2. ENVIRONMENTAL MONITORING

This section provides environmental monitoring data collected by both DOE and the United States Enrichment Corporation (USEC) at or nearby PORTS.

The following tables are included in this section:

- Table 2.1. Radionuclide concentrations in DOE and USEC NPDES outfall water samples – 2007
- Table 2.2. DOE NPDES permit summary – 2007
- Table 2.3. DOE NPDES discharge and compliance rates – 2007
- Table 2.4. USEC NPDES discharge monitoring results – 2007
- Table 2.5. Radionuclides and PCBs in surface water runoff samples from DOE depleted uranium cylinder storage yards – 2007
- Table 2.6. Drainage basin monitoring of surface water and sediment for DOE depleted uranium cylinder storage yards – 2007
- Table 2.7. Ambient air monitoring program summary for radionuclides and fluoride – 2007
- Table 2.8. DOE environmental radiation monitoring program (mrem) – 2007
- Table 2.9. Environmental radiation monitoring (mrem) at locations near DOE depleted uranium cylinder storage yards – 2007
- Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007
- Table 2.11. Sediment monitoring program results – 2007
- Table 2.12. Soil and vegetation monitoring at ambient air monitoring stations – 2007
- Table 2.13. Biota (fish) monitoring program results – 2007
- Table 2.14. Biota (crops) monitoring program results – 2007
- Table 2.15. Biota (deer) monitoring program results – 2007
- Table 2.16. Off-site dairy monitoring – 2007

Table 2.1. Radionuclide concentrations in DOE and USEC NPDES outfall water samples – 2007

NPDES outfall[a]	Parameter[b]	Number of samples[c]	Minimum[d]	Maximum[d]	Average[e]	DCG[f]
			DOE Outfalls			
012	americium-241	4(4)	0	< 0.05674		30
	neptunium-237	4(4)	0	< 0.01589		30
	plutonium-238	4(4)	0	< 0.01586		40
	plutonium-239/240	4(4)	0	< 0.00793		30
	technetium-99	12(12)	0	< 1.95		100,000
	uranium	12(0)	0.4651	1.394	0.858	
	uranium-233/234	12(0)	0.1611	0.7272	0.418	500
	uranium-235	12(12)	0	< 0.03975		600
	uranium-236	12(12)	0	< 0.01603		500
	uranium-238	12(0)	0.1527	0.4676	0.287	600
013	americium-241	4(4)	< 0.0102	< 0.03136		30
	neptunium-237	4(4)	0	< 0.0235		30
	plutonium-238	4(4)	< 0.01582	< 0.03698		40
	plutonium-239/240	4(4)	0	< 0.03122		30
	technetium-99	12(12)	0	< 6.43		100,000
	uranium	12(0)	0.4082	2.066	0.931	
	uranium-233/234	12(0)	0.1375	1.189	0.451	500
	uranium-235	12(11)	0	0.04326		600
	uranium-236	12(11)	0	0.03618		500
	uranium-238	12(0)	0.1372	0.6912	0.311	600
015	americium-241	4(4)	0	< 0.05028		30
	neptunium-237	4(4)	0	< 0.007582		30
	plutonium-238	4(4)	< 0.007339	< 0.02268		40
	plutonium-239/240	4(4)	0	< 0.02854		30
	technetium-99	12(12)	0	< 1.54		100,000
	uranium	12(0)	0.378	1.852	0.888	
	uranium-233/234	12(0)	0.3242	1.558	0.781	500
	uranium-235	12(9)	0	0.07363		600
	uranium-236	12(12)	0	< 0.02421		500
	uranium-238	12(0)	0.1239	0.6176	0.296	600
608	americium-241	4(4)	0	< 0.0383		
	neptunium-237	4(4)	0	< 0.03843		
	plutonium-238	4(4)	0	< 0.02341		
	plutonium-239/240	4(4)	0	< 0.02301		
	technetium-99	12(0)	30.4	1580	378	
	uranium	12(0)	0.413	2.336	1.322	
	uranium-233/234	12(0)	0.2195	1.503	0.883	
	uranium-235	12(7)	0	0.08426		
	uranium-236	12(12)	0	< 0.0278		
	uranium-238	12(0)	0.1387	0.7787	0.440	
610	americium-241	4(4)	0	< 0.04342		
	neptunium-237	4(4)	0	< 0.02122		
	plutonium-238	4(4)	< 1.46E-05	< 0.04936		
	plutonium-239/240	4(4)	0	< 0.007063		
	technetium-99	12(0)	13.1	3510	934	
	uranium	12(2)	< 0.102	203.1		
	uranium-233/234	12(0)	0.2521	182.9	41.869	
	uranium-235	12(3)	< 0.007954	8.179		
	uranium-236	12(4)	0	0.9748		
	uranium-238	12(2)	0.03248	67.51		

Table 2.1. Radionuclide concentrations in DOE and USEC NPDES outfall water samples – 2007 (continued)

NPDES outfall[a]	Parameter[b]	Number of samples[c]	Minimum[d]	Maximum[d]	Average[e]	DCG[f]
611	americium-241	4(4)	0	< 0.02999		
	neptunium-237	4(4)	0	< 0.03157		
	plutonium-238	4(4)	< 0.007198	< 0.03143		
	plutonium-239/240	4(4)	0	0		
	technetium-99	12(2)	0	1210		
	uranium	12(0)	3.431	8.405	4.753	
	uranium-233/234	12(0)	2.947	13.77	5.194	
	uranium-235	12(0)	0.08464	0.3976	0.205	
	uranium-236	12(10)	0	0.102		
	uranium-238	12(0)	1.141	2.788	1.579	
			USEC Outfalls			
001	americium-241	4(4)	< 0.066	< 0.101		30
	neptunium-237	4(4)	< 0.079	< 0.137		30
	plutonium-238	4(4)	< 0.054	< 0.082		40
	plutonium-239/240	4(4)	< 0.056	< 0.107		30
	technetium-99	53(40)	< 8	63		100,000
	uranium	53(0)	0.15	2.28	0.70	
002	americium-241	4(4)	< 0.029	< 0.083		30
	neptunium-237	4(4)	< 0.107	< 0.155		30
	plutonium-238	4(4)	< 0.054	< 0.095		40
	plutonium-239/240	4(4)	< 0.054	< 0.119		30
	technetium-99	53(53)	< 7	< 10		100,000
	uranium	53(0)	0.20	1.51	0.85	
003	americium-241	4(4)	< 0.027	< 0.072		30
	neptunium-237	4(4)	< 0.09	< 0.228		30
	plutonium-238	4(4)	< 0.02	< 0.093		40
	plutonium-239/240	4(4)	< 0.02	< 0.129		30
	technetium-99	53(3)	< 9	364	132	100,000
	uranium	53(0)	1.69	24.2	5.37	
004	americium-241	4(4)	< 0.056	< 0.102		30
	neptunium-237	4(4)	< 0.065	< 0.174		30
	plutonium-238	4(4)	< 0.028	< 0.095		40
	plutonium-239/240	4(4)	< 0.024	< 0.075		30
	technetium-99	53(53)	< 7	< 10		100,000
	uranium	53(0)	0.29	0.73	0.47	
005	americium-241	1(1)	< 0.079			30
	neptunium-237	1(1)	< 0.109			30
	plutonium-238	1(1)	< 0.061			40
	plutonium-239/240	1(1)	< 0.124			30
	technetium-99	2(2)	< 9	< 9		100,000
	uranium	2(0)	0.15	0.26	0.21	

Table 2.1. Radionuclide concentrations in DOE and USEC NPDES outfall water samples – 2007 (continued)

NPDES outfall[a]	Parameter[b]	Number of samples[c]	Minimum[d]	Maximum[d]	Average[e]	DCG[f]
009	americium-241	4(4)	< 0.036	< 0.122		30
	neptunium-237	4(4)	< 0.063	< 0.135		30
	plutonium-238	4(4)	< 0.05	< 0.074		40
	plutonium-239/240	4(3)	< 0.072	< 0.104		30
	technetium-99	53(53)	< 7	< 10		100,000
	uranium	53(0)	2.5	9.21	5.17	
010	americium-241	4(4)	< 0.065	< 0.083		30
	neptunium-237	4(4)	< 0.065	< 0.1201		30
	plutonium-238	4(4)	< 0.048	< 0.085		40
	plutonium-239/240	4(4)	< 0.019	< 0.061		30
	technetium-99	53(53)	< 7	< 10		100,000
	uranium	53(0)	0.69	3.41	1.77	
011	americium-241	4(4)	< 0.024	< 0.128		30
	neptunium-237	4(4)	< 0.076	< 0.132		30
	plutonium-238	4(4)	< 0.052	< 0.071		40
	plutonium-239/240	4(4)	< 0.018	< 0.105		30
	technetium-99	53(53)	< 7	< 10		100,000
	uranium	53(0)	0.53	2.22	1.09	

[a]DOE internal NPDES Outfalls 608, 610, and 611 discharge to USEC NPDES Outfall 003 (X-6619 Sewage Treatment Plant).

[b]Uranium is reported in μg/L; all other radionuclides are reported in pCi/L.

[c]Number in parentheses is the number of samples that were below the detection limit.

[d]Minimum and maximum values reported as "0" may actually be negative results. Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out. These negative value results are reported as "0" in the table for simplicity. Some results are provided in scientific 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).

[e]Averages were not calculated for outfalls that had greater than 15% of the results below the detection limit. For outfalls with less than 15% of the results below the detection limit, any result below the detection limit was assigned a value at the detection limit to calculate the average for the parameter.

[f]Derived Concentration Guide (DCG)(pCi/L). DCGs are not provided for DOE internal outfalls (Outfalls 608, 610, and 611) because water from these outfalls flows through another outfall prior to discharge from the site. A DCG is not available for uranium.

