45	NR	NA
Manganese, ICAP	(mg/L)		2	1	0.00538	0.00538	0.00538	0.05	0
Potassium, ICAP	(mg/L)		2	2	3.3	2.9	3.1	NR	NA
Sodium, ICAP	(mg/L)		2	2	6.01 k	5.86	5.935	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.335 w	0.318	0.3265	NR	NA
Conductivity, field measurement	(umhos/cm)		1	NA	440	440	440	NR	NA
Dissolved Oxygen, field measurement	(ppm)		1	NA	1.19	1.19	1.19	NR	NA
pH, field measurement	(pH)		1	NA	7.44	7.44	7.44	6.5/8.5	0
REDOX, field measurement	(mV)		1	NA	166	166	166	NR	NA
Static Water Level	(ft - toc)		2	NA	-3.67	-3.85	-3.76	NR	NA
Temperature, field measurement	(Deg C)		1	NA	15.1	15.1	15.1	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	182	180	181	NR	NA
Conductivity	(umhos/cm)		2	2	423	419	421	NR	NA
Dissolved Solids	(mg/L)		2	2	253	245	249	500	0
pH	(pH)		2	2	7.67 L	7.64 L	7.655	6.5/8.5	0
Turbidity	(NTU)		2	2	0.495	0.175	0.335	1	0
Gross Alpha	(pCi/L)		2	2	1.6	1.2	1.4	15 f	0
Gross Beta	(pCi/L)		2	2	4.6	1.8	3.2	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.60. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location G3

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	16.1	7.29	11.5475	250	0
Fluoride	(mg/L)		4	2	0.266	0.199	0.2325	4	0
Nitrate Nitrogen	(mg/L)		4	4	0.738	0.0997	0.419675	10	0
Sulfate	(mg/L)		4	4	25.6	18.1	21.9	250	0
Barium, ICAP	(mg/L)		4	4	0.407	0.0584	0.228575	2	0
Calcium, ICAP	(mg/L)		4	4	79	54.3	67.825	NR	NA
Chromium, PMS	(mg/L)		2	1	0.132	0.132	0.132	NR	NA
Iron, ICAP	(mg/L)		4	2	1.71	0.104	0.907	0.3	1
Lead, PMS	(mg/L)		4	1	0.000662	0.000662	0.000662	0.015 c	0
Lithium, ICAP	(mg/L)		4	2	0.0169 w	0.0135	0.0152	NR	NA
Magnesium, ICAP	(mg/L)		4	4	9.92	4.78	7.215	NR	NA
Manganese, ICAP	(mg/L)		4	2	0.0355	0.00964	0.02257	0.05	0
Nickel, PMS	(mg/L)		2	1	0.101	0.101	0.101	NR	NA
Nickel, ICAP	(mg/L)		2	1	0.0815	0.0815	0.0815	0.1 d	0
Potassium, ICAP	(mg/L)		4	4	2.93	2.13	2.54	NR	NA
Sodium, ICAP	(mg/L)		4	4	8.06	5.94	7.2875	NR	NA
Strontium, ICAP	(mg/L)		4	4	0.401 w	0.0804	0.23315	NR	NA
Uranium, PMS	(mg/L)		4	2	0.00179	0.00112	0.001455	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	527	326	426.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	4.3	0.74	2.52	NR	NA
pH, field measurement	(pH)		2	NA	7.33	7.02	7.175	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	123	113	118	NR	NA
Static Water Level	(ft - toc)		4	NA	-8.46	-14.1	-10.9675	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19	16.6	17.8	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	214	129	174.75	NR	NA
Conductivity	(umhos/cm)		4	4	486	338	423.75	NR	NA
Dissolved Solids	(mg/L)		4	4	282	197	249.75	500	0
pH	(pH)		4	4	7.51 L	7.24 L	7.355	6.5/8.5	0
Turbidity	(NTU)		4	4	4.72	0.162	1.61975	1	2
Gross Alpha	(pCi/L)		4	4	3.5	0.96	2.215	15 f	0
Gross Beta	(pCi/L)		4	4	7	3	4.675	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.60 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Carbon tetrachloride	(ug/L)		4	3	75	4 J	34.66667	5	2
Chloroform	(ug/L)		4	4	7	3 J	4.25	100 i	0
cis-1,2-Dichloroethene	(ug/L)		4	1	3 J	3 J	3	70	0
Tetrachloroethene	(ug/L)		4	2	12	8	10	5	2
Trichloroethene	(ug/L)		4	1	3 J	3 J	3	5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.61. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location K1

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	8.29	7.68	7.985	250	0
Sulfate	(mg/L)		2	2	11.8	10.8	11.3	250	0
Barium, ICAP	(mg/L)		2	2	0.29	0.278	0.284	2	0
Calcium, ICAP	(mg/L)		2	2	45.5	42.5	44	NR	NA
Iron, ICAP	(mg/L)		2	2	0.12	0.0586	0.0893	0.3	0
Lithium, ICAP	(mg/L)		2	2	0.0277	0.0266 w	0.02715	NR	NA
Magnesium, ICAP	(mg/L)		2	2	11.7	11.2	11.45	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0384	0.0362	0.0373	0.05	0
Potassium, ICAP	(mg/L)		2	2	3.6	3.54	3.57	NR	NA
Sodium, ICAP	(mg/L)		2	2	36.1	36	36.05	NR	NA
Strontium, ICAP	(mg/L)		2	2	1.32 w	1.31	1.315	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	427	405	416	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	1.38	1.09	1.235	NR	NA
pH, field measurement	(pH)		2	NA	8.44	8.11	8.275	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	-244	-270	-257	NR	NA
Static Water Level	(ft - toc)		2	NA	-5.63	-8.76	-7.195	NR	NA
Temperature, field measurement	(Deg C)		2	NA	18.4	17.3	17.85	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	200	174	187	NR	NA
Conductivity	(umhos/cm)		2	2	457	429	443	NR	NA
Dissolved Solids	(mg/L)		2	2	257	251	254	500	0
pH	(pH)		2	2	8.04 L	7.85 L	7.945	6.5/8.5	0
Turbidity	(NTU)		2	2	0.666	0.398	0.532	1	0
Gross Alpha	(pCi/L)		2	2	1.1	-0.06	0.52	15 f	0
Gross Beta	(pCi/L)		2	2	5.6	1.9	3.75	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.62. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=GW Monitoring Plan Grid Location K2

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	2.01	1.77	1.89	250	0
Fluoride	(mg/L)		2	2	0.219	0.201	0.21	4	0
Nitrate Nitrogen	(mg/L)		2	1	0.0607	0.0607	0.0607	10	0
Sulfate	(mg/L)		2	2	14.7	14.1	14.4	250	0
Barium, ICAP	(mg/L)		2	2	0.149	0.149	0.149	2	0
Calcium, ICAP	(mg/L)		2	2	36.3	34.5	35.4	NR	NA
Iron, ICAP	(mg/L)		2	2	0.09	0.0643	0.07715	0.3	0
Lithium, ICAP	(mg/L)		2	2	0.0194 w	0.0193	0.01935	NR	NA
Magnesium, ICAP	(mg/L)		2	2	7.93	7.58	7.755	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0173	0.0153	0.0163	0.05	0
Potassium, ICAP	(mg/L)		2	2	2.14	2.06	2.1	NR	NA
Sodium, ICAP	(mg/L)		2	2	44.5	42.8	43.65	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.493 w	0.488	0.4905	NR	NA
Uranium, PMS	(mg/L)		2	1	0.000878	0.000878	0.000878	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	422	401	411.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	2.68	1.34	2.01	NR	NA
pH, field measurement	(pH)		2	NA	7.61	7.51	7.56	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	153	146	149.5	NR	NA
Static Water Level	(ft - toc)		2	NA	-5.36	-9.19	-7.275	NR	NA
Temperature, field measurement	(Deg C)		2	NA	18.2	14.6	16.4	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	210	175	192.5	NR	NA
Conductivity	(umhos/cm)		2	2	413	404	408.5	NR	NA
Dissolved Solids	(mg/L)		2	2	238	230	234	500	0
pH	(pH)		2	2	7.79 L	7.77 L	7.78	6.5/8.5	0
Turbidity	(NTU)		2	2	0.945	0.376	0.6605	1	0
Gross Alpha	(pCi/L)		2	2	1.5	0.84	1.17	15 f	0
Gross Beta	(pCi/L)		2	2	3.8	3.8	3.8	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.63. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Grid J Primary

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	71.3	56	66.65	250	0
Fluoride	(mg/L)		4	4	0.253	0.158	0.21475	4	0
Sulfate	(mg/L)		4	4	1.38	0.86	1.05625	250	0
Aluminum, ICAP	(mg/L)		4	2	1.62	1.09	1.355	0.2	2
Barium, ICAP	(mg/L)		4	4	0.0929	0.0515	0.06675	2	0
Calcium, ICAP	(mg/L)		4	4	129	107	114	NR	NA
Chromium, ICAP	(mg/L)		2	1	0.0256	0.0256	0.0256	0.1	0
Iron, ICAP	(mg/L)		4	4	27.4	23.8	25.95	0.3	4
Lead, PMS	(mg/L)		4	3	0.0033	0.00128	0.0021	0.015 c	0
Magnesium, ICAP	(mg/L)		4	4	15.1	13.3	14.475	NR	NA
Manganese, ICAP	(mg/L)		4	4	1.18	0.787	0.94825	0.05	4
Sodium, ICAP	(mg/L)		4	4	15.5	12.1	14.35	NR	NA
Strontium, ICAP	(mg/L)		4	4	0.255	0.216	0.23175	NR	NA
Thallium, PMS	(mg/L)		4	2	0.000979	0.000592	0.000786	0.002	0
Uranium, PMS	(mg/L)		4	1	0.00129	0.00129	0.00129	NR	NA
Conductivity, field measurement	(umhos/cm)		4	NA	837	766	802.25	NR	NA
Dissolved Oxygen, field measurement	(ppm)		4	NA	5.27	0.2	2.6375	NR	NA
pH, field measurement	(pH)		4	NA	7.16	6.65	6.8875	6.5/8.5	0
REDOX, field measurement	(mV)		4	NA	141	-102	24.25	NR	NA
Static Water Level	(ft - toc)		4	NA	-9.71	-10.3	-9.99	NR	NA
Temperature, field measurement	(Deg C)		4	NA	22.9	18.7	21.3	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	298	264	276	NR	NA
Conductivity	(umhos/cm)		4	4	775	744	761.25	NR	NA
Dissolved Solids	(mg/L)		4	4	408	364	392.5	500	0
pH	(pH)		4	4	6.86 L	6.68 L	6.78	6.5/8.5	0
Total Suspended Solids	(mg/L)		4	4	66	31	49.75	NR	NA
Turbidity	(NTU)		4	4	249	122	173.75	1	4
Gross Alpha	(pCi/L)		4	4	1.7	-0.53	0.3085	15 f	0
Gross Beta	(pCi/L)		4	4	6.4	-0.37	2.6725	50 a	0
1,1-Dichloroethane	(ug/L)		4	1	2 J	2 J	2	NR	NA
1,1-Dichloroethene	(ug/L)		4	1	5	5	5	7	0
1,2-Dichloroethene (Total)	(ug/L)		4	3	150	90	112.6667	NR b	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.63 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
2-Butanone	(ug/L)		4	1	12	12	12	NR	NA
cis-1,2-Dichloroethene	(ug/L)		4	3	150	90	112.6667	70	3
Tetrachloroethene	(ug/L)		4	3	62	20	36.66667	5	3
Trichloroethene	(ug/L)		4	3	14	7	9.333333	5	3
Vinyl chloride	(ug/L)		4	3	13	5	8.666667	2	3

