

## 4. GROUNDWATER

This section summarizes analytical results for routine groundwater monitoring at PORTS in 2008 at the following locations:

- X-749/X-120/Peter Kiewit (PK) Landfill
- Quadrant I Groundwater Investigative Area/X-749A Classified Materials Disposal Facility
- Quadrant II Groundwater Investigative Area
- X-701B Holding Pond
- X-633 Pumphouse/Cooling Towers Area
- X-616 Chromium Sludge Surface Impoundments
- X-740 Waste Oil Handling Facility
- X-611A Former Lime Sludge Lagoons
- X-735 Landfills
- X-734 Landfills
- X-533 Switchyard Area
- Surface water monitoring locations

Results for radiological parameters and VOCs are reported in this section. Only those VOCs that were detected in at least one sampling event are listed in this section. All results are included for radiological parameters, even if a specific constituent was not detected at a specific well or location during any sampling event in 2008. Samples collected in 2008 at the Quadrant II Groundwater Investigative Area and X-740 Waste Oil Handling Facility were not analyzed for radionuclides.

Results for chromium at the X-616 Chromium Sludge Surface Impoundments are also included in this section because chromium is a primary contaminant in this area. Results are provided for metals at the X-633 Pumphouse/Cooling Towers Area, X-611A Former Lime Sludge Lagoons, and X-533 Switchyard Area because these metals are the only analytical parameters for these areas.

Results for exit pathway monitoring locations sampled during 2008 are included in the tables for their respective monitoring areas as follows:

- Tables 4.1 and 4.2. VOCs and radionuclides detected at the X-749/X-120/PK Landfill wells X749-44G, X749-45G, X749-64B, X749-68G, X749-96G, X749-97G, and X749-98G
- Tables 4.6 and 4.7. VOCs and radionuclides detected at the X-701B Holding Pond well X701-48G
- Tables 4.19 and 4.20. VOCs and radionuclides detected at surface water monitoring locations BRC-SW02, LBC-SW04, UND-SW02, and WDD-SW03

Throughout 2008, the laboratory that analyzed groundwater samples reported concentrations of VOCs detected above the laboratory's detection limit but below laboratory's confident reporting limit (also called the practical quantitation limit). These detections are reported by the laboratory with an "estimated" qualifier (J) to indicate that there is uncertainty, or error, associated with the measurement. These results are considered detections because by definition, the analytes are present in the sample; however, these estimated detections are usually at least an order of magnitude below the preliminary remediation goal for the constituent.

Two VOCs, acetone and methylene chloride, were frequently detected in both environmental and blank samples (field and trip blanks) collected in 2008. Acetone and methylene chloride are common laboratory contaminants that are not typically detected in the PORTS groundwater plumes. Detections of acetone and methylene chloride are often qualified by the laboratory with a “B”, which indicates that the analyte was also detected in the laboratory blank associated with the environmental sample and may be present due to laboratory contamination.

Other VOCs, including trichloroethene, 2-butanone (methyl ethyl ketone), carbon disulfide, tetrachloroethene, chloroform, and toluene were detected in trip and/or field blanks during 2008. These detections indicate that samples (both environmental samples and blank samples) may become contaminated with low concentrations of VOCs during other portions of the sampling process, although contamination can still occur in the laboratory. Other sources of contamination may include storage areas for sampling equipment (such as bottles and blank water), areas in which samples are collected or prepared, sample containers, and storage areas after samples are collected (such as refrigerators or sample shipping containers).

The primary purpose of the groundwater data, as stated in the *Quality Assurance Project Plan*, is to determine the nature and extent of contamination in groundwater and associated surface water at PORTS. Data collected in 2008 meet this purpose.

Complete groundwater monitoring results for sampling completed as required by the *Integrated Groundwater Monitoring Plan* are provided in the *2008 Groundwater Monitoring Report for the Portsmouth Gaseous Diffusion Plant*.

The following tables are included in this section:

- Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008
- Table 4.2. Results for radionuclides at the X-749/X-120/PK Landfill – 2008
- Table 4.3. Volatile organic compounds detected at the Quadrant I Groundwater Investigative Area – 2008
- Table 4.4. Results for radionuclides at the Quadrant I Groundwater Investigative Area – 2008
- Table 4.5. Volatile organic compounds detected at the Quadrant II Groundwater Investigative Area – 2008
- Table 4.6. Volatile organic compounds detected at the X-701B Holding Pond – 2008
- Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008
- Table 4.8. Results for chromium at the X-633 Pumphouse/Cooling Towers Area – 2008
- Table 4.9. Volatile organic compounds detected at the X-616 Chromium Sludge Surface Impoundments – 2008
- Table 4.10. Results for chromium at the X-616 Chromium Sludge Surface Impoundments – 2008
- Table 4.11. Results for radionuclides at the X-616 Chromium Sludge Surface Impoundments – 2008

- Table 4.12. Volatile organic compounds detected at the X-740 Waste Oil Handling Facility – 2008
- Table 4.13. Results for beryllium and chromium at the X-611A Former Lime Sludge Lagoons – 2008
- Table 4.14. Volatile organic compounds detected at the X-735 Landfills – 2008
- Table 4.15. Results for radionuclides at the X-735 Landfills – 2008
- Table 4.16. Volatile organic compounds detected at the X-734 Landfills – 2008
- Table 4.17. Results for radionuclides at the X-734 Landfills – 2008
- Table 4.18. Results for cadmium, cobalt, and nickel at the X-533 Switchyard Area – 2008
- Table 4.19. Volatile organic compounds detected at surface water monitoring locations – 2008
- Table 4.20. Results for radionuclides at surface water monitoring locations – 2008

The following laboratory data qualifiers are used in the tables in this section:

Data qualifier	Meaning
B	Inorganics (metals): the result was less than the practical quantitation limit but greater than or equal to the instrument detection limit. Organics (VOCs): the analyte was detected in the laboratory blank sample.
J	Organics (VOCs): the reported value is an estimated concentration greater than the method detection limit but less than the practical quantitation limit.
U	Undetected

Some results for radionuclides are reported in exponential notation. The number and sign (+ or -) to the right of the “E” indicate the number of places to the right or left of the decimal point. For example, 3.4E-04 is 0.00034 (the decimal point moves four places to the left); 2.1E+02 is 210 (the decimal point moves two places to the right). Data qualifiers, if any, are to the right of the result (for example, 5.66E-07 U, where U is the data qualifier that indicates the parameter was undetected).

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
PK-09G	Acetone	µg/L	2.3 J		10 U	
	Chloroform	µg/L	0.83 J		0.69 J	
	cis-1,2-Dichloroethene	µg/L	2.1		2.1	
	Trichloroethene	µg/L	160		150	
PK-11G	Acetone	µg/L		10 U		2.8 J
PK-14G	Acetone	µg/L	2 J	2.7 BJ	10 U	10 U
PK-15B	cis-1,2-Dichloroethene	µg/L		0.39 J		0.22 J
	Methylene chloride	µg/L		0.42 BJ		5 U
PK-16G	1,1-Dichloroethane	µg/L	2 U	2 U	0.37 J	0.33 J
	cis-1,2-Dichloroethene	µg/L	2 U	0.61 J	5.3	5.3
	trans-1,2-Dichloroethene	µg/L	1 U	1 U	0.29 J	0.22 J
	Vinyl chloride	µg/L	1 U	1 U	1.4	2.2
PK-17B	1,1-Dichloroethane	µg/L	1.3 J	1.7 J	3.7	3.9
	1,1-Dichloroethene	µg/L	0.17 J	0.17 J	0.37 J	0.37 J
	Acetone	µg/L	10 U	4.2 J	10 U	10 U
	Benzene	µg/L	2 U	2 U	0.26 J	0.27 J
	Chlorobenzene	µg/L	0.96 J	0.56 J	0.4 J	0.85 J
	cis-1,2-Dichloroethene	µg/L	21	26	50	57
	Methylene chloride	µg/L	5 U	0.36 BJ	5 U	5 U
	trans-1,2-Dichloroethene	µg/L	0.73 J	0.85 J	1.7	1.8
	Trichloroethene	µg/L	0.56 J	0.75 J	1.6 J	1.8 J
	Vinyl chloride	µg/L	11	10	20	41
PK-18B	Acetone	µg/L		3.1 BJ		10 U
	Trichloroethene	µg/L		2.7		2 U
PK-19B	Chloroethane	µg/L		0.65 J		1.2 J
	Methylene chloride	µg/L		0.34 BJ		5 U
PK-21B	1,1-Dichloroethane	µg/L	150	170	160	150
	1,1-Dichloroethene	µg/L	2.3	1.7 J	2.1	1.6 J
	1,2-Dichloroethane	µg/L	0.63 J	0.78 J	0.87 J	0.85 J
	Acetone	µg/L	4.9 J	10 U	10 U	10 U
	Benzene	µg/L	0.8 J	2 U	0.81 J	0.79 J
	Chloroethane	µg/L	2 U	2 U	1.2 J	2 U
	cis-1,2-Dichloroethene	µg/L	13	12	13	13
	Trichloroethene	µg/L	0.57 J	0.46 J	0.59 J	0.52 J
	Vinyl chloride	µg/L	25	20	20	27
	PK-PL6	1,1,1-Trichloroethane	µg/L	5.1	10	7.1
1,1-Dichloroethane		µg/L	8.8	16	11	4.9
1,1-Dichloroethene		µg/L	5.1	8.8	7.2	2.6
Acetone		µg/L	10 U	10 U	2 J	10 U
cis-1,2-Dichloroethene		µg/L	2	2.9	2.7	1.5 J
Methylene chloride		µg/L	5 U	5 U	5 U	0.51 BJ
Trichloroethene		µg/L	2.9	4	4	1.5 J
PK-PL6A	Vinyl chloride	µg/L	0.38 J	1.1	1.3	0.54 J
	1,1,1-Trichloroethane	µg/L	7.6	14	10	9.7
	1,1-Dichloroethane	µg/L	13	22	18	18
	1,1-Dichloroethene	µg/L	8.1	11	10	11
	Acetone	µg/L	7.3 J	10 U	2.5 J	10 U
	Carbon disulfide	µg/L	0.52 J	2 U	2 U	2 U

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
PK-PL6A	cis-1,2-Dichloroethene	µg/L	2.6	3.1	3.2	3.4	
	Methylene chloride	µg/L	5 U	5 U	5 U	0.35 BJ	
	Trichloroethene	µg/L	4.1	5.3	5.6	6	
	Vinyl chloride	µg/L	0.62 J	1.6	2.1	2.6	
STSW-101G	1,1,1-Trichloroethane	µg/L		36		46	
	1,1,2-Trichloroethane	µg/L		1.3 J		1.7 J	
	1,1-Dichloroethane	µg/L		52		63	
	1,1-Dichloroethene	µg/L		160		120	
	1,2-Dichloroethane	µg/L		15		22	
	Acetone	µg/L		2.8 J		10 U	
	Chloroethane	µg/L		2 U		1.6 J	
	Chloroform	µg/L		4.3		6	
	cis-1,2-Dichloroethene	µg/L		26		31	
	Methylene chloride	µg/L		5 U		0.79 BJ	
	Tetrachloroethene	µg/L		1.8 J		1.8 J	
	Trichloroethene	µg/L		140		150	
	STSW-102G	1,1,1-Trichloroethane	µg/L		48		70
		1,1,2-Trichloroethane	µg/L		1.2 J		1.5 J
1,1-Dichloroethane		µg/L		190		320	
1,1-Dichloroethene		µg/L		250		220	
1,2-Dichloroethane		µg/L		50		110	
Benzene		µg/L		0.87 J		0.86 J	
Chloroethane		µg/L		6.9		3.2 J	
Chloroform		µg/L		7		11	
cis-1,2-Dichloroethene		µg/L		94		84	
Tetrachloroethene		µg/L		0.83 J		0.73 J	
trans-1,2-Dichloroethene		µg/L		0.85 J		0.86 J	
Trichloroethene		µg/L		850		830	
Vinyl chloride		µg/L		2 U		1.2 J	
WP-01G		Trichloroethene	µg/L	0.33 J	2 U	2 U	2 U
WP-03G	1,1,1-Trichloroethane	µg/L	0.3 J	2 U	2 U	2 U	
	1,1-Dichloroethane	µg/L	1.8 J	0.67 J	0.46 J	0.62 J	
	1,1-Dichloroethene	µg/L	0.88 J	0.43 J	0.23 J	0.24 J	
	cis-1,2-Dichloroethene	µg/L	0.2 J	2 U	2 U	2 U	
	Trichloroethene	µg/L	3	1.3 J	0.82 J	0.88 J	
WP-05G	Acetone	µg/L		3.5 BJ	10 U	3.2 BJ	
WP-06G	Acetone	µg/L		2.4 BJ	10 U	10 U	
WP-07G	1,1-Dichloroethane	µg/L	0.61 J	0.39 J	0.24 J	0.22 J	
	1,1-Dichloroethene	µg/L	0.25 J	0.23 J	2 U	2 U	
	Acetone	µg/L		2.5 BJ	10 U	2.4 BJ	
	Trichloroethene	µg/L	0.76 J	0.35 J	0.19 J	2 U	
X120-05G	Trichloroethene	µg/L			6.4		
X120-08G	1,1,1-Trichloroethane	µg/L		2.5		2	
	1,1-Dichloroethane	µg/L		2		1.8 J	
	1,1-Dichloroethene	µg/L		6.8		6.4	
	Chloroform	µg/L		0.36 J		0.28 J	
	cis-1,2-Dichloroethene	µg/L		0.15 J		2 U	
	Methylene chloride	µg/L		5 U		0.54 BJ	

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X120-08G	Trichloroethene	µg/L		7.6		7.2
X120-10G	1,1,1-Trichloroethane	µg/L			5.3	
	1,1,2-Trichloroethane	µg/L			0.45 J	
	1,1-Dichloroethane	µg/L			5.2	
	1,1-Dichloroethene	µg/L			25	
	Chloroform	µg/L			0.61 J	
	Trichloroethene	µg/L			3.3	
X749-04G	Chloroform	µg/L	0.48 J		0.38 J	
	cis-1,2-Dichloroethene	µg/L	4 U		0.45 J	
	Trichloroethene	µg/L	470		980	
X749-05G	1,1-Dichloroethane	µg/L		0.41 J		0.41 J
	1,1-Dichloroethene	µg/L		0.3 J		0.32 J
	Acetone	µg/L		10 U		15
	Chloroform	µg/L		0.86 J		1 J
	cis-1,2-Dichloroethene	µg/L		0.7 J		0.52 J
	Tetrachloroethene	µg/L		6.2		8.3
	Trichloroethene	µg/L		110		93
X749-06G	1,1,1-Trichloroethane	µg/L		610		580
	1,1,2-Trichloroethane	µg/L		34 J		36 J
	1,1-Dichloroethane	µg/L		1400		1700
	1,1-Dichloroethene	µg/L		1800		1300
	1,2-Dichloroethane	µg/L		28 J		37 J
	Chloroform	µg/L		100		120
	cis-1,2-Dichloroethene	µg/L		310		290
	Methylene chloride	µg/L		28 J		25 J
	Tetrachloroethene	µg/L		110		110
	Trichloroethene	µg/L		3900		4300
	Vinyl chloride	µg/L		12 J		20
X749-07G	1,1,1-Trichloroethane	µg/L		100		120
	1,1,2-Trichloroethane	µg/L		1.3 J		2.5 J
	1,1-Dichloroethane	µg/L		150		1100
	1,1-Dichloroethene	µg/L		160		270
	1,2-Dichloroethane	µg/L		56		
	Chloroethane	µg/L		1.8 J		2.4 J
	Chloroform	µg/L		8.6		18
	cis-1,2-Dichloroethene	µg/L		31		120
	Methylene chloride	µg/L		0.57 J		1.6 J
	Tetrachloroethene	µg/L		2.9		2.8 J
	trans-1,2-Dichloroethene	µg/L		0.3 J		4 U
	Trichloroethene	µg/L		390		940
	Vinyl chloride	µg/L		2.8		4.2
X749-08G	1,1,1-Trichloroethane	µg/L		50		54
	1,1,2-Trichloroethane	µg/L		0.54 J		0.55 J
	1,1-Dichloroethane	µg/L		28		28
	1,1-Dichloroethene	µg/L		110		83
	1,2-Dichloroethane	µg/L		4.7		5.9
	Benzene	µg/L		0.17 J		2 U
	Chloroethane	µg/L		2 U		0.74 J

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X749-08G	Chloroform	µg/L		1.4 J		1.6 J	
	cis-1,2-Dichloroethene	µg/L		32		25	
	trans-1,2-Dichloroethene	µg/L		0.37 J		0.32 J	
	Trichloroethene	µg/L		130		110	
	Vinyl chloride	µg/L		1.1		1.3	
X749-09GA	1,1,1-Trichloroethane	µg/L		39		36	
	1,1,2-Trichloroethane	µg/L		0.33 J		2 U	
	1,1-Dichloroethane	µg/L		18		15	
	1,1-Dichloroethene	µg/L		66		38	
	1,2-Dichloroethane	µg/L		2.8		2.9	
	Chloroethane	µg/L		2 U		0.52 J	
	Chloroform	µg/L		1.1 J		0.88 J	
	cis-1,2-Dichloroethene	µg/L		18		10	
	trans-1,2-Dichloroethene	µg/L		0.19 J		0.19 J	
	Trichloroethene	µg/L		52		33	
	Vinyl chloride	µg/L		0.44 J		0.75 J	
	X749-10GA	1,1-Dichloroethane	µg/L		6.2		7.9
		1,1-Dichloroethene	µg/L		17		15
		Acetone	µg/L		2.4 J		10 U
Chloroethane		µg/L		2 U		1.1 J	
cis-1,2-Dichloroethene		µg/L		3.8		3.4	
Trichloroethene		µg/L		0.58 J		0.55 J	
Vinyl chloride		µg/L		1 U		1.1	
X749-13G	1,1,1-Trichloroethane	µg/L			42		
	1,1,2-Trichloroethane	µg/L			0.34 J		
	1,1-Dichloroethane	µg/L			12		
	1,1-Dichloroethene	µg/L			78		
	1,2-Dichloroethane	µg/L			1.7 J		
	Chloroethane	µg/L			0.48 J		
	Chloroform	µg/L			1.8 J		
	cis-1,2-Dichloroethene	µg/L			12		
	Trichloroethene	µg/L			81		
Vinyl chloride	µg/L			0.97 J			
X749-20G	1,1,1-Trichloroethane	µg/L			6.2		
	1,1-Dichloroethane	µg/L			9.9		
	1,1-Dichloroethene	µg/L			11		
	1,2-Dichloroethane	µg/L			2.3		
	Chloroform	µg/L			0.86 J		
	cis-1,2-Dichloroethene	µg/L			5.6		
	Methylene chloride	µg/L			0.37 J		
	Trichloroethene	µg/L			70		
Vinyl chloride	µg/L			0.53 J			
X749-21G	1,1,1-Trichloroethane	µg/L		0.33 J		0.8 J	
	1,1-Dichloroethene	µg/L		0.17 J		0.28 J	
	Trichloroethene	µg/L		2.4		2.2	
X749-22G	Methylene chloride	µg/L		5 U		0.36 BJ	
X749-24G	Methylene chloride	µg/L		5 U		0.47 BJ	
X749-26G	1,1,1-Trichloroethane	µg/L			3.6		