Table 2.2. DOE NPDES permit summary – 2007

Effluent characteristics		Monitoring requirements		Discharge limitations	
Parameter	Units	Measurement frequency	Sampling type	Concentration	
				Monthly	Daily
Outfall 012 (X-2230M Holding Pond)					
Flow rate	MGD	Daily	24-hour total[a]		
pH	SU	½ weeks	Grab		6.5–9.0
Total suspended solids	mg/L	½ weeks	Grab	30	45
Oil and grease, total	mg/L	½ weeks	Grab	10	20
Chlorine, total residual	mg/L	½ weeks[b]	Grab		
Iron, total recoverable	μg/L	½ weeks	Grab		
Trichloroethene	μg/L	½ weeks	Grab		
PCBs	μg/L	1/quarter	Grab	*c*	*c*
Outfall 013 (X-2230N Holding Pond)					
Flow rate	MGD	Daily	24-hour total[a]		
pH	SU	½ weeks	Grab		6.5–9.0
Total suspended solids	mg/L	½ weeks	Grab	30	45
Oil and grease, total	mg/L	½ weeks	Grab	10	20
Chlorine, total residual	mg/L	½ weeks[b]	Grab		
PCBs	μg/L	1/quarter	Grab	*c*	*c*
Outfall 015 (X-624 Groundwater Treatment Facility)					
Flow rate	MGD	Daily	24-hour total		
Trichloroethene	μg/L	½ weeks	Grab	10	10
PCBs	μg/L	1/quarter	Grab	*c*	*c*
Outfall 608 (X-622 Groundwater Treatment Facility)					
Flow rate	MGD	Daily	24-hour total		
pH	SU	½ weeks	Grab		
Trichloroethene	μg/L	½ weeks	Grab		10
1,2-*trans*-dichloroethene	μg/L	½ weeks	Grab	25	66
Outfall 610 (X-623 Groundwater Treatment Facility)					
Flow rate	MGD	Daily	24-hour total		
pH	SU	½ weeks	Grab		
Trichloroethene	μg/L	½ weeks	Grab	10	10
1,2-*trans*-dichloroethene	μg/L	½ weeks	Grab	25	66
Outfall 611 (X-627 Groundwater Treatment Facility)					
Flow rate	MGD	Daily	24-hour total		
Trichloroethene	μg/L	½ weeks	Grab	10	10
Outfall 613 (X-6002 Particulate Separator)					
Flow rate	MGD	Daily	24-hour total[a]		
Chlorine, total residual	mg/L	½ weeks	Grab		
Total suspended solids	mg/L	½ weeks	Grab		

[a]Estimated.
[b]Summer only.
[c]No detectable PCBs.

Table 2.3. DOE NPDES discharge and compliance rates – 2007

Parameter	NPDES compliance rate (%)	Number of measurements[a]	Concentration			Units
			Minimum	Maximum	Average[b]	
Outfall 012 (X-2230M Holding Pond)						
Flow rate	*c*	250	0	5.363	0.2387	MGD
pH	100	27	6.78	8.55	7.83	SU
Total suspended solids	100	26(1)	1.6	43	8.1	mg/L
monthly average[f,g]	100	11	1.0	13.1	5.7	mg/L
Oil and grease, total	100	26(3)	1.5	5.5	3.6	mg/L
monthly average[f]	100	12	0.87	5.1	3.1	mg/L
Chlorine, total residual	*d*	13	0	0.19	0.06	mg/L
Iron, total recoverable	*d*	26(0)	110	3300	642	μg/L
Trichloroethene	*d*	26(21)	0.22	< 1		μg/L
PCBs	*e*	4(4)	< 1	< 1		μg/L
Outfall 013 (X-2230N Holding Pond)						
Flow rate	*c*	250	0.006	9.906	0.2539	MGD
pH	100	27	6.61	8.74	7.80	SU
Total suspended solids	100	26(10)	1.2	24		mg/L
monthly average[f]	100	12	0	16.8	4.0	mg/L
Oil and grease, total	100	27(5)	1.4	5.6		mg/L
monthly average[f]	100	12	0.95	6.1	2.9	mg/L
Chlorine, total residual	*d*	13	0	0.26	0.10	mg/L
PCBs	*e*	4(4)	< 1	< 1		μg/L
Outfall 015 (X-624 Groundwater Treatment Facility)						
Flow rate	*c*	365	0	0.0387	0.0076	MGD
Trichloroethene	100	26(6)	0.23	8.8		μg/L
monthly average[f]	100	12	0	5.2	2.2	μg/L
PCBs	*e*	4(4)	< 1	< 1		μg/L
Outfall 608 (X-622 Groundwater Treatment Facility)						
Flow rate	*c*	365	0	0.0654	0.0388	MGD
pH	*d*	28	6.98	8.00	7.60	SU
Trichloroethene	100	26(0)	0.58	2.1	1.2	μg/L
1,2-*trans*-dichloroethene	100	26(26)	< 0.5	< 0.5		μg/L
monthly average[f]	100	12	0	0	0	μg/L
Outfall 610 (X-623 Groundwater Treatment Facility)						
Flow rate	*c*	365	0	0.0506	0.0077	MGD
pH	*d*	27	6.37	7.97	7.15	SU
Trichloroethene	100	26(21)	0.17	3.1		μg/L
monthly average[f]	100	12	0	1.6	0.18	μg/L
1,2-*trans*-dichloroethene	100	26(26)	< 0.5	< 0.5		μg/L
monthly average[f]	100	12	0	0	0	μg/L

Table 2.3. DOE NPDES discharge and compliance rates – 2007 (continued)

Parameter	NPDES compliance rate (%)	Number of measurements[a]	Concentration			Units
			Minimum	Maximum	Average[b]	
Outfall 611 (X-627 Groundwater Treatment Facility)						
Flow rate	*c*	365	0	0.0401	0.0215	MGD
Trichloroethene	100	26(3)	0.19	4.0	1.3	μg/L
monthly average[f]	100	12	0	3.8	1.2	μg/L
Outfall 613 (X-6002 Particulate Separator)						
Flow rate	*c*	273	0	0.0012	0.0006	MGD
Total suspended solids	*d*	19(6)	1.2	120		mg/L
Chlorine, total residual	*d*	19	0.02	0.54	0.19	mg/L

[a]Number in parentheses is the number of samples that were below the detection limit.

[b]Averages were not calculated for outfalls that had greater than 15% of the results below the detection limit. For outfalls with less than 15% of the results below the detection limit, any result below the detection limit was assigned a value at the detection limit for calculating an average for the parameter.

[c]Flow rate does not have a numerical limit; therefore, no compliance rates are generated.

[d]Monitoring only required; therefore, no compliance rates are generated.

[e]The permit specifies no detectable PCBs in the effluent without setting a numerical limit of detection.

[f]The monthly average is computed by the software used to prepare and submit the NPDES Monthly Operating Report. Parameters that are undetected are assumed to be zero in computing the monthly average.

[g]The monthly average for total suspended solids was not calculated in December because effluent limitations were not in effect when both samples were collected due to precipitation.

Table 2.4. USEC NPDES discharge monitoring results – 2007

Parameter	Number of samples[a]	Concentration			Units
		Minimum	Maximum	Average[b]	
Outfall 001 (X-230J7 East Holding Pond)					
Cadmium, total recoverable	12(12)	< 1.6	< 4.42		μg/L
Chlorine, total residual	48(48)	< 0.02	< 0.38		mg/L
Dissolved solids	48(0)	126	291	187	mg/L
Flow rate	365	0.1630	3.550	1.345	MGD
Fluoride, total	12(1)	< 0.1	0.2	0.2	mg/L
Oil and grease, total	48(48)	< 5	< 5		mg/L
pH	48(0)	6.68	8.29	7.48	SU
Silver, total recoverable	12(10)	< 1.92	< 4.52		μg/L
Suspended solids	48(38)	< 2	< 22		mg/L
Zinc, total recoverable	12(0)	10.8	30.1	17.8	μg/L
Outfall 002 (X-230K South Holding Pond)					
Cadmium, total recoverable	12(12)	< 2.22	< 4.42		μg/L
Flow rate	365	0	2.594	0.457	MGD
Fluoride, total	12(0)	0.1	0.3	0.2	mg/L
Mercury, total	12(1)	< 0.5	6.8	2.3	ng/L
Oil and grease, total	48(48)	< 5	< 55		mg/L
pH	48(0)	7.10	9.00	7.62	SU
Silver, total recoverable	48(45)	< 1.92	< 4.52		μg/L
Suspended solids	48(0)	2.0	25.8	10.9	mg/L
Thallium, total recoverable	48(40)	< 21.5	45.6		μg/L
Outfall 003 (X-6619 Sewage Treatment Plant)					
Acute toxicity, *Ceriodaphnia dubia*	6(6)	< 1	< 1		Tua
Acute toxicity, *Pimephales promelas*	6(6)	< 1	< 1		Tua
Ammonia, nitrogen	24(22)	< 0.1	0.3		mg/L
Biochemical oxygen demand	48(47)	< 5	6.2		mg/L
Chlorine, total residual	127(126)	< 0.02	0.11		mg/L
Copper, total recoverable	12(9)	< 3.47	6.1		μg/L
Fecal coliform	24(0)	1	1440	185	#/100 mL
Flow rate	365	0.119	0.470	0.240	MGD
Mercury, total	12(0)	0.89	68	23	ng/L
Nitrite + nitrate	12(0)	5.1	10	6.8	mg/L
Oil and grease, total	4(4)	< 5	< 5		mg/L
pH	248(0)	6.85	8.06	7.34	SU
Silver, total recoverable	12(11)	< 1.45	< 4.52		μg/L
Suspended solids	48(32)	< 2	9.4		mg/L
Zinc, total recoverable	12(0)	7.18	73.4	32.7	μg/L
Outfall 004 (Cooling Tower Blowdown)					
Acute toxicity, *Ceriodaphnia dubia*	6(6)	< 1	< 1		Tua
Acute toxicity, *Pimephales promelas*	6(6)	< 1	< 1		Tua