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.64. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=New Hope Pond

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		14	14	81.5	11.6	32.82857	250	0
Fluoride	(mg/L)		14	8	0.256	0.118	0.184625	4	0
Nitrate Nitrogen	(mg/L)		14	8	1.32	0.0367	0.66525	10	0
Sulfate	(mg/L)		14	14	41.8	1.07	18.78143	250	0
Aluminum, ICAP	(mg/L)		14	2	0.249	0.212	0.2305	0.2	2
Barium, ICAP	(mg/L)		14	14	0.641	0.0404	0.212757	2	0
Boron, ICAP	(mg/L)		14	1	0.113 w	0.113 w	0.113	NR	NA
Calcium, ICAP	(mg/L)		14	14	111	43.7	75.25	NR	NA
Iron, ICAP	(mg/L)		14	12	10.7	0.0683	1.681942	0.3	7
Iron Related Bacteria	(cfu/ml)		5	3	5000 >	100	1733.333	NR	NA
Lead, PMS	(mg/L)		14	5	0.00164	0.000564	0.00104	0.015 c	0
Lithium, ICAP	(mg/L)		14	2	0.0179 w	0.0157	0.0168	NR	NA
Magnesium, ICAP	(mg/L)		14	14	26.6	11.4	18.49286	NR	NA
Manganese, ICAP	(mg/L)		14	11	1.23	0.00512	0.374445	0.05	8
Potassium, ICAP	(mg/L)		14	11	3.72	2.03	2.677273	NR	NA
Selenium, PMS	(mg/L)		14	5	0.0221	0.0101	0.01402	0.05	0
Slime Forming Bacteria	(cfu/ml)		5	3	100	100	100	NR	NA
Sodium, ICAP	(mg/L)		14	14	25.7	4.95	13.81429	NR	NA
Strontium, ICAP	(mg/L)		14	14	0.445 w	0.0635	0.263314	NR	NA
Sulfate Reducing Bacteria	(cfu/ml)		5	1	10000 >	10000 >	10000	NR	NA
Thallium, PMS	(mg/L)		14	8	0.000679	0.000516	0.000607	0.002	0
Uranium, PMS	(mg/L)		14	8	0.136	0.000883	0.033824	NR	NA
Conductivity, field measurement	(umhos/cm)		17	NA	717	368	547.2353	NR	NA
Dissolved Oxygen, field measurement	(ppm)		17	NA	5.14	0.18	1.777059	NR	NA
pH, field measurement	(pH)		17	NA	7.73	6.13	7.311176	6.5/8.5	1
REDOX, field measurement	(mV)		17	NA	200	-174	71.52941	NR	NA
Static Water Level	(ft - toc)		15	NA	-9.34	-21.28	-13.9113	NR	NA
Temperature, field measurement	(Deg C)		17	NA	19.8	14.8	16.73529	NR	NA
Alkalinity as HCO3	(mg/L)		14	14	340	154	226.5714	NR	NA
Conductivity	(umhos/cm)		14	14	745	401	572.7857	NR	NA
Dissolved Solids	(mg/L)		14	14	421	209	318.1429	500	0
pH	(pH)		14	14	7.88 L	7.04 L	7.469286	6.5/8.5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.64 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Total Suspended Solids	(mg/L)		14	4	15	1	6	NR	NA
Turbidity	(NTU)		14	14	155	0.571	19.32671	1	12
Technetium-99	(pCi/L)		2	2	0.05	-9.4	-4.675	4000	0
Gross Alpha	(pCi/L)		14	14	100	-0.37	12.055	15 f	2
Gross Beta	(pCi/L)		14	14	74	-0.48	9.69	50 a	1
1,2-Dichloroethene (Total)	(ug/L)		14	10	150	4 J	47.2	NR b	NA
2-Butanone	(ug/L)		14	1	7	7	7	NR	NA
Carbon tetrachloride	(ug/L)		14	9	1000 D	5	363.2222	5	8
Chlorodibromomethane	(ug/L)		14	1	3 J	3 J	3	100 i	0
Chloroform	(ug/L)		14	8	280 D	3 J	57.875	100 i	1
cis-1,2-Dichloroethene	(ug/L)		14	10	150	4 J	47.2	70	3
Tetrachloroethene	(ug/L)		14	12	520 D	5 J	118.5	5	11
Trichloroethene	(ug/L)		14	8	200 D	3 J	57.5	5	7
Vinyl chloride	(ug/L)		14	3	3	1 J	2	2	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.65. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=S-2 Site

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	8.16	5.25	6.705	250	0
Fluoride	(mg/L)		2	2	1.47	0.981	1.2255	4	0
Nitrate Nitrogen	(mg/L)		2	2	63.2	26.3	44.75	10	2
Sulfate	(mg/L)		2	2	15.6	9.35	12.475	250	0
Barium, ICAP	(mg/L)		2	2	0.119	0.0558	0.0874	2	0
Cadmium, PMS	(mg/L)		2	2	0.125	0.0509	0.08795	0.005	2
Calcium, ICAP	(mg/L)		2	2	112	77.4	94.7	NR	NA
Cobalt, ICAP	(mg/L)		2	1	0.0227	0.0227	0.0227	NR	NA
Copper, ICAP	(mg/L)		2	2	0.284	0.102	0.193	1.3	0
Iron, ICAP	(mg/L)		2	1	0.0748	0.0748	0.0748	0.3	0
Lead, PMS	(mg/L)		2	1	0.00422	0.00422	0.00422	0.015 c	0
Magnesium, ICAP	(mg/L)		2	2	14.2	10.9	12.55	NR	NA
Manganese, ICAP	(mg/L)		2	2	4.03	1.34	2.685	0.05	2
Nickel, PMS	(mg/L)		1	1	0.0102	0.0102	0.0102	NR	NA
Potassium, ICAP	(mg/L)		2	2	3.44	2.37	2.905	NR	NA
Sodium, ICAP	(mg/L)		2	2	15.4	7.64	11.52	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.229	0.113 w	0.171	NR	NA
Thallium, PMS	(mg/L)		2	2	0.00246	0.00131	0.001885	0.002	1
Uranium, PMS	(mg/L)		2	2	0.00375	0.00267	0.00321	NR	NA
Zinc, ICAP	(mg/L)		2	1	0.0621	0.0621	0.0621	5	0
Conductivity, field measurement	(umhos/cm)		2	NA	890	570	730	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	3.19	0.73	1.96	NR	NA
pH, field measurement	(pH)		2	NA	6.65	6.1	6.375	6.5/8.5	1
REDOX, field measurement	(mV)		2	NA	213	207	210	NR	NA
Static Water Level	(ft - toc)		2	NA	-17.38	-24.36	-20.87	NR	NA
Temperature, field measurement	(Deg C)		2	NA	17.2	15.4	16.3	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	156	152	154	NR	NA
Conductivity	(umhos/cm)		2	2	903	597	750	NR	NA
Dissolved Solids	(mg/L)		2	2	573	337	455	500	1
pH	(pH)		2	2	6.98 L	6.38 L	6.68	6.5/8.5	1
Turbidity	(NTU)		2	2	1.63	0.885	1.2575	1	1
Gross Alpha	(pCi/L)		2	2	10	6	8	15 f	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.65. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Gross Beta	(pCi/L)		2	2	15	6	10.5	50 a	0
1,2-Dichloroethene (Total)	(ug/L)		2	1	10	10	10	NR b	NA
Carbon tetrachloride	(ug/L)		2	1	6	6	6	5	1
Chloroform	(ug/L)		2	2	10	5	7.5	100 i	0
cis-1,2-Dichloroethene	(ug/L)		2	1	10	10	10	70	0
Tetrachloroethene	(ug/L)		2	2	300 D	71	185.5	5	2
Trichloroethene	(ug/L)		2	2	150	28	89	5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.66. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Special Radiological Sampling

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		6	6	97	2.82	54.87	250	0
Fluoride	(mg/L)		6	3	0.812	0.169	0.593333	4	0
Nitrate Nitrogen	(mg/L)		6	6	5410	0.0575	2231.833	10	4
Sulfate	(mg/L)		6	5	129	2.76	33.112	250	0
Arsenic, PMS	(mg/L)		6	1	0.0051	0.0051	0.0051	0.05	0
Barium, ICAP	(mg/L)		6	6	35.7	0.0553	16.01555	2	4
Cadmium, PMS	(mg/L)		6	5	0.00139	0.000544	0.00101	0.005	0
Calcium, ICAP	(mg/L)		6	6	5080	42.1	2610.517	NR	NA
Chromium, PMS	(mg/L)		3	1	0.00367	0.00367	0.00367	NR	NA
Iron, ICAP	(mg/L)		6	2	3.14	1.83	2.485	0.3	2
Lead, PMS	(mg/L)		6	3	0.00203	0.00061	0.001333	0.015 c	0
Lithium, ICAP	(mg/L)		6	3	0.194	0.0505	0.130167	NR	NA
Magnesium, ICAP	(mg/L)		6	6	755	6.15	326.5583	NR	NA
Manganese, ICAP	(mg/L)		6	6	115	0.00544	39.62924	0.05	5
Mercury, CVAA	(mg/L)		6	2	0.000793	0.000436	0.000615	0.002	0
Nickel, PMS	(mg/L)		3	3	0.281	0.00518	0.17106	NR	NA
Potassium, ICAP	(mg/L)		6	2	3.21	2.2	2.705	NR	NA
Selenium, PMS	(mg/L)		6	4	0.0258	0.0131	0.019925	0.05	0
Sodium, ICAP	(mg/L)		6	6	365	1.73	154.3817	NR	NA
Strontium, ICAP	(mg/L)		6	6	15.9	0.102	7.489167	NR	NA
Thallium, PMS	(mg/L)		6	2	0.000727	0.000582	0.000655	0.002	0
Uranium, PMS	(mg/L)		6	6	0.117	0.0018	0.038017	NR	NA
Conductivity, field measurement	(umhos/cm)		6	NA	25500	305	12972.83	NR	NA
Dissolved Oxygen, field measurement	(ppm)		6	NA	1.38	0.34	0.646667	NR	NA
pH, field measurement	(pH)		6	NA	7.78	5.11	6.166667	6.5/8.5	4
REDOX, field measurement	(mV)		6	NA	231	80	185.8333	NR	NA
Static Water Level	(ft - toc)		6	NA	-2.23	-11.43	-5.975	NR	NA
Temperature, field measurement	(Deg C)		6	NA	22.7	17.7	20.25	NR	NA
Alkalinity as HCO3	(mg/L)		6	6	670	109	370.5	NR	NA
Conductivity	(umhos/cm)		6	6	27600	284	13994.5	NR	NA
Dissolved Solids	(mg/L)		6	6	25500	174	12498.5	500	4
pH	(pH)		6	6	7.85 L	5.38 L	6.296667	6.5/8.5	4

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.66. (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Total Suspended Solids	(mg/L)		6	3	68	3	36.66667	NR	NA
Turbidity	(NTU)		6	6	40.3	0.841	11.35067	1	2
Technetium-99	(pCi/L)		4	4	15000	6600	11025	4000	4
Gross Alpha	(pCi/L)		6	6	102	13	51.16667	15 f	5
Gross Beta	(pCi/L)		6	6	12200	11	5040.833	50 a	4
1,2-Dichloroethene (Total)	(ug/L)		6	4	11	5 J	7.5	NR b	NA
Benzene	(ug/L)		6	4	650 D	35	323.75	5	4
Bromoform	(ug/L)		6	3	6	4 J	5.333333	100 i	0
Chloroform	(ug/L)		6	4	28	24	25.75	100 i	0
cis-1,2-Dichloroethene	(ug/L)		6	4	11	5 J	7.5	70	0
Ethylbenzene	(ug/L)		6	2	34	26	30	700	0
Methylene chloride	(ug/L)		6	4	57	35	44.75	5	4
Tetrachloroethene	(ug/L)		6	4	650 D	170	380	5	4
Toluene	(ug/L)		6	2	150	55	102.5	1000	0
Trichloroethene	(ug/L)		6	4	12	8	9.75	5	4
Xylenes	(ug/L)		6	2	250 D	190	220	10000	0
Xylenes	(ug/L)		6	2	250 D	190	220	10000	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.67. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Underground Tank T0134-U