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-26G	1,1-Dichloroethane	µg/L			6.5	
	1,1-Dichloroethene	µg/L			4.3	
	1,2-Dichloroethane	µg/L			2.6	
	Chloroform	µg/L			0.28 J	
	cis-1,2-Dichloroethene	µg/L			0.79 J	
	Trichloroethene	µg/L			15	
X749-27G	1,1,1-Trichloroethane	µg/L		52		29
	1,1,2-Trichloroethane	µg/L		1.4 J		0.87 J
	1,1-Dichloroethane	µg/L		70		28
	1,1-Dichloroethene	µg/L		150		56
	1,2-Dichloroethane	µg/L		29		7.5
	Chloroethane	µg/L		2.4		0.96 J
	Chloroform	µg/L		7		3.4
	cis-1,2-Dichloroethene	µg/L		24		9.9
	Methylene chloride	µg/L		0.51 J		0.41 BJ
	Tetrachloroethene	µg/L		2.4		1.7 J
	trans-1,2-Dichloroethene	µg/L		0.18 J		1 U
	Trichloroethene	µg/L		190		100
	Vinyl chloride	µg/L		0.97 J		0.41 J
	X749-28G	1,1,1-Trichloroethane	µg/L		27	
1,1,2-Trichloroethane		µg/L		1.2 J		0.51 J
1,1-Dichloroethane		µg/L		22		9.6
1,1-Dichloroethene		µg/L		74		32
1,2-Dichloroethane		µg/L		2.1		0.86 J
Acetone		µg/L		4.5 J		10 U
Carbon tetrachloride		µg/L		2 U		0.2 J
Chloroform		µg/L		3		1.8 J
cis-1,2-Dichloroethene		µg/L		3.5		1.4 J
Methylene chloride		µg/L		5 U		0.34 BJ
Tetrachloroethene		µg/L		2.5		1.1 J
Trichloroethene		µg/L		120		69
Vinyl chloride		µg/L		0.44 J		1 U
X749-29G		1,1,1-Trichloroethane	µg/L		0.59 J	
	1,1-Dichloroethane	µg/L		0.28 J		2 U
	1,1-Dichloroethene	µg/L		0.96 J		0.34 J
	Acetone	µg/L		2 J		10 U
	Chloroform	µg/L		0.28 J		1.7 J
	cis-1,2-Dichloroethene	µg/L		0.19 J		0.68 J
	Trichloroethene	µg/L		12		57
X749-30G	1,1-Dichloroethene	µg/L		0.6 J		0.89 J
	Acetone	µg/L		2.6 J		10 U
	Chloroform	µg/L		0.77 J		0.8 J
	cis-1,2-Dichloroethene	µg/L		0.75 J		0.65 J
	Trichloroethene	µg/L		44		40
X749-35G	1,1,1-Trichloroethane	µg/L			93	
	1,1,2-Trichloroethane	µg/L			0.55 J	
	1,1-Dichloroethane	µg/L			9.4	
	1,1-Dichloroethene	µg/L			60	



**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-35G	1,2-Dichloroethane	µg/L			0.24 J	
	Chloroform	µg/L			0.62 J	
	cis-1,2-Dichloroethene	µg/L			7	
	Tetrachloroethene	µg/L			0.39 J	
	Trichloroethene	µg/L			120	
	Vinyl chloride	µg/L			1	
X749-36G	1,1,1-Trichloroethane	µg/L			4.4	
	1,1-Dichloroethane	µg/L			4.1	
	1,1-Dichloroethene	µg/L			15	
	Chloroform	µg/L			0.42 J	
	cis-1,2-Dichloroethene	µg/L			0.64 J	
	Trichloroethene	µg/L			8.2	
X749-37G	1,1,1-Trichloroethane	µg/L		25		55
	1,1,2-Trichloroethane	µg/L		0.99 J		2.2
	1,1-Dichloroethane	µg/L		21		45
	1,1-Dichloroethene	µg/L		81		120
	1,2-Dichloroethane	µg/L		1.3 J		3.9
	Chloroethane	µg/L		2 U		0.52 J
	Chloroform	µg/L		1.9 J		4.7
	cis-1,2-Dichloroethene	µg/L		8.4		8.8
	Methylene chloride	µg/L		5 U		0.52 BJ
	Tetrachloroethene	µg/L		1.5 J		2.6
	trans-1,2-Dichloroethene	µg/L		1 U		0.24 J
	Trichloroethene	µg/L		67		130
	X749-38G	1,1,1-Trichloroethane	µg/L		50	
1,1,2-Trichloroethane		µg/L		2.2		4
1,1-Dichloroethane		µg/L		53		95
1,1-Dichloroethene		µg/L		160		230
1,2-Dichloroethane		µg/L		5.9		14
Acetone		µg/L		2.4 J		6 J
Chloroethane		µg/L		2 U		1.1 J
Chloroform		µg/L		5.3		10
cis-1,2-Dichloroethene		µg/L		41		38
Methylene chloride		µg/L		5 U		0.7 BJ
Tetrachloroethene		µg/L		3.3		4.2
trans-1,2-Dichloroethene		µg/L		1 U		0.73 J
Trichloroethene		µg/L		170		290
Vinyl chloride	µg/L		1 U		0.54 J	
X749-40G	Chloroform	µg/L			0.18 J	
	Trichloroethene	µg/L			0.35 J	
X749-42G	Trichloroethene	µg/L			16	
X749-44G	1,1,1-Trichloroethane	µg/L	2.3	1.7 J	1.3 J	1.7 J
	1,1-Dichloroethane	µg/L	12	9.1	7.1	9.5
	1,1-Dichloroethene	µg/L	6	5.4	4.1	4.9
	1,2-Dichloroethane	µg/L	4	3.1	1.9 J	2.8
	Acetone	µg/L	2.4 J	10 U	10 U	10 U
	Chloroform	µg/L	0.62 J	0.48 J	0.35 J	0.57 J
	cis-1,2-Dichloroethene	µg/L	1.8 J	1.2 J	0.94 J	1.1 J

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-44G	Methylene chloride	µg/L	5 U	5 U	5 U	0.53 BJ
	Trichloroethene	µg/L	23	14	13	16
X749-45G	1,1,1-Trichloroethane	µg/L	0.37 J	0.54 J	2 U	2 U
	1,1-Dichloroethane	µg/L	4.3	5.5	2.7	1.6 J
	1,1-Dichloroethene	µg/L	2.8	3.5	1.5 J	0.72 J
	1,2-Dichloroethane	µg/L	1.1 J	1.4 J	0.65 J	2 U
	Chloroethane	µg/L	0.65 J	0.65 J	2 U	2 U
	cis-1,2-Dichloroethene	µg/L	3.7	3.9	2	0.95 J
	Methylene chloride	µg/L	5 U	0.35 J	5 U	5 U
	Trichloroethene	µg/L	11	12	6.4	3.5
X749-50B	1,1-Dichloroethane	µg/L			6.9	
	1,1-Dichloroethene	µg/L			0.21 J	
	1,2-Dichloroethane	µg/L			3.8	
	Chloroethane	µg/L			0.61 J	
	cis-1,2-Dichloroethene	µg/L			1.3 J	
X749-54B	Trichloroethene	µg/L			0.44 J	
	1,1-Dichloroethane	µg/L		1.5 J		1.1 J
	Acetone	µg/L		2.7 J		10 U
	Trichloroethene	µg/L		9.3		11
X749-54B	Vinyl chloride	µg/L		0.86 J		1 U
	Methylene chloride	µg/L		5 U		0.32 BJ
X749-66G						
X749-67G	1,1,1-Trichloroethane	µg/L	24	22	26	42
	1,1,2-Trichloroethane	µg/L	1 J	1.2 J	1.2 J	1.2 J
	1,1-Dichloroethane	µg/L	170	170	200	210
	1,1-Dichloroethene	µg/L	140	160	140	130
	1,2-Dichloroethane	µg/L	45	49	54	68
	Acetone	µg/L	20 U	20 U	10 U	79 J
	Benzene	µg/L	0.61 J	4 U	2 U	0.66 J
	Chloroethane	µg/L	6.1	8.7	6.4	4.5
	Chloroform	µg/L	6.8	7.6	7.8	10
	cis-1,2-Dichloroethene	µg/L	120	160	120	95
	Methylene chloride	µg/L	0.95 J	2.1 J	1.2 J	0.72 J
	Tetrachloroethene	µg/L	4 U	0.54 J	0.5 J	0.39 J
	trans-1,2-Dichloroethene	µg/L	0.53 J	0.61 J	2.4	0.67 J
	Trichloroethene	µg/L	510	540	590	520
	Vinyl chloride	µg/L	1.1 J	2.2	2	1.5
X749-96G	Methylene chloride	µg/L	5 U	5 U	5 U	0.37 BJ
X749-97G	1,1,1-Trichloroethane	µg/L	0.68 J	0.66 J	0.18 J	2 U
	1,1-Dichloroethane	µg/L	8.4	7.2	2	0.49 J
	1,1-Dichloroethene	µg/L	4.6	3.3	0.87 J	0.14 J
	1,2-Dichloroethane	µg/L	1.8 J	1.8 J	2 U	2 U
	cis-1,2-Dichloroethene	µg/L	2.6	1.9 J	0.53 J	2 U
	Methylene chloride	µg/L	0.53 J	5 U	5 U	5 U
X749-98G	Trichloroethene	µg/L	20	18	6.1	1.1 J
	Methylene chloride	µg/L	0.38 J	5 U	5 U	5 U
X749-102G	1,1,1-Trichloroethane	µg/L	0.44 J	0.56 J	0.29 J	2 U
	1,1-Dichloroethane	µg/L	3.6	4	2.1	1 J
	1,1-Dichloroethene	µg/L	2.3	2.3	1.2 J	0.41 J

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X749-102G	1,2-Dichloroethane	µg/L	0.92 J	0.92 J	0.44 J	0.23 J	
	Chloroform	µg/L	2 U	0.19 J	2 U	2 U	
	cis-1,2-Dichloroethene	µg/L	0.5 J	0.42 J	0.26 J	2 U	
	Methylene chloride	µg/L	5 U	5 U	5 U	0.51 BJ	
	Trichloroethene	µg/L	6.4	6.2	3.4	1.6 J	
X749-104G	Methylene chloride	µg/L	5 U	5 U	5 U	0.32 BJ	
X749-106G	1,1,1-Trichloroethane	µg/L		54		72	
	1,1,2-Trichloroethane	µg/L		2.8		4	
	1,1-Dichloroethane	µg/L		41		65	
	1,1-Dichloroethene	µg/L		260		230	
	1,2-Dichloroethane	µg/L		3.4		6.6	
	Acetone	µg/L		2.1 J		10 U	
	Chloroform	µg/L		4.7		6.7	
	cis-1,2-Dichloroethene	µg/L		3.8		3.7	
	Tetrachloroethene	µg/L		1.5 J		1.5 J	
	trans-1,2-Dichloroethene	µg/L		1 U		0.2 J	
	Trichloroethene	µg/L		140		130	
	Vinyl chloride	µg/L		1 U		0.61 J	
	X749-107G	1,1,1-Trichloroethane	µg/L		67		77
1,1,2-Trichloroethane		µg/L		3.4		4.9	
1,1-Dichloroethane		µg/L		51		71	
1,1-Dichloroethene		µg/L		310		260	
1,2-Dichloroethane		µg/L		3.8		7.5	
Acetone		µg/L		1.9 J		10 U	
Chloroethane		µg/L		2 U		0.48 J	
Chloroform		µg/L		5.9		8.4	
cis-1,2-Dichloroethene		µg/L		5.5		5.2	
Tetrachloroethene		µg/L		1.5 J		1.5 J	
trans-1,2-Dichloroethene		µg/L		1 U		0.18 J	
Trichloroethene		µg/L		150		140	
X749-108G		1,1,1-Trichloroethane	µg/L		65		81
	1,1,2-Trichloroethane	µg/L		2.8		4	
	1,1-Dichloroethane	µg/L		52		67	
	1,1-Dichloroethene	µg/L		230		200	
	1,2-Dichloroethane	µg/L		3.5		6.7	
	Chloroform	µg/L		6.2		8.3	
	cis-1,2-Dichloroethene	µg/L		4.8		3.9	
	Tetrachloroethene	µg/L		1.7 J		1.4 J	
	trans-1,2-Dichloroethene	µg/L		1 U		0.28 J	
	Trichloroethene	µg/L		160		150	
	Vinyl chloride	µg/L		1 U		0.71 J	
	X749-109G	1,1,1-Trichloroethane	µg/L		2		1.7 J
		1,1-Dichloroethane	µg/L		9.2		8.5
1,1-Dichloroethene		µg/L		7.8		3.7	
1,2-Dichloroethane		µg/L		2.5		2.9	
Chloroform		µg/L		0.46 J		0.42 J	
cis-1,2-Dichloroethene		µg/L		1.6 J		0.74 J	
Trichloroethene		µg/L		19		11	

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-110G	1,1,1-Trichloroethane	µg/L		25		37
	1,1,2-Trichloroethane	µg/L		0.82 J		1.1 J
	1,1-Dichloroethane	µg/L		100		150
	1,1-Dichloroethene	µg/L		120		180
	1,2-Dichloroethane	µg/L		29		40
	Benzene	µg/L		2 U		0.64 J
	Chloroethane	µg/L		8.1		11
	Chloroform	µg/L		5.5		7.4
	cis-1,2-Dichloroethene	µg/L		120		150
	Methylene chloride	µg/L		0.66 J		0.94 BJ
	Tetrachloroethene	µg/L		0.3 J		0.29 J
	trans-1,2-Dichloroethene	µg/L		0.69 J		0.81 J
	Trichloroethene	µg/L		290		460
	Vinyl chloride	µg/L		4		8.5
	X749-113G	1,1,1-Trichloroethane	µg/L		69	
1,1,2-Trichloroethane		µg/L		1 J		0.91 J
1,1-Dichloroethane		µg/L		66		63
1,1-Dichloroethene		µg/L		110		96
1,2-Dichloroethane		µg/L		31		33
Chloroform		µg/L		5.2		5.2
cis-1,2-Dichloroethene		µg/L		8.5		6.4
Methylene chloride		µg/L		0.5 J		5 U
Tetrachloroethene		µg/L		1.7 J		1.3 J
trans-1,2-Dichloroethene		µg/L		0.21 J		0.27 J
X749-114G	Trichloroethene	µg/L		160		140
	Vinyl chloride	µg/L		0.47 J		0.48 J
	1,1,1-Trichloroethane	µg/L			0.36 J	
	1,1-Dichloroethane	µg/L			0.54 J	
	1,1-Dichloroethene	µg/L			0.18 J	
X749-115G	cis-1,2-Dichloroethene	µg/L			0.34 J	
	Trichloroethene	µg/L			0.17 J	
	Chloroform	µg/L				1.7 J
X749-117G	cis-1,2-Dichloroethene	µg/L				3.1
	Trichloroethene	µg/L				140
	1,1-Dichloroethane	µg/L				0.39 J
X749-118G	Chloroform	µg/L				2.8
	cis-1,2-Dichloroethene	µg/L				0.18 J
	Tetrachloroethene	µg/L				0.52 J
	Trichloroethene	µg/L				20
	1,1,1-Trichloroethane	µg/L				0.31 J
X749-119G	1,1-Dichloroethane	µg/L				7.5
	1,1-Dichloroethene	µg/L				1.4 J
	Carbon disulfide	µg/L				0.76 J
	Chloroform	µg/L				0.8 J
	cis-1,2-Dichloroethene	µg/L				1.8 J
	Tetrachloroethene	µg/L				6.7
	Trichloroethene	µg/L				100

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X749-119G	1,1-Dichloroethene	µg/L				0.2 J	
	Chloroform	µg/L				1 J	
	cis-1,2-Dichloroethene	µg/L				1.1 J	
	Tetrachloroethene	µg/L				0.27 J	
	Trichloroethene	µg/L				10	
X749-120G	1,1,1-Trichloroethane	µg/L				900	
	1,1,2-Trichloroethane	µg/L				83 J	
	1,1-Dichloroethane	µg/L				4500	
	1,1-Dichloroethene	µg/L				1700	
	1,2-Dichloroethane	µg/L				69 J	
	Acetone	µg/L				180 J	
	Chloroform	µg/L				460	
	cis-1,2-Dichloroethene	µg/L				1700	
	Methylene chloride	µg/L				140 J	
	Tetrachloroethene	µg/L				300	
	Toluene	µg/L				26 J	
	Trichloroethene	µg/L				22000	
	Vinyl chloride	µg/L				51 J	
	X749-121G	1,1,1-Trichloroethane	µg/L				98
		1,1,2-Trichloroethane	µg/L				1.2 J
1,1-Dichloroethane		µg/L				56	
1,1-Dichloroethene		µg/L				220	
1,2-Dichloroethane		µg/L				1.4 J	
Chloroethane		µg/L				15	
Chloroform		µg/L				1.1 J	
cis-1,2-Dichloroethene		µg/L				15	
Tetrachloroethene		µg/L				0.66 J	
trans-1,2-Dichloroethene		µg/L				0.33 J	
Trichloroethene		µg/L				75	
Vinyl chloride		µg/L				1.8	
X749-122G	1,1,2-Trichloroethane	µg/L				3.5 J	
	1,1-Dichloroethane	µg/L				77	
	1,1-Dichloroethene	µg/L				370	
	1,2-Dichloroethane	µg/L				6.6	
	Benzene	µg/L				0.75 J	
	Chloroethane	µg/L				2.4 J	
	Chloroform	µg/L				4.5	
	cis-1,2-Dichloroethene	µg/L				56	
	Methylene chloride	µg/L				1.6 J	
	trans-1,2-Dichloroethene	µg/L				1.2 J	
	Trichloroethene	µg/L				790	
	Vinyl chloride	µg/L				4.4	
X749-BG9G	1,1,1-Trichloroethane	µg/L		0.27 J		0.41 J	
	1,1-Dichloroethane	µg/L		0.34 J		0.7 J	
	1,1-Dichloroethene	µg/L		0.43 J		0.47 J	
	Trichloroethene	µg/L		0.68 J		0.69 J	
X749-PZ02G	1,1-Dichloroethene	µg/L		0.52 J		0.23 J	
	Methylene chloride	µg/L		5 U		0.52 BJ	