Table 2.4. USEC NPDES discharge monitoring results – 2007 (continued)

Parameter	Number of samples[a]	Concentration			Units
		Minimum	Maximum	Average[b]	
Outfall 004 (Cooling Tower Blowdown) (continued)					
Chlorine, total residual	39(39)	< 0.02	< 0.02		mg/L
Copper, total recoverable	12(1)	8.64	65.4	22.2	μg/L
Dissolved solids	12(0)	193	314	251	mg/L
Flow rate	365	0	1.224	0.822	MGD
Mercury, total	12(1)	< 0.5	3.5	1.9	ng/L
Oil and grease, total	12(12)	< 5	< 5		mg/L
pH	12(0)	7.22	8.03	7.72	SU
Suspended solids	12(6)	< 2	4.4		mg/L
Zinc, total recoverable	12(0)	7.18	106	53.3	μg/L
Outfall 005 (X-611B Lime Sludge Lagoon)					
Flow rate	30	0	7.181	0.255	MGD
pH	3(0)	7.05	8.75	7.69	SU
Suspended solids	3(0)	4.4	6.6	5.3	mg/L
Outfall 009 (X-230L North Holding Pond)					
Cadmium, total recoverable	12(11)	< 0.158	< 4.42		μg/L
Flow rate	365	0.057	2.088	0.440	MGD
Fluoride, total	12(1)	< 0.1	0.3	0.2	mg/L
Oil and grease, total	12(12)	< 5	< 5		mg/L
pH	48(0)	7.19	8.20	7.81	SU
Suspended solids	48(2)	< 2	121	14.4	mg/L
Zinc, total recoverable	12(1)	< 7.18	43.7	19.9	μg/L
Outfall 010 (X-230J5 Northwest Holding Pond)					
Cadmium, total recoverable	12(11)	< 0.158	< 4.42		μg/L
Flow rate	365	0.060	0.814	0.322	MGD
Mercury. Total	12(1)	< 0.5	6.6	2.5	ng/L
Oil and grease, total	12(12)	< 5	< 5		mg/L
pH	24(0)	6.86	8.44	7.67	SU
Suspended solids	24(2)	< 2	33.4	6.8	mg/L
Zinc, total recoverable	12(0)	7.18	56.9	26.0	μg/L
Outfall 011 (X-230J6 Northeast Holding Pond)					
Cadmium, total recoverable	12(12)	< 0.158	< 4.42		μg/L
Chlorine, total residual	24(23)	< 0.02	0.03		mg/L
Copper, total recoverable	12(4)	< 3.47	17.6		μg/L
Flow rate	365	0	0.334	0.013	MGD
Fluoride, total	12(0)	0.2	0.3	0.2	mg/L
Oil and grease, total	24(24)	< 5	< 55		mg/L
pH	24(0)	6.89	8.31	7.76	SU
Suspended solids	24(11)	< 2	41.4		mg/L
Zinc, total recoverable	12(0)	15.7	59.2	34.8	μg/L
Outfall 602 (X-621 Coal Pile Runoff Treatment Facility)					
Flow rate	365	0	0.071	0.017	MGD
Iron, total	24(0)	35.9	5690	636	μg/L
Manganese, total	24(0)	5.66	154	66.2	μg/L
pH	24(0)	7.21	9.42	8.36	SU
Suspended solids	24(1)	< 2	23	6.7	mg/L

Table 2.4. USEC NPDES discharge monitoring results – 2007 (continued)

Parameter	Number of samples[a]	Concentration			Units
		Minimum	Maximum	Average[b]	
Outfall 604 (X-700 Biodenitrification Facility)					
Copper, total	8(1)	< 3.47	123	34.5	μg/L
Flow rate	274	0	0.160	0.005	MGD
Iron, total	8(0)	46.4	422	193	μg/L
Nickel, total	8(5)	< 6.39	20.7		μg/L
Nitrate, nitrogen	8(4)	< 0.1	21.4		mg/L
pH	8(0)	6.97	8.21	7.50	SU
Zinc, total	8(0)	7.18	106	34.4	μg/L
Outfall 605 (X-705 Decontamination Microfiltration System)					
Ammonia, nitrogen	12(7)	< 0.1	0.3		mg/L
Chromium, hexavalent	12(12)	< 0.01	< 0.1		mg/L
Chromium, total	12(7)	< 2.65	9.64		μg/L
Copper, total	12(3)	< 3.47	140		μg/L
Flow rate	365	0	0.025	0.002	MGD
Iron, total	12(1)	4.76	417	81.3	μg/L
Kjeldahl nitrogen	12(0)	0.2	3.2	1.2	mg/L
Nickel, total	12(2)	< 6.39	56.2		μg/L
Nitrogen, nitrate	12(0)	0.16	73.0	32.9	mg/L
Nitrogen, nitrite	12(10)	< 0.1	0.16		mg/L
Oil and grease, total	12(12)	< 5	< 5		mg/L
pH	12(0)	6.91	8.21	7.45	SU
Sulfate	12(0)	52.8	75.0	61.3	mg/L
Suspended solids	12(12)	< 2	< 2		mg/L
Trichloroethene	12(12)	< 5	< 5		μg/L
Zinc, total	12(0)	1.03	136	26.4	μg/L
Station Number 801 (Scioto River control sample, upstream of Outfalls 003 and 004)					
48-hr. acute toxicity, *Ceriodaphnia dubia*	6(6)	0	< 1		% affected
96-hr. acute toxicity, *Pimephales promelas*	6(6)	0	< 1		% affected
Station Number 902 (downstream of Outfall 001)					
Water temperature	96	1	29	17	°C
Station Number 903 (downstream of Outfall 002)					
Water temperature	96	1	29	16	°C

[a]Number in parentheses is the number of samples that were below the detection limit.

[b]Averages were not calculated for outfalls that had greater than 15% of the results below the detection limit. For outfalls with less than 15% of the results below the detection limit, any result below the detection limit was assigned a value at the detection limit for calculating an average for the parameter.

Table 2.5. Radionuclides and PCBs in surface water runoff samples from DOE depleted uranium cylinder storage yards – 2007

Sample location	Parameter[a]	Number of samples[b]	Minimum[c]	Maximum[c]	Average[d]	DCG[e]
X745-C1	americium-241	1(1)	< 0.0175			30
	neptunium-237	1(1)	< 0.00518			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			
	plutonium-238	1(1)	0			40
	plutonium-239/240	1(1)	< 0.0164			30
	technetium-99	8(8)	0	< 12.2		100,000
	uranium	11(0)	0.18	3.9	2.1	
	uranium-233/234	8(2)	0.06794	1.056	0.519	500
	uranium-235	8(7)	0	0.0539		600
	uranium-236	8(8)	0	< 0.0215		500
	uranium-238	8(0)	0.114	1.061	0.490	600
X745-C2	americium-241	1(1)	< 0.00848			30
	neptunium-237	1(1)	0			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			
	plutonium-238	1(1)	0			40
	plutonium-239/240	1(1)	< 0.0102			30
	technetium-99	9(9)	0	< 8.13		100,000
	uranium	12(0)	0.38	10	3.8	
	uranium-233/234	9(0)	0.132	1.32	0.505	500
	uranium-235	9(7)	< 0.00542	0.08238		600
	uranium-236	9(9)	0	< 0.02466		500
	uranium-238	9(0)	0.3195	2.08	0.941	600
X745-C3	americium-241	1(1)	< 0.00712			30
	neptunium-237	1(1)	< 0.00512			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			

Table 2.5. Radionuclides and PCBs in surface water runoff samples from DOE depleted uranium cylinder storage yards – 2007 (continued)

Sample location	Parameter[a]	Number of samples[b]	Minimum[c]	Maximum[c]	Average[d]	DCG[e]
X745-C3	plutonium-238	1(1)	0			40
	plutonium-239/240	1(1)	< 0.00529			30
	technetium-99	9(9)	0	< 10.4		100,000
	uranium	12(0)	0.057	37	4.3	
	uranium-233/234	9(2)	< 0.00003149	8.19		500
	uranium-235	9(6)	0	0.362		600
	uranium-236	9(9)	0	< 0.0415		500
	uranium-238	9(2)	< 0.007904	6.41		600
X745-C4	americium-241	1(1)	< 0.00192			30
	neptunium-237	1(1)	< 0.00515			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			
	plutonium-238	1(1)	0			40
	plutonium-239/240	1(1)	< 0.00958			30
	technetium-99	9(9)	0	< 12		100,000
	uranium	12(0)	0.13	8.8	2.8	
	uranium-233/234	9(1)	< 0.0454	1.16	0.404	500
	uranium-235	9(8)	0	< 0.0937		600
	uranium-236	9(9)	0	< 0.0152		500
	uranium-238	9(1)	< 0.0452	1.76	0.622	600
X745-E1	americium-241	1(1)	< 0.00704			30
	neptunium-237	1(1)	0			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			
	plutonium-238	1(1)	< 0.01			40
	plutonium-239/240	1(1)	< 0.0201			30
	technetium-99	9(9)	0	< 9.73		100,000
	uranium	12(0)	0.1	2.6	1.1	
	uranium-233/234	9(1)	< 0.007099	0.9486	0.366	500
	uranium-235	9(9)	0	< 0.03612		600
	uranium-236	9(9)	0	< 0.00993		500
	uranium-238	9(2)	< 0.0463	0.7686		600

Table 2.5. Radionuclides and PCBs in surface water runoff samples from DOE depleted uranium cylinder storage yards – 2007 (continued)