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	54.7	51.2	52.95	250	0
Fluoride	(mg/L)		2	1	0.109	0.109	0.109	4	0
Nitrate Nitrogen	(mg/L)		2	1	0.0685	0.0685	0.0685	10	0
Sulfate	(mg/L)		2	2	52.9	52.6	52.75	250	0
Barium, ICAP	(mg/L)		2	2	0.188	0.155	0.1715	2	0
Calcium, ICAP	(mg/L)		2	2	126	102	114	NR	NA
Chromium, PMS	(mg/L)		1	1	0.00333	0.00333	0.00333	NR	NA
Iron, ICAP	(mg/L)		2	2	1.11	1.04	1.075	0.3	2
Iron Related Bacteria	(cfu/ml)		2	2	100	100	100	NR	NA
Magnesium, ICAP	(mg/L)		2	2	7	5.54	6.27	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.94	0.596	0.768	0.05	2
Nickel, PMS	(mg/L)		1	1	0.0153	0.0153	0.0153	NR	NA
Potassium, ICAP	(mg/L)		2	1	2.27	2.27	2.27	NR	NA
Slime Forming Bacteria	(cfu/ml)		2	2	50000	50000	50000	NR	NA
Sodium, ICAP	(mg/L)		2	2	10.6	8.44	9.52	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.235 w	0.192	0.2135	NR	NA
Thallium, PMS	(mg/L)		2	1	0.00061	0.00061	0.00061	0.002	0
Uranium, PMS	(mg/L)		2	1	0.000748	0.000748	0.000748	NR	NA
Conductivity, field measurement	(umhos/cm)		3	NA	697	567	610.3333	NR	NA
Dissolved Oxygen, field measurement	(ppm)		3	NA	1.34	0.79	1.156667	NR	NA
pH, field measurement	(pH)		3	NA	6.83	6.54	6.636667	6.5/8.5	0
REDOX, field measurement	(mV)		3	NA	1	-12	-7.66667	NR	NA
Static Water Level	(ft - toc)		2	NA	-10.22	-10.52	-10.37	NR	NA
Temperature, field measurement	(Deg C)		3	NA	20.5	18.2	18.96667	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	220	179	199.5	NR	NA
Conductivity	(umhos/cm)		2	2	717	614	665.5	NR	NA
Dissolved Solids	(mg/L)		2	2	441	400	420.5	500	0
pH	(pH)		2	2	7.01 L	6.8 L	6.905	6.5/8.5	0
Turbidity	(NTU)		2	2	5.46	3.59	4.525	1	2
Gross Alpha	(pCi/L)		2	2	2.8	-0.72	1.04	15 f	0
Gross Beta	(pCi/L)		2	2	7.7	4.1	5.9	50 a	0
1,1,1-Trichloroethane	(ug/L)		2	2	2 J	2 J	2	200	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.67 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
1,1-Dichloroethane	(ug/L)		2	2	33	25	29	NR	NA
1,1-Dichloroethene	(ug/L)		2	2	600 D	420 D	510	7	2
1,2-Dichloroethene (Total)	(ug/L)		2	2	190	190	190	NR b	NA
1,2-Dichloropropane	(ug/L)		2	1	6	6	6	5	1
cis-1,2-Dichloroethene	(ug/L)		2	2	160	150	155	70	2
Tetrachloroethene	(ug/L)		2	2	70	61	65.5	5	2
trans-1,2-Dichloroethene	(ug/L)		2	2	32	32	32	100	0
Trichloroethene	(ug/L)		2	2	4500 D	4300 D	4400	5	2
Vinyl chloride	(ug/L)		2	2	9	9	9	2	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.68. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Uranium Oxide Vault

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	12	2.32	8.295	250	0
Fluoride	(mg/L)		4	4	0.174	0.102	0.13075	4	0
Nitrate Nitrogen	(mg/L)		4	3	3.99	0.233	1.934333	10	0
Sulfate	(mg/L)		4	4	23.9	15.1	20.55	250	0
Barium, ICAP	(mg/L)		4	4	0.0654	0.0463	0.055775	2	0
Boron, ICAP	(mg/L)		4	1	0.115 w	0.115 w	0.115	NR	NA
Calcium, ICAP	(mg/L)		4	4	99.1	58.7	72.875	NR	NA
Chromium, PMS	(mg/L)		2	2	0.0129	0.00382	0.00836	NR	NA
Iron, ICAP	(mg/L)		4	2	0.0926	0.0502	0.0714	0.3	0
Lead, PMS	(mg/L)		4	1	0.000999	0.000999	0.000999	0.015 c	0
Magnesium, ICAP	(mg/L)		4	4	19	8.88	13.795	NR	NA
Manganese, ICAP	(mg/L)		4	4	0.0416	0.00853	0.019633	0.05	0
Nickel, PMS	(mg/L)		2	2	0.0402	0.0152	0.0277	NR	NA
Potassium, ICAP	(mg/L)		4	4	4.7	2.6	3.475	NR	NA
Sodium, ICAP	(mg/L)		4	4	14.1	9.39	11.4475	NR	NA
Strontium, ICAP	(mg/L)		4	4	0.172 w	0.0719	0.12195	NR	NA
Thallium, PMS	(mg/L)		4	1	0.000554	0.000554	0.000554	0.002	0
Uranium, PMS	(mg/L)		4	4	0.494	0.00421	0.23866	NR	NA
Conductivity, field measurement	(umhos/cm)		5	NA	652	431	518	NR	NA
Dissolved Oxygen, field measurement	(ppm)		5	NA	5.78	1.62	3.048	NR	NA
pH, field measurement	(pH)		5	NA	7.58	7.03	7.364	6.5/8.5	0
REDOX, field measurement	(mV)		5	NA	181	81	145	NR	NA
Static Water Level	(ft - toc)		5	NA	-9.12	-13.47	-10.7	NR	NA
Temperature, field measurement	(Deg C)		5	NA	22.5	16.6	19.36	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	282	196	228.5	NR	NA
Conductivity	(umhos/cm)		4	4	599	451	506.75	NR	NA
Dissolved Solids	(mg/L)		4	4	327	231	283.75	500	0
pH	(pH)		4	4	7.76 L	7.23 L	7.57	6.5/8.5	0
Turbidity	(NTU)		4	4	1.52	0.365	1.05625	1	2
Uranium-234	(pCi/L)		4	4	36	1.7	18.175	20	1
Uranium-235	(pCi/L)		4	4	3.3	0.041	1.33525	24	0
Uranium-238	(pCi/L)		4	4	170	1.6	78.525	24	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.68 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Gross Alpha	(pCi/L)		4	4	100	2.2	32.85	15 f	2
Gross Beta	(pCi/L)		4	4	89	7.1	33.775	50 a	1

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.69. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Waste Coolant Processing Area

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		2	2	16.5	15.9	16.2	250	0
Sulfate	(mg/L)		2	2	9.22	8.69	8.955	250	0
Barium, ICAP	(mg/L)		2	2	0.199	0.195	0.197	2	0
Cadmium, PMS	(mg/L)		2	1	0.000698	0.000698	0.000698	0.005	0
Calcium, ICAP	(mg/L)		2	2	89.1	88.8	88.95	NR	NA
Magnesium, ICAP	(mg/L)		2	2	8.68	8.33	8.505	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0508	0.00558	0.02819	0.05	1
Nickel, PMS	(mg/L)		1	1	0.00525	0.00525	0.00525	NR	NA
Sodium, ICAP	(mg/L)		2	2	4.49	4.35	4.42	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.226 w	0.223	0.2245	NR	NA
Uranium, PMS	(mg/L)		2	2	0.00151	0.000866	0.001188	NR	NA
Conductivity, field measurement	(umhos/cm)		2	NA	562	529	545.5	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	2.37	0.78	1.575	NR	NA
pH, field measurement	(pH)		2	NA	7.11	6.74	6.925	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	163	113	138	NR	NA
Static Water Level	(ft - toc)		2	NA	-11.19	-12.2	-11.695	NR	NA
Temperature, field measurement	(Deg C)		2	NA	19.4	16.9	18.15	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	222	222	222	NR	NA
Conductivity	(umhos/cm)		2	2	513	498	505.5	NR	NA
Dissolved Solids	(mg/L)		2	2	304	300	302	500	0
pH	(pH)		2	2	7.03 L	6.92 L	6.975	6.5/8.5	0
Turbidity	(NTU)		2	2	0.785	0.765	0.775	1	0
Gross Alpha	(pCi/L)		2	2	1.5	1.2	1.35	15 f	0
Gross Beta	(pCi/L)		2	2	3.5	3.4	3.45	50 a	0
1,1,1-Trichloroethane	(ug/L)		2	2	190	140	165	200	0
1,1-Dichloroethane	(ug/L)		2	2	140	96	118	NR	NA
1,1-Dichloroethene	(ug/L)		2	2	160	110	135	7	2
1,2-Dichloroethene (Total)	(ug/L)		2	2	5000 D	3700 D	4350	NR b	NA
Acetone	(ug/L)		2	1	20	20	20	NR	NA
Carbon tetrachloride	(ug/L)		2	1	33	33	33	5	1
cis-1,2-Dichloroethene	(ug/L)		2	2	4900 D	3700 D	4300	70	2
Dichlorodifluoromethane	(ug/L)		2	2	11	10	10.5	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.69 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Tetrachloroethene	(ug/L)		2	2	860 D	590 D	725	5	2
trans-1,2-Dichloroethene	(ug/L)		2	2	59	40	49.5	100	0
Trichloroethene	(ug/L)		2	2	940 D	720 D	830	5	2
Trichlorofluoromethane	(ug/L)		2	2	9	8	8.5	NR	NA
Vinyl chloride	(ug/L)		2	2	63	46	54.5	2	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.70. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=EF AREA NAME=Y-12 Salvage Yard