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X749-PZ02G	Trichloroethene	µg/L		0.99 J		0.99 J	
X749-PZ03G	Methylene chloride	µg/L	5 U	5 U	5 U	0.52 BJ	
X749-PZ04G	1,1,1-Trichloroethane	µg/L	10	8.1	1.9 J	1.1 J	
	1,1,2-Trichloroethane	µg/L	0.39 J	2 U	2 U	2 U	
	1,1-Dichloroethane	µg/L	75	57	17	11	
	1,1-Dichloroethene	µg/L	47	30	8.5	5.1	
	1,2-Dichloroethane	µg/L	22	19	4.8	3.4	
	Benzene	µg/L	0.18 J	2 U	2 U	2 U	
	Chloroethane	µg/L	1.2 J	1.1 J	2 U	2 U	
	Chloroform	µg/L	2.4	2	0.49 J	0.31 J	
	cis-1,2-Dichloroethene	µg/L	33	21	7.5	4.7	
	Methylene chloride	µg/L	0.53 J	0.44 J	0.35 J	0.41 BJ	
	trans-1,2-Dichloroethene	µg/L	0.62 J	0.15 J	1 U	1 U	
	Trichloroethene	µg/L	180	110	40	24	
	Vinyl chloride	µg/L	1 U	0.46 J	1 U	1 U	
	X749-PZ06G	1,1,1-Trichloroethane	µg/L			18	
		1,1,2-Trichloroethane	µg/L			1.1 J	
1,1-Dichloroethane		µg/L			20		
1,1-Dichloroethene		µg/L			63		
1,2-Dichloroethane		µg/L			2		
Chloroform		µg/L			2.4		
cis-1,2-Dichloroethene		µg/L			1.6 J		
Methylene chloride		µg/L			0.56 J		
X749-PZ07G	Trichloroethene	µg/L			26		
	1,1,1-Trichloroethane	µg/L		1.4 J		1.8 J	
	1,1-Dichloroethane	µg/L		0.86 J		1.4 J	
	1,1-Dichloroethene	µg/L		3.8		3.2	
	Chloroform	µg/L		0.17 J		0.26 J	
	cis-1,2-Dichloroethene	µg/L		0.2 J		0.31 J	
X749-PZ09G	Trichloroethene	µg/L		6.1		9	
	1,1,1-Trichloroethane	µg/L		2.8		2.2	
	1,1-Dichloroethane	µg/L		3		2.7	
	1,1-Dichloroethene	µg/L		9.1		5.6	
	Chloroform	µg/L		0.38 J		0.52 J	
	cis-1,2-Dichloroethene	µg/L		5.7		6.2	
X749-PZ10G	Tetrachloroethene	µg/L		2 U		0.21 J	
	Trichloroethene	µg/L		55		67	
	Vinyl chloride	µg/L		0.4 J		1.1	
	1,1,1-Trichloroethane	µg/L		20		25	
	1,1-Dichloroethane	µg/L		8 U		0.87 J	
	1,1-Dichloroethene	µg/L		140		140	
X749-PZ11G	1,2-Dichloroethane	µg/L		8 U		0.6 J	
	Chloroform	µg/L		25		35	
	cis-1,2-Dichloroethene	µg/L		0.74 J		0.63 J	
	Trichloroethene	µg/L		770		910	
	1,1,1-Trichloroethane	µg/L		74		72	
	1,1,2-Trichloroethane	µg/L		0.48 J		0.4 J	
	1,1-Dichloroethane	µg/L		25		23	

**Table 4.1. Volatile organic compounds detected at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-PZ11G	1,1-Dichloroethene	µg/L		39		30
	1,2-Dichloroethane	µg/L		2 U		0.19 J
	Benzene	µg/L		0.65 J		0.54 J
	Chloroethane	µg/L		2 U		0.57 J
	Chloroform	µg/L		0.59 J		0.52 J
	cis-1,2-Dichloroethene	µg/L		16		16
	trans-1,2-Dichloroethene	µg/L		0.71 J		0.65 J
	Trichloroethene	µg/L		150		140
	Vinyl chloride	µg/L		4.3		5.7
X749-PZ12G	1,1,1-Trichloroethane	µg/L		18		20
	1,1-Dichloroethane	µg/L		59		71
	1,1-Dichloroethene	µg/L		60		56
	1,2-Dichloroethane	µg/L		0.74 J		0.92 J
	Benzene	µg/L		2.7		3
	Chloroethane	µg/L		3		3.6
	Chloroform	µg/L		0.16 J		0.19 J
	cis-1,2-Dichloroethene	µg/L		12		11
	trans-1,2-Dichloroethene	µg/L		0.5 J		0.45 J
X749-PZ13G	Trichloroethene	µg/L		22		20
	Vinyl chloride	µg/L		3.3		4.2
	1,1,1-Trichloroethane	µg/L		93		110
	1,1,2-Trichloroethane	µg/L		0.87 J		0.8 J
	1,1-Dichloroethane	µg/L		60		64
	1,1-Dichloroethene	µg/L		190		160
	1,2-Dichloroethane	µg/L		4.5		4.5
	Benzene	µg/L		0.62 J		1.1 J
	Chloroethane	µg/L		2.7		3.5
X749-WPW	Chloroform	µg/L		2		1.9 J
	cis-1,2-Dichloroethene	µg/L		41		33
	trans-1,2-Dichloroethene	µg/L		0.63 J		0.79 J
	Trichloroethene	µg/L		170		150
	Vinyl chloride	µg/L		2.6		3.5
	1,1,1-Trichloroethane	µg/L		190		200
	1,1,2-Trichloroethane	µg/L		2.9		2.6 J
	1,1-Dichloroethane	µg/L		170		180
	1,1-Dichloroethene	µg/L		390		300
1,2-Dichloroethane	µg/L		52		56	
Acetone	µg/L		10 U		14 J	
Benzene	µg/L		1.7 J		2.7 J	
Chloroethane	µg/L		3.4		2.1 J	
Chloroform	µg/L		24		28	
cis-1,2-Dichloroethene	µg/L				69	
Methylene chloride	µg/L			0.82 BJ	2.7 BJ	
Tetrachloroethene	µg/L			5.9	4.7 J	
trans-1,2-Dichloroethene	µg/L			0.43 J	4 U	
Trichloroethene	µg/L			1000	1100	
Vinyl chloride	µg/L			30	20	

**Table 4.2. Results for radionuclides at the X-749/X-120/PK Landfill – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
PK-09G	Americium-241	pCi/L			1.355E-05 U	
	Neptunium-237	pCi/L			-0.007198 U	
	Plutonium-238	pCi/L			0.007207 U	
	Plutonium-239/240	pCi/L			-0.007185 U	
	Technetium-99	pCi/L	-0.154 U		0.856 U	
	Uranium	µg/L			0.03883 U	
	Uranium-233/234	pCi/L			0.0719	
	Uranium-235	pCi/L			0 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			0.01305 U	
WP-01G	Technetium-99	pCi/L		-4.82 U		-5.78 U
WP-03G	Technetium-99	pCi/L		-1.82 U		-0.593 U
X749-04G	Technetium-99	pCi/L	-0.739 U		0.819 U	
X749-05G	Technetium-99	pCi/L		-0.231 U		4.16 U
X749-09GA	Technetium-99	pCi/L		0.397 U		0.643 U
X749-20G	Americium-241	pCi/L			0.01006 U	
	Neptunium-237	pCi/L			-0.06842 U	
	Plutonium-238	pCi/L			0.01518 U	
	Plutonium-239/240	pCi/L			0.007607 U	
	Technetium-99	pCi/L			296	
	Uranium	µg/L			0.4196	
	Uranium-233/234	pCi/L			0.1664	
	Uranium-235	pCi/L			0.01641 U	
	Uranium-236	pCi/L			0.01474 U	
	Uranium-238	pCi/L			0.1394	
X749-22G	Technetium-99	pCi/L		-7.01 U		1.55 U
X749-27G	Technetium-99	pCi/L		48.9		20
X749-28G	Technetium-99	pCi/L		3.25 U		2.28 U
X749-29G	Technetium-99	pCi/L		-4.86 U		-0.304 U
X749-30G	Technetium-99	pCi/L		-4.7 U		-4.14 U
X749-43G	Technetium-99	pCi/L	-0.783 U		-3.46 U	
X749-44G	Technetium-99	pCi/L		4.79 U		7.41 U
X749-66G	Technetium-99	pCi/L		4.01 U		3.06 U
X749-97G	Technetium-99	pCi/L		-3.23 U		4.75 U
X749-102G	Technetium-99	pCi/L		-1.5 U		5.24 U
X749-115G	Technetium-99	pCi/L				-5.7 U
X749-117G	Technetium-99	pCi/L				-2.64 U
X749-118G	Technetium-99	pCi/L				-1.41 U
X749-119G	Technetium-99	pCi/L				14.2
X749-120G	Technetium-99	pCi/L				2290
X749-121G	Technetium-99	pCi/L				771
X749-122G	Technetium-99	pCi/L				7 U
X749-PZ04G	Technetium-99	pCi/L		5.04 U		6.05 U
X749-PZ09G	Technetium-99	pCi/L		1250		1190
X749-PZ11G	Technetium-99	pCi/L		-3 U		3.06 U
X749-PZ12G	Technetium-99	pCi/L		-6.14 U		-0.131 U
X749-PZ13G	Technetium-99	pCi/L		2.99 U		4.82 U
X749-WPW	Americium-241	pCi/L				0.04422 U



**Table 4.2. Results for radionuclides at the X-749/X-120/PK Landfill – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X749-WPW	Neptunium-237	pCi/L				-0.03893 U
	Plutonium-238	pCi/L				0.03241 U
	Plutonium-239/240	pCi/L				-0.0194 U
	Technetium-99	pCi/L				6610
	Uranium	µg/L				0.7833
	Uranium-233/234	pCi/L				0.2499
	Uranium-235	pCi/L				0.01541 U
	Uranium-236	pCi/L				0 U
	Uranium-238	pCi/L				0.2618

**Table 4.3. Volatile organic compounds detected at the Quadrant I Groundwater Investigative Area – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X230K-14G	cis-1,2-Dichloroethene	µg/L			0.29 J	
	Trichloroethene	µg/L			5.4	
X230K-15G	cis-1,2-Dichloroethene	µg/L			0.18 J	
	Trichloroethene	µg/L			2.6	
X231A-01G	1,1,1-Trichloroethane	µg/L		0.2 J		
	1,1-Dichloroethane	µg/L		30		
	1,1-Dichloroethene	µg/L		1.8		
	1,2-Dimethylbenzene	µg/L		0.21 J		
	Acetone	µg/L		4.5 BJ		
	Benzene	µg/L		1		
	Chloroethane	µg/L		5.6		
	Chloroform	µg/L		0.34 J		
	cis-1,2-Dichloroethene	µg/L		2.9		
	Methylene chloride	µg/L		0.34 BJ		
	Trichloroethene	µg/L		24		
	Vinyl chloride	µg/L		1.1		
	X231A-04G	1,1,1-Trichloroethane	µg/L			0.36 J
1,1-Dichloroethene		µg/L			1.3 J	
Chloroform		µg/L			0.41 J	
cis-1,2-Dichloroethene		µg/L			1 J	
Methylene chloride		µg/L			0.41 BJ	
X231B-02G	Trichloroethene	µg/L			15	
	1,1-Dichloroethene	µg/L			0.4 J	
	Chloroform	µg/L			16	
	cis-1,2-Dichloroethene	µg/L			26	
	Methylene chloride	µg/L			1.2 BJ	
X231B-03G	Trichloroethene	µg/L			580	
	1,1,1-Trichloroethane	µg/L			3.6	
	1,1-Dichloroethane	µg/L			2.6	
	1,1-Dichloroethene	µg/L			22	
	Chloroform	µg/L			0.63 J	
	cis-1,2-Dichloroethene	µg/L			18	
	Methylene chloride	µg/L			0.39 BJ	
	Tetrachloroethene	µg/L			0.46 J	
X231B-06G	trans-1,2-Dichloroethene	µg/L			0.3 J	
	Trichloroethene	µg/L			260	
	1,1,1-Trichloroethane	µg/L			49	
	1,1,2-Trichloroethane	µg/L			0.57 J	
	1,1-Dichloroethane	µg/L			34	
	1,1-Dichloroethene	µg/L			67	
	1,2-Dichloroethane	µg/L			0.87 J	
	Acetone	µg/L			4.7 BJ	
	Chloroform	µg/L			0.6 J	
	cis-1,2-Dichloroethene	µg/L			4.2	
	Methylene chloride	µg/L			0.41 BJ	
Tetrachloroethene	µg/L			0.86 J		
Trichloroethene	µg/L			230		
Vinyl chloride	µg/L			0.66 J		

**Table 4.3. Volatile organic compounds detected at the Quadrant I Groundwater Investigative Area – 2008  
(continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X231B-14G	1,1,1-Trichloroethane	µg/L			4.7	
	1,1-Dichloroethane	µg/L			1.5 J	
	1,1-Dichloroethene	µg/L			38	
	Chloroform	µg/L			1.5 J	
	cis-1,2-Dichloroethene	µg/L			8.5	
	Trichloroethene	µg/L			180	
X231B-15G	Carbon disulfide	µg/L	0.98 J		2 U	
	cis-1,2-Dichloroethene	µg/L	0.91 J		0.92 J	
	trans-1,2-Dichloroethene	µg/L	0.2 J		0.23 J	
	Trichloroethene	µg/L	1.2 J		1.4 J	
X231B-16G	1,1,1-Trichloroethane	µg/L			1.3 J	
	1,1-Dichloroethane	µg/L			0.21 J	
	1,1-Dichloroethene	µg/L			5.3	
	Chloroform	µg/L			0.98 J	
	Trichloroethene	µg/L			0.45 J	
X231B-20G	1,1,1-Trichloroethane	µg/L			0.16 J	
	1,1-Dichloroethene	µg/L			4.9	
	Chloroform	µg/L			0.58 J	
	cis-1,2-Dichloroethene	µg/L			0.48 J	
	Trichloroethene	µg/L			61	
X231B-23G	1,1,1-Trichloroethane	µg/L			1.1 J	
	1,1-Dichloroethane	µg/L			0.21 J	
	1,1-Dichloroethene	µg/L			4.3	
	Chloroform	µg/L			0.18 J	
	cis-1,2-Dichloroethene	µg/L			0.24 J	
	Trichloroethene	µg/L			3.5	
X231B-32B	Trichloroethene	µg/L			0.59 J	
X231B-36G	1,1-Dichloroethene	µg/L			0.19 J	
	Chloroform	µg/L			0.33 J	
	cis-1,2-Dichloroethene	µg/L			1.2 J	
	Methylene chloride	µg/L			0.37 J	
	Trichloroethene	µg/L			71	
X231B-37G	1,1-Dichloroethane	µg/L			3	
	1,1-Dichloroethene	µg/L			3.1	
	Acetone	µg/L			2 BJ	
	Chloroethane	µg/L			0.48 J	
	cis-1,2-Dichloroethene	µg/L			8.3	
	trans-1,2-Dichloroethene	µg/L			1.4	
	Trichloroethene	µg/L			23	
	Vinyl chloride	µg/L			0.65 J	
X326-09G	1,1-Dichloroethene	µg/L	61		73 J	
	Acetone	µg/L	59 J		1000 U	
	Bromodichloromethane	µg/L	12 J		200 U	
	Chloroform	µg/L	390		400	
	cis-1,2-Dichloroethene	µg/L	47		67 J	
	Methylene chloride	µg/L	12 J		500 U	
	Trichloroethene	µg/L	8300		14000	
X326-10G	Acetone	µg/L	1.9 J		10 U	

**Table 4.3. Volatile organic compounds detected at the Quadrant I Groundwater Investigative Area – 2008  
(continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X326-10G	Chloroform	µg/L	0.17 J		2 U	
	cis-1,2-Dichloroethene	µg/L	1.2 J		1.3 J	
	Trichloroethene	µg/L	9.2		12	
X626-07G	1,1,1-Trichloroethane	µg/L			1.3 J	
	1,1-Dichloroethane	µg/L			0.52 J	
	1,1-Dichloroethene	µg/L			49	
	Chloroform	µg/L			0.96 J	
	cis-1,2-Dichloroethene	µg/L			0.51 J	
	Trichloroethene	µg/L			120	
X749A-01G	Acetone	µg/L		2.9 BJ		
	Trichloroethene	µg/L		0.69 J		
X749A-02G	Methylene chloride	µg/L		0.34 J		
X749A-05G	Acetone	µg/L		1.9 J		
	Methylene chloride	µg/L		0.32 J		
X749A-07G	Acetone	µg/L		5.8 BJ		
X749A-11G	cis-1,2-Dichloroethene	µg/L		0.46 J		
	Methylene chloride	µg/L		0.32 J		
	Trichloroethene	µg/L		14		
X749A-12G	Acetone	µg/L		2 BJ		
	cis-1,2-Dichloroethene	µg/L		1.3		
	Trichloroethene	µg/L		0.22 J		
X749A-13GA	Acetone	µg/L		2.9 J		
	Methylene chloride	µg/L		0.35 J		
X749A-14G	Acetone	µg/L		3.4 BJ		
X749A-15G	Acetone	µg/L		1.9 J		
	Methylene chloride	µg/L		0.34 J		
X749A-16G	Acetone	µg/L		3.6 BJ		
X749A-17G	Acetone	µg/L				5.2 J
	Methylene chloride	µg/L				1.2 BJ
X749A-18G	cis-1,2-Dichloroethene	µg/L				1.1
	Methylene chloride	µg/L				0.43 BJ
	Trichloroethene	µg/L				14
X749A-19G	Chloroform	µg/L				0.2 J
	cis-1,2-Dichloroethene	µg/L				5.8
	Methylene chloride	µg/L				0.44 BJ
	Trichloroethene	µg/L				27
X760-03G	1,1-Dichloroethene	µg/L			0.43 J	
	cis-1,2-Dichloroethene	µg/L			5.9	
	Trichloroethene	µg/L			400	
X760-07G	1,1-Dichloroethene	µg/L			0.58 J	
	Chloroform	µg/L			0.95 J	
	cis-1,2-Dichloroethene	µg/L			8.1	
	trans-1,2-Dichloroethene	µg/L			0.32 J	
	Trichloroethene	µg/L			430	
X770-MW17G	cis-1,2-Dichloroethene	µg/L			340	
	Trichloroethene	µg/L			5100	