Sample location	Parameter[a]	Number of samples[b]	Minimum[c]	Maximum[c]	Average[d]	DCG[e]
X745-G1A[f]	americium-241	0				30
	neptunium-237	0				30
	PCB-1016	0				
	PCB-1221	0				
	PCB-1232	0				
	PCB-1242	0				
	PCB-1248	0				
	PCB-1254	0				
	PCB-1260	0				
	PCB-1268	0				
	plutonium-238	0				40
	plutonium-239/240	0				30
	technetium-99	4(4)	< 1.21	< 8.99		100,000
	uranium	7(0)	0.35	3.8	1.9	
	uranium-233/234	4(0)	0.1816	0.801	0.442	500
	uranium-235	4(4)	0	< 0.0175		600
	uranium-236	4(4)	0	< 0.0166		500
	uranium-238	4(0)	0.1182	0.656	0.346	600
X745-G2	americium-241	1(1)	0			30
	neptunium-237	1(1)	< 0.0000000864			30
	PCB-1016	1(1)	< 0.4			
	PCB-1221	1(1)	< 0.4			
	PCB-1232	1(1)	< 0.4			
	PCB-1242	1(1)	< 0.4			
	PCB-1248	1(1)	< 0.4			
	PCB-1254	1(1)	< 0.4			
	PCB-1260	1(1)	< 0.4			
	PCB-1268	1(1)	< 0.4			
	plutonium-238	1(1)	0			40
	plutonium-239/240	1(1)	< 0.00556			30
	technetium-99	9(9)	0	< 16.3		100,000
	uranium	12(0)	0.2	4.5	1.7	
	uranium-233/234	9(2)	< 0.03759	1.625		500
	uranium-235	9(8)	< 0.00001006	0.1079		600
	uranium-236	9(9)	0	< 0.02714		500
	uranium-238	9(2)	< 0.05246	1.265		600

[a]Uranium and PCBs are reported in μg/L; all other parameters are reported in pCi/L.

[b]Number in parentheses is the number of samples that were below the detection limit.

[c]Minimum and maximum values reported as "0" may actually be negative results. Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out. These negative value results are reported as "0" in the table for simplicity.

[d]Averages were not calculated for locations that had greater than 15% of the results below the detection limit. For locations with less than 15% of the results below the detection limit, any result below the detection limit was assigned a value at the detection limit to calculate the average for the parameter.

[e]Derived Concentration Guide (DCG)(pCi/L). DCGs are not available for PCBs and uranium.

[f]This sampling location was dry from May through September; no sample could be collected.

Table 2.6. Drainage basin monitoring of surface water and sediment for DOE depleted uranium cylinder storage yards – 2007

Location	Parameter[a]	First quarter[b]			Second quarter[b]		
		SW-F	SW-UF	Sed	SW-F	SW-UF	Sed
UDS X01	PCB-1242	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1248	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1254	0.2U	0.2U	47	0.1U	0.1U	6.7U
	PCB-1260	0.2U	0.2U	33U	0.1U	0.1U	34
	PCB-1262	0.1U	0.1U	43	0.1U	0.1U	6.7U
	PCB-1268	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	90J	1U	1U	34
RM-8	PCB-1242	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1248	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1254	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1260	0.2U	0.2U	130	0.1U	0.1U	180
	PCB-1262	0.1U	0.1U	33U	0.1U	0.1U	6.7U
	PCB-1268	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	130J	1U	1U	180
UDS X02	PCB-1242	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1248	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1254	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1260	0.2U	0.2U	66	0.1U	0.1U	130
	PCB-1262	0.1U	0.1U	33U	0.1U	0.1U	6.7U
	PCB-1268	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	66J	1U	1U	130
RM-10	PCB-1242	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1248	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1254	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	PCB-1260	0.2U	0.2U	33U	0.1U	0.1U	18
	PCB-1262	0.1U	0.1U	33U	0.1U	0.1U	6.7U
	PCB-1268	0.2U	0.2U	33U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	300U	1U	1U	18

Table 2.6. Drainage basin monitoring of surface water and sediment for DOE depleted uranium cylinder storage yards – 2007 (continued)

Location	Parameter[a]	Third quarter[b]			Fourth quarter[b]		
		SW-F	SW-UF	Sed	SW-F	SW-UF	Sed
UDS X01	PCB-1242	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1248	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1254	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1260	0.1U	0.1U	43	0.1U	0.1U	5.1J
	PCB-1262	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1268	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	43	1U	1U	5.1J
RM-8	PCB-1242	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1248	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1254	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1260	0.1U	0.1U	48	0.1U	0.1U	29
	PCB-1262	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1268	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	48	1U	1U	29J
UDS X02	PCB-1242	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1248	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1254	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1260	0.1U	0.1U	220	0.1U	0.1U	120
	PCB-1262	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	PCB-1268	0.1U	0.1U	6.7U	0.1U	0.1U	6.7U
	Total PCB	1U	1U	220	1U	1U	120
RM-10	PCB-1242	0.1U	0.1U	6.7U	0.1U	0.1U	33U
	PCB-1248	0.1U	0.1U	6.7U	0.1U	0.1U	33U
	PCB-1254	0.1U	0.1U	6.7U	0.1U	0.1U	33U
	PCB-1260	0.1U	0.1U	64	0.1U	0.1U	920
	PCB-1262	0.1U	0.1U	6.7U	0.1U	0.1U	33U
	PCB-1268	0.1U	0.1U	6.7U	0.1U	0.1U	33U
	Total PCB	1U	1U	64	1U	1U	920

[a]Results for surface water (SW) are reported in μg/L; results for sediment (Sed) are reported in μg/kg.

[b]Abbreviations and data qualifiers are as follows: SW-F – filtered surface water; SW-UF – unfiltered surface water; Sed – sediment; J – the reported value is an estimated concentration greater than the method detection limit but less than the practical quantitation limit; U – undetected.

Table 2.7. Ambient air monitoring program summary for radionuclides and fluoride – 2007

Sampling Location	Parameter[a]	No. of measurements[b]	Minimum[c, d]	Maximum[c]	Average[c, e]
		On-site air samplers			
A8	americium-241	8(8)	0	7.8E-06	
	fluoride	42(13)	2.0E-02	5.4E-01	
	neptunium-237	8(8)	0	2.8E-06	
	plutonium-238	8(8)	4.8E-09	1.2E-05	
	plutonium-239/240	8(8)	0	7.4E-06	
	technetium-99	10(10)	0	1.2E-03	
	uranium	10(0)	5.6E-04	1.3E-03	7.6E-04
	uranium-233/234	10(0)	1.9E-04	5.3E-04	2.9E-04
	uranium-235	10(9)	0	1.4E-05	
	uranium-236	10(10)	0	5.2E-06	
	uranium-238	10(0)	1.9E-04	4.5E-04	2.5E-04
A10	americium-241	10(10)	0	1.1E-05	
	fluoride	51(12)	1.5E-02	2.2E-01	
	neptunium-237	10(10)	0	2.7E-06	
	plutonium-238	10(10)	1.4E-06	1.0E-05	
	plutonium-239/240	10(10)	0	5.0E-06	
	technetium-99	12(12)	0	8.5E-04	
	uranium	12(0)	5.8E-04	1.2E-03	8.0E-04
	uranium-233/234	12(0)	2.5E-04	4.3E-04	3.0E-04
	uranium-235	12(9)	2.7E-06	2.3E-05	
	uranium-236	12(12)	0	5.0E-06	
	uranium-238	12(0)	2.0E-04	3.9E-04	2.7E-04
A29	americium-241	10(10)	0	3.1E-06	
	fluoride	51(18)	1.4E-02	2.1E-01	
	neptunium-237	10(10)	0	3.7E-06	
	plutonium-238	10(10)	0	9.4E-06	
	plutonium-239/240	10(10)	0	1.0E-05	
	technetium-99	12(12)	0	7.0E-04	
	uranium	12(0)	5.6E-04	1.1E-03	7.9E-04
	uranium-233/234	12(0)	1.9E-04	3.8E-04	2.8E-04
	uranium-235	12(8)	2.8E-06	2.9E-05	
	uranium-236	12(12)	0	8.4E-06	
	uranium-238	12(0)	1.9E-04	3.6E-04	2.6E-04
A36	americium-241	10(10)	0	5.0E-06	
	fluoride	51(6)	1.6E-02	4.9E-01	9.1E-02
	neptunium-237	10(10)	0	5.8E-06	
	plutonium-238	10(10)	0	1.7E-05	
	plutonium-239/240	10(10)	0	1.0E-05	
	technetium-99	12(12)	0	1.5E-03	
	uranium	12(0)	5.5E-04	1.8E-03	8.9E-04
	uranium-233/234	12(0)	2.4E-04	7.9E-04	3.7E-04
	uranium-235	12(5)	6.0E-06	4.7E-05	
	uranium-236	12(12)	0	9.1E-06	
	uranium-238	12(0)	1.9E-04	6.0E-04	3.0E-04
A40	fluoride	50(4)	2.0E-02	4.2E-01	8.3E-02

Table 2.7. Ambient air monitoring program summary for radionuclides and fluoride – 2007 (continued)