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	177	43.9	102.525	250	0
Fluoride	(mg/L)		4	2	16.6	6.88	11.74	4	2
Nitrate Nitrogen	(mg/L)		4	4	9520	7150	8230	10	4
Sulfate	(mg/L)		4	2	14.3	3.2	8.75	250	0
Aluminum, ICAP	(mg/L)		4	2	6.31 k	4.49	5.4	0.2	2
Barium, ICAP	(mg/L)		4	4	125 k	68.3 k	100.125	2	4
Cadmium, PMS	(mg/L)		3	1	2.19 k	2.19 k	2.19	0.005	1
Calcium, ICAP	(mg/L)		4	4	11900	8710	10002.5	NR	NA
Cobalt, ICAP	(mg/L)		4	2	0.565	0.466	0.5155	NR	NA
Lead, PMS	(mg/L)		4	2	0.00777	0.00525	0.00651	0.015 c	0
Lithium, ICAP	(mg/L)		4	4	0.595	0.294 w	0.45175	NR	NA
Magnesium, ICAP	(mg/L)		4	4	1460	1210	1310	NR	NA
Manganese, ICAP	(mg/L)		4	4	114 k	1.98	53.82	0.05	4
Mercury, CVAA	(mg/L)		4	2	0.0102	0.00416	0.00718	0.002	2
Nickel, PMS	(mg/L)		1	1	0.0111	0.0111	0.0111	NR	NA
Nickel, ICAP	(mg/L)		3	2	4.03 k	3.59	3.81	0.1 d	2
Potassium, ICAP	(mg/L)		4	2	95	92.7 k	93.85	NR	NA
Selenium, PMS	(mg/L)		4	3	0.0255	0.0122	0.02	0.05	0
Sodium, ICAP	(mg/L)		4	4	546 k	107	315.5	NR	NA
Strontium, ICAP	(mg/L)		4	4	67.6 kw	55 k	63.625	NR	NA
Thallium, PMS	(mg/L)		4	3	0.00371	0.00068	0.002103	0.002	1
Uranium, PMS	(mg/L)		4	4	0.0118	0.00141	0.006343	NR	NA
Conductivity, field measurement	(umhos/cm)		5	NA	57000	37600	46760	NR	NA
Dissolved Oxygen, field measurement	(ppm)		5	NA	4.75	0.22	1.734	NR	NA
pH, field measurement	(pH)		5	NA	6.68	5.39	5.986	6.5/8.5	3
REDOX, field measurement	(mV)		5	NA	261	153	218.8	NR	NA
Static Water Level	(ft - toc)		5	NA	-3.35	-5.97	-4.51	NR	NA
Temperature, field measurement	(Deg C)		5	NA	19.8	18	18.74	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	754	55.2	400.3	NR	NA
Conductivity	(umhos/cm)		4	4	51500	40600	46250	NR	NA
Dissolved Solids	(mg/L)		4	4	54600	41900	47825	500	4
pH	(pH)		4	4	6.68 L	5.75 L	6.2775	6.5/8.5	2

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.70 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Total Suspended Solids	(mg/L)		4	2	9	4	6.5	NR	NA
Turbidity	(NTU)		4	4	2.28	0.725	1.1975	1	1
Technetium-99	(pCi/L)		4	4	21000	-1.6	10253.1	4000	2
Gross Alpha	(pCi/L)		4	4	140	79	103.75	15 f	4
Gross Beta	(pCi/L)		4	4	7400	330	3880	50 a	4
2-Butanone	(ug/L)		4	1	6	6	6	NR	NA
Acetone	(ug/L)		4	2	90	38	64	NR	NA
Chloroform	(ug/L)		4	2	14	12	13	100 i	0
Methylene chloride	(ug/L)		4	2	20	19	19.5	5	2
Tetrachloroethene	(ug/L)		4	3	170	9	106.3333	5	3
Trichloroethene	(ug/L)		4	2	5	4 J	4.5	5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.71. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=PR AREA NAME=Country Club Estates

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		4	4	1.74	0.728	1.26875	250	0
Nitrate Nitrogen	(mg/L)		4	3	0.0682	0.033	0.0564	10	0
Sulfate	(mg/L)		4	4	20.8	6.52	15.955	250	0
Aluminum, ICAP	(mg/L)		4	3	1.47	0.336	1.088667	0.2	3
Barium, ICAP	(mg/L)		4	4	0.0652	0.0262	0.050325	2	0
Barium, ICAP	(mg/L)	FILTERED	4	4	0.052	0.0273	0.0431	2	0
Calcium, ICAP	(mg/L)		4	4	59.4	16.3	28.45	NR	NA
Calcium, ICAP	(mg/L)	FILTERED	4	4	59.5	16	28	NR	NA
Copper, ICAP	(mg/L)	FILTERED	4	1	0.0276	0.0276	0.0276	1.3	0
Iron, ICAP	(mg/L)		4	4	1.4	0.0527	0.773175	0.3	2
Iron, ICAP	(mg/L)	FILTERED	4	2	0.24	0.209	0.2245	0.3	0
Lead, PMS	(mg/L)		4	2	0.00109	0.00101	0.00105	0.015 c	0
Magnesium, ICAP	(mg/L)		4	4	5.92	2.64	4.845	NR	NA
Magnesium, ICAP	(mg/L)	FILTERED	4	4	5.54	2.65	4.63	NR	NA
Manganese, ICAP	(mg/L)		4	4	0.131	0.0268	0.087475	0.05	3
Manganese, ICAP	(mg/L)	FILTERED	4	4	0.0825	0.0234	0.062175	0.05	3
Potassium, ICAP	(mg/L)		4	3	4.52	2.21	3.73	NR	NA
Potassium, ICAP	(mg/L)	FILTERED	4	2	4.09	4.06	4.075	NR	NA
Sodium, ICAP	(mg/L)		4	4	1.71	0.736	1.424	NR	NA
Sodium, ICAP	(mg/L)	FILTERED	4	4	1.69	0.791	1.41275	NR	NA
Strontium, ICAP	(mg/L)		4	4	0.0888	0.053	0.066425	NR	NA
Strontium, ICAP	(mg/L)	FILTERED	4	4	0.0893	0.0514	0.06445	NR	NA
Uranium, PMS	(mg/L)		4	2	0.00177	0.000741	0.001256	NR	NA
Conductivity, field measurement	(umhos/cm)		4	NA	403	158	300.75	NR	NA
Dissolved Oxygen, field measurement	(ppm)		4	NA	9.98	4.16	6.1475	NR	NA
pH, field measurement	(pH)		4	NA	7.61	6.98	7.285	6.5/8.5	0
REDOX, field measurement	(mV)		4	NA	212	122	165	NR	NA
Temperature, field measurement	(Deg C)		4	NA	15.6	11.9	13.95	NR	NA
Alkalinity as HCO3	(mg/L)		4	4	163	50.8	79.75	NR	NA
Conductivity	(umhos/cm)		4	4	310	139	197.575	NR	NA
Dissolved Solids	(mg/L)		4	4	158	83	123	500	0
pH	(pH)		4	4	7.56 L	7.3 L	7.375	6.5/8.5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.71 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Total Suspended Solids	(mg/L)		4	4	31	1	15	NR	NA
Turbidity	(NTU)		4	4	23.5	1.39	13.1475	1	4
Gross Alpha	(pCi/L)		4	4	1.3	-0.2	0.6175	15 f	0
Gross Beta	(pCi/L)		4	4	5	0.36	2.19	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.72. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=PR AREA NAME=Scarboro Community

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Chloride	(mg/L)		5	5	1.6	0.92	1.24	250	0
Sulfate	(mg/L)		5	5	14.6	8.93	10.9	250	0
Aluminum, ICAP	(mg/L)		5	3	0.67	0.215	0.452	0.2	3
Aluminum, ICAP	(mg/L)	FILTERED	5	1	0.22	0.22	0.22	0.2	1
Barium, ICAP	(mg/L)		5	5	0.0867	0.0362	0.05864	2	0
Barium, ICAP	(mg/L)	FILTERED	5	5	0.0702	0.0326	0.05284	2	0
Calcium, ICAP	(mg/L)		5	5	12.8	2.18	8.58	NR	NA
Calcium, ICAP	(mg/L)	FILTERED	5	5	14.1	2.13	8.822	NR	NA
Iron, ICAP	(mg/L)		5	5	1.24	0.0551	0.48302	0.3	3
Iron, ICAP	(mg/L)	FILTERED	5	3	0.217	0.186	0.196667	0.3	0
Lead, PMS	(mg/L)		5	1	0.000641	0.000641	0.000641	0.015 c	0
Lead, PMS	(mg/L)	FILTERED	5	1	0.000662	0.000662	0.000662	0.015 c	0
Magnesium, ICAP	(mg/L)		5	5	7.34	1.26	4.762	NR	NA
Magnesium, ICAP	(mg/L)	FILTERED	5	5	7.31	1.2	4.678	NR	NA
Manganese, ICAP	(mg/L)		5	5	0.22	0.00913	0.063002	0.05	2
Manganese, ICAP	(mg/L)	FILTERED	5	5	0.0855	0.00529	0.031636	0.05	1
Potassium, ICAP	(mg/L)		5	5	5.71	2.79	3.996	NR	NA
Potassium, ICAP	(mg/L)	FILTERED	5	5	5.71	2.62	3.896	NR	NA
Sodium, ICAP	(mg/L)		5	5	3.35	0.822	2.4644	NR	NA
Sodium, ICAP	(mg/L)	FILTERED	5	5	3.34	0.796	2.4592	NR	NA
Strontium, ICAP	(mg/L)		5	5	0.0735 w	0.0132	0.04586	NR	NA
Strontium, ICAP	(mg/L)	FILTERED	5	5	0.0733 w	0.0125	0.04524	NR	NA
Conductivity, field measurement	(umhos/cm)		5	NA	430	103	211.4	NR	NA
Dissolved Oxygen, field measurement	(ppm)		5	NA	7.26	5.05	6.258	NR	NA
pH, field measurement	(pH)		5	NA	7.51	6.42	7.132	6.5/8.5	1
REDOX, field measurement	(mV)		5	NA	196	120	172	NR	NA
Temperature, field measurement	(Deg C)		5	NA	16.9	12	14.5	NR	NA
Alkalinity as HCO3	(mg/L)		5	5	62.4	3.34	38.628	NR	NA
Conductivity	(umhos/cm)		5	5	176.5	39.4	114.32	NR	NA
Dissolved Solids	(mg/L)		5	5	109	53	77.8	500	0
pH	(pH)		5	5	7.54 L	6.16 L	7.15	6.5/8.5	1
Total Suspended Solids	(mg/L)		5	4	33	1	10.5	NR	NA

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.72 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Turbidity	(NTU)		5	5	17.6	1.53	7.124	1	5
Gross Alpha	(pCi/L)		5	5	3	-0.26	1.2	15 f	0
Gross Beta	(pCi/L)		5	5	5.2	1.4	3.04	50 a	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.73. CONSTITUENTS DETECTED IN GROUNDWATER AT THE Y-12 COMPLEX SITE 2000

REGIME=SP AREA NAME=Special Request

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS . > REF
Chloride	(mg/L)		2	2	18.2	15.8	17	250	0
Fluoride	(mg/L)		2	2	0.586	0.553	0.5695	4	0
Nitrate Nitrogen	(mg/L)		2	2	1.13	0.215	0.6725	10	0
Sulfate	(mg/L)		2	2	75.8	16.8	46.3	250	0
Barium, ICAP	(mg/L)		2	2	0.0925	0.0798	0.08615	2	0
Cadmium, PMS	(mg/L)		2	1	0.000566	0.000566	0.000566	0.005	0
Calcium, ICAP	(mg/L)		2	2	97.6	33.7	65.65	NR	NA
Chromium, PMS	(mg/L)		1	1	0.00471	0.00471	0.00471	NR	NA
Copper, ICAP	(mg/L)		2	1	0.0759	0.0759	0.0759	1.3	0
Iron, ICAP	(mg/L)		2	2	0.482	0.147	0.3145	0.3	1
Lead, PMS	(mg/L)		2	2	0.00897	0.00173	0.00535	0.015 c	0
Lithium, ICAP	(mg/L)		2	1	0.0696 w	0.0696 w	0.0696	NR	NA
Magnesium, ICAP	(mg/L)		2	2	14.4	6.83	10.615	NR	NA
Manganese, ICAP	(mg/L)		2	2	0.0167	0.00564	0.01117	0.05	0
Nickel, PMS	(mg/L)		1	1	0.0058	0.0058	0.0058	NR	NA
Potassium, ICAP	(mg/L)		2	1	5.43	5.43	5.43	NR	NA
Sodium, ICAP	(mg/L)		2	2	10.5	9.1	9.8	NR	NA
Strontium, ICAP	(mg/L)		2	2	0.207 w	0.0778	0.1424	NR	NA
Uranium, PMS	(mg/L)		2	1	15.4	15.4	15.4	NR	NA
Zinc, ICAP	(mg/L)		2	2	0.698	0.0552	0.3766	5	0
Conductivity, field measurement	(umhos/cm)		2	NA	970	250	610	NR	NA
Dissolved Oxygen, field measurement	(ppm)		2	NA	6.3	0	3.15	NR	NA
pH, field measurement	(pH)		2	NA	7.49	7.4	7.445	6.5/8.5	0
REDOX, field measurement	(mV)		2	NA	243	0	121.5	NR	NA
Static Water Level	(ft - toc)		1	NA	-7.5	-7.5	-7.5	NR	NA
Temperature, field measurement	(Deg C)		2	NA	22.3	13	17.65	NR	NA
Alkalinity as HCO3	(mg/L)		2	2	226	82.6	154.3	NR	NA
Conductivity	(umhos/cm)		2	2	587	267	427	NR	NA
Dissolved Solids	(mg/L)		2	2	408	125	266.5	500	0
pH	(pH)		2	2	8.25 L	7.56 L	7.905	6.5/8.5	0
Total Suspended Solids	(mg/L)		2	1	2	2	2	NR	NA
Turbidity	(NTU)		2	2	0.499	0.193	0.346	1	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.73 (continued)