**Table 4.4. Results for radionuclides at the Quadrant I Groundwater Investigative Area – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X231B-06G	Americium-241	pCi/L			0.01997 U	
	Neptunium-237	pCi/L			-0.02155 U	
	Plutonium-238	pCi/L			0.01436 U	
	Plutonium-239/240	pCi/L			1.434E-05 U	
	Technetium-99	pCi/L			13.5	
	Uranium	µg/L			0.9496	
	Uranium-233/234	pCi/L			1.339	
	Uranium-235	pCi/L			0.04235	
	Uranium-236	pCi/L			0.00762 U	
	Uranium-238	pCi/L			0.3152	
X231B-36G	Americium-241	pCi/L			0.00953 U	
	Neptunium-237	pCi/L			-0.01599 U	
	Plutonium-238	pCi/L			0.008014 U	
	Plutonium-239/240	pCi/L			0.007998 U	
	Technetium-99	pCi/L			0.811 U	
	Uranium	µg/L			1.06	
	Uranium-233/234	pCi/L			0.2595	
	Uranium-235	pCi/L			-0.008644 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			0.357	
X231B-37G	Americium-241	pCi/L			1.027E-05 U	
	Neptunium-237	pCi/L			8.236E-06 U	
	Plutonium-238	pCi/L			1.643E-05 U	
	Plutonium-239/240	pCi/L			0.01645 U	
	Technetium-99	pCi/L			1.98 U	
	Uranium	µg/L			0.5777	
	Uranium-233/234	pCi/L			0.1336	
	Uranium-235	pCi/L			0.008242 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			0.1934	
X626-07G	Americium-241	pCi/L			0.04078 U	
	Neptunium-237	pCi/L			-0.02823 U	
	Plutonium-238	pCi/L			0.02818 U	
	Plutonium-239/240	pCi/L			-0.007032 U	
	Technetium-99	pCi/L			-1.51 U	
	Uranium	µg/L			0.3945	
	Uranium-233/234	pCi/L			0.2048	
	Uranium-235	pCi/L			0.008155 U	
	Uranium-236	pCi/L			-0.007308 U	
	Uranium-238	pCi/L			0.1319	

**Table 4.5. Volatile organic compounds detected at the Quadrant II Groundwater Investigative Area – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X700-02G	1,1,1-Trichloroethane	µg/L	12 J			
	1,1-Dichloroethane	µg/L	12 J			
	1,1-Dichloroethene	µg/L	140			
	Acetone	µg/L	71 J			
	cis-1,2-Dichloroethene	µg/L	66			
	Methylene chloride	µg/L	10 J			
	Trichloroethene	µg/L	7200			
X705-04G	1,1-Dichloroethane	µg/L	0.2 J			
	1,1-Dichloroethene	µg/L	1.3 J			
	Bromodichloromethane	µg/L	1.1 J			
	Carbon tetrachloride	µg/L	11			
	Chloroform	µg/L	410			
	Methylene chloride	µg/L	0.81 J			
	Tetrachloroethene	µg/L	1.4 J			
X720-01G	Trichloroethene	µg/L	91			
	1,1,1-Trichloroethane	µg/L	500			
	1,1-Dichloroethene	µg/L	660			
	cis-1,2-Dichloroethene	µg/L	42 J			
	Methylene chloride	µg/L	120 J			
X720-08G	Trichloroethene	µg/L	64000			
	1,1-Dichloroethene	µg/L	100			
	cis-1,2-Dichloroethene	µg/L	6 J			
	Methylene chloride	µg/L	9.8 J			
	Trichloroethene	µg/L	6200			

**Table 4.6. Volatile organic compounds detected at the X-701B Holding Pond – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
LBC-PZ03	1,1-Dichloroethene	µg/L	2 U		0.18 J	
	Acetone	µg/L	10 U		3.5 J	
	cis-1,2-Dichloroethene	µg/L	21		62	
	Toluene	µg/L	2 U		0.17 J	
	trans-1,2-Dichloroethene	µg/L	0.33 J		0.91 J	
	Trichloroethene	µg/L	36		66	
	Vinyl chloride	µg/L	1 U		0.54 J	
LBC-PZ06	Acetone	µg/L	10 U		2.3 J	
X230J7-01GA	1,1-Dichloroethene	µg/L	0.16 J			
	cis-1,2-Dichloroethene	µg/L	0.73 J			
	Trichloroethene	µg/L	220			
X230J7-02GA	Chloroform	µg/L	0.38 J			
	cis-1,2-Dichloroethene	µg/L	2.3 J			
	Tetrachloroethene	µg/L	0.56 J			
	Trichloroethene	µg/L	750			
X230J7-03GA	cis-1,2-Dichloroethene	µg/L	320			
	Tetrachloroethene	µg/L	1.4 J			
	trans-1,2-Dichloroethene	µg/L	12			
	Trichloroethene	µg/L	1800			
X700-03G	cis-1,2-Dichloroethene	µg/L	0.37 J			
X701-01G	1,1-Dichloroethene	µg/L	0.47 J		0.56 J	
	cis-1,2-Dichloroethene	µg/L	5.6		9.3	
	trans-1,2-Dichloroethene	µg/L	1 U		0.26 J	
	Trichloroethene	µg/L	30		51	
X701-02G	Acetone	µg/L	5.6 J		10 U	
	cis-1,2-Dichloroethene	µg/L	4.1		3.9	
	Trichloroethene	µg/L	8		8.1	
X701-05G	1,1-Dichloroethene	µg/L	2 U		1.2 J	
	cis-1,2-Dichloroethene	µg/L	2 U		0.31 J	
	Trichloroethene	µg/L	4.1		42	
X701-06G	1,1-Dichloroethane	µg/L	0.18 J		0.2 J	
	1,1-Dichloroethene	µg/L	1.2 J		0.59 J	
	Bromodichloromethane	µg/L	2 U		0.18 J	
	Chloroform	µg/L	2 U		0.43 J	
	cis-1,2-Dichloroethene	µg/L	41		39	
	Methylene chloride	µg/L	5 U		0.33 J	
	trans-1,2-Dichloroethene	µg/L	1.2		0.9 J	
	Trichloroethene	µg/L	63		46	
	Vinyl chloride	µg/L	0.41 J		0.44 J	
X701-08G	1,1,1-Trichloroethane	µg/L			340 J	
	cis-1,2-Dichloroethene	µg/L			410 J	
	Methylene chloride	µg/L			530 J	
	Tetrachloroethene	µg/L			1000 J	
	Trichloroethene	µg/L			340000	
X701-09G	Acetone	µg/L	1700 J			
	cis-1,2-Dichloroethene	µg/L	4900			
	Tetrachloroethene	µg/L	340 J			

**Table 4.6. Volatile organic compounds detected at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-09G	Trichloroethene	µg/L	210000			
X701-10G	1,1,2-Trichloroethane	µg/L	1.7 J		2.8 J	
	1,1-Dichloroethene	µg/L	0.58 J		1.6 J	
	cis-1,2-Dichloroethene	µg/L	25		61	
	Tetrachloroethene	µg/L	1.4 J		2.6 J	
	Trichloroethene	µg/L	1300		2400	
X701-12G	1,1-Dichloroethane	µg/L	0.18 J		2 U	
	1,1-Dichloroethene	µg/L	0.21 J		2 U	
	1,2-Dichlorobenzene	µg/L	0.17 J		0.17 J	
	Acetone	µg/L	2.1 J		10 U	
	Chloroform	µg/L	0.26 J		0.29 J	
	cis-1,2-Dichloroethene	µg/L	54		49	
	Tetrachloroethene	µg/L	0.41 J		0.41 J	
	trans-1,2-Dichloroethene	µg/L	0.16 J		0.61 J	
	Trichloroethene	µg/L	94		40	
	Vinyl chloride	µg/L	3.2		2.3	
X701-13G	1,1,1-Trichloroethane	µg/L	1.2 J		13 U	
	1,1,2-Trichloroethane	µg/L	4.1 J		2.7 J	
	1,1-Dichloroethene	µg/L	1.4 J		1.2 J	
	cis-1,2-Dichloroethene	µg/L	100		94	
	Methylene chloride	µg/L	33 U		3.9 J	
	Tetrachloroethene	µg/L	10 J		6.5 J	
	Trichloroethene	µg/L	3800		2600	
X701-14G	1,1,1-Trichloroethane	µg/L	60 J			
	1,1-Dichloroethane	µg/L	32 J			
	1,1-Dichloroethene	µg/L	30 J			
	cis-1,2-Dichloroethene	µg/L	1700			
	Tetrachloroethene	µg/L	67 J			
	Trichloroethene	µg/L	37000			
X701-15G	cis-1,2-Dichloroethene	µg/L	17		29	
	trans-1,2-Dichloroethene	µg/L	1.2		1.1	
	Trichloroethene	µg/L	5.1		9	
X701-16G	Trichloroethene	µg/L	1.2 J		2 U	
X701-18G	Methylene chloride	µg/L			0.32 J	
X701-20G	cis-1,2-Dichloroethene	µg/L	2800			
	Methylene chloride	µg/L	170 J			
	Tetrachloroethene	µg/L	120 J			
	Trichloroethene	µg/L	140000			
X701-21G	1,2-Dichlorobenzene	µg/L	0.22 J		0.22 J	
	Chloroform	µg/L	0.39 J		0.46 J	
	cis-1,2-Dichloroethene	µg/L	0.17 J		0.54 J	
	Methylene chloride	µg/L	5 U		0.34 BJ	
	Trichloroethene	µg/L	16		32	
X701-23G	Methylene chloride	µg/L			0.48 BJ	
	Trichloroethene	µg/L			2.2	
X701-24G	1,1-Dichloroethene	µg/L	100 U		8 J	
	Acetone	µg/L	500 U		240 J	
	cis-1,2-Dichloroethene	µg/L	810		880	



**Table 4.6. Volatile organic compounds detected at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-24G	trans-1,2-Dichloroethene	µg/L	9.8 J		17 J	
	Trichloroethene	µg/L	13000		13000	
	Vinyl chloride	µg/L	50 U		52	
X701-25G	Trichloroethene	µg/L	0.16 J		2 U	
X701-30G	cis-1,2-Dichloroethene	µg/L	0.19 J		0.17 J	
	Trichloroethene	µg/L	4.7		4.3	
	Trichlorofluoromethane	µg/L	0.81 J		1 J	
X701-38G	1,2-Dichlorobenzene	µg/L			0.45 J	
	Chloroform	µg/L			1.8 J	
X701-48G	Methylene chloride	µg/L			0.47 BJ	
X701-61B	1,2-Dimethylbenzene	µg/L			0.2 J	
	cis-1,2-Dichloroethene	µg/L			0.28 J	
	M + P Xylene	µg/L			2.4	
	Trichloroethene	µg/L			0.34 J	
X701-127G	1,1,2-Trichloroethane	µg/L	530 U		100 J	
	1,1-Dichloroethene	µg/L	530 U		32 J	
	cis-1,2-Dichloroethene	µg/L	1500		1200	
	Trichloroethene	µg/L	100000		56000	
X701-128G	1,1-Dichloroethene	µg/L	200 U		7.3 J	
	cis-1,2-Dichloroethene	µg/L	76 J		45 J	
	Methylene chloride	µg/L	500 U		26 BJ	
	Trichloroethene	µg/L	23000		16000	
X701-BW2G	1,1-Dichloroethane	µg/L	1.6 J			
	1,1-Dichloroethene	µg/L	14			
	Acetone	µg/L	11 J			
	cis-1,2-Dichloroethene	µg/L	16			
	trans-1,2-Dichloroethene	µg/L	2.6 J			
	Trichloroethene	µg/L	1100			
X701-BW4G	1,2-Dichlorobenzene	µg/L	2 U		0.14 J	
	Acetone	µg/L	2.6 J		10 U	
	cis-1,2-Dichloroethene	µg/L	1.9 J		3.4	
	trans-1,2-Dichloroethene	µg/L	1 U		0.15 J	
	Trichloroethene	µg/L	1.4 J		1.6 J	
X744G-02G	cis-1,2-Dichloroethene	µg/L	0.93 J		1.8 J	
	Trichloroethene	µg/L	14		32	
	Trichlorofluoromethane	µg/L	2.6		6.3	
X744G-03G	Trichloroethene	µg/L	1.4 J		1.6 J	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
LBC-PZ03	Americium-241	pCi/L	-0.011 U		-0.009913 U	
	Neptunium-237	pCi/L	7E-06 U		-0.007367 U	
	Plutonium-238	pCi/L	0.0073 U		0 U	
	Plutonium-239/240	pCi/L	0.0146 U		-0.01472 U	
	Technetium-99	pCi/L	-2.06 U		-0.12 U	
	Uranium	µg/L	0.0398 U		0.02306 U	
	Uranium-233/234	pCi/L	0.1004		0.03468 U	
	Uranium-235	pCi/L	0 U		0.008543 U	
	Uranium-236	pCi/L	0 U		0.007671 U	
	Uranium-238	pCi/L	0.0134 U		0.006946 U	
LBC-PZ06	Americium-241	pCi/L	0.0178 U		1.101E-05 U	
	Neptunium-237	pCi/L	0.0243 U		7.895E-06 U	
	Plutonium-238	pCi/L	0.0182 U		0.007896 U	
	Plutonium-239/240	pCi/L	0.0061 U		-0.03149 U	
	Technetium-99	pCi/L	-0.206 U		-1.78 U	
	Uranium	µg/L	0.1759		0.08574 U	
	Uranium-233/234	pCi/L	0.0740		0.1036	
	Uranium-235	pCi/L	0 U		-0.009113 U	
	Uranium-236	pCi/L	0 U		0.008199 U	
	Uranium-238	pCi/L	0.0591		0.02958 U	
X230J7-01GA	Americium-241	pCi/L	7E-06 U			
	Neptunium-237	pCi/L	0.0142 U			
	Plutonium-238	pCi/L	0.0142 U			
	Plutonium-239/240	pCi/L	-0.014 U			
	Technetium-99	pCi/L	0.795 U			
	Uranium	µg/L	0.3411			
	Uranium-233/234	pCi/L	0.0867			
	Uranium-235	pCi/L	-0.009 U			
	Uranium-236	pCi/L	0.0080 U			
	Uranium-238	pCi/L	0.1154			
X230J7-02GA	Americium-241	pCi/L	0.0099 U			
	Neptunium-237	pCi/L	-0.028 U			
	Plutonium-238	pCi/L	1E-05 U			
	Plutonium-239/240	pCi/L	0.0139 U			
	Technetium-99	pCi/L	31.9			
	Uranium	µg/L	0.1476			
	Uranium-233/234	pCi/L	0.1048			
	Uranium-235	pCi/L	0.0086 U			
	Uranium-236	pCi/L	0 U			
	Uranium-238	pCi/L	0.0488			
X230J7-03GA	Americium-241	pCi/L	9E-06 U			
	Neptunium-237	pCi/L	-0.007 U			
	Plutonium-238	pCi/L	0.0148 U			
	Plutonium-239/240	pCi/L	7E-06 U			
	Technetium-99	pCi/L	23.6			
	Uranium	µg/L	0.2501 U			
	Uranium-233/234	pCi/L	0.1818			
	Uranium-235	pCi/L	0.0093 U			