Sampling Location	Parameter[a]	No. of measurements[b]	Minimum[c, d]	Maximum[c]	Average[c, e]
		On-site air samplers			
T7	americium-241	10(10)	0	1.2E-05	
	neptunium-237	10(10)	0	7.8E-06	
	plutonium-238	10(10)	2.3E-09	1.6E-05	
	plutonium-239/240	10(10)	0	1.2E-05	
	technetium-99	12(12)	0	1.2E-03	
	uranium	12(0)	4.9E-04	1.3E-03	7.8E-04
	uranium-233/234	12(0)	1.5E-04	4.9E-04	2.9E-04
	uranium-235	12(8)	1.3E-08	2.2E-05	
	uranium-236	12(12)	0	2.6E-06	
	uranium-238	12(0)	1.6E-04	4.4E-04	2.6E-04
		Off-site air samplers			
A3	americium-241	10(10)	0	7.2E-06	
	fluoride	51(11)	1.2E-02	2.1E-01	
	neptunium-237	10(10)	0	1.4E-05	
	plutonium-238	10(10)	2.4E-06	1.2E-05	
	plutonium-239/240	10(10)	0	1.2E-05	
	technetium-99	12(12)	0	1.6E-03	
	uranium	12(0)	6.1E-04	1.6E-03	8.8E-04
	uranium-233/234	12(0)	2.5E-04	4.1E-04	3.0E-04
	uranium-235	12(9)	0	2.3E-05	
	uranium-236	12(12)	0	3.8E-06	
	uranium-238	12(0)	2.0E-04	5.3E-04	2.9E-04
A6	americium-241	10(10)	0	9.6E-06	
	fluoride	51(17)	1.2E-02	2.8E-01	
	neptunium-237	10(10)	0	6.4E-06	
	plutonium-238	10(10)	9.5E-09	1.5E-05	
	plutonium-239/240	10(10)	0	4.2E-06	
	technetium-99	12(12)	0	7.6E-04	
	uranium	12(0)	5.2E-04	1.3E-03	7.4E-04
	uranium-233/234	12(0)	1.9E-04	5.3E-04	2.9E-04
	uranium-235	12(11)	4.0E-09	1.8E-05	
	uranium-236	12(12)	0	6.4E-06	
	uranium-238	12(0)	1.8E-04	4.3E-04	2.5E-04
A9	americium-241	10(10)	0	1.1E-05	
	fluoride	51(16)	1.5E-02	1.9E-01	
	neptunium-237	10(10)	0	7.4E-06	
	plutonium-238	10(10)	3.6E-09	1.1E-05	
	plutonium-239/240	10(10)	0	1.2E-05	
	technetium-99	12(12)	0	1.4E-03	
	uranium	12(0)	7.5E-04	1.3E-03	9.1E-04
	uranium-233/234	12(0)	2.3E-04	1.2E-03	3.9E-04
	uranium-235	12(8)	4.7E-06	4.3E-05	
	uranium-236	12(12)	0	8.8E-06	
	uranium-238	12(0)	2.5E-04	4.4E-04	3.0E-04

Table 2.7. Ambient air monitoring program summary for radionuclides and fluoride – 2007 (continued)

Sampling Location	Parameter[a]	No. of measurements[b]	Minimum[c, d]	Maximum[c]	Average[c, e]
A12	americium-241	10(10)	0	1.1E-05	
	fluoride	49(11)	2.2E-02	1.9E-01	
	neptunium-237	10(10)	0	6.0E-06	
	plutonium-238	10(10)	0	8.1E-06	
	plutonium-239/240	10(10)	0	6.2E-06	
	technetium-99	12(11)	0	3.0E-03	
	uranium	12(0)	6.1E-04	1.7E-03	9.2E-04
	uranium-233/234	12(0)	2.2E-04	5.5E-04	3.2E-04
	uranium-235	12(7)	2.5E-06	2.6E-05	
	uranium-236	12(12)	0	2.7E-06	
	uranium-238	12(0)	2.0E-04	5.6E-04	3.1E-04
A15	americium-241	10(10)	0	8.6E-06	
	fluoride	50(12)	1.9E-02	2.0E-01	
	neptunium-237	10(10)	0	5.5E-06	
	plutonium-238	10(10)	2.3E-09	1.3E-05	
	plutonium-239/240	10(10)	0	1.3E-05	
	technetium-99	12(12)	0	1.4E-03	
	uranium	12(0)	5.5E-04	1.3E-03	8.1E-04
	uranium-233/234	12(0)	1.7E-04	4.3E-04	3.0E-04
	uranium-235	12(6)	5.5E-09	2.7E-05	
	uranium-236	12(12)	0	5.3E-06	
	uranium-238	12(0)	1.8E-04	4.3E-04	2.7E-04
A23	americium-241	10(10)	0	7.7E-06	
	fluoride	50(12)	1.4E-02	2.4E-01	
	neptunium-237	10(10)	0	2.2E-06	
	plutonium-238	10(10)	3.8E-06	8.1E-06	
	plutonium-239/240	10(10)	0	1.1E-05	
	technetium-99	12(12)	0	1.8E-03	
	uranium	12(0)	5.3E-04	2.1E-03	8.8E-04
	uranium-233/234	12(0)	2.4E-04	8.0E-04	3.6E-04
	uranium-235	12(9)	5.8E-09	2.0E-05	
	uranium-236	12(12)	0	4.9E-06	
	uranium-238	12(0)	1.8E-04	7.1E-04	3.0E-04
A24	americium-241	10(10)	0	6.5E-06	
	fluoride	51(18)	1.5E-02	1.6E-01	
	neptunium-237	10(10)	0	7.1E-06	
	plutonium-238	10(10)	0	9.1E-06	
	plutonium-239/240	10(10)	0	6.8E-06	
	technetium-99	12(12)	0	7.7E-04	
	uranium	12(0)	5.9E-04	2.5E-03	1.0E-03
	uranium-233/234	12(0)	2.1E-04	8.9E-04	3.6E-04
	uranium-235	12(8)	0	4.7E-05	
	uranium-236	12(12)	0	1.0E-05	
	uranium-238	12(0)	2.0E-04	8.3E-04	3.3E-04

Table 2.7. Ambient air monitoring program summary for radionuclides and fluoride – 2007 (continued)

Sampling Location	Parameter[a]	No. of measurements[b]	Minimum[c, d]	Maximum[c]	Average[c, e]
A28	americium-241	10(10)	0	8.1E-06	
	fluoride	51(19)	9.3E-03	2.6E-01	
	neptunium-237	10(10)	0	4.8E-06	
	plutonium-238	10(10)	5.5E-09	1.4E-05	
	plutonium-239/240	10(10)	0	8.6E-06	
	technetium-99	12(12)	0	1.1E-03	
	uranium	12(0)	6.5E-04	1.1E-03	8.0E-04
	uranium-233/234	12(0)	2.0E-04	4.1E-04	2.9E-04
	uranium-235	12(9)	0	2.4E-05	
	uranium-236	12(12)	0	5.6E-06	
	uranium-238	12(0)	2.2E-04	3.5E-04	2.7E-04
A37	americium-241	10(10)	0	1.1E-05	
(background)	fluoride	47(7)	2.1E-02	3.6E-01	9.1E-02
	neptunium-237	10(10)	0	4.7E-06	
	plutonium-238	10(10)	4.0E-09	9.4E-06	
	plutonium-239/240	10(10)	0	1.3E-05	
	technetium-99	12(12)	0	1.5E-03	
	uranium	12(0)	6.0E-04	1.1E-03	8.0E-04
	uranium-233/234	12(0)	2.4E-04	4.4E-04	3.0E-04
	uranium-235	12(8)	4.1E-06	2.4E-05	
	uranium-236	12(12)	0	5.7E-06	
	uranium-238	12(0)	2.0E-04	3.8E-04	2.7E-04
A41	americium-241	10(10)	0	8.6E-06	
	fluoride	51(16)	2.3E-02	3.9E-01	
	neptunium-237	10(10)	0	4.2E-06	
	plutonium-238	10(10)	0	1.2E-05	
	plutonium-239/240	10(10)	0	5.0E-06	
	technetium-99	12(12)	0	1.0E-03	
	uranium	12(0)	5.5E-04	1.3E-03	8.1E-04
	uranium-233/234	12(0)	2.1E-04	5.2E-04	3.1E-04
	uranium-235	12(7)	3.1E-06	3.6E-05	
	uranium-236	12(12)	0	5.2E-06	
	uranium-238	12(0)	1.8E-04	4.2E-04	2.7E-04

[a]All parameters are measured in pCi/m^3 with the exception of uranium and fluoride which are measured in μg/m^3.

[b]Radiological samples for technetium-99, uranium, and uranium isotopes are analyzed monthly, samples for americium-241, neptunium-237, plutonium-238, and plutonium-239/240 are analyzed one month per quarter beginning in October 2007, and samples for fluoride are analyzed weekly. Number in parentheses is the number of samples that were below the detection limit.

[c]Results are provided in scientific 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).

[d]Minimum values reported as "0" may actually be negative results. Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out. These negative value results are reported as "0" in the table for simplicity.

[e]Averages are not calculated for locations that had greater than 15% of the results below the detection limit. If the analytical result for a sample was below the detection limit, the ambient air concentration was calculated based on the detection limit for the sample.

Table 2.8. DOE environmental radiation monitoring program (mrem) – 2007

Location	First quarter	Second quarter	Third quarter	Fourth quarter	Cumulative annual whole body dose[a]
#1404A	20	17	19	31	87
#518	20	18	19	29	86
#862	32	29	31	43	135
#874	161	180	190	167	698
#906	18	17	17	31	83
#933	42	42	42	54	180
A12	22	18	22	29	91
A15	23	19	21	33	96
A23	21	20	20	36	97
A24	24	20	22	33	99
A28	22	18	21	33	94
A29	22	20	21	34	97
A3	22	19	21	33	95
A36	20	20	19	31	90
A40	18	14	15	29	76
A6	22	18	18	29	87
A8	23	23	24	37	107
A9	22	19	19	30	90
X-230J2	22	19	22	30	93
Control[b]	20	19	21	32	92
Trip blank[b]	22	22	24	34	102

[a]The annual occupational whole body dose limit set by 10 CFR Part 20 is 5000 mrem.