COMPOUND	UNITS	FILTERED STATUS	# SAMPLES	# DETECTED	MAXIMUM DETECTED MMT.	MINIMUM DETECTED MMT.	AVERAGE DETECTED MMTS.	REFERENCE VALUE	# MMTS. > REF
Uranium-234	(pCi/L)		1	1	870	870	870	20	1
Uranium-235	(pCi/L)		1	1	80	80	80	24	1
Uranium-238	(pCi/L)		1	1	5800	5800	5800	24	1
Technetium-99	(pCi/L)		1	1	13	13	13	4000	0
Gross Alpha	(pCi/L)		2	2	5100	8.9	2554.45	15 f	1
Gross Beta	(pCi/L)		2	2	2800	5.6	1402.8	50 a	1
1,2-Dichloroethene (Total)	(ug/L)		2	1	3 J	3 J	3	NR b	NA
Bromodichloromethane	(ug/L)		2	1	3 J	3 J	3	100 i	0
Chloroform	(ug/L)		2	1	7	7	7	100 i	0
cis-1,2-Dichloroethene	(ug/L)		2	1	3 J	3 J	3	70	0
Tetrachloroethene	(ug/L)		2	1	3 J	3 J	3	5	0

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.74. 2000 HYDROGEOLOGIC REGIME AND AREA SUMMARY

REGIME	SITE	WELL	SAMPLE NUMBER(S)			
BC	Background	GW-079	A000530033	A002270011		
		GW-080	A000520075	A002270013		
		GW-115	A000460076			
	Bear Creek Burial Grounds WMA	GW-053	A000520008	A002350059		
		GW-287	A000480047	A000480048	A002340050	
		GW-627	A000520009	A000530012	A002350060	A002350420
		GW-653	A000480049	A002340051		
	Exit Pathway Monitoring Location A	GW-056	A000120086	A000120087	A001930035	
		GW-683	A000180057	A001940030		
		GW-684	A000120099	A001940031		
		GW-685	A000120100	A001930036		
	Exit Pathway Monitoring Location B	GW-621	A000180226	A001950106		
		GW-695	A000240073	A001950107		
		GW-703	A000240074	A002060077		
		GW-704	A000250009	A002060078		
		GW-706	A000310015	A000320152	A002070108	A002080106
	Exit Pathway Monitoring Location C	GW-724	A000340032	A002130012	A002130013	
		GW-725	A000380106	A000380110	A002210025	A002210174
		GW-738	A000340031	A002130014		
		GW-740	A000330023	A002090175		
	Exit Pathway Monitoring Location W	GW-714	A000460077	A002270083		
		GW-715	A000460078	A002270085		
	Exit Pathway Spring/Surface Water	BCK-00.63	A000400237	A002140024		
		BCK-04.55	A000400238	A002140025		
		BCK-07.87	A000400243	A002140027		
		BCK-09.40	A000410046	A002150021		
		BCK-11.97	A000410050	A002150026		
NT-01		A000410049	A002150025			
SS-1		A000410048	A002150024			
SS-4		A000400239	A002140029			
SS-5		A000400240	A002140028			
SS-6		A000400241	A000400242	A002140026		
Oil Landfarm WMA		GW-085	A000600038	A002520073		
	GW-226	A000610056	A002550010			
	GW-537	A000610055	A002550011	A002550012		
	GW-829	A000600037	A002510101			
Rust Spoil Area	GW-311	A000590039	A002500079			
Spoil Area I	GW-315	A000590038	A002490078			
CR	Exit Pathway Spring/Surface Water	SCR2.1SP	A000660009	A000660010	A002300024	A002300030
		SCR2.2SP	A000660011	A000660012	A002300025	A002300031
		SCR3.4SP	A000660013	A000660014	A002300026	A002300032
		SCR5.1SP	A000660022	A000660023	A000660024	A000660025
			A002300027	A002300033		
		SCR5.4SP	A000660026	A000660027	A002300028	A002300029
		A002300034	A002300035			
	Industrial Landfill IV	GW-305	A000380120			
		GW-521	A000310086			
	United Nuclear Corporation Site	GW-203	A000540132	A002280100		
GW-302		A000540156	A002270485			
GW-339		A000540133	A002270087			

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.74 (continued)

REGIME	SITE	WELL	SAMPLE NUMBER(S)				
EF	B8110	GW-700	A001710018	A002990050			
	Beta-4 Security Pits	GW-192	A001300004	A001300005	A002830007		
	Building 9201-2	GW-820	A001650006	A003000045	A003000046		
	CPT	GW-690	A001710019	A002990051			
	Exit Pathway Monitoring Location J	GW-722-06	A000750161	A000750162	A002000023	A002000024	
			A002570153	A002570155			
			A000800106	A000800107	A002020452	A002020453	
			A002570154	A002570156			
			A000820012	A000820014	A002090206	A002090209	
			A000820013	A000820015	A002090207	A002090210	
			A000810039	A000810041	A002080011	A002080014	
			A000810038	A000810040	A002080009	A002080010	
			A002080012	A002080013			
			A000760055	A000760056	A000760065	A000760066	
			A002000183	A002000185			
			A000760054	A000760064	A002000184	A002000186	
			A000800015	A000800016	A002000198	A002000199	
			A002590297	A002590298			
			A000800013	A000800014	A002000200	A002000201	
		GW-735	A001160140		A003070008		
		GW-750	A001160139		A003070009		
	Exit Pathway Scarborough Road/Pine Rid	GW-207	A000960037		A003120010		
		GW-208	A000960036		A003120011		
		GW-816	A000970054		A003130058		
	Exit Pathway Spring/Surface Water	LRSPW	A000970055	A000970056	A003180007		
	Fire Training Facility	GW-620	A001310004	A002840078			
	GW Monitoring Plan Grid Location B3	55-2C	A001430006	A002910037			
	GW Monitoring Plan Grid Location C3	56-2C	A001430007	A002910038			
	GW Monitoring Plan Grid Location D2	GW-791	A001230057	A001230058	A001240045	A002770051	
			A002780175				
	GW Monitoring Plan Grid Location E3	GW-782	A001220053	A001220054	A002770050		
		GW-783	A001220055		A001220056		
	GW Monitoring Plan Grid Location F3	GW-789	A001170002	A001170003	A002760014		
	GW Monitoring Plan Grid Location G3	GW-769	A001180001	A002770049			
		GW-770	A001170001	A002760015	A002760016		
	GW Monitoring Plan Grid Location K1	GW-744	A001080026	A003060001	A003060002		
	GW Monitoring Plan Grid Location K2	GW-747	A001150002				
	Grid J Primary	GW-763	A001310005	A001320052	A002840076	A002850020	
	New Hope Pond	GW-153	A001320051	A002860138			
		GW-220	A001360011	A001360012	A002860140	A002860146	
		GW-222	A001650007				
		GW-223	A001640007				
		GW-240	A001380018				
		GW-380	A001370022				
		GW-381	A001380019	A001380020	A002900025		
		GW-383	A001360010	A002900026			

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.74 (continued)

REGIME	SITE	WELL	SAMPLE NUMBER(S)	
EF	S-2 Site Special Radiological Sampling	GW-251	A001300006 A002830008	
		GW-204	A001590108 A002980001	
		GW-274 GW-633	A001510066 A002920070 A001600022 A002980002	
	Underground Tank T0134-U Uranium Oxide Vault	GW-656	A001640008 A001640009 A002990049	
		GW-218 GW-219	A001520254 A003040043 A003110135 A001580104 A001580105 A003040044	
	Waste Coolant Processing Area Y-12 Salvage Yard	GW-337	A001440074 A002930158	
		GW-109 GW-275	A001440073 A001600023 A002930157 A001510056 A002920071	
		Country Club Estates	GHK2.51ESW GHK2.51WSW	A001090048 A001090054 A003140013 A003140014 A001090049 A001090050 A001090055 A001090056 A003140015 A003140016
	Scarboro Community		NPR07.0SW NPR10.0SW NPR12.0SW	A001090045 A001090051 A003140001 A003140002 A001450071 A001450072 A001090047 A001090053 A003140005 A003140010 A003140011 A003140012
			Special Request	9212-W-2-BSTM 9215-STACK 11

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75. Storm Water Data Above Screening Levels for FY2000

Location(Outfall)002						
Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	4/24/00 10:20:00 AM	3200.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Total Suspended Solids	4/24/00 10:20:00 AM	60.4	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Zinc	4/24/00 10:20:00 AM	.183	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall) 009						
Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Beta activity	3/16/00 4:20:00 PM	360.	pCi/L	50	pCi/L	SDWA MCL 40 CFR 141.15
Fecal Coliform Bacteria	3/16/00 12:30:00 PM	60000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Mercury	3/16/00 12:30:00 PM	.00048	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation

Location(Outfall) 016						
Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Mercury	5/23/00 7:00:00 AM	.00052	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Mercury	5/23/00 10:10:00 AM	.00081	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Phosphorus	5/23/00 10:10:00 AM	.105	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	5/23/00 7:00:00 AM	.816	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	5/23/00 10:10:00 AM	.582	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)017

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Nitrate as Nitrogen	12/13/99 8:10:00 AM	12.9	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrate as Nitrogen	12/13/99 2:57:00 PM	12.9	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23

Location (Outfall)021

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	3/27/00 6:50:00 AM	3900.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	3/27/00 2:47:00 PM	.124	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	3/27/00 6:50:00 AM	.124	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)047

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Copper	5/23/00 10:45:00 AM	.0294	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Copper	5/23/00 7:00:00 AM	.0429	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Fecal Coliform Bacteria	5/23/00 7:00:00 AM	4700.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Mercury	5/23/00 7:00:00 AM	.00079	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Mercury	5/23/00 10:45:00 AM	.00028	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Phosphorus	5/23/00 10:45:00 AM	.128	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)047

Zinc	5/23/00 7:00:00 AM	.247	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	5/23/00 10:45:00 AM	.171	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)054

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Copper	3/27/00 2:40:00 PM	.082	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Copper	3/27/00 7:20:00 AM	.0568	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)064

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Copper	6/28/00 12:45:00 PM	.0223	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Fecal Coliform Bacteria	7/19/00 9:35:00 AM	15000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Mercury	7/19/00 9:35:00 AM	.00034	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Mercury	6/28/00 12:45:00 PM	.0008	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Zinc	7/19/00 1:05:00 PM	.142	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	7/19/00 9:35:00 AM	.238	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)064