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X230J7-03GA	Uranium-236	pCi/L	0.0084 U			
	Uranium-238	pCi/L	0.0832			
X230J7-04GA	Americium-241	pCi/L			0.01902 U	
	Neptunium-237	pCi/L			-0.006824 U	
	Plutonium-238	pCi/L			0.01375 U	
	Plutonium-239/240	pCi/L			0.0000206 U	
	Technetium-99	pCi/L			-3.13 U	
	Uranium	µg/L			0.105	
	Uranium-233/234	pCi/L			0.08467	
	Uranium-235	pCi/L			8.695E-06 U	
	Uranium-236	pCi/L			0.01563 U	
	Uranium-238	pCi/L			0.0352	
	X700-03G	Americium-241	pCi/L	7E-05 U		
Neptunium-237		pCi/L	2E-05 U			
Plutonium-238		pCi/L	0.0277 U			
Plutonium-239/240		pCi/L	-0.018 U			
Technetium-99		pCi/L	0.245 U			
Uranium		µg/L	0.3451			
Uranium-233/234		pCi/L	0.14			
Uranium-235		pCi/L	0.0102 U			
Uranium-236		pCi/L	0 U			
X701-02G	Uranium-238	pCi/L	0.1151			
	Americium-241	pCi/L	1E-05 U		1.071E-05 U	
	Neptunium-237	pCi/L	-0.015 U		-0.0276 U	
	Plutonium-238	pCi/L	0.0073 U		-0.006877 U	
	Plutonium-239/240	pCi/L	-0.007 U		-0.00687 U	
	Technetium-99	pCi/L	-2.97 U		-2.2 U	
	Uranium	µg/L	0.2995		0.5392	
	Uranium-233/234	pCi/L	0.2187		0.3267	
	Uranium-235	pCi/L	0.0163 U		0.01645 U	
Uranium-236	pCi/L	7E-06 U		0.007385 U		
X701-05G	Uranium-238	pCi/L	0.0992		0.1797	
	Americium-241	pCi/L	3E-05 U		0 U	
	Neptunium-237	pCi/L	0.0198 U		-0.05591 U	
	Plutonium-238	pCi/L	1E-05 U		2.791E-05 U	
	Plutonium-239/240	pCi/L	-0.02 U		0.006997 U	
	Technetium-99	pCi/L	471		455	
	Uranium	µg/L	84.43		54.48	
	Uranium-233/234	pCi/L	166.4		101.7	
	Uranium-235	pCi/L	7.19		4.778	
Uranium-236	pCi/L	1.133		0.6373		
X701-06G	Uranium-238	pCi/L	27.72		17.87	
	Americium-241	pCi/L	0.0229 U		0.01858 U	
	Neptunium-237	pCi/L	-0.007 U		-0.01564 U	
	Plutonium-238	pCi/L	-0.007 U		0.02345 U	
	Plutonium-239/240	pCi/L	1E-05 U		0.02347 U	
	Technetium-99	pCi/L	13.2		7.06 U	
	Uranium	µg/L	1.264		1.27	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-06G	Uranium-233/234	pCi/L	0.4975		0.6205	
	Uranium-235	pCi/L	0.0372 U		0.009567 U	
	Uranium-236	pCi/L	0 U		0.03436 U	
	Uranium-238	pCi/L	0.4213		0.4257	
X701-08G	Americium-241	pCi/L			0.02439 U	
	Neptunium-237	pCi/L			-0.05996 U	
	Plutonium-238	pCi/L			0.01997 U	
	Plutonium-239/240	pCi/L			-0.02658 U	
	Technetium-99	pCi/L			222	
	Uranium	µg/L			0.2494	
	Uranium-233/234	pCi/L			0.06349 U	
	Uranium-235	pCi/L			-0.008683 U	
	Uranium-236	pCi/L			0.02344 U	
	Uranium-238	pCi/L			0.08447	
X701-09G	Americium-241	pCi/L	0.0298 U			
	Neptunium-237	pCi/L	-0.026 U			
	Plutonium-238	pCi/L	0.0198 U			
	Plutonium-239/240	pCi/L	-0.007 U			
	Technetium-99	pCi/L	199			
	Uranium	µg/L	1.917			
	Uranium-233/234	pCi/L	0.5802			
	Uranium-235	pCi/L	0.0341 U			
	Uranium-236	pCi/L	-0.008 U			
	Uranium-238	pCi/L	0.6411			
X701-10G	Americium-241	pCi/L	0.0202 U		0.01923 U	
	Neptunium-237	pCi/L	-0.026 U		-0.1819 U	
	Plutonium-238	pCi/L	-0.007 U		0.01398 U	
	Plutonium-239/240	pCi/L	-0.052 U		0.006996 U	
	Technetium-99	pCi/L	-1.23 U		0.65 U	
	Uranium	µg/L	0.1397 U		0.136 U	
	Uranium-233/234	pCi/L	0.0739		0.07728 U	
	Uranium-235	pCi/L	0 U		0.007941 U	
	Uranium-236	pCi/L	0 U		0 U	
	Uranium-238	pCi/L	0.0469 U		0.04498 U	
X701-12G	Americium-241	pCi/L	0.0306 U		-0.01152 U	
	Neptunium-237	pCi/L	-0.007 U		-0.06175 U	
	Plutonium-238	pCi/L	0.0066 U		0.02741 U	
	Plutonium-239/240	pCi/L	-0.013 U		1.369E-05 U	
	Technetium-99	pCi/L	181		204	
	Uranium	µg/L	0.0850 U		0.1021	
	Uranium-233/234	pCi/L	0.0504 U		0.02697 U	
	Uranium-235	pCi/L	0 U		0.008311 U	
	Uranium-236	pCi/L	-0.032 U		-0.007455 U	
	Uranium-238	pCi/L	0.0287 U		0.03362	
X701-13G	Americium-241	pCi/L	0.0104 U		0.0167 U	
	Neptunium-237	pCi/L	-0.008 U		-0.05312 U	
	Plutonium-238	pCi/L	-0.031 U		0.01327 U	
	Plutonium-239/240	pCi/L	0.0077 U		-0.02647 U	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-13G	Technetium-99	pCi/L	138		181	
	Uranium	µg/L	0.1793		0.195 U	
	Uranium-233/234	pCi/L	0.0403 U		0.1115	
	Uranium-235	pCi/L	0 U		0 U	
	Uranium-236	pCi/L	-0.007 U		0.007267 U	
	Uranium-238	pCi/L	0.0603		0.06549 U	
X701-14G	Americium-241	pCi/L	0.0315 U			
	Neptunium-237	pCi/L	-0.006 U			
	Plutonium-238	pCi/L	3E-05 U			
	Plutonium-239/240	pCi/L	0.0064 U			
	Technetium-99	pCi/L	710			
	Uranium	µg/L	0.0831 U			
	Uranium-233/234	pCi/L	0.035 U			
	Uranium-235	pCi/L	0 U			
	Uranium-236	pCi/L	0 U			
	Uranium-238	pCi/L	0.0279 U			
X701-15G	Americium-241	pCi/L	-0.01 U		-0.01776 U	
	Neptunium-237	pCi/L	-0.015 U		-0.00681 U	
	Plutonium-238	pCi/L	-0.015 U		0.02719 U	
	Plutonium-239/240	pCi/L	-0.037 U		0.006798 U	
	Technetium-99	pCi/L	-5.99 U		-1.24 U	
	Uranium	µg/L	0.2474		0.2941	
	Uranium-233/234	pCi/L	0.0303 U		0.1386	
	Uranium-235	pCi/L	0 U		0 U	
	Uranium-236	pCi/L	0 U		0 U	
	Uranium-238	pCi/L	0.0832		0.09882	
X701-16G	Americium-241	pCi/L	-0.018 U		0.008255 U	
	Neptunium-237	pCi/L	-0.006 U		2.092E-05 U	
	Plutonium-238	pCi/L	0.0128 U		3.477E-05 U	
	Plutonium-239/240	pCi/L	-0.006 U		0.02089 U	
	Technetium-99	pCi/L	-1.45 U		-1.58 U	
	Uranium	µg/L	0.3824		0.3005	
	Uranium-233/234	pCi/L	0.0854 U		0.121	
	Uranium-235	pCi/L	0.0088 U		-0.007848 U	
	Uranium-236	pCi/L	0 U		-0.007047 U	
	Uranium-238	pCi/L	0.1277		0.1017	
X701-18G	Americium-241	pCi/L			7.699E-06 U	
	Neptunium-237	pCi/L			-0.01363 U	
	Plutonium-238	pCi/L			-0.006798 U	
	Plutonium-239/240	pCi/L			-0.01358 U	
	Technetium-99	pCi/L			-0.0898 U	
	Uranium	µg/L			-0.1195 U	
	Uranium-233/234	pCi/L			0.0198 U	
	Uranium-235	pCi/L			-0.008107 U	
	Uranium-236	pCi/L			-0.02184 U	
	Uranium-238	pCi/L			-0.03933 U	
X701-19G	Americium-241	pCi/L	-0.008 U		0.01052 U	
	Neptunium-237	pCi/L	0.0283 U		-0.02371 U	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-19G	Plutonium-238	pCi/L	0.0141 U		0.0237 U	
	Plutonium-239/240	pCi/L	0.0071 U		-0.01576 U	
	Technetium-99	pCi/L	-4.33 U		-2.46 U	
	Uranium	µg/L	0.0415 U		0.07726 U	
	Uranium-233/234	pCi/L	0.0279 U		0.02007 U	
	Uranium-235	pCi/L	0 U		-0.00823 U	
	Uranium-236	pCi/L	0 U		0.007397 U	
	Uranium-238	pCi/L	0.014 U		0.02666 U	
X701-20G	Americium-241	pCi/L	5E-05 U			
	Neptunium-237	pCi/L	1E-05 U			
	Plutonium-238	pCi/L	0.0147 U			
	Plutonium-239/240	pCi/L	0.0074 U			
	Technetium-99	pCi/L	97.8			
	Uranium	µg/L	0.1129 U			
	Uranium-233/234	pCi/L	0.0744			
	Uranium-235	pCi/L	0.0092 U			
X701-21G	Uranium-236	pCi/L	0 U			
	Uranium-238	pCi/L	0.0371 U			
	Americium-241	pCi/L	0.0106 U		0.02863 U	
	Neptunium-237	pCi/L	-0.014 U		-0.01543 U	
	Plutonium-238	pCi/L	0.0069 U		0.03089 U	
	Plutonium-239/240	pCi/L	-0.021 U		2.315E-05 U	
	Technetium-99	pCi/L	41.9		90.8	
	Uranium	µg/L	0.3043		0.1551 U	
X701-23G	Uranium-233/234	pCi/L	0.0659 U		0.04479 U	
	Uranium-235	pCi/L	0 U		0 U	
	Uranium-236	pCi/L	0 U		0 U	
	Uranium-238	pCi/L	0.1022		0.05213 U	
	Americium-241	pCi/L			8.925E-06 U	
	Neptunium-237	pCi/L			-0.02341 U	
	Plutonium-238	pCi/L			0.01563 U	
	Plutonium-239/240	pCi/L			-0.02339 U	
X701-24G	Technetium-99	pCi/L			-6.09 U	
	Uranium	µg/L			-0.02375 U	
	Uranium-233/234	pCi/L			0.007247 U	
	Uranium-235	pCi/L			-0.008887 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			-0.007189 U	
	Americium-241	pCi/L	0.0101 U		0.02379 U	
	Neptunium-237	pCi/L	-0.007 U		0.02081 U	
X701-24G	Plutonium-238	pCi/L	0.0224 U		0.02076 U	
	Plutonium-239/240	pCi/L	0.0075 U		0.02076 U	
	Technetium-99	pCi/L	20.5		3.83 U	
	Uranium	µg/L	0.2321		0.1849 U	
	Uranium-233/234	pCi/L	0.0548 U		0.123	
	Uranium-235	pCi/L	0 U		0.008426 U	
	Uranium-236	pCi/L	-0.017 U		0 U	
	Uranium-238	pCi/L	0.0781		0.06137 U	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-25G	Americium-241	pCi/L	-0.014 U		0.02379 U	
	Neptunium-237	pCi/L	-0.007 U		-0.06145 U	
	Plutonium-238	pCi/L	0.0143 U		0.02728 U	
	Plutonium-239/240	pCi/L	0.0071 U		-0.006792 U	
	Technetium-99	pCi/L	-5.89 U		2.23 U	
	Uranium	µg/L	0.0203 U		0.04115 U	
	Uranium-233/234	pCi/L	5E-05 U		0.03465 U	
	Uranium-235	pCi/L	0 U		8.533E-06 U	
	Uranium-236	pCi/L	0 U		7.662E-06 U	
	Uranium-238	pCi/L	0.0068 U		0.01383 U	
X701-38G	Americium-241	pCi/L			0.01677 U	
	Neptunium-237	pCi/L			6.345E-06 U	
	Plutonium-238	pCi/L			0.03801 U	
	Plutonium-239/240	pCi/L			0.006345 U	
	Technetium-99	pCi/L			-2.29 U	
	Uranium	µg/L			0.07519 U	
	Uranium-233/234	pCi/L			0.03171 U	
	Uranium-235	pCi/L			0 U	
	Uranium-236	pCi/L			-0.007013 U	
	Uranium-238	pCi/L			0.0253 U	
X701-48G	Americium-241	pCi/L			0.02522 U	
	Neptunium-237	pCi/L			-0.05547 U	
	Plutonium-238	pCi/L			-0.007907 U	
	Plutonium-239/240	pCi/L			-0.007891 U	
	Technetium-99	pCi/L			-2.57 U	
	Uranium	µg/L			0.112 U	
	Uranium-233/234	pCi/L			0.07377	
	Uranium-235	pCi/L			0.009099 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			0.03681 U	
X701-50B	Americium-241	pCi/L			-0.02088 U	
	Neptunium-237	pCi/L			-0.01889 U	
	Plutonium-238	pCi/L			0.01887 U	
	Plutonium-239/240	pCi/L			-0.04395 U	
	Technetium-99	pCi/L			0.0356 U	
	Uranium	µg/L			0.09997	
	Uranium-233/234	pCi/L			0.1053	
	Uranium-235	pCi/L			0.008115 U	
	Uranium-236	pCi/L			0.007287 U	
	Uranium-238	pCi/L			0.03283	
X701-58B	Americium-241	pCi/L			0.009345 U	
	Neptunium-237	pCi/L			-0.06347 U	
	Plutonium-238	pCi/L			0.01409 U	
	Plutonium-239/240	pCi/L			0.00705 U	
	Technetium-99	pCi/L			-2.67 U	
	Uranium	µg/L			0.08254 U	
	Uranium-233/234	pCi/L			0.09729 U	
	Uranium-235	pCi/L			0 U	

**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-58B	Uranium-236	pCi/L			-0.007686 U	
	Uranium-238	pCi/L			0.02777 U	
X701-61B	Americium-241	pCi/L			0.014 U	
	Neptunium-237	pCi/L			-0.05039 U	
	Plutonium-238	pCi/L			0.007209 U	
	Plutonium-239/240	pCi/L			-0.02871 U	
	Technetium-99	pCi/L			-2.05 U	
	Uranium	µg/L			0.1028	
	Uranium-233/234	pCi/L			0.09697	
	Uranium-235	pCi/L			0 U	
	Uranium-236	pCi/L			0 U	
	Uranium-238	pCi/L			0.03456	
	X701-127G	Americium-241	pCi/L	0.0362 U		0.02355 U
Neptunium-237		pCi/L	1E-05 U		-0.0256 U	
Plutonium-238		pCi/L	0.0141 U		0.006407 U	
Plutonium-239/240		pCi/L	0 U		0.02558 U	
Technetium-99		pCi/L	16.4		8.67 U	
Uranium		µg/L	0.3282		0.08214 U	
Uranium-233/234		pCi/L	0.138		0.07119	
Uranium-235		pCi/L	0.0179 U		-0.008772 U	
Uranium-236		pCi/L	0.0080 U		-0.007876 U	
Uranium-238		pCi/L	0.1087		0.02842 U	
X701-128G		Americium-241	pCi/L	0.0192 U		0 U
	Neptunium-237	pCi/L	0.0068 U		-0.05024 U	
	Plutonium-238	pCi/L	-0.020 U		0.007176 U	
	Plutonium-239/240	pCi/L	0.0136 U		-0.01432 U	
	Technetium-99	pCi/L	7.99 U		4.21 U	
	Uranium	µg/L	0.4297		0.5865	
	Uranium-233/234	pCi/L	0.2396		0.2775	
	Uranium-235	pCi/L	0.0099 U		0.02776 U	
	Uranium-236	pCi/L	0.0088 U		0 U	
	Uranium-238	pCi/L	0.1435		0.1946	
	X701-BW1G	Americium-241	pCi/L			1.594E-05 U
Neptunium-237		pCi/L			5.291E-05 U	
Plutonium-238		pCi/L			0.02263 U	
Plutonium-239/240		pCi/L			0.02265 U	
Technetium-99		pCi/L			0.736 U	
Uranium		µg/L			0.07933 U	
Uranium-233/234		pCi/L			5.351E-05 U	
Uranium-235		pCi/L			0 U	
Uranium-236		pCi/L			-0.01482 U	
Uranium-238		pCi/L			0.02673 U	
X701-BW2G		Americium-241	pCi/L	-0.010 U		
	Neptunium-237	pCi/L	-0.006 U			
	Plutonium-238	pCi/L	0.0126 U			
	Plutonium-239/240	pCi/L	0.019 U			
	Technetium-99	pCi/L	50.6			
	Uranium	µg/L	0.1117			



**Table 4.7. Results for radionuclides at the X-701B Holding Pond – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X701-BW2G	Uranium-233/234	pCi/L	0.0493			
	Uranium-235	pCi/L	0.0076 U			
	Uranium-236	pCi/L	0 U			
	Uranium-238	pCi/L	0.0369			
X701-BW4G	Americium-241	pCi/L	0.0178 U		0.02695 U	
	Neptunium-237	pCi/L	-0.007 U		3.821E-05 U	
	Plutonium-238	pCi/L	0.0205 U		0.006362 U	
	Plutonium-239/240	pCi/L	-0.027 U		-0.01905 U	
	Technetium-99	pCi/L	298		190	
	Uranium	µg/L	0.0988 U		0.05632 U	
	Uranium-233/234	pCi/L	0.0467		0.006605 U	
	Uranium-235	pCi/L	0 U		-0.008084 U	
	Uranium-236	pCi/L	-0.015 U		0 U	
	Uranium-238	pCi/L	0.0333 U		0.01964 U	

**Table 4.8. Results for chromium at the X-633 Pumphouse/Cooling Towers Area – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X633-07G	Chromium	µg/L		260		510
X633-PZ04G	Chromium	µg/L		20		26

**Table 4.9. Volatile organic compounds detected at the X-616 Chromium Sludge Surface Impoundments – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X616-02G	Trichloroethene	µg/L	0.21 J			
X616-05G	Carbon disulfide	µg/L	0.47 J			
X616-09G	1,1,1-Trichloroethane	µg/L	3.5			
	1,1-Dichloroethane	µg/L	1.4 J			
	1,1-Dichloroethene	µg/L	18			
	Carbon disulfide	µg/L	0.54 J			
	cis-1,2-Dichloroethene	µg/L	1.8 J			
	Trichloroethene	µg/L	13			
X616-16G	Carbon disulfide	µg/L	0.47 J			
	cis-1,2-Dichloroethene	µg/L	2.5			
	Trichloroethene	µg/L	2			
X616-20B	1,1-Dichloroethane	µg/L	0.59 J			
	1,1-Dichloroethene	µg/L	0.49 J			
	cis-1,2-Dichloroethene	µg/L	0.35 J			
	Trichloroethene	µg/L	13			
X616-25G	Carbon disulfide	µg/L	0.49 J			
	cis-1,2-Dichloroethene	µg/L	0.54 J			
	Trichloroethene	µg/L	1 J			
X616-28B	1,1,1-Trichloroethane	µg/L	0.59 J			
	1,1-Dichloroethene	µg/L	0.47 J			
	Trichloroethene	µg/L	0.22 J			

**Table 4.10. Results for chromium at the X-616 Chromium Sludge Surface Impoundments – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X616-02G	Chromium	µg/L	2 U			
X616-05G	Chromium	µg/L	1300			
X616-09G	Chromium	µg/L	11			
X616-16G	Chromium	µg/L	1.3 B			
X616-20B	Chromium	µg/L	2.4			
X616-25G	Chromium	µg/L	5			
X616-28B	Chromium	µg/L	0.93 B			

**Table 4.11. Results for radionuclides at the X-616 Chromium Sludge Surface Impoundments – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X616-02G	Americium-241	pCi/L	0.0543 U			
	Neptunium-237	pCi/L	0.007 U			
	Plutonium-238	pCi/L	0.0139 U			
	Plutonium-239/240	pCi/L	-0.055 U			
	Technetium-99	pCi/L	-2.43 U			
	Uranium	µg/L	2.497			
	Uranium-233/234	pCi/L	1.26			
	Uranium-235	pCi/L	0.0088 U			
	Uranium-236	pCi/L	-0.008 U			
	Uranium-238	pCi/L	0.8383			
X616-05G	Americium-241	pCi/L	-0.015 U			
	Neptunium-237	pCi/L	-0.026 U			
	Plutonium-238	pCi/L	0 U			
	Plutonium-239/240	pCi/L	-0.034 U			
	Technetium-99	pCi/L	-1.57 U			
	Uranium	µg/L	0.5103			
	Uranium-233/234	pCi/L	0.1785			
	Uranium-235	pCi/L	0 U			
	Uranium-236	pCi/L	-0.007 U			
	Uranium-238	pCi/L	0.1715			
X616-09G	Americium-241	pCi/L	1E-05 U			
	Neptunium-237	pCi/L	-0.009 U			
	Plutonium-238	pCi/L	2E-05 U			
	Plutonium-239/240	pCi/L	9E-06 U			
	Technetium-99	pCi/L	-5.23 U			
	Uranium	µg/L	2.404			
	Uranium-233/234	pCi/L	1.278			
	Uranium-235	pCi/L	0.0411			
	Uranium-236	pCi/L	0.0148 U			
	Uranium-238	pCi/L	0.8041			
X616-16G	Americium-241	pCi/L	2E-05 U			
	Neptunium-237	pCi/L	-0.009 U			
	Plutonium-238	pCi/L	0.0089 U			
	Plutonium-239/240	pCi/L	-0.009 U			
	Technetium-99	pCi/L	-1.18 U			
	Uranium	µg/L	0.3773			
	Uranium-233/234	pCi/L	0.1341			
	Uranium-235	pCi/L	-0.008 U			
	Uranium-236	pCi/L	7E-06 U			
	Uranium-238	pCi/L	0.1275			
X616-20B	Americium-241	pCi/L	3E-05 U			
	Neptunium-237	pCi/L	0.0328 U			
	Plutonium-238	pCi/L	2E-05 U			
	Plutonium-239/240	pCi/L	0.0164 U			
	Technetium-99	pCi/L	-4.64 U			
	Uranium	µg/L	0.4603			
	Uranium-233/234	pCi/L	0.1963			
Uranium-235	pCi/L	-0.008 U				