[b]The control dosimeter is sent from the laboratory at the beginning of the quarter, remains at PORTS throughout the quarter in a low background location, and is returned to the laboratory with the other dosimeters at the end of the quarter. The trip blank dosimeter is sent from the laboratory at the beginning of the quarter, accompanies the sample team to the field locations at the beginning and end of each quarter and is returned to the laboratory with the other dosimeters at the end of the quarter. The control and trip blank measurements are an indication of background radiation.

Table 2.9. Environmental radiation monitoring (mrem) at locations near DOE depleted uranium cylinder storage yards – 2007

Location	First quarter			Second quarter		
	Deep[a,b]		Shallow[a,c]	Deep[a,b]		Shallow[a,c]
	X+G	N		X+G	N	
#41	57	ND	57	57	ND	57
#868	370	ND	370	378	ND	378
#874	169	ND	169	175	ND	175
#882	223	ND	223	245	ND	245
#890	44	ND	44	48	ND	48
Trip blank	24	ND	24	21	ND	21

Location	Third quarter			Fourth quarter		
	Deep[a,b]		Shallow[a,c]	Deep[a,b]		Shallow[a,c]
	X+G	N		X+G	N	
#41	68	ND	68	78	ND	78
#868	414	25	414	419	ND	419
#874	173	ND	173	180	ND	180
#882	274	27	274	252	ND	252
#890	70	ND	70	67	ND	67
Trip blank	24	ND	24	33	ND	33

[a]ND – not detected above the minimum reportable dose.

[b]Deep dose (dose equivalent at a tissue depth of 1 cm) applies to external whole body exposure and consists of x-ray and gamma radiation (X+G) and neutron radiation (N).

[c]Shallow dose (dose equivalent at a tissue depth of 0.007 cm) applies to exposure of the skin or an extremity.

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007

Location	Parameter[a,b]	First quarter[c,d]	Second quarter[c,d]	Third quarter[c,d]	Fourth quarter[c,d]
Scioto	aluminum	3760N	419N	257	na
River	americium-241	na	-0.00719U	na	0.01251U
RW-1	antimony	0.62*U	0.8U	0.72	na
(downstream)	arsenic	3.2	1.6*	2.5	na
	barium	59.3	74.8	82	na
	beryllium	0.18	0.04*	0.04	na
	bismuth	1U	1.3U	1U	na
	cadmium	0.08U	0.08U	0.12U	na
	calcium	41300	67300	78900	na
	chromium	4.5	0.76*	0.55	na
	cobalt	1.4	0.74	0.48	na
	copper	8.9*	3.1	3.3	na
	fluoride	na	0.33	na	na
	iron	5050N	631N	352	na
	lead	1.9	1.2	0.82U	na
	lithium	5.5	7.9N	12.1	na
	magnesium	14700	27600	27100	na
	manganese	74.4	115	81.2	na
	molybdenum	3.9	4.9	10	na
	neptunium-237	na	0U	na	0.03864U
	nickel	5.9	2.4	3.7	na
	PCB-1016	0.4U	0.4U	0.4U	na
	PCB-1221	0.4U	0.4U	0.4U	na
	PCB-1232	0.4U	0.4U	0.4U	na
	PCB-1242	0.4U	0.4U	0.4U	na
	PCB-1248	0.4U	0.4U	0.4U	na
	PCB-1254	0.4U	0.4U	0.4U	na
	PCB-1260	0.4U	0.4U	0.4U	na
	PCB-1268	0.4U	0.4U	0.4U	na
	phosphorus	255E	123	308	na
	plutonium-238	na	0U	na	0.02311U
	plutonium-239	na	0.00995U	na	0.0154U
	potassium	3890	4460E	8010	na
	selenium	1.1U	0.92U	1.1U	na
	silicon	8340N	964N	3100	na
	silver	0.14*	0.22U	0.22U	na
	sodium	8020	29100	55000	na
	technetium-99	na	8.11U	na	0.697U
	thallium	1.4U	1.4U	2U	na
	tin	0.9U	0.85U	1.6U	na
	titanium	48	8.9E	6.9	na
	total phosphate as phosphorus	na	0.32	na	na

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007 (continued)

Location	Parameter[a,b]	First quarter[c,d]	Second quarter[c,d]	Third quarter[c,d]	Fourth quarter[c,d]
Scioto	uranium	na	1.94	na	1.993
River	uranium-233/234	na	0.782	na	0.6281
RW-1	uranium-235	na	0.00539U	na	0.02039U
(downstream)	uranium-236	na	0.00968U	na	0U
	uranium-238	na	0.653	na	0.668
	vanadium	8	1.4	1.3	na
	zinc	23.2	14.1	8.4	na
Scioto	aluminum	3700N	624N	128	na
River	americium-241	na	0.0178U	na	-0.03585U
RW-6	antimony	0.62*U	0.8U	0.66	na
(upstream)	arsenic	4	1.5*	2.2	na
	barium	59.2	79.3	67.9	na
	beryllium	0.18	0.06*	0.03	na
	bismuth	1U	1.3U	1U	na
	cadmium	0.1	0.09	0.12U	na
	calcium	41500	73100	65800	na
	chromium	4.4	0.8*	0.47	na
	cobalt	1.3	0.94	0.42	na
	copper	6.2*	3.4	3.1	na
	fluoride	na	0.36	na	na
	iron	4960N	905N	231	na
	lead	1.8	2.2	0.82U	na
	lithium	5.4	8.1N	8.9	na
	magnesium	14800	28100	22600	na
	manganese	70.4	101	76.1	na
	molybdenum	3.8	5	8.2	na
	neptunium-237	na	0.00845U	na	-0.06349U
	nickel	5.7	3	2.8	na
	PCB-1016	0.4U	0.4U	0.4U	na
	PCB-1221	0.4U	0.4U	0.4U	na
	PCB-1232	0.4U	0.4U	0.4U	na
	PCB-1242	0.4U	0.4U	0.4U	na
	PCB-1248	0.4U	0.4U	0.4U	na
	PCB-1254	0.4U	0.4U	0.4U	na
	PCB-1260	0.4U	0.4U	0.4U	na
	PCB-1268	0.4U	0.4U	0.4U	na
	phosphorus	254E	102	300	na
	plutonium-238	na	0.005U	na	0.02114U
	plutonium-239/240	na	0.0000000837U	na	-0.03517U
	potassium	3930	4530E	6410	na

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007 (continued)

Location	Parameter[a,b]	First quarter[c,d]	Second quarter[c,d]	Third quarter[c,d]	Fourth quarter[c,d]
Scioto	selenium	1.1U	0.92U	1.1U	na
River	silicon	8160N	1100N	2560	na
RW-6	silver	0.18*	0.22U	0.22U	na
(upstream)	sodium	8180	29900	47100	na
	technetium-99	na	14U	na	-1.69U
	thallium	1.4U	1.4U	2U	na
	tin	0.9U	0.85U	1.6U	na
	titanium	46.2	10.4E	3	na
	total phosphate as phosphorus	na	0.38	na	na
	uranium	na	2.26	na	1.606
	uranium-233/234	na	0.822	na	0.5613
	uranium-235	na	0.0000000943U	na	0U
	uranium-236	na	0.0152U	na	0U
	uranium-238	na	0.759	na	0.5397
	vanadium	7.9	1.7	1	na
	zinc	22.1	16.3	8.1	na

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007 (continued)

Location	Parameter[a,b]	Second quarter[c,d]	Fourth quarter[c,d]
Little Beaver	americium-241	0.0134U	0.000007709U
Creek	neptunium-237	0.00855U	-0.007029U
RW-7	plutonium-238	0.0323U	0.02118U
(downstream)	plutonium-239/240	0.0105U	-0.007038U
	technetium-99	11.4U	-4.47U
	uranium	1.19	1.594
	uranium-233/234	2.01	1.67
	uranium-235	0.1U	0.09717
	uranium-236	0.005U	0.008733U
	uranium-238	0.386	0.5267
RW-8	americium-241	0.00594U	0.0000233U
(downstream)	neptunium-237	0U	-0.006789U
	plutonium-238	-0.00982U	0.006824U
	plutonium-239/240	0.0107U	-0.0272U
	technetium-99	8.49U	-3.34U
	uranium	1.05	1.266
	uranium-233/234	1.14	1.316
	uranium-235	0.0295U	0.0434
	uranium-236	0.0053U	0.02338U
	uranium-238	0.348	0.4213
RW-12	americium-241	-0.00674U	0.0086U
(upstream)	neptunium-237	-0.00433U	-0.06817U
	plutonium-238	-0.00502U	0U
	plutonium-239/240	-0.00481U	-0.02265U
	technetium-99	16U	-6.52U
	uranium	0.0152U	0.1333U
	uranium-233/234	0.00506U	0.08225
	uranium-235	0U	0U
	uranium-236	0.0168U	0U
	uranium-238	0.00504U	0.04478U
Big Beaver Creek	americium-241	0.0382U	0.00936U
RW-13	neptunium-237	0.0000000746U	0.000007057U
(downstream)	plutonium-238	0.0104U	0.01409U
	plutonium-239/240	0.00997U	0.02114U
	technetium-99	11.4U	1.07U
	uranium	0.686	0.7629
	uranium-233/234	0.88	1.134
	uranium-235	0.017U	0.03477U
	uranium-236	0.0102U	0.00782U
	uranium-238	0.228	0.2532
RW-5	americium-241	0.00646U	0.000009804U
(upstream)	neptunium-237	0.00439U	-0.01348U
	plutonium-238	-0.00435U	0.006748U
	plutonium-239/240	0.0163U	-0.006728U
	technetium-99	6.96U	0.513U
	uranium	0.0806U	0.9799
	uranium-233/234	0.0703U	1.021
	uranium-235	0.00542U	0.018U
	uranium-236	0U	0U
	uranium-238	0.0263U	0.3276

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007 (continued)