Zinc	6/28/00 12:45:00 PM	.348	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
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Location (Outfall)087

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Copper	8/27/00 4:00:00 PM	.167	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Copper	8/27/00 8:50:00 AM	.0296	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Fecal Coliform Bacteria	8/27/00 8:50:00 AM	83000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Nitrate as Nitrogen	8/27/00 4:00:00 PM	18.8	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrite as Nitrogen	8/27/00 4:00:00 PM	36.3	mg/L	1	mg/L	SDWA MCL 40 CFR 141.23
Phosphorus	8/27/00 4:00:00 PM	4.91	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Phosphorus	8/27/00 8:50:00 AM	.598	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	8/27/00 8:50:00 AM	.171	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	8/27/00 4:00:00 PM	1.09	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)102

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Zinc	12/5/99 5:10:00 PM	.19	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)109

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	3/27/00 7:05:00 AM	1700.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	3/27/00 2:35:00 PM	.564	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	3/27/00 2:35:00 PM	.134	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	3/27/00 7:05:00 AM	.139	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)114

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Copper	8/27/00 8:15:00 AM	.181	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Fecal Coliform Bacteria	6/28/00 12:50:00 PM	1730.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Fecal Coliform Bacteria	7/19/00 9:41:00 AM	11000.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Magnesium	8/27/00 8:15:00 AM	59.	mg/L	58.3	mg/L	10 times monitoring history maximum at OF 503
Mercury	7/19/00 9:41:00 AM	.00031	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Nitrate as Nitrogen	8/27/00 8:15:00 AM	18.8	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrite as Nitrogen	8/27/00 8:15:00 AM	38.2	mg/L	1	mg/L	SDWA MCL 40 CFR 141.23

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)114

Phosphorus	8/27/00 8:15:00 AM	5.43	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	7/19/00 9:41:00 AM	.145	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	8/27/00 8:15:00 AM	1.2	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)134

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	5/24/00 8:00:00 AM	86.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Fecal Coliform Bacteria	5/24/00 8:00:00 AM	5200.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	5/24/00 8:00:00 AM	.103	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

Location (Outfall)135

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	3/10/00 8:45:00 PM	20.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Copper	3/10/00 8:45:00 PM	.103	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Copper	3/10/00 5:35:00 PM	.0215	mg/L	0.0177	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Mercury	3/10/00 8:45:00 PM	.00039	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Phosphorus	3/10/00 8:45:00 PM	.52	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)135

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Total Suspended Solids	3/10/00 8:45:00 PM	196.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Zinc	3/10/00 5:35:00 PM	.545	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	3/10/00 8:45:00 PM	.985	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)200

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	5/23/00 7:15:00 AM	4400.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Mercury	5/23/00 10:15:00 AM	.00053	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Mercury	5/23/00 7:15:00 AM	.00054	mg/L	0.000051	mg/L	TN Water Quality Criteria/Recreation
Phosphorus	5/23/00 10:15:00 AM	.273	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Zinc	5/23/00 10:15:00 AM	.128	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life
Zinc	5/23/00 7:15:00 AM	.223	mg/L	0.117	mg/L	TN Water Quality Criteria/Fish and Aquatic Life

Location (Outfall)S02

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	3/29/00 10:09:00 PM	160.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Alpha activity	3/30/00 12:46:00 AM	160.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Beta activity	3/29/00 10:09:00 PM	76.	pCi/L	50	pCi/L	SDWA MCL 40 CFR 141.15
Beta activity	3/30/00 12:46:00 AM	52.	pCi/L	50	pCi/L	SDWA MCL 40 CFR 141.15

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)S02

Uranium-234	3/29/00 10:09:00 PM	67.	pCi/L	25	pCi/L	5% Derived Concentration Guideline
Uranium-234	3/30/00 12:46:00 AM	80.	pCi/L	25	pCi/L	5% Derived Concentration Guideline
Uranium-238	3/29/00 10:09:00 PM	160.	pCi/L	30	pCi/L	5% Derived Concentration Guideline
Uranium-238	3/30/00 12:46:00 AM	160.	pCi/L	30	pCi/L	5% Derived Concentration Guideline

Location (Outfall)S04

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	4/24/00 10:35:00 AM	5400.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	4/24/00 2:41:00 PM	.105	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

Location (Outfall)S07

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Nitrate as Nitrogen	3/29/00 10:26:00 PM	13.8	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23
Nitrate as Nitrogen	3/30/00 12:50:00 AM	14.8	mg/L	10	mg/L	SDWA MCL 40 CFR 141.23

Location (Outfall)S08

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	5/24/00 7:30:00 AM	380.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Beta activity	5/24/00 7:30:00 AM	180.	pCi/L	50	pCi/L	SDWA MCL 40 CFR 141.15

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)S08

Uranium-234	5/24/00 7:30:00 AM	140.	pCi/L	25	pCi/L	5% Derived Concentration Guideline
Uranium-238	5/24/00 7:30:00 AM	280.	pCi/L	30	pCi/L	5% Derived Concentration Guideline

Location (Outfall)S10

Total Suspended Solids	4/24/00 5:40:00 PM	198.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
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Location (Outfall)S14

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	3/10/00 5:15:00 PM	140.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Beta activity	3/10/00 5:15:00 PM	62.	pCi/L	50	pCi/L	SDWA MCL 40 CFR 141.15
PCB	3/10/00 5:15:00 PM	.00055	mg/L	0.00044	ug/L	TN Water Quality Criteria/Recreation
Total Suspended Solids	3/10/00 5:15:00 PM	62.4	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Total Suspended Solids	3/10/00 5:15:00 PM	106.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Uranium-238	3/10/00 5:15:00 PM	130.	pCi/L	30	pCi/L	5% Derived Concentration Guideline

Location (Outfall)S17

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	3/10/00 5:15:00 PM	4200.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	3/10/00 8:15:00 PM	.66	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

Location (Outfall)S17

Phosphorus	3/10/00 5:15:00 PM	.546	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Radium-228	3/10/00 8:15:00 PM	5.9	pCi/L	5	pCi/L	5% Derived Concentration Guideline
Thorium-230	3/10/00 8:15:00 PM	16.	pCi/L	15	pCi/L	5% Derived Concentration Guideline
Total Suspended Solids	3/10/00 8:15:00 PM	243.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433
Total Suspended Solids	3/10/00 5:15:00 PM	172.	mg/L	60	mg/L	Effluent Guideline 40 CFR 433

Location (Outfall)S24

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Alpha activity	3/19/00 8:00:00 PM	82.	pCi/L	15	pCi/L	SDWA MCL 40 CFR 141.15
Phosphorus	3/19/00 8:00:00 PM	.508	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline
Uranium-234	3/19/00 8:00:00 PM	28.	pCi/L	25	pCi/L	5% Derived Concentration Guideline
Uranium-238	3/19/00 8:00:00 PM	63.	pCi/L	30	pCi/L	5% Derived Concentration Guideline

Location (Outfall)S26

Parameter	Taken Date	Result	Result Units	Screening Level	Units	Rationale
Fecal Coliform Bacteria	11/2/99 2:30:00 PM	5700.	col/100ml	1000	col/100mL	TN Water Quality Criteria/Recreation
Phosphorus	11/2/99 2:30:00 PM	.814	mg/L	0.1	mg/L	EPA Ambient Water Quality Criteria Guideline

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.75 (continued)

		Location (Outfall)S26				
Titanium	11/2/99 2:30:00 PM	.582	mg/L	0.3	mg/L	10 times monitoring history maximum at OF 501 Effluent Guideline 40 CFR 433
Total Suspended Solids	11/2/99 2:30:00 PM	90.8	mg/L	60	mg/L	

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.76. 2000 Groundwater Footnote Definitions

Footnote Definitions (Bear Creek Regime)

- ^a Regulatory guide for assessing compliance without further analysis.
- ^b See *cis*-Dichloroethene and *trans*-Dichloroethene.
- ^c Action level, which is applicable to community water systems and non-transient, non-community water systems.
- ^d EPA has deleted the MCL for nickel from the *Code of Federal Regulations*. The state of Tennessee retains a nickel MCL of 0.1 mg/L in its currently effective drinking water regulations.
- ^f Excludes radon and naturally occurring uranium.
- ^g Applies to combined ²²⁶Ra and ²²⁸Ra.
- ^h Minimum of uranium isotopes

Footnote Definitions (Chestnut Ridge Regime)

- ^a Regulatory guide for assessing compliance without further analysis.
- ^c Action level, which is applicable to community water systems and non-transient, non-community water systems.
- ^f Excludes radon and naturally occurring uranium.

Footnote Definitions (East Fork Regime)

- ^a Regulatory guide for assessing compliance without further analysis.
- ^b See *cis*-Dichloroethene and *trans*-Dichloroethene.
- ^c Action level, which is applicable to community water systems and non-transient, non-community water systems.
- ^d EPA has deleted the MCL for nickel from the *Code of Federal Regulations*. The state of Tennessee retains a nickel MCL of 0.1 mg/L in its currently effective drinking water regulations.
- ^f Excludes radon and naturally occurring uranium.
- ⁱ Limit for total trihalomethanes (bromodichloromethane + bromoform + chloroform + dibromochloromethane).

Footnote Definitions (Pine Ridge Regime)

- ^a Regulatory guide for assessing compliance without further analysis.
- ^c Action level, which is applicable to community water systems and non-transient, non-community water systems.
- ^f Excludes radon and naturally occurring uranium.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 2.77. 2000 Groundwater Qualifier Definitions

Qualifier Definitions (Bear Creek Regime)

- k - Sample concentration is greater than 4 times the spike level for this sample batch
- v - Not a recommended analyte by the analysis method used
- w - Not a recommended analyte by the preparation method used
- z - Analyte reported, but not required or requested; use for qualitative purposes only
- D - Compounds identified in an analysis at a secondary dilution factor
- J - Indicates an estimated value (VOA)
- J - Chemical tracer recovery is less than 50% or exceeds 125% (RAD)
- L - Sample received by ACD with expired holding time

Qualifier Definitions (Chestnut Ridge Regime)

- w - Not a recommended analyte by the preparation method used
- L - Sample received by ACD with expired holding time

Qualifier Definitions (East Fork Regime)

- k - Sample concentration is greater than 4 times the spike level for this sample batch
- v - Not a recommended analyte by the analysis method used
- w - Not a recommended analyte by the preparation method used
- D - Compounds identified in an analysis at a secondary dilution factor
- J - Indicates an estimated value (VOA)
- J - Chemical tracer recovery is less than 50% or exceeds 125% (RAD)
- L - Sample received by ACD with expired holding time

Qualifier Definitions (Pine Ridge Regime)

- w - Not a recommended analyte by the preparation method used
- L - Sample received by ACD with expired holding time

Qualifier Definitions (Special Request Group)

- w - Not a recommended analyte by the preparation method used
- J - Indicates an estimated value (VOA)
- J - Chemical tracer recovery is less than 50% or exceeds 125% (RAD)
- L - Sample received by ACD with expired holding time

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 3.1. Major sources of radiological airborne emissions at ORNL, 2000 (in curies)^a