**Table 4.11. Results for radionuclides at the X-616 Chromium Sludge Surface Impoundments – 2008  
(continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X616-20B	Uranium-236	pCi/L	0.0075 U			
	Uranium-238	pCi/L	0.1554			
X616-25G	Americium-241	pCi/L	1E-05 U			
	Neptunium-237	pCi/L	-0.008 U			
	Plutonium-238	pCi/L	8E-06 U			
	Plutonium-239/240	pCi/L	-0.008 U			
	Technetium-99	pCi/L	-2.71 U			
	Uranium	µg/L	0.8882			
	Uranium-233/234	pCi/L	0.305			
	Uranium-235	pCi/L	0.0082 U			
	Uranium-236	pCi/L	0 U			
	Uranium-238	pCi/L	0.2977			
X616-28B	Americium-241	pCi/L	0.0172 U			
	Neptunium-237	pCi/L	-0.030 U			
	Plutonium-238	pCi/L	3E-05 U			
	Plutonium-239/240	pCi/L	-0.020 U			
	Technetium-99	pCi/L	-2.39 U			
	Uranium	µg/L	1.49			
	Uranium-233/234	pCi/L	1.073			
	Uranium-235	pCi/L	0.0079 U			
Uranium-236	pCi/L	0 U				
Uranium-238	pCi/L	0.5				

**Table 4.12. Volatile organic compounds detected at the X-740 Waste Oil Handling Facility – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X740-02G	1,1,1-Trichloroethane	µg/L		11			
	1,1-Dichloroethane	µg/L		5.2			
	1,1-Dichloroethene	µg/L		8.6			
	Trichloroethene	µg/L		8.1			
X740-03G	1,1,1-Trichloroethane	µg/L		120		210	
	1,1-Dichloroethane	µg/L		34		55	
	1,1-Dichloroethene	µg/L		680		1400	
	1,2-Dichloroethane	µg/L		150		280	
	Acetone	µg/L		100 U		52 J	
	Carbon tetrachloride	µg/L		10 J		40 U	
	Chloroform	µg/L		12 J		24 J	
	cis-1,2-Dichloroethene	µg/L		9.7 J		16 J	
	Methylene chloride	µg/L		9.1 J		15 BJ	
	Tetrachloroethene	µg/L		170		230	
	Trichloroethene	µg/L		3700	400	7700	
	X740-04G	1,1,1-Trichloroethane	µg/L		1.2 J		
		1,1-Dichloroethane	µg/L		0.39 J		
1,1-Dichloroethene		µg/L		1.4 J			
1,2-Dichloroethane		µg/L		0.52 J			
Trichloroethene		µg/L		8.3			
X740-08G	1,1,1-Trichloroethane	µg/L		1.4 J		2.6	
	1,1-Dichloroethane	µg/L		18		13	
	1,1-Dichloroethene	µg/L		1.6 J		3.1	
	1,2-Dichloroethane	µg/L		0.2 J		2 U	
	cis-1,2-Dichloroethene	µg/L		25		12	
	trans-1,2-Dichloroethene	µg/L		7.6		3.4	
	Trichloroethene	µg/L		16		8.4	
X740-09B	1,1,1-Trichloroethane	µg/L		37		5.1	
	1,1-Dichloroethane	µg/L		11		12	
	1,1-Dichloroethene	µg/L		190		250	
	1,2-Dichloroethane	µg/L		59		51	
	Chloroform	µg/L		5.1 J		1.5 J	
	cis-1,2-Dichloroethene	µg/L		2.4 J		5.7	
	Methylene chloride	µg/L		4.1 J		1.7 BJ	
	Tetrachloroethene	µg/L		38		27	
X740-10G	Trichloroethene	µg/L		1200	940	1200	
	1,1,1-Trichloroethane	µg/L		8.7		18	
	1,1-Dichloroethane	µg/L		4.8		7.5	
	1,1-Dichloroethene	µg/L		34		81	
	1,2-Dichloroethane	µg/L		8.3		19	
	Chloroform	µg/L		0.71 J		1.6 J	
	cis-1,2-Dichloroethene	µg/L		1.6 J		3.4	
	Methylene chloride	µg/L		0.42 J		5 U	
	Tetrachloroethene	µg/L		3.7		7.2	
X740-11G	Trichloroethene	µg/L		170	260	410	
	1,1,1-Trichloroethane	µg/L		0.74 J			
	1,1-Dichloroethane	µg/L		0.41 J			
	1,1-Dichloroethene	µg/L		5.4			

**Table 4.12. Volatile organic compounds detected at the X-740 Waste Oil Handling Facility – 2008  
(continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X740-11G	1,2-Dichloroethane	µg/L		1.5 J		
	Trichloroethene	µg/L		14		
X740-14B	1,1,1-Trichloroethane	µg/L		1.1 J		2 U
	1,1-Dichloroethane	µg/L		1.1 J		2 U
	1,1-Dichloroethene	µg/L		9.1		0.38 J
	1,2-Dichloroethane	µg/L		2.9		2 U
	Acetone	µg/L		10 U		9.2 J
	cis-1,2-Dichloroethene	µg/L		0.18 J		2 U
	Trichloroethene	µg/L		33	2.9	1.6 J
X740-PZ10G	1,1,1-Trichloroethane	µg/L		2.2		2.7
	1,1-Dichloroethane	µg/L		1.2 J		0.36 J
	1,1-Dichloroethene	µg/L		6.1		3.1
	1,2-Dichloroethane	µg/L		1.8 J		1.5 J
	Acetone	µg/L		10 U		9.7 J
	Bromodichloromethane	µg/L		2 U		0.25 J
	Chloroform	µg/L		2 U		0.81 J
	cis-1,2-Dichloroethene	µg/L		0.26 J		2 U
	Tetrachloroethene	µg/L		0.92 J		0.94 J
	Trichloroethene	µg/L		44	28	30
X740-PZ12G	1,1,1-Trichloroethane	µg/L		4.5		4
	1,1-Dichloroethane	µg/L		1.1 J		1.1 J
	1,1-Dichloroethene	µg/L		21		20
	1,2-Dichloroethane	µg/L		7.4		6.4
	Acetone	µg/L		10 U		6.9 J
	Chloroform	µg/L		0.67 J		0.6 J
	cis-1,2-Dichloroethene	µg/L		0.23 J		0.25 J
	Tetrachloroethene	µg/L		1.3 J		1.2 J
X740-PZ14G	Trichloroethene	µg/L		120	94	130
	1,1,1-Trichloroethane	µg/L		5.2		3.1
	1,1-Dichloroethane	µg/L		1.7 J		1.1 J
	1,1-Dichloroethene	µg/L		35		24
	1,2-Dichloroethane	µg/L		11		7.4
	Chloroform	µg/L		1 J		0.68 J
	cis-1,2-Dichloroethene	µg/L		0.38 J		0.27 J
X740-PZ17G	Tetrachloroethene	µg/L		1.2 J		0.48 J
	Trichloroethene	µg/L		140	160	92
	1,1,1-Trichloroethane	µg/L		2		2.9
	1,1-Dichloroethane	µg/L		0.57 J		0.71 J
	1,1-Dichloroethene	µg/L		8.9		12
	1,2-Dichloroethane	µg/L		3.4		4.4
	Chloroform	µg/L		0.32 J		0.41 J
X740-PZ17G	Toluene	µg/L		2 U		0.2 J
	Trichloroethene	µg/L		30	36	41



**Table 4.13. Results for beryllium and chromium at the X-611A Former Lime Sludge Lagoons – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
F-07G	Beryllium	µg/L	6.6		5.8	
	Chromium	µg/L	3.4		2.8	
F-08B	Beryllium	µg/L	1 U		1 U	
	Chromium	µg/L	2 U		2 U	
X611-01B	Beryllium	µg/L	1 U		1 U	
	Chromium	µg/L	5.6		1.3 B	
X611-02BA	Beryllium	µg/L	1 U		0.082 B	
	Chromium	µg/L	1.9 B		1.5 B	
X611-03G	Beryllium	µg/L	1 U		1 U	
	Chromium	µg/L	2 U		2 U	
X611-04BA	Beryllium	µg/L	0.31 B		0.73 B	
	Chromium	µg/L	1.1 B		0.9 B	

**Table 4.14. Volatile organic compounds detected at the X-735 Landfills – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X735-01G	1,1-Dichloroethane	µg/L		0.33 J		
	Methylene chloride	µg/L		0.52 J		
X735-01GA	Methylene chloride	µg/L		0.54 J		
X735-03G	1,1,1-Trichloroethane	µg/L		0.29 J		
	1,1-Dichloroethane	µg/L		0.77 J		
	Benzene	µg/L		0.22 J		
	Chloroethane	µg/L		1 J		
	cis-1,2-Dichloroethene	µg/L		0.21 J		
	Methylene chloride	µg/L		0.43 BJ		
	Trichloroethene	µg/L		0.19 J		
X735-05GA	Acetone	µg/L		2 J		
	Methylene chloride	µg/L		0.49 J		
X735-06GAA	Methylene chloride	µg/L		0.46 J		
X735-13GA	Methylene chloride	µg/L		0.42 J		
X735-16B	Methylene chloride	µg/L		0.4 J		
X735-18B	Acetone	µg/L		1.9 J		
	Trichloroethene	µg/L		0.22 J		
X735-19G	Acetone	µg/L		7.2 J		
X735-21G	cis-1,2-Dichloroethene	µg/L		0.4 J		
X737-06G	Acetone	µg/L		2.1 J		
	Methylene chloride	µg/L		0.51 J		
X737-07B	Methylene chloride	µg/L		0.43 J		
X737-08B	Methylene chloride	µg/L		0.34 J		

**Table 4.15. Results for radionuclides at the X-735 Landfills – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X735-01G	Americium-241	pCi/L		0.02878 U		0.02461 U
	Neptunium-237	pCi/L		1.5E-05 U		-0.01461 U
	Plutonium-238	pCi/L		0.01477 U		0 U
	Plutonium-239/240	pCi/L		0.05166 U		0.00729 U
	Technetium-99	pCi/L		1.12 U		-3.9 U
	Uranium	µg/L		0.05768 U		0.01819 U
	Uranium-233/234	pCi/L		0.01351 U		0.0413 U
	Uranium-235	pCi/L		-0.0083 U		-0.00848 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.02012 U		0.006866 U
X735-01GA	Americium-241	pCi/L		0.01506 U		-0.00892 U
	Neptunium-237	pCi/L		2.2E-05 U		-0.0821 U
	Plutonium-238	pCi/L		-0.0071 U		0.0164 U
	Plutonium-239/240	pCi/L		-0.0143 U		0 U
	Technetium-99	pCi/L		-0.788 U		-6.53 U
	Uranium	µg/L		-0.0171 U		0.06124 U
	Uranium-233/234	pCi/L		0.01951 U		0.03976 U
	Uranium-235	pCi/L		0.00802 U		0.008173 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		-0.0065 U		0.01985 U
X735-02GA	Americium-241	pCi/L		0.00878 U		0.008059 U
	Neptunium-237	pCi/L		-0.042 U		7.63E-06 U
	Plutonium-238	pCi/L		0.02098 U		0 U
	Plutonium-239/240	pCi/L		1.4E-05 U		0.02286 U
	Technetium-99	pCi/L		3.15 U		-3.25 U
	Uranium	µg/L		0.07961		0.06015 U
	Uranium-233/234	pCi/L		3.3E-05 U		0.02803 U
	Uranium-235	pCi/L		0.00805 U		-0.00864 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.02603 U		0.02098 U
X735-03G	Americium-241	pCi/L		0.00822 U		0.008659 U
	Neptunium-237	pCi/L		-0.0284 U		0.006979 U
	Plutonium-238	pCi/L		7.1E-06 U		0.02088 U
	Plutonium-239/240	pCi/L		3.5E-05 U		-0.02086 U
	Technetium-99	pCi/L		0.776 U		-0.11 U
	Uranium	µg/L		0.1017 U		0.1396
	Uranium-233/234	pCi/L		0.09589		0.04701
	Uranium-235	pCi/L		8.4E-06 U		0 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.03418 U		0.04691
X735-03GA	Americium-241	pCi/L		0.01869 U		0.009681 U
	Neptunium-237	pCi/L		2.1E-05 U		0.02939 U
	Plutonium-238	pCi/L		0.03573 U		0.007323 U
	Plutonium-239/240	pCi/L		0.01429 U		0 U
	Technetium-99	pCi/L		2.53 U		-3.73 U
	Uranium	µg/L		0.03776 U		4.76E-06 U
	Uranium-233/234	pCi/L		0.00639 U		0.02975 U
	Uranium-235	pCi/L		0 U		9.17E-06 U

**Table 4.15. Results for radionuclides at the X-735 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X735-03GA	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.01269 U		0 U
X735-04G	Americium-241	pCi/L		0.1646 U		0.00941 U
	Neptunium-237	pCi/L		-0.0282 U		0.01742 U
	Plutonium-238	pCi/L		-0.0211 U		0 U
	Plutonium-239/240	pCi/L		-0.0070 U		0.01738 U
	Technetium-99	pCi/L		-3.28 U		-1.95 U
	Uranium	µg/L		0.08838 U		0.04221 U
	Uranium-233/234	pCi/L		0.05791 U		0.06377 U
	Uranium-235	pCi/L		0.00893 U		0 U
	Uranium-236	pCi/L		0 U		0.007847 U
	Uranium-238	pCi/L		0.0289 U		0.01414 U
X735-04GA	Americium-241	pCi/L		0.00701 U		0.02406 U
	Neptunium-237	pCi/L		-0.0069 U		0.01475 U
	Plutonium-238	pCi/L		2.8E-05 U		0.01472 U
	Plutonium-239/240	pCi/L		0.00694 U		0.007356 U
	Technetium-99	pCi/L		0.841 U		1.03 U
	Uranium	µg/L		-0.0414 U		0.05913 U
	Uranium-233/234	pCi/L		0.00701 U		0.03982 U
	Uranium-235	pCi/L		0 U		0 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		-0.0139 U		0.01987 U
X735-05G	Americium-241	pCi/L		0.00888 U		0.02477 U
	Neptunium-237	pCi/L		-0.0943 U		0 U
	Plutonium-238	pCi/L		0.01347 U		0.007976 U
	Plutonium-239/240	pCi/L		1.3E-05 U		0.01595 U
	Technetium-99	pCi/L		-2.04 U		-4.85 U
	Uranium	µg/L		0.1249 U		0.1635
	Uranium-233/234	pCi/L		0.01408 U		0.08823
	Uranium-235	pCi/L		0 U		0.00837 U
	Uranium-236	pCi/L		-0.0078 U		0 U
	Uranium-238	pCi/L		0.042 U		0.05418
X735-05GA	Americium-241	pCi/L		0.01508 U		0.008082 U
	Neptunium-237	pCi/L		7.0E-06 U		0.01524 U
	Plutonium-238	pCi/L		-0.007 U		0 U
	Plutonium-239/240	pCi/L		0.021 U		0.00762 U
	Technetium-99	pCi/L		-3.59 U		1.01 U
	Uranium	µg/L		0.00229 U		0.2052 U
	Uranium-233/234	pCi/L		0.01946 U		0.007728 U
	Uranium-235	pCi/L		0.00798 U		0 U
	Uranium-236	pCi/L		0.00717 U		0 U
	Uranium-238	pCi/L		1.9E-05 U		0.06894 U
X735-06GAA	Americium-241	pCi/L		0.00741 U		0.008475 U
	Neptunium-237	pCi/L		-0.0296 U		0 U
	Plutonium-238	pCi/L		0.02952 U		0.007996 U
	Plutonium-239/240	pCi/L		2.9E-05 U		0.024 U
	Technetium-99	pCi/L		1.75 U		-1.62 U
	Uranium	µg/L		0.2714		0.1792

**Table 4.15. Results for radionuclides at the X-735 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X735-06GAA	Uranium-233/234	pCi/L		0.1046		0.03015
	Uranium-235	pCi/L		0.00861 U		0 U
	Uranium-236	pCi/L		0 U		0.006679 U
	Uranium-238	pCi/L		0.09042		0.06018
X735-12G	Americium-241	pCi/L		1.6E-05 U		0.02527 U
	Neptunium-237	pCi/L		0.00669 U		0.008705 U
	Plutonium-238	pCi/L		0.01997 U		0.01736 U
	Plutonium-239/240	pCi/L		1.3E-05 U		-0.00866 U
	Technetium-99	pCi/L		-1.08 U		2.53 U
	Uranium	µg/L		0.2013		0.3801
	Uranium-233/234	pCi/L		0.09031		0.1439
	Uranium-235	pCi/L		0 U		-0.00934 U
	Uranium-236	pCi/L		0.00834 U		0.00839 U
	Uranium-238	pCi/L		0.06759		0.1285
	X735-13GA	Americium-241	pCi/L		0.00703 U	
Neptunium-237		pCi/L		-0.0158 U		-0.00763 U
Plutonium-238		pCi/L		7.9E-06 U		0.00767 U
Plutonium-239/240		pCi/L		0.04733 U		7.61E-06 U
Technetium-99		pCi/L		0.325 U		-3.01 U
Uranium		µg/L		0.1259 U		0.1596
Uranium-233/234		pCi/L		0.0708		0.08615
Uranium-235		pCi/L		0 U		0.008173 U
Uranium-236		pCi/L		-0.0157 U		0 U
Uranium-238		pCi/L		0.04239 U		0.0529
X735-16B		Americium-241	pCi/L		0.00798 U	
	Neptunium-237	pCi/L		-0.0279 U		0.007201 U
	Plutonium-238	pCi/L		0 U		0.02148 U
	Plutonium-239/240	pCi/L		0.02088 U		0.02148 U
	Technetium-99	pCi/L		-0.304 U		-2.56 U
	Uranium	µg/L		-0.0222 U		0.08838
	Uranium-233/234	pCi/L		-0.0135 U		0.05362
	Uranium-235	pCi/L		-0.0083 U		0 U
	Uranium-236	pCi/L		0 U		-0.00659 U
	Uranium-238	pCi/L		-0.0067 U		0.02973
	X735-17B	Americium-241	pCi/L		-0.0172 U	
Neptunium-237		pCi/L		-0.0281 U		0.02466 U
Plutonium-238		pCi/L		0.02807 U		0.01641 U
Plutonium-239/240		pCi/L		2.8E-05 U		0 U
Technetium-99		pCi/L		1.82 U		0.0224 U
Uranium		µg/L		0.1491 U		0.2268
Uranium-233/234		pCi/L		0.1465		0.2107
Uranium-235		pCi/L		-0.0078 U		0.01677 U
Uranium-236		pCi/L		-0.0141 U		0.01506 U
Uranium-238		pCi/L		0.05085 U		0.07461
X735-18B		Americium-241	pCi/L		0.02144 U	
	Neptunium-237	pCi/L		0.00721 U		-0.00634 U
	Plutonium-238	pCi/L		0.02152 U		0.01898 U
	Plutonium-239/240	pCi/L		0.02151 U		0.01898 U