Location	Parameter[a,b]	Second quarter[c,d]	Fourth quarter[c,d]
Big Run Creek	americium-241	0.00816U	0.000008926U
RW-2	neptunium-237	0U	-0.03461U
(downstream)	plutonium-238	0.011U	0.00002762U
	plutonium-239/240	0.00551U	0.000006904U
	technetium-99	1.76U	-4.46U
	uranium	0.333	0.6456
	uranium-233/234	0.153	0.2739
	uranium-235	0.000000106U	0.02414U
	uranium-236	-0.00566U	0.000007216U
	uranium-238	0.112	0.2148
RW-3	americium-241	0.0109U	0.01657U
(downstream)	neptunium-237	0U	-0.006685U
	plutonium-238	0.226	-0.02008U
	plutonium-239/240	0.203	0U
	technetium-99	5.43U	0.744U
	uranium	0.983	1.08
	uranium-233/234	0.745	1.019
	uranium-235	0.0533U	0.02675U
	uranium-236	0.012U	-0.007995U
	uranium-238	0.322	0.3606
RW-33	americium-241	0.0193U	0.01909U
(upstream)	neptunium-237	-0.00504U	-0.03058U
	plutonium-238	0.00593U	0.006105U
	plutonium-239/240	0.00593U	0U
	technetium-99	3.09U	3.82U
	uranium	0.17U	0.06854U
	uranium-233/234	0.046U	0.02309U
	uranium-235	0.00631U	0.000009478U
	uranium-236	0.00566U	0U
	uranium-238	0.056U	0.02303U
Background creeks	americium-241	0.00174U	-0.008226U
RW-10N	neptunium-237	0.0167U	-0.0291U
	plutonium-238	0.000204U	0.02906U
	plutonium-239/240	0.0153U	-0.007248U
	technetium-99	9.05U	0.857U
	uranium	0.578	0.4371
	uranium-233/234	0.162	0.2103
	uranium-235	-0.00605U	0.000008639U
	uranium-236	0.0109U	-0.007756U
	uranium-238	0.195	0.1469

Table 2.10. Local surface water monitoring program results for chemical and radiological parameters – 2007 (continued)

Location	Parameter[a,b]	Second quarter[c,d]	Fourth quarter[c,d]
Background creeks	americium-241	-0.0118U	-0.01713U
RW-10S	neptunium-237	0U	0.02305U
	plutonium-238	0.0000000855U	0.03064U
	plutonium-239/240	0.0561U	0.02298U
	technetium-99	9.05U	2.94U
	uranium	0.4	0.3557
	uranium-233/234	0.202	0.1112
	uranium-235	0.0114U	0U
	uranium-236	0.0051U	0.009471U
	uranium-238	0.133	0.1195
RW-10E	americium-241	0.00435U	0.01023U
	neptunium-237	0U	-0.007284U
	plutonium-238	-0.015U	0.02184U
	plutonium-239/240	-0.00501U	-0.007271U
	technetium-99	6.24U	-0.546U
	uranium	0.0868U	0.6828
	uranium-233/234	0.0301U	0.1896
	uranium-235	-0.00531U	0.009743U
	uranium-236	0.00477U	0U
	uranium-238	0.03U	0.2286
RW-10W	americium-241	0.026U	0.01811U
	neptunium-237	-0.00445U	-0.008154U
	plutonium-238	0.0000000977U	0.02442U
	plutonium-239/240	0.0117U	0.01629U
	technetium-99	11.2U	-1.8U
	uranium	0.014U	0.0891U
	uranium-233/234	0.0332U	0.01506U
	uranium-235	0U	0U
	uranium-236	0U	-0.008307U
	uranium-238	0.00472U	0.02998U

[a]Parameters are reported in the following units: radionuclides [americium-241, neptunium-237, plutonium isotopes, technetium-99 and uranium isotopes (not including uranium)] in pCi/L, fluoride and total phosphate as phosphorus in mg/L, and all other parameters (metals, including uranium, and PCBs) in μg/L.

[b]The derived concentration guide (DCG) for each radionuclide is as follows: americium-241, 30 pCi/L; neptunium-237, 30 pCi/L; plutonium-238, 40 pCi/L; plutonium-239/240, 30 pCi/L; technetium-99, 100,000 pCi/L; uranium-233/234, 500 pCi/L; uranium-235, 600 pCi/L; uranium-236, 500 pCi/L; uranium-238, 600 pCi/L. All results are well below these DOE standards. A DCG is not available for total uranium.

[c]Abbreviations and data qualifiers are as follows: * – duplicate analysis is not within control limits; E – the reported value is estimated because of the presence of interferences; N – sample spike recovery is not within control limits; U – undetected; na – not analyzed.

[d]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

Table 2.11. Sediment monitoring program results – 2007

Parameter	Unit	Location/results[a,b]			
		Scioto River and outfalls that discharge to the Scioto River			
		RM-6 Upstream @ Piketon	*RM-1 Downstream @ Lucasville*	*RM-9 Outfall 012*	*RM-10 USEC Outfall 010/DOE Outfall 013*
Aluminum	mg/kg	3040	4070	3420	2360
Americium-241	pCi/g	0.00772U	-0.000202U	0.0122U	0.0211U
Antimony	mg/kg	0.3U	0.31U	0.37	0.31U
Arsenic	mg/kg	6.8	7	9.1	6
Barium	mg/kg	36	46.9	44.8	25.2
Beryllium	mg/kg	0.28	0.37	0.62	0.26
Bismuth	mg/kg	0.5U	0.51U	0.51U	0.5U
Cadmium	mg/kg	0.21	0.25	0.68	0.13
Calcium	mg/kg	25400	13200	3230	3380
Chromium	mg/kg	6	6.8	9.4	5.6
Cobalt	mg/kg	4.5	5.4	12.1	4.6
Copper	mg/kg	8.8	9.7	13.9	7.4
Iron	mg/kg	10600	12000	25100	9020
Lead	mg/kg	8.3	8.5	7.3	7.4
Lithium	mg/kg	5.2	6.7	6.9J	2.7J
Magnesium	mg/kg	12000	7820	2310	2270
Manganese	mg/kg	267	218	755	217
Mercury	mg/kg	0.03*	0.02*	0.01U	0.02U
Molybdenum	mg/kg	2.5	2.4	6.3	2.7
Neptunium-237	pCi/g	0.00214U	0.0000000716U	-0.00205U	0.0000000304U
Nickel	mg/kg	11.3	13.2	32.3	8.5
PCB-1016	µg/kg	13U	13U	13U	13U
PCB-1221	µg/kg	13U	13U	13U	13U
PCB-1232	µg/kg	13U	13U	13U	13U
PCB-1242	µg/kg	13U	13U	13U	13U
PCB-1248	µg/kg	56	11J	13U	13U
PCB-1254	µg/kg	13U	13U	13U	13U
PCB-1260	µg/kg	13U	13U	13U	32
PCB-1268	µg/kg	13U	13U	13U	13U
Phosphorus	mg/kg	345	278	543	181
Plutonium-238	pCi/g	0.0047U	-0.00265U	-0.00205U	-0.00218U
Plutonium-239/240	pCi/g	0.0047U	0.0106U	0.0000000343U	0.0131U
Potassium	mg/kg	497	529	606	234
Selenium	mg/kg	0.35U	0.36U	0.37U	0.36U
Silicon	mg/kg	612	416	895	471
Silver	mg/kg	0.09U	0.09U	0.09U	0.09U
Sodium	mg/kg	69.4	68.1	59	50.5
Technetium-99	pCi/g	0.0565U	-0.039U	0.306U	0.571
Thallium	mg/kg	0.54U	0.56U	0.56U	0.55U
Tin	mg/kg	2.4	2.1	1J	1.9J
Titanium	mg/kg	70.4	70.4	51.5	63.5
Uranium	µg/g	1.94	2.08	2.33	2.39
Uranium-233/234	pCi/g	0.596	0.774	0.845	1.46
Uranium-235	pCi/g	0.0425U	0.0292U	0.0381U	0.0687
Uranium-236	pCi/g	0.00239U	0.00655U	0.00805U	0.00441U
Uranium-238	pCi/g	0.647	0.694	0.778	0.792
Vanadium	mg/kg	10.4	12.4	19	9.2
Zinc	mg/kg	46.4	43.7	124	61.7

Table 2.11. Sediment monitoring program results – 2007 (continued)