Isotope	Stack				
	2026	3020	3039	7503 ^b	7911
²⁴¹ Am	1.14E-07	1.74E-07	3.80E-07	3.60E-09	2.01E-08
⁴¹ Ar					3.62E+03
¹³⁹ Ba					1.15E+00
¹⁴⁰ Ba					2.00E-04
⁷ Be	5.55E-07	7.56E-07	2.41E-05	4.99E-07	1.93E-06
²⁵² Cf					8.18E-09
²⁴⁴ Cm	1.26E-06	5.61E-09	3.45E-07	2.50E-10	1.06E-07
⁶⁰ Co			7.47E-04		
¹³⁷ Cs	4.27E-06	1.29E-06	1.89E-04	3.55E-06	6.31E-06
¹³⁸ Cs	3.97E-01				2.35E+03
¹⁵² Eu			6.92E-06		
³ H	1.53E-01		1.17E+01	8.54E+00	8.48E+01
¹³⁰ I					1.15E-05
¹³¹ I			2.17E-04		7.47E-02
¹³² I					6.19E-01
¹³³ I					4.57E-01
¹³⁴ I					5.68E-02
¹³⁵ I					1.25E+00
⁸⁵ Kr					2.83E+02
^{85m} Kr					6.72E+00
⁸⁷ Kr					1.05E+01
⁸⁸ Kr					3.96E+01
⁸⁹ Kr					1.50E+01
¹⁴⁰ La					7.49E-04
¹⁹¹ Os	8.70E-06		3.59E+00		
²¹² Pb	1.58E-01		1.56E+00	2.14E-01	1.65E-01
²³⁸ Pu	4.15E-08	1.34E-08	5.75E-08	4.24E-11	2.06E-09
²³⁹ Pu	1.44E-07	1.74E-07	1.04E-06	8.84E-10	4.39E-09
⁷⁵ Se			5.99E-03		4.69E-06
²²⁸ Th	1.75E-08	1.19E-09	9.91E-09	2.86E-09	3.24E-09
²³⁰ Th	2.74E-09	3.09E-09	8.11E-09	9.95E-10	5.82E-09
²³² Th	1.42E-09	2.57E-09	6.76E-09	8.03E-10	5.72E-09
Total Sr	5.73E-07	9.20E-07	5.75E-05	3.87E-08	2.10E-05
²³⁴ U	1.51E-07	7.13E-08	5.28E-07	4.06E-09	2.95E-08
²³⁵ U	2.35E-09	1.01E-09	2.29E-08	3.47E-10	1.45E-09
²³⁸ U	4.16E-09	1.05E-08	3.98E-08	1.80E-09	2.15E-08
¹³¹ Xe					1.73E+01
¹³³ Xe					9.80E+01
^{133m} Xe					2.21E+00
¹³⁵ Xe			1.29E-05		1.07E+02
^{135m} Xe					3.96E+01
¹³⁷ Xe					1.32E+02
¹³⁸ Xe					3.41E+02

^a1 Ci = 3.7E+10 Bq.

^bFormerly 7512.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 3.2. Constituents in Waste Area Grouping (WAG) 1 groundwater at ORNL,
June 30 - July 5, 2000

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)	4/4	0.97	0.59	0.80	b	[b]
Dissolved oxygen (mg/L)	4/4	3.1	0.57	1.5	b	[b]
Redox (mV)	4/4	290	110	170	b	[b]
Temperature (CE)	4/4	19	18	19	30.5	0[1]
Turbidity (JTU)	4/4	13	3.0	8.3	1	4[2]
pH (SU)	4/4	8.5	6.8	7.3	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L) ^c						
Gross alpha	1/4	3.2	-0.52	1.6	15	0[2]
Gross beta	1/4	44	2.4	24*	50	0[2]
H-3	2/4	3,400*	280	1,300	20,000	0[2]
Total rad Sr	1/4	8.7*	0.55	3.4	8	1[2]

^aIf 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.

^bNot applicable.

^cIndividual and average radionuclide concentrations statistically greater than zero are identified by an *.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 3.3. Constituents in Waste Area Grouping (WAG) 2 groundwater at ORNL, May 17 - June 14, 2000

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	0.67	0.18	0.47	d	[d]
Dissolved oxygen (mg/L)	8/8	4.0	0.40	1.3	d	[d]
Redox (mV)	8/8	300	130	210	d	[d]
Temperature (CE)	8/8	19	15	17	30.5	0[1]
Turbidity (JTU)	8/8	26	0	7.5	1	6[2]
pH (SU)	8/8	9.4	6.3	7.4	(6.0, 9.0)	1[1]
Metals, unfiltered (mg/L)						
Arsenic, total	2/4	0.0068	<0.0010	~0.0028	0.05	0[1]
Barium, total	4/4	1.1	0.15	0.39	2	0[1]
Calcium, total	4/4	140	52	93	d	[d]
Chromium, total	1/4	0.45	<0.020	~0.13	0.1	1[1]
Iron, total	4/4	8.4	0.43	3.6	0.3	4[3]
Lead, total	4/4	0.0022	0.00020	0.00082	0.005	0[1]
Magnesium, total	4/4	20	4.2	13	d	[d]
Manganese, total	4/4	0.30	0.033	0.14	0.05	2[3]
Nickel, total	1/4	0.055	<0.050	~0.051	0.1	0[1]
Potassium, total	2/4	3.9	<2.0	~2.6	d	[d]
Sodium, total	4/4	13	12	12	d	[d]
Radionuclides, unfiltered (pCi/L) ^e						
Gross alpha	5/8	17*	0	5.4*	15	1[2]
Gross beta	3/8	500*	0.98	67	50	1[2]
H-3	5/8	130,000*	83	32,000	20,000	3[2]
Total rad Sr	1/8	240*	0.013	31	8	1[2]
Total uranium	3/4	2.4*	0.063	1.4*	20	0[4]
U-234	3/4	1.6*	-0.019	1.1*	20	0[4]
U-238	2/4	0.74*	0.032	0.28	24	0[4]
Upgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	12/12	0.65	0.23	0.46	d	[d]
Dissolved oxygen (mg/L)	12/12	4.0	0.87	2.3	d	[d]
Redox (mV)	12/12	300	27	220	d	[d]
Temperature (CE)	12/12	19	14	16	30.5	0[1]
Turbidity (JTU)	12/12	14	0	4.3	1	8[2]
pH (SU)	12/12	9.2	6.5	7.4	(6.0, 9.0)	1[1]
Radionuclides, unfiltered (pCi/L) ^e						
Co-60	1/12	36*	-0.36	3.9	200	0[4]
Gross alpha	6/12	6.0*	-0.24	2.8*	15	0[2]
Gross beta	4/12	310*	-0.81	31	50	1[2]
H-3	6/12	460,000*	110	40,000	20,000	1[2]
Total uranium	3/5	7.0*	0.28	2.0	20	0[4]
U-233/234	1/1	6.8*	6.8*	6.8	d	[d]
U-234	3/4	0.67*	0.15	0.36*	20	0[4]
U-235	1/5	0.078*	-0.013	0.019	24	0[4]
U-238	1/5	0.20*	0.036	0.14*	24	0[4]

^aPrefix "<" indicates the value for a parameter (excluding organics) was not quantifiable at the analytical detection limit.

^bA tilde (~) indicates that estimated and/or undetected values were used in the calculation.

^cIf 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.

^dNot applicable.

^eIndividual and average radionuclide concentrations statistically greater than zero are identified by an *.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 3.4. Constituents in Waste Area Groupings (WAGs) 8&9 groundwater at ORNL,
April 27 - May 12, 2000

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	0.74	0.21	0.40	b	[b]
Dissolved oxygen (mg/L)	9/9	4.9	1.5	2.7	b	[b]
Redox (mV)	9/9	310	160	260	b	[b]
Temperature (CE)	9/9	18	13	16	30.5	0[1]
Turbidity (JTU)	9/9	44	0	6.9	1	4[2]
pH (SU)	9/9	9.7	6.3	7.4	(6.0, 9.0)	1[1]
Radionuclides, unfiltered (pCi/L) ^c						
Gross alpha	5/9	4.4*	-0.58	2.0*	15	0[2]
Gross beta	4/9	4,000*	1.9	660	50	3[2]
H-3	1/9	49,000*	-520	5,700	20,000	1[2]
Total rad Sr	4/9	1,900*	-0.46	310	8	4[2]
Upgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	2/2	0.31	0.082	0.20	b	[b]
Dissolved oxygen (mg/L)	2/2	3.4	1.9	2.7	b	[b]
Redox (mV)	2/2	390	240	310	b	[b]
Temperature (CE)	2/2	15	15	15	30.5	0[1]
Turbidity (JTU)	2/2	10	0	5.0	1	1[2]
pH (SU)	2/2	8.2	5.6	6.9	(6.0, 9.0)	1[1]

^aIf 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.

^bNot applicable.

^cIndividual and average radionuclide concentrations statistically greater than zero are identified by an *.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 3.5. Constituents in Waste Area Grouping (WAG) 17 groundwater at ORNL,
June 20-23, 2000

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	0.60	0.25	0.47	d	[d]
Dissolved oxygen (mg/L)	4/4	1.9	1.0	1.4	d	[d]
Redox (mV)	3/3	200	170	190	d	[d]
Temperature (CE)	4/4	22	17	19	30.5	0[1]
Turbidity (JTU)	4/4	12	2.0	5.0	1	4[2]
pH (SU)	4/4	7.3	6.7	7.0	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L) ^e						
Gross alpha	3/4	5.3*	2.2	4.0*	15	0[2]
Gross beta	1/4	14*	2.4	6.0	50	0[2]
H-3	2/4	3,200*	-96	1,200	20,000	0[2]
Total uranium	2/3	2.8	1.4*	1.9*	20	0[4]
U-234	3/3	1.4*	0.85*	1.2*	20	0[4]
U-238	1/3	0.13*	-0.070	0.027	24	0[4]
Volatile organics, unfiltered (Fg/L)						
1,1-Dichloroethene	1/4	21	U5.0	~9.0	7	1[1]
Benzene	1/4	11	U5.0	~6.5	5	1[1]
Chloroform	1/4	U5.0	J4.0	~4.8	100	0[2]
Tetrachloroethene	1/4	19	U5.0	~8.5	5	1[1]
Trichloroethene	2/4	D13,000	U5.0	~3,300	5	2[1]
Vinyl chloride	1/4	79	U5.0	~24	2	4[1]
cis-1,2-Dichloroethene	2/4	D3,000	U5.0	~760	d	[d]
trans-1,2-Dichloroethene	1/4	20	U5.0	~8.8	d	[d]
Upgradient Wells						
Field measurements, unfiltered						
Conductivity (mS/cm)	4/4	0.53	0.36	0.47	d	[d]
Dissolved oxygen (mg/L)	4/4	3.6	0.34	1.7	d	[d]
Redox (mV)	4/4	340	110	250	d	[d]
Temperature (CE)	4/4	21	16	17	30.5	0[1]
Turbidity (JTU)	4/4	8.0	0	3.3	1	3[2]
pH (SU)	4/4	7.4	6.7	7.1	(6.0, 9.0)	0[1]
Radionuclides, unfiltered (pCi/L) ^e						
Gross alpha	2/4	2.9*	1.1	2.1*	15	0[2]
H-3	3/4	3,700*	750	2,100*	20,000	0[2]

^aPrefix "J" indicates the value was estimated at or below the analytical detection limit by the laboratory and "U" indicates the value for an organic parameter was undetected at the analytical detection limit.

^bA tilde (~) indicates that estimated and/or undetected values were used in the calculation.

^cIf 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.

^dNot applicable.

^eIndividual and average radionuclide concentrations statistically greater than zero are identified by an *.