**Table 4.15. Results for radionuclides at the X-735 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter	
X735-18B	Technetium-99	pCi/L		11		-5.62 U	
	Uranium	µg/L		0.08287 U		0.1856	
	Uranium-233/234	pCi/L		0.05743 U		0.1715	
	Uranium-235	pCi/L		-0.0088 U		0.008459 U	
	Uranium-236	pCi/L		-0.0079 U		0 U	
	Uranium-238	pCi/L		0.02867 U		0.0616	
X735-19G	Americium-241	pCi/L		0.00777 U		0 U	
	Neptunium-237	pCi/L		0.00711 U		-0.00756 U	
	Plutonium-238	pCi/L		0.02118 U		0.02264 U	
	Plutonium-239/240	pCi/L		0.01412 U		0 U	
	Technetium-99	pCi/L		1.63 U		-2.42 U	
	Uranium	µg/L		0.08126 U		0.07736 U	
	Uranium-233/234	pCi/L		0.00686 U		0.01344 U	
	Uranium-235	pCi/L		8.4E-06 U		-0.00825 U	
	Uranium-236	pCi/L		0 U		0 U	
	Uranium-238	pCi/L		0.02731 U		0.02673 U	
	Americium-241	pCi/L		-0.0287 U		0.0314 U	
	Neptunium-237	pCi/L		-0.0135 U		0.01395 U	
	Plutonium-238	pCi/L		0 U		0.01392 U	
	Plutonium-239/240	pCi/L		-0.0068 U		0.01392 U	
X735-20B	Technetium-99	pCi/L		7.23 U		-4.32 U	
	Uranium	µg/L		0.327		0.1464	
	Uranium-233/234	pCi/L		0.2685		0.09152	
	Uranium-235	pCi/L		0.01577 U		0 U	
	Uranium-236	pCi/L		0 U		0 U	
	Uranium-238	pCi/L		0.1085		0.04918	
	Americium-241	pCi/L		-0.0154 U		0.01686 U	
	Neptunium-237	pCi/L		-0.0065 U		-0.02119 U	
	Plutonium-238	pCi/L		0.01965 U		0.02115 U	
	Plutonium-239/240	pCi/L		0.0262 U		0.01411 U	
	Technetium-99	pCi/L		-0.549 U		-3.19 U	
	Uranium	µg/L		0.3966		0.2584	
	Uranium-233/234	pCi/L		0.2429		0.1924	
	Uranium-235	pCi/L		0.02429 U		0.008185 U	
X735-21G	Uranium-236	pCi/L		0.00727 U		7.34E-06 U	
	Uranium-238	pCi/L		0.1311		0.08608	
	Americium-241	pCi/L		0.01422 U		-0.00927 U	
	Neptunium-237	pCi/L		-0.0288 U		7.78E-06 U	
	Plutonium-238	pCi/L		0.02162 U		0 U	
	Plutonium-239/240	pCi/L		0.00723 U		0.01553 U	
	Technetium-99	pCi/L		1.63 U		-0.286 U	
	Uranium	µg/L		0.00417 U		0.002375 U	
	Uranium-233/234	pCi/L		0.05066 U		0.02155 U	
	Uranium-235	pCi/L		0.01561 U		0.008852 U	
	Uranium-236	pCi/L		-0.007 U		0 U	
	Uranium-238	pCi/L		4.4E-05 U		7.16E-06 U	
	X737-05B	Americium-241	pCi/L		0.00724 U		0.01865 U
		Neptunium-237	pCi/L		-0.047 U		-0.01569 U

**Table 4.15. Results for radionuclides at the X-735 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X737-06G	Plutonium-238	pCi/L		2.0E-05 U		0.01568 U
	Plutonium-239/240	pCi/L		-0.0134 U		0.01568 U
	Technetium-99	pCi/L		-2.14 U		1.04 U
	Uranium	µg/L		0.05948 U		-1E-04 U
	Uranium-233/234	pCi/L		-0.0064 U		0.007132 U
	Uranium-235	pCi/L		0.00795 U		0 U
	Uranium-236	pCi/L		-0.0071 U		-0.00785 U
	Uranium-238	pCi/L		0.01932 U		7.08E-06 U
X737-07B	Americium-241	pCi/L		-0.0078 U		0.009721 U
	Neptunium-237	pCi/L		-0.0205 U		-0.00740 U
	Plutonium-238	pCi/L		1.4E-05 U		-0.00738 U
	Plutonium-239/240	pCi/L		0.02053 U		0.00739 U
	Technetium-99	pCi/L		-2.99 U		2.06 U
	Uranium	µg/L		-0.0411 U		0.06213 U
	Uranium-233/234	pCi/L		-0.0138 U		0.01397 U
	Uranium-235	pCi/L		8.6E-06 U		0 U
X737-08B	Uranium-236	pCi/L		0.0077 U		-0.00773 U
	Uranium-238	pCi/L		-0.0139 U		0.02092 U
	Americium-241	pCi/L		0.01646 U		-0.01382 U
	Neptunium-237	pCi/L		-0.0640 U		-0.015 U
	Plutonium-238	pCi/L		0.02132 U		0.015 U
	Plutonium-239/240	pCi/L		0.04976 U		-0.00747 U
	Technetium-99	pCi/L		0.509 U		-3.45 U
	Uranium	µg/L		0.4403		0.3592
X737-09G	Uranium-233/234	pCi/L		0.5361		0.6397
	Uranium-235	pCi/L		0.00827 U		0 U
	Uranium-236	pCi/L		0.01485 U		0.01575 U
	Uranium-238	pCi/L		0.1471		0.1206
	Americium-241	pCi/L		0.02791 U		0 U
	Neptunium-237	pCi/L		-0.0067 U		7.97E-06 U
	Plutonium-238	pCi/L		0.01351 U		7.95E-06 U
	Plutonium-239/240	pCi/L		0.01351 U		0.007954 U
X737-09G	Technetium-99	pCi/L		0.756 U		-3.77 U
	Uranium	µg/L		0.2081		0.0872 U
	Uranium-233/234	pCi/L		0.05673 U		0.04405 U
	Uranium-235	pCi/L		-0.0087 U		0 U
	Uranium-236	pCi/L		-0.0078 U		0 U
	Uranium-238	pCi/L		0.07076		0.0293 U

**Table 4.16. Volatile organic compounds detected at the X-734 Landfills – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
RSY-02B	Methylene chloride	µg/L		5 U		0.46 BJ
X734-01G	Methylene chloride	µg/L		5 U		0.37 BJ
X734-02B	Methylene chloride	µg/L		0.43 BJ		5 U
X734-03G	Methylene chloride	µg/L		0.39 BJ		5 U
X734-04G	Acetone	µg/L		2.1 J		10 U
X734-05B	1,2-Dimethylbenzene	µg/L		0.25 J		0.34 J
	Benzene	µg/L		1.2 J		2.2
	Ethylbenzene	µg/L		0.34 J		0.44 J
	Methylene chloride	µg/L		5 U		0.48 BJ
	Toluene	µg/L		0.2 J		0.67 J
X734-06G	Trichloroethene	µg/L		2 U		0.17 J
X734-10G	Acetone	µg/L		2.1 J		10 U
X734-14G	Acetone	µg/L		2.4 J		10 U
	Methylene chloride	µg/L		5 U		0.44 BJ
X734-15G	1,1-Dichloroethane	µg/L		2 U		0.22 J
	Acetone	µg/L		1.9 J		10 U
X734-16G	Acetone	µg/L		4 J		
X734-18G	Acetone	µg/L		15		10 U
X734-20G	Acetone	µg/L		2 J		10 U
	Bromodichloromethane	µg/L		2 U		0.25 J
	Chloroform	µg/L		2 U		0.79 J
	Dibromochloromethane	µg/L		2 U		0.34 J
	Acetone	µg/L		4.5 J		10 U
X734-23G	cis-1,2-Dichloroethene	µg/L		12		9.5
	trans-1,2-Dichloroethene	µg/L		0.57 J		0.43 J
	Trichloroethene	µg/L		0.29 J		0.17 J
	Vinyl chloride	µg/L		4.2		5.4



**Table 4.17. Results for radionuclides at the X-734 Landfills – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
RSY-02B	Americium-241	pCi/L		0.02306 U		0 U
	Neptunium-237	pCi/L		-0.0557 U		0 U
	Plutonium-238	pCi/L		0.01392 U		0.01489 U
	Plutonium-239/240	pCi/L		-0.0347 U		0.007446 U
	Technetium-99	pCi/L		-0.119 U		-2.04 U
	Uranium	µg/L		0.06478 U		0.06287 U
	Uranium-233/234	pCi/L		0.0798 U		0.09169
	Uranium-235	pCi/L		0 U		0 U
	Uranium-236	pCi/L		0.00803 U		0 U
	Uranium-238	pCi/L		0.02172 U		0.02112 U
X734-01G	Americium-241	pCi/L		0.01365 U		0.02639 U
	Neptunium-237	pCi/L		-0.0076 U		6.55E-06 U
	Plutonium-238	pCi/L		0.03057 U		0.00655 U
	Plutonium-239/240	pCi/L		1.5E-05 U		0.006537 U
	Technetium-99	pCi/L		-2.43 U		0.567 U
	Uranium	µg/L		0.2379		0.1588
	Uranium-233/234	pCi/L		0.1071		0.1003
	Uranium-235	pCi/L		0.01762 U		0 U
	Uranium-236	pCi/L		0 U		-0.0074 U
	Uranium-238	pCi/L		0.07836		0.05338
X734-02B	Americium-241	pCi/L		0.00837 U		0.01547 U
	Neptunium-237	pCi/L		1.3E-05 U		-0.0157 U
	Plutonium-238	pCi/L		0.01893 U		7.83E-06 U
	Plutonium-239/240	pCi/L		0.01263 U		0.01567 U
	Technetium-99	pCi/L		-5.66 U		0.787 U
	Uranium	µg/L		-0.0711 U		0.1595
	Uranium-233/234	pCi/L		4.8E-05 U		0.02305 U
	Uranium-235	pCi/L		0 U		0 U
	Uranium-236	pCi/L		-0.0088 U		-0.0085 U
	Uranium-238	pCi/L		-0.0239 U		0.05364
X734-03G	Americium-241	pCi/L		0.01215 U		0.02868 U
	Neptunium-237	pCi/L		4.0E-05 U		-0.00697 U
	Plutonium-238	pCi/L		0 U		0.01392 U
	Plutonium-239/240	pCi/L		-0.0101 U		0.006959 U
	Technetium-99	pCi/L		-4.79 U		0.147 U
	Uranium	µg/L		0.3627		0.07025 U
	Uranium-233/234	pCi/L		0.2747		0.06305
	Uranium-235	pCi/L		0 U		0 U
	Uranium-236	pCi/L		0.00845 U		0 U
	Uranium-238	pCi/L		0.1218		0.0236 U
X734-04G	Americium-241	pCi/L		0.01658 U		-0.01621 U
	Neptunium-237	pCi/L		-0.0213 U		0 U
	Plutonium-238	pCi/L		0.01421 U		0.007775 U
	Plutonium-239/240	pCi/L		-0.0142 U		-0.00775 U
	Technetium-99	pCi/L		-3.87 U		-2.94 U
	Uranium	µg/L		1.627		1.715
	Uranium-233/234	pCi/L		0.5933		0.762
	Uranium-235	pCi/L		-0.0091 U		0.0266 U

**Table 4.17. Results for radionuclides at the X-734 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X734-04G	Uranium-236	pCi/L		0 U		0.01592 U
	Uranium-238	pCi/L		0.5477		0.5739
X734-05B	Americium-241	pCi/L		2.9E-05 U		0.01037 U
	Neptunium-237	pCi/L		1.5E-05 U		-0.0154 U
	Plutonium-238	pCi/L		0.00771 U		0.03074 U
	Plutonium-239/240	pCi/L		0.02313 U		0.007686 U
	Technetium-99	pCi/L		-3.3 U		-0.838 U
	Uranium	µg/L		0.7151		0.3286
	Uranium-233/234	pCi/L		0.3903		0.231
	Uranium-235	pCi/L		0.01965 U		-0.00982 U
	Uranium-236	pCi/L		0.00882 U		0 U
	Uranium-238	pCi/L		0.2385		0.1113
X734-06G	Americium-241	pCi/L		0.01234 U		0.01157 U
	Neptunium-237	pCi/L		0.00660 U		0 U
	Plutonium-238	pCi/L		0.0197 U		0.01432 U
	Plutonium-239/240	pCi/L		0.00657 U		0 U
	Technetium-99	pCi/L		-5.96 U		3.44 U
	Uranium	µg/L		-0.0851 U		0.08431 U
	Uranium-233/234	pCi/L		0.06468 U		0.07294
	Uranium-235	pCi/L		0 U		-0.00899 U
	Uranium-236	pCi/L		7.9E-06 U		0 U
	Uranium-238	pCi/L		-0.0286 U		0.02913 U
X734-10G	Americium-241	pCi/L		0.0118 U		0.03909 U
	Neptunium-237	pCi/L		6.7E-06 U		0 U
	Plutonium-238	pCi/L		6.7E-06 U		0.02065 U
	Plutonium-239/240	pCi/L		0.02009 U		0.01377 U
	Technetium-99	pCi/L		-4.75 U		1.46 U
	Uranium	µg/L		0.2996		0.4457
	Uranium-233/234	pCi/L		0.1369		0.1806
	Uranium-235	pCi/L		0 U		0.009688 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.1007		0.1489
X734-14G	Americium-241	pCi/L		0.03623 U		0 U
	Neptunium-237	pCi/L		0.00641 U		0 U
	Plutonium-238	pCi/L		0.01275 U		0.01445 U
	Plutonium-239/240	pCi/L		-0.0064 U		0.007223 U
	Technetium-99	pCi/L		-4.9 U		-2.78 U
	Uranium	µg/L		0.8049		0.6074
	Uranium-233/234	pCi/L		0.4365		0.3273
	Uranium-235	pCi/L		0.00855 U		0 U
	Uranium-236	pCi/L		0 U		-0.00754 U
	Uranium-238	pCi/L		0.2697		0.2041
X734-15G	Americium-241	pCi/L		0.01075 U		1.26E-05 U
	Neptunium-237	pCi/L		-0.034 U		0 U
	Plutonium-238	pCi/L		0.00678 U		0.006935 U
	Plutonium-239/240	pCi/L		0.03392 U		0.01383 U
	Technetium-99	pCi/L		-2.24 U		2.52 U
	Uranium	µg/L		0.6087		0.06878 U

**Table 4.17. Results for radionuclides at the X-734 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X734-15G	Uranium-233/234	pCi/L		0.1883		0.0849
	Uranium-235	pCi/L		0.01857 U		9.51E-06 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		0.2029		0.02311 U
X734-16G	Americium-241	pCi/L		0.01194 U		
	Neptunium-237	pCi/L		-0.0214 U		
	Plutonium-238	pCi/L		0.00713 U		
	Plutonium-239/240	pCi/L		-0.0071 U		
	Technetium-99	pCi/L		0.458 U		
	Uranium	µg/L		0.9029		
	Uranium-233/234	pCi/L		0.485		
	Uranium-235	pCi/L		0.00935 U		
	Uranium-236	pCi/L		8.4E-06 U		
	Uranium-238	pCi/L		0.3025		
	X734-18G	Americium-241	pCi/L		0.01325 U	
Neptunium-237		pCi/L		0.00720 U		6.59E-06 U
Plutonium-238		pCi/L		0.02148 U		-0.00656 U
Plutonium-239/240		pCi/L		0.01434 U		0.006577 U
Technetium-99		pCi/L		-1.63 U		-5.76 U
Uranium		µg/L		1.52		1.658
Uranium-233/234		pCi/L		0.7851		0.9245
Uranium-235		pCi/L		0.02549 U		0.02019 U
Uranium-236		pCi/L		0 U		0 U
Uranium-238		pCi/L		0.5086		0.5552
X734-20G		Americium-241	pCi/L		-0.0098 U	
	Neptunium-237	pCi/L		-0.0141 U		-0.0253 U
	Plutonium-238	pCi/L		0.02814 U		0.02528 U
	Plutonium-239/240	pCi/L		0.02814 U		0.01685 U
	Technetium-99	pCi/L		0.5 U		-1.52 U
	Uranium	µg/L		-0.0452 U		-0.0232 U
	Uranium-233/234	pCi/L		0.00762 U		0.01409 U
	Uranium-235	pCi/L		0 U		-0.00868 U
	Uranium-236	pCi/L		0 U		0 U
	Uranium-238	pCi/L		-0.0152 U		-0.00702 U
	X734-22G	Americium-241	pCi/L		0.03065 U	
Neptunium-237		pCi/L		0.00736 U		0.007358 U
Plutonium-238		pCi/L		0.02198 U		-0.00733 U
Plutonium-239/240		pCi/L		0.00734 U		-0.00733 U
Technetium-99		pCi/L		-6.21 U		-1.11 U
Uranium		µg/L		0.8992		1.136
Uranium-233/234		pCi/L		0.3915		0.5481
Uranium-235		pCi/L		0.01857 U		0 U
Uranium-236		pCi/L		0 U		0 U
Uranium-238		pCi/L		0.3005		0.3817
X734-23G		Americium-241	pCi/L		0.01799 U	
	Neptunium-237	pCi/L		0.02734 U		-0.00759 U
	Plutonium-238	pCi/L		0.01362 U		1.51E-05 U
	Plutonium-239/240	pCi/L		0.00682 U		0.01516 U

**Table 4.17. Results for radionuclides at the X-734 Landfills – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
X734-23G	Technetium-99	pCi/L		-5.63 U		-1.83 U
	Uranium	µg/L		-0.0203 U		0.08942 U
	Uranium-233/234	pCi/L		-0.0269 U		0.02258 U
	Uranium-235	pCi/L		0 U		0 U
	Uranium-236	pCi/L		-0.0149 U		0 U
	Uranium-238	pCi/L		-0.0067 U		0.03005 U

**Table 4.18. Results for cadmium, cobalt, and nickel at the X-533 Switchyard Area – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
F-03G	Cadmium	µg/L		46		50
	Cobalt	µg/L		82		200
	Nickel	µg/L		480		1200
TCP-01G	Cadmium	µg/L		20		16
	Cobalt	µg/L		53		46
	Nickel	µg/L		220		190
X533-03G	Cadmium	µg/L		11		17
	Cobalt	µg/L		35		48
	Nickel	µg/L		190		260

**Table 4.19. Volatile organic compounds detected at surface water monitoring locations – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
BRC-SW01	Acetone	µg/L	2.5 J	10 U	10 U	2.4 J
	Bromodichloromethane	µg/L	3.2	6.9	2.3	2.5
	Bromoform	µg/L	2 U	1.1 J	0.56 J	1.7 J
	Chloroform	µg/L	3.5	10	4.2	2.6
	Dibromochloromethane	µg/L	3	5.1	2.4	3.2
	Methylene chloride	µg/L	5 U	5 U	5 U	0.34 BJ
EDD-SW01	Bromodichloromethane	µg/L	3.4	3.6	2.2	1.5 J
	Bromoform	µg/L	0.38 J	0.46 J	0.52 J	1.7 J
	Chloroform	µg/L	2.8	4.4	3	1.3 J
	cis-1,2-Dichloroethene	µg/L	0.27 J	0.17 J	0.17 J	0.27 J
	Dibromochloromethane	µg/L	3.3	3.4	2.5	2.9
	Methylene chloride	µg/L	5 U	5 U	0.45 J	0.38 BJ
LBC-SW01	Trichloroethene	µg/L	0.82 J	0.45 J	0.23 J	0.64 J
	Bromodichloromethane	µg/L	2.5	2.9	1.8 J	1.1 J
	Bromoform	µg/L	2 U	0.3 J	0.44 J	1.3 J
	Chloroform	µg/L	1.9 J	3.5	2.5	1 J
	cis-1,2-Dichloroethene	µg/L	0.23 J	0.25 J	2 U	0.27 J
	Dibromochloromethane	µg/L	2.6	2.5	2	2.1
LBC-SW02	Methylene chloride	µg/L	5 U	5 U	0.44 J	5 U
	Trichloroethene	µg/L	0.51 J	0.43 J	0.16 J	0.52 J
	Bromodichloromethane	µg/L	1.8 J	1.5 J	0.8 J	0.59 J
	Bromoform	µg/L	2 U	0.2 J	2 U	0.88 J
	Chloroform	µg/L	1.3 J	1.9 J	1.1 J	0.55 J
	Dibromochloromethane	µg/L	1.8 J	1.5 J	1 J	1.2 J
LBC-SW03	Methylene chloride	µg/L	5 U	5 U	0.42 J	5 U
	Trichloroethene	µg/L	0.34 J	0.21 J	2 U	0.27 J
	Bromodichloromethane	µg/L	0.41 J	0.3 J	2 U	2 U
	Bromoform	µg/L	2 U	2 U	2 U	0.49 J
	Chloroform	µg/L	0.27 J	0.3 J	2 U	2 U
	Dibromochloromethane	µg/L	0.57 J	0.35 J	0.19 J	0.42 J
LBC-SW04	Methylene chloride	µg/L	5 U	5 U	0.39 J	5 U
	Bromodichloromethane	µg/L	0.23 J	2 U	2 U	2 U
	Dibromochloromethane	µg/L	0.32 J	2 U	2 U	2 U
NHP-SW01	Methylene chloride	µg/L	5 U	5 U	0.39 J	5 U
	Acetone	µg/L	10 U	13	10 U	10 U
	Bromodichloromethane	µg/L	0.59 J	0.2 J	2 U	0.22 J
	Chloroform	µg/L	0.65 J	0.38 J	2 U	0.25 J
UND-SW01	Dibromochloromethane	µg/L	0.59 J	0.19 J	2 U	0.26 J
	1,1-Dichloroethane	µg/L	2 U	2 U	0.23 J	2 U
	1,1-Dichloroethene	µg/L	2 U	0.28 J	0.36 J	2 U
	cis-1,2-Dichloroethene	µg/L	0.24 J	0.29 J	0.51 J	0.17 J
UND-SW02	Trichloroethene	µg/L	3.6	5.1	6.7	1.6 J
	2-Butanone	µg/L	6 U	6 U	6 U	5.6 J
WDD-SW01	Bromodichloromethane	µg/L	0.48 J	0.55 J	0.63 J	0.78 J
	Bromoform	µg/L	0.73 J	1.7 J	0.73 J	0.83 J
	Chloroform	µg/L	0.26 J	0.27 J	0.43 J	0.39 J
	Dibromochloromethane	µg/L	0.97 J	1.5 J	1.2 J	1.2 J
	Methylene chloride	µg/L	5 U	5 U	0.4 J	5 U

**Table 4.19. Volatile organic compounds detected at surface water monitoring locations – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
WDD-SW02	Benzene	µg/L	2 U	1.1 J	2 U	2 U
	Bromodichloromethane	µg/L	2 U	0.23 J	2 U	2 U
	Chloroform	µg/L	2 U	0.26 J	2 U	2 U
	Dibromochloromethane	µg/L	2 U	0.25 J	2 U	2 U
WDD-SW03	2-Butanone	µg/L	6 U	6 U	6 U	3.3 J
	Bromodichloromethane	µg/L	0.19 J	2 U	2 U	0.25 J
	Bromoform	µg/L	2 U	0.21 J	2 U	2 U
	Chloroform	µg/L	2 U	0.18 J	2 U	0.35 J
	Dibromochloromethane	µg/L	0.31 J	0.19 J	2 U	0.24 J

**Table 4.20. Results for radionuclides at surface water monitoring locations – 2008**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
BRC-SW01	Americium-241	pCi/L	0.029 U	-0.03 U	0.03494 U	0.008166 U
	Neptunium-237	pCi/L	-0.007 U	0.01871 U	-0.1455 U	0.02148 U
	Plutonium-238	pCi/L	-0.013 U	0.00622 U	0.01384 U	0.01428 U
	Plutonium-239/240	pCi/L	7E-06 U	0.01243 U	0.01385 U	0 U
	Technetium-99	pCi/L	-7.02 U	-4.68 U	0.0558 U	-2.47 U
	Uranium	µg/L	0.3904	0.08437 U	0.1827 U	1.332
	Uranium-233/234	pCi/L	0.339	0.1022 U	0.07785 U	0.9065
	Uranium-235	pCi/L	0.0178 U	-0.009 U	0.01066 U	0.02621 U
	Uranium-236	pCi/L	0 U	-0.0081 U	0.009575 U	0.007845 U
BRC-SW02	Uranium-238	pCi/L	0.1296	0.02919 U	0.0604 U	0.4453
	Americium-241	pCi/L	0.0184 U	0.00875 U	0.008166 U	0.008958 U
	Neptunium-237	pCi/L	0 U	7.4E-06 U	-0.02771 U	-0.07295 U
	Plutonium-238	pCi/L	0.0135 U	0.02961 U	2.764E-05 U	0.02914 U
	Plutonium-239/240	pCi/L	0.0068 U	0.00742 U	0.006931 U	2.18E-05 U
	Technetium-99	pCi/L	-1.14 U	-4.06 U	-2.95 U	-3.07 U
	Uranium	µg/L	0.9466	0.8174	0.5985	0.4982
	Uranium-233/234	pCi/L	0.8687	0.7519	0.6234	0.707
	Uranium-235	pCi/L	0.0170 U	0.02728 U	0.03496 U	8.98E-06 U
EDD-SW01	Uranium-236	pCi/L	0.0076 U	0 U	0 U	0.01615 U
	Uranium-238	pCi/L	0.3165	0.2722	0.198	0.1673
	Americium-241	pCi/L	0.0245 U	-0.0155 U	0.007687 U	0.02115 U
	Neptunium-237	pCi/L	0.0073 U	-0.021 U	-0.02059 U	8.64E-06 U
	Plutonium-238	pCi/L	7E-06 U	0.01396 U	0.01376 U	0.04313 U
	Plutonium-239/240	pCi/L	0.0145 U	-0.007 U	-0.01371 U	0.008624 U
	Technetium-99	pCi/L	-1.19 U	3.22 U	2.79 U	7.58 U
	Uranium	µg/L	0.4726	0.4987	0.2779	3.511
	Uranium-233/234	pCi/L	1.115	0.8445	0.3311	2.703
LBC-SW01	Uranium-235	pCi/L	0.093	0.05735	0 U	0.16
	Uranium-236	pCi/L	0.0083 U	0.00858 U	0 U	0.03193 U
	Uranium-238	pCi/L	0.1504	0.1624	0.09338	1.165
	Americium-241	pCi/L	0.016 U	0.00975 U	0.01513 U	0.009905 U
	Neptunium-237	pCi/L	0.0079 U	-0.014 U	-0.09432 U	-0.00745 U
	Plutonium-238	pCi/L	0.0157 U	0.00698 U	0.0145 U	0.01488 U
	Plutonium-239/240	pCi/L	0.0236 U	-0.0139 U	-0.01447 U	0.01488 U
	Technetium-99	pCi/L	7.6 U	-0.928 U	2.02 U	7.96 U
	Uranium	µg/L	0.5919	0.3872	0.2111	3.928
LBC-SW02	Uranium-233/234	pCi/L	1.031	0.8775	0.2179	3.144
	Uranium-235	pCi/L	0.0358 U	8.4E-06 U	0.008671 U	0.146
	Uranium-236	pCi/L	0.0080 U	0.01519 U	0 U	0.01639 U
	Uranium-238	pCi/L	0.1956	0.13	0.07015	1.307
	Americium-241	pCi/L	0.0168 U	0.00919 U	0.007556 U	0.02273 U
	Neptunium-237	pCi/L	7E-06 U	0.01381 U	0.006791 U	6.4E-06 U
	Plutonium-238	pCi/L	0.0131 U	0.04128 U	6.732E-06 U	0 U
	Plutonium-239/240	pCi/L	-0.013 U	0.01378 U	0.006752 U	0.006386 U
	Technetium-99	pCi/L	6.13 U	3.29 U	1.89 U	7.72 U
LBC-SW02	Uranium	µg/L	0.4718	0.404	0.2195	3.426
	Uranium-233/234	pCi/L	1.072	0.8379	0.3263	3.253
	Uranium-235	pCi/L	0.0176 U	0.05393	7.588E-06 U	0.1458



**Table 4.20. Results for radionuclides at surface water monitoring locations – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
LBC-SW02	Uranium-236	pCi/L	0.0079 U	0 U	0 U	0.05389
	Uranium-238	pCi/L	0.1569	0.1309	0.07373	1.138
LBC-SW03	Americium-241	pCi/L	0.0193 U	0.03376 U	0.02204 U	8.9E-06 U
	Neptunium-237	pCi/L	0.0148 U	0.0206 U	0.01906 U	0.01601 U
	Plutonium-238	pCi/L	-0.015 U	0.0274 U	0.01267 U	0.02393 U
	Plutonium-239/240	pCi/L	-0.007 U	0.00686 U	0.006339 U	0.01595 U
	Technetium-99	pCi/L	6.41 U	1.35 U	-0.323 U	12.2
	Uranium	µg/L	0.7891	0.4843	0.4309	4.032
	Uranium-233/234	pCi/L	1.199	0.7844	0.6631	3.564
LBC-SW04	Uranium-235	pCi/L	0.0624	0.03584 U	0.03339 U	0.2003
	Uranium-236	pCi/L	-0.008 U	0.00805 U	0 U	0.01798 U
	Uranium-238	pCi/L	0.2596	0.1595	0.1418	1.337
	Americium-241	pCi/L	-0.020 U	-0.0086 U	1.449E-05 U	0.02836 U
	Neptunium-237	pCi/L	-0.014 U	-0.0358 U	-0.02677 U	-0.02854 U
	Plutonium-238	pCi/L	0.0206 U	0.02144 U	0.02675 U	7.12E-06 U
	Plutonium-239/240	pCi/L	0.0069 U	0.00717 U	0.006693 U	0.007122 U
	Technetium-99	pCi/L	6.87 U	5.99 U	3.01 U	9.59
	Uranium	µg/L	1.062	0.6553	0.4389	3.448
	Uranium-233/234	pCi/L	1.354	1.073	0.7836	2.91
NHP-SW01	Uranium-235	pCi/L	0.035 U	0.03461 U	0.00864 U	0.1113
	Uranium-236	pCi/L	0 U	0.00777 U	0.00775 U	0.05831
	Uranium-238	pCi/L	0.3537	0.217	0.1466	1.148
	Americium-241	pCi/L	9E-06 U	0.02639 U	0.01629 U	0.01696 U
	Neptunium-237	pCi/L	-0.035 U	3.3E-05 U	-0.01561 U	8.48E-06 U
	Plutonium-238	pCi/L	0.0141 U	1.7E-05 U	0.01564 U	1.69E-05 U
	Plutonium-239/240	pCi/L	-0.007 U	0.02486 U	0.01564 U	0.01693 U
	Technetium-99	pCi/L	5.4 U	2.06 U	0.173 U	1.34 U
	Uranium	µg/L	2.828	2.871	2.217	4.714
	Uranium-233/234	pCi/L	1.193	1.413	0.8152	1.907
UND-SW01	Uranium-235	pCi/L	0.089	0.0949	0.03219 U	0.07729
	Uranium-236	pCi/L	0 U	0 U	0.007223 U	7.70E-06 U
	Uranium-238	pCi/L	0.9422	0.9562	0.7419	1.577
	Americium-241	pCi/L	1E-05 U	-0.0083 U	0.03306 U	0.01117 U
	Neptunium-237	pCi/L	0.0067 U	2.0E-05 U	-0.0265 U	-0.02261 U
	Plutonium-238	pCi/L	0.0264 U	0.02717 U	0.01323 U	0.007526 U
	Plutonium-239/240	pCi/L	0.0067 U	0.0068 U	-0.01321 U	0 U
	Technetium-99	pCi/L	-2.9 U	-6.22 U	-2.39 U	-1.05 U
	Uranium	µg/L	2.301	2.025	1.405	3.251
	Uranium-233/234	pCi/L	0.7793	1.147	0.4571	1.355
UND-SW02	Uranium-235	pCi/L	0.0258 U	0.03452 U	0.0179 U	0.07112
	Uranium-236	pCi/L	0 U	0.02324 U	0 U	0 U
	Uranium-238	pCi/L	0.7708	0.6771	0.4706	1.086
	Americium-241	pCi/L	0.0215 U	0.03015 U	-0.008193 U	-0.00919 U
	Neptunium-237	pCi/L	-0.013 U	-0.0155 U	-0.007189 U	-0.00813 U
	Plutonium-238	pCi/L	0.0260 U	0.03099 U	0.02876 U	0.008119 U
	Plutonium-239/240	pCi/L	0.0195 U	0.0155 U	1.437E-05 U	1.62E-05 U
	Technetium-99	pCi/L	-4.13 U	-4.98 U	1.35 U	1.26 U
	Uranium	µg/L	1.547	1.484	1.113	2.326

**Table 4.20. Results for radionuclides at surface water monitoring locations – 2008 (continued)**

Sampling Location	Parameter	Unit	First quarter	Second quarter	Third quarter	Fourth quarter
UND-SW02	Uranium-233/234	pCi/L	0.6694	0.7935	0.5158	0.6414
	Uranium-235	pCi/L	0.0088 U	0 U	0.02651 U	0.03597 U
	Uranium-236	pCi/L	0.0237 U	0.01628 U	-0.01585 U	1.61E-05 U
	Uranium-238	pCi/L	0.5188	0.4986	0.3717	0.7784
WDD-SW01	Americium-241	pCi/L	0.0086 U	2.5E-05 U	0.02469 U	0.009874 U
	Neptunium-237	pCi/L	0.0224 U	6.8E-06 U	-0.01555 U	-0.08032 U
	Plutonium-238	pCi/L	0.0224 U	-0.0068 U	0.008926 U	8.01E-06 U
	Plutonium-239/240	pCi/L	0 U	-0.0136 U	0.00672 U	0.008025 U
	Technetium-99	pCi/L	-4.91 U	-5.72 U	-3.22 U	-1.46 U
	Uranium	µg/L	0.9757	1.229	0.5436	6.274
	Uranium-233/234	pCi/L	0.4487	0.5712	0.1549	2.579
	Uranium-235	pCi/L	0.0088 U	0.01784 U	8.677E-06 U	0.09942
	Uranium-236	pCi/L	0.0158 U	0.01602 U	0 U	0 U
	Uranium-238	pCi/L	0.327	0.4113	0.1827	2.099
WDD-SW02	Americium-241	pCi/L	-0.026 U	0.03889 U	0.007827 U	-0.00916 U
	Neptunium-237	pCi/L	0.0132 U	-0.0268 U	-0.09117 U	3.74E-05 U
	Plutonium-238	pCi/L	0.0197 U	0.02006 U	0.01909 U	1.86E-05 U
	Plutonium-239/240	pCi/L	0.0131 U	-0.0067 U	0.01276 U	-0.01863 U
	Technetium-99	pCi/L	-1.43 U	-1.89 U	-0.572 U	-2.59 U
	Uranium	µg/L	2.588	2.484	2.044	2.245
	Uranium-233/234	pCi/L	1.122	0.8895	1.082	1.047
	Uranium-235	pCi/L	0.0357 U	0.04389	0.009031 U	0.01808 U
	Uranium-236	pCi/L	0 U	-0.0079 U	0.008101 U	0 U
	Uranium-238	pCi/L	0.8666	0.8309	0.6861	0.7529
WDD-SW03	Americium-241	pCi/L	0.0098 U	0.01709 U	1.611E-05 U	0.01861 U
	Neptunium-237	pCi/L	-0.007 U	-0.0091 U	-0.03355 U	0.02479 U
	Plutonium-238	pCi/L	1E-05 U	9.1E-06 U	0.03353 U	0.008257 U
	Plutonium-239/240	pCi/L	7E-06 U	-0.0182 U	0.01342 U	0.0165 U
	Technetium-99	pCi/L	-2.5 U	-6.08 U	-0.303 U	-2.86 U
	Uranium	µg/L	1.321	1.885	0.6196	4.29
	Uranium-233/234	pCi/L	0.7586	0.8692	0.2414	2.294
	Uranium-235	pCi/L	0.0446	0.02659 U	0.008271 U	0.06539 U
	Uranium-236	pCi/L	0 U	0.00796 U	7.42E-06 U	0.008386 U
	Uranium-238	pCi/L	0.4398	0.6309	0.2075	1.436

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