ENVIRONMENTAL MONITORING ON THE OAK RIDGE RESERVATION: 2000 RESULTS

Table 4.1. ORNL Plant Perimeter Monitoring summary statistics from 2000 sampling events

Parameter	N det/ N total	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	0.72	0.030	0.37	d	[d]
Dissolved oxygen (ppm)	11/11	7.9	0.40	3.7	d	[d]
Temperature (EC)	11/11	23	16	18	30.5	0[2]
pH (SU)	11/11	9.3	4.5	7.0	(6.0, 9.0)	4[2]
Metals (mg/L) -- Unfiltered						
Aluminum	2/10	1.1	< 0.20	~ 0.33	(0.05, 0.20)	2[4]
Arsenic	3/10	0.0068	< 0.0010	~ 0.0018	0.05	0[2]
Barium	10/10	1.1	0.018	0.22	2	0[2]
Boron	2/10	0.64	< 0.10	~ 0.17	d	[d]
Calcium	10/10	140	0.44	44	d	[d]
Chromium	1/10	0.45	< 0.020	~ 0.063	0.1	1[2]
Iron	8/10	8.4	< 0.050	~ 1.5	0.3	5[4]
Lead	10/10	0.0050	< 0.0020	0.0011	0.005	1[2]
Lithium	2/6	0.038	< 0.010	~ 0.019	d	[d]
Magnesium	10/10	20	0.29	6.6	d	[d]
Manganese	6/10	0.30	< 0.0050	~ 0.062	0.05	2[4]
Nickel	1/10	0.055	< 0.050	~ 0.051	0.1	0[2]
Potassium	4/10	3.9	< 2.0	~ 2.4	d	[d]
Sodium	10/10	210	1.1	34	d	[d]
Strontium	5/6	0.18	< 0.0050	~ 0.080	d	[d]
Sulfur	4/6	12	< 0.50	~ 3.3	d	[d]
Radionuclides (pCi/L) -- Filtered ^e						
Cs-137	1/1	11*	11*	11	120	0[1]
Gross alpha	1/1	7.6*	7.6*	7.6	15	0[3]
Gross beta	1/1	230*	230*	230	50	1[3]
H-3	1/1	84,000*	84,000*	84,000	80,000	1[1]
Total rad Sr	1/1	74*	74*	74	40	1[1]
Total uranium	1/1	5.6*	5.6*	5.6	d	[d]
U-233/234	1/1	5.2*	5.2*	5.2	d	[d]
U-235	1/1	0*	0*	0	24	0[1]
U-238	1/1	0.40*	0.40*	0.40	24	0[1]
Radionuclides (pCi/L) -- Unfiltered ^e						
Co-60	1/11	3.6*	-2.8	0.077	200	0[1]
Cs-137	2/11	18*	-0.91	1.9	120	0[1]
Gross alpha	9/11	8.4*	0.22	4.2*	15	0[3]
Gross beta	8/11	500*	0.20	64	50	2[3]
H-3	8/11	86,000*	-180	20,000*	80,000	1[1]
Total rad Sr	5/11	240*	-0.39	30	40	2[1]
Total uranium	4/5	5.7*	0.024	2.1*	d	[d]
U-233/234	1/1	5.2*	5.2*	5.2	d	[d]
U-234	3/4	1.5*	0.024	1.0*	20	0[1]
U-235	2/5	0.13*	0*	0.042	24	0[1]
U-236	1/2	0.027	0*	0.014	20	0[1]
U-238	3/5	0.33*	-0.017	0.17*	24	0[1]

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Table 4.1 (continued)

Parameter	N det/ N total	Max ^a	Min ^a	Av ^b	Reference value	Number of values exceeding reference [ref] ^c
Volatile Organics (ug/L) -- Unfiltered						
2-Butanone	1/11	J 5.0	U 5.0	~ 5.0	d	[d]

^aPrefix "<" 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; and "U" indicates the value for an organic parameter was undetected at the analytical detection limit.

^bA tilde (~) indicates that estimated and/or undetected values were used in the calculation.

^cIf 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.

^dNot applicable.

^eIndividual and average radionuclide concentrations statistically greater than zero are identified by an *.

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Table 4.2. 2000 tissue concentrations in Sunfish^a

Parameter	N det/ N total	Max ^b	Min ^b	Av ^c	Standard error ^d
Clinch River downstream from all DOE inputs (CRK 16)					
Metals (mg/kg wet wt)					
Mercury, total	6/6	0.26	0.052	0.12	0.033
Zinc, total	6/6	13	10	12	0.47
Pesticides (Fg/kg wet wt)					
4,4'-DDE	3/3	JP6.6	JP4.0	~5.6	0.82
4,4'-DDE	5/6	U12	JP4.0	~7.2	1.1
Methoxychlor	1/6	U62	J28	~50	4.7
Radionuclides (pCi/g ash wt) ^e					
Gross beta	2/2	190*	180*	180*	2.5
K-40	2/2	190*	180*	190*	5.0
Radionuclides (pCi/g wet wt) ^e					
Gross beta	2/2	3.0*	2.9*	2.9*	0.040
H-3	2/6	6.3*	0.13	3.1*	1.1
K-40	2/2	3.0*	2.9*	3.0*	0.080
Clinch River downstream from ORNL (CRK 32)					
Metals (mg/kg wet wt)					
Chromium, total	2/6	0.60	<0.38	~0.48	0.031
Copper, total	3/6	<0.48	<0.38	~0.45	0.015
Mercury, total	6/6	0.031	0.015	0.024	0.0021
Zinc, total	6/6	21	7.0	13	2.2
Pesticides (Fg/kg wet wt)					
Dieldrin	1/6	U9.2	J4.4	~7.9	0.72
Methoxychlor	2/6	U52	JB6.8	~33	7.8
Radionuclides (pCi/g ash wt) ^e					
Co-60	1/2	1.2*	0.28	0.76	0.48
Cs-137	2/2	1.9*	0.97*	1.4	0.45
Gross beta	2/2	210*	180*	190*	18
K-40	2/2	220*	180*	200*	21
Total rad Sr	1/2	1.9*	1.5	1.7*	0.22
Radionuclides (pCi/g wet wt) ^e					
Co-60	1/2	0.018*	0.0042	0.011	0.0071
Cs-137	2/2	0.028*	0.015*	0.021	0.0068
Gross beta	2/2	3.2*	2.6*	2.9*	0.26
H-3	2/6	5.3*	1.2	3.5*	0.59
K-40	2/2	3.3*	2.7*	3.0*	0.31
Total rad Sr	1/2	0.029*	0.022	0.025*	0.0032
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)					
Metals (mg/kg wet wt)					
Mercury, total	5/6	0.033	<0.0090	~0.020	0.0034
Zinc, total	6/6	18	11	14	0.98
Pesticides (Fg/kg wet wt)					
Methoxychlor	2/6	U54	JB5.5	~36	8.9

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Table 4.2 (continued)

Parameter	N det/ N total	Max ^b	Min ^b	Av ^c	Standard error ^d
Radionuclides (pCi/g ash wt) ^e					
Co-60	1/2	0.98*	-0.042	0.47	0.51
Gross beta	2/2	170*	160*	170*	6.5
K-40	2/2	160*	150*	150*	5.0
Radionuclides (pCi/g wet wt) ^e					
Co-60	1/2	0.016*	-0.00068	0.0075	0.0082
Gross beta	2/2	2.8*	2.6*	2.7*	0.10
H-3	2/6	13*	0.29	4.5*	2.0
K-40	2/2	2.5*	2.4*	2.5*	0.080

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

^bPrefix "<" indicates the value for a parameter (excluding organics) was not quantifiable at the analytical detection limit; Prefix "P" indicates that the results obtained on the two analytical columns differed by greater than 50%. Probably due to interference, and the compound is probably not present in the fish. "J" indicates the value was estimated at or below the analytical detection limit by the laboratory; and "U" indicates the value for an organic parameter was undetected at the analytical detection limit.

^cIndividual radionuclide concentrations statistically greater than zero are identified by an *.

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Table 4.3. 2000 tissue concentrations in Catfish^a

Parameter	Concentration ^b
Clinch River downstream from all DOE inputs (CRK 16)	
Metals (mg/kg wet wt)	
Copper, total	0.54
Mercury, total	0.050
Zinc, total	6.2
Pesticides (Fg/kg wet wt)	
4,4'-DDE	J26
Alpha-Chlordane	JP20
Gamma-Chlordane	J10
PCBs (Fg/kg wet wt)	
Aroclor-1254	410
Aroclor-1260	150
Radionuclides (pCi/g ash wt) ^c	
Cs-137	3.5*
Gross alpha	5.1*
Gross beta	240*
K-40	270*
Radionuclides (pCi/g wet wt) ^c	
Cs-137	0.036*
Gross alpha	0.053*
Gross beta	2.5*
K-40	2.8*
Clinch River downstream from ORNL (CRK 32)	
Metals (mg/kg wet wt)	
Copper, total	0.50
Mercury, total	0.087
Zinc, total	5.8
Pesticides (Fg/kg wet wt)	
4,4'-DDE	J16
Alpha-Chlordane	J17
Dieldrin	JP11
PCBs (Fg/kg wet wt)	
Aroclor-1254	170
Aroclor-1260	210
Radionuclides (pCi/g ash wt) ^c	
Cs-137	3.2*
Gross alpha	22*
Gross beta	260*
K-40	310*
Radionuclides (pCi/g wet wt) ^c	
Cs-137	0.030*
Gross alpha	0.21*
Gross beta	2.5*
K-40	3.0*

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Table 4.3 (continued)

Parameter	Concentration ^b
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)	
Metals (mg/kg wet wt)	
Chromium, total	0.41
Copper, total	0.65
Mercury, total	0.087
Zinc, total	12
Pesticides (Fg/kg wet wt)	
4,4'-DDE	JP35
Alpha-Chlordane	J14
PCBs (Fg/kg wet wt)	
Aroclor-1254	190
Aroclor-1260	420
Radionuclides (pCi/g ash wt) ^c	
Co-60	1.1*
Gross beta	270*
K-40	270*
Radionuclides (pCi/g wet wt) ^c	
Co-60	0.012*
Gross beta	2.8*
K-40	2.8*

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

^bPrefix "P" indicates that the results obtained on the two analytical columns differed by greater than 50%. Probably due to interference, and the compound is probably not present in the fish. "J" indicates the value was estimated at or below the analytical detection limit by the laboratory

^cIndividual radionuclide concentrations statistically greater than zero are identified by an *.

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Table 4.4. 2000 concentrations at EMP sediment locations^a

Parameter	Concentration ^b
Clinch River downstream from all DOE inputs (CRK 16)	
Radionuclides (pCi/g) ^c	
Be-7	1.8*
Cs-137	0.81*
K-40	6.7*
Clinch River downstream from ORNL (CRK 32)	
Radionuclides (pCi/g) ^c	
Be-7	1.6*
Cs-137	3.3*
K-40	12
Clinch River (Solway Bridge) upstream from all DOE inputs (CRK 70)	
Radionuclides (pCi/g) ^c	
K-40	5.8*

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

^bPrefix "J" indicates the value was estimated at or below the analytical detection limit by the laboratory.

^cIndividual radionuclide concentrations statistically greater than zero are identified by an *.

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Table 4.5. Radiological constituents in settleable solids sites near the ORR, 2000^a

Event	Co-60	Cs-137	Gross alpha	Gross beta
Melton Branch upstream from ORNL (MEK 2.1)				
April	b	b	25,000	120,000
May	b	b	8,300	21,000
White Oak Lake at White Oak Dam (WCK 1.0)				
April	b	520,000	25,000	720,000
May	b	730,000	24,000	970,000
White Oak Creek downstream from ORNL (WCK 2.6)				
April	b	760,000	31,000	1,100,000
May	890	32,000	9,500	50,000

^aAll data are given in picocuries per kilogram (1 pCi = 3.7E-02 Bq).

^bNo statistically significant result.