Parameter	Unit	Location/results[a,b]			
		Little Beaver Creek			
		RM-12 Upstream	*RM-11 X-230J7 Discharge*	*RM-8 Downstream @ Outfall 009 Discharge*	*RM-7 Downstream @ Confluence*
Aluminum	mg/kg	3320	533	2920	2710
Americium-241	pCi/g	0.0112U	0.000161U	0.028U	0.0162U
Antimony	mg/kg	0.31U	0.31U	0.38	0.7
Arsenic	mg/kg	12.8	1.9	10.4	20.9
Barium	mg/kg	40.5	4.7	45.2	31.5
Beryllium	mg/kg	0.5	0.06	0.43	0.71
Bismuth	mg/kg	0.5U	0.5U	0.5U	0.5U
Cadmium	mg/kg	0.03U	0.12	0.26	0.48
Calcium	mg/kg	714	39300	2460	2440
Chromium	mg/kg	9.5	2.5	12	23
Cobalt	mg/kg	10.7	1.6	8.5	11.5
Copper	mg/kg	6.7	12.8	7.7	9.4
Iron	mg/kg	18400	2650	14500	32200
Lead	mg/kg	11.7	2.7	10.1	16.6
Lithium	mg/kg	5.8J	1.4J	5J	3.1J
Magnesium	mg/kg	755	5430	1440	1550
Manganese	mg/kg	561	116	472	678
Mercury	mg/kg	0.02U	0.01U	0.02	0.01
Molybdenum	mg/kg	1.1	1.6	3.8	4.6
Neptunium-237	pCi/g	0U	0.0059U	0.00542U	0.0221U
Nickel	mg/kg	9.7	4.4	14.5	34.1
PCB-1016	µg/kg	13U	13U	13U	13U
PCB-1221	µg/kg	13U	13U	13U	13U
PCB-1232	µg/kg	13U	13U	13U	13U
PCB-1242	µg/kg	13U	13U	13U	13U
PCB-1248	µg/kg	13U	13U	13U	13U
PCB-1254	µg/kg	13U	13U	13U	13U
PCB-1260	µg/kg	13U	26	160	21
PCB-1268	µg/kg	13U	13U	13U	13U
Phosphorus	mg/kg	186	110	150	314
Plutonium-238	pCi/g	-0.00243U	-0.0107U	0.00256U	0.0109U
Plutonium-239/240	pCi/g	0.0146U	0.0192U	0.0153U	0.0152U
Potassium	mg/kg	354	204	378	257
Selenium	mg/kg	0.36U	0.36U	0.36U	0.36U
Silicon	mg/kg	970	245	1090	430
Silver	mg/kg	0.09U	0.09U	0.09U	0.09U
Sodium	mg/kg	19.9	53.4	27.6	28.4
Technetium-99	pCi/g	0.0203U	1.54	3.26	17.6
Thallium	mg/kg	0.55U	0.55U	0.55U	0.55U
Tin	mg/kg	2.1J	2.3J	2.3J	1.6J
Titanium	mg/kg	61.6	8.5	56.9	42.6
Uranium	µg/g	1.88	1.71	2.47	3.84
Uranium-233/234	pCi/g	0.643	1.68	2.06	4.36
Uranium-235	pCi/g	0.0207U	0.043U	0.0621	0.206
Uranium-236	pCi/g	0.00464U	0.0159U	0.0256U	0.0193U
Uranium-238	pCi/g	0.63	0.567	0.821	1.26
Vanadium	mg/kg	17.7	2.9	15.2	23.1
Zinc	mg/kg	30.9	65.7	67.9	90.5

Table 2.11. Sediment monitoring program results – 2007 (continued)

Parameter	Unit	Location/results[a,b]	
		Big Beaver Creek	
		RM-5	*RM-13*
		Upstream	*Downstream*
Aluminum	mg/kg	2670	2410
Americium-241	pCi/g	0.0186U	-0.00366U
Antimony	mg/kg	0.31U	0.32U
Arsenic	mg/kg	6.1	4.7
Barium	mg/kg	30	19.7
Beryllium	mg/kg	0.29	0.21
Bismuth	mg/kg	0.51U	0.51U
Cadmium	mg/kg	0.11	0.16
Calcium	mg/kg	1890	43500
Chromium	mg/kg	5.6	5.5
Cobalt	mg/kg	6	5.1
Copper	mg/kg	6.5	8.6
Iron	mg/kg	9790	7650
Lead	mg/kg	7.3	5.5
Lithium	mg/kg	5J	5.2J
Magnesium	mg/kg	1500	14500
Manganese	mg/kg	220	142
Mercury	mg/kg	0.02U	0.02U
Molybdenum	mg/kg	1.5	1.4
Neptunium-237	pCi/g	0.00417U	0.00609U
Nickel	mg/kg	11.9	11.6
PCB-1016	µg/kg	13U	13U
PCB-1221	µg/kg	13U	13U
PCB-1232	µg/kg	13U	13U
PCB-1242	µg/kg	13U	13U
PCB-1248	µg/kg	13U	13U
PCB-1254	µg/kg	13U	13U
PCB-1260	µg/kg	13U	15
PCB-1268	µg/kg	13U	13U
Phosphorus	mg/kg	172	159
Plutonium-238	pCi/g	0.0152U	0U
Plutonium-239/240	pCi/g	0.00871U	0.00738U
Potassium	mg/kg	380	305
Selenium	mg/kg	0.36U	0.37U
Silicon	mg/kg	812	386
Silver	mg/kg	0.09U	0.09U
Sodium	mg/kg	29.5	62.2
Technetium-99	pCi/g	0.555	2.33
Thallium	mg/kg	0.56U	0.56U
Tin	mg/kg	2.3J	1.6J
Titanium	mg/kg	65.1	41
Uranium	µg/g	1.99	2.44
Uranium-233/234	pCi/g	1.13	1.8
Uranium-235	pCi/g	0.0604	0.0605
Uranium-236	pCi/g	0.0108U	0.0212U
Uranium-238	pCi/g	0.659	0.813
Vanadium	mg/kg	9.6	8
Zinc	mg/kg	31.3	34.9

Table 2.11. Sediment monitoring program results – 2007 (continued)

Parameter	Unit	Location/results[a,b]		
			Big Run Creek	
		RM-33 Upstream	*RM-3 Downstream*	*RM-2 Downstream @ Wakefield*
Aluminum	mg/kg	4890N	2720N	5990N
Americium-241	pCi/g	0.00545U	-0.00782U	0.00907U
Antimony	mg/kg	1.7*N	0.47*N	1*N
Arsenic	mg/kg	49.1	13.5	59.7
Barium	mg/kg	35.9	39.2	48.6
Beryllium	mg/kg	1.2	0.5	1.6
Bismuth	mg/kg	1.5U	0.49U	1.5U
Cadmium	mg/kg	0.18	0.05	0.59
Calcium	mg/kg	961*	1170*	1580*
Chromium	mg/kg	30.1	7.1	29.4
Cobalt	mg/kg	15.2	11	23.1
Copper	mg/kg	13.4N	6.9N	17.6N
Iron	mg/kg	74500N	13800N	85700N
Lead	mg/kg	25	9.9	28.6
Lithium	mg/kg	4.9*	3*	9.3*
Magnesium	mg/kg	919*	605*	1380*
Manganese	mg/kg	661N	666N	1110N
Mercury	mg/kg	0.01U	0.01U	0.01U
Molybdenum	mg/kg	16.9*	5.1*	12.1*
Neptunium-237	pCi/g	0.000088U	0U	0.000000083U
Nickel	mg/kg	29.1	10.3	51.5
PCB-1016	µg/kg	13U	13U	13U
PCB-1221	µg/kg	13U	13U	13U
PCB-1232	µg/kg	13U	13U	13U
PCB-1242	µg/kg	13U	13U	13U
PCB-1248	µg/kg	13U	13U	13U
PCB-1254	µg/kg	13U	31	13U
PCB-1260	µg/kg	13U	49	9.3J
PCB-1268	µg/kg	13U	13U	13U
Phosphorus	mg/kg	510	234	648
Plutonium-238	pCi/g	0.00241U	0.00235U	-0.00465U
Plutonium-239/240	pCi/g	0.0168U	0.00941U	0.00464U
Potassium	mg/kg	480	261	527
Selenium	mg/kg	1U	0.58	1U
Silicon	mg/kg	477N	421N	550N
Silver	mg/kg	0.25U	0.08U	0.25U
Sodium	mg/kg	29.4	96.2	60.9
Technetium-99	pCi/g	0.167U	0.601	0.279U
Thallium	mg/kg	1.6U	0.54U	1.6U
Tin	mg/kg	0.97*	0.59*	7.3*
Titanium	mg/kg	50.3	52.1	56.7
Uranium	µg/g	4.84	3.19	2.87
Uranium-233/234	pCi/g	1.73	1.63	1.26
Uranium-235	pCi/g	0.0645	0.0594	0.0731
Uranium-236	pCi/g	0.00241U	0.0185U	0.00486U
Uranium-238	pCi/g	1.62	1.06	0.954
Vanadium	mg/kg	48.4	15.2	58.5
Zinc	mg/kg	87.6N	41.8N	183N

Table 2.11. Sediment monitoring program results – 2007 (continued)

Parameter	Unit	Location/results[a,b]			
		Background creeks			
		RM-10N North background	*RM-10S South background*	*RM-10E East background*	*RM-10W West background*
Aluminum	mg/kg	1730	3310	1610*N	4160
Americium-241	pCi/g	-0.00713U	0.00933U	0.00583U	0.0105U
Antimony	mg/kg	0.31U	0.31U	0.32NU	2.8
Arsenic	mg/kg	3.8	9.3	2	35.7
Barium	mg/kg	18	41.6	31.4	40.8
Beryllium	mg/kg	0.2	0.47	0.39	0.99
Bismuth	mg/kg	0.51U	0.5U	0.51U	0.51U
Cadmium	mg/kg	0.19	0.03U	0.04	1.8
Calcium	mg/kg	6470	4720	291E	618
Chromium	mg/kg	3.7	14	4.2	15.9
Cobalt	mg/kg	4.4	9.1	1.3	19
Copper	mg/kg	4.2	5.4	2.6	17.2
Iron	mg/kg	6470	15500	2220N	35400
Lead	mg/kg	5.6	13.5	4.1	18.6
Lithium	mg/kg	3.4J	4.2	1.6*	6.5
Magnesium	mg/kg	3550	1680	161	697
Manganese	mg/kg	185	587	29.5	733
Mercury	mg/kg	0.01U	0.02*U	0.01U	0.02*
Molybdenum	mg/kg	0.9	1.3	0.32*	41.6
Neptunium-237	pCi/g	-0.00208U	0.0000000359U	0.00584U	0.00204U
Nickel	mg/kg	10.1	7.2	2.9	41.5
PCB-1016	µg/kg	13U	13U	13U	13U
PCB-1221	µg/kg	13U	13U	13U	13U
PCB-1232	µg/kg	13U	13U	13U	13U
PCB-1242	µg/kg	13U	13U	13U	13U
PCB-1248	µg/kg	13U	13U	13U	13U
PCB-1254	µg/kg	13U	13U	13U	13U
PCB-1260	µg/kg	13U	13U	13U	13U
PCB-1268	µg/kg	13U	13U	13U	13U
Phosphorus	mg/kg	165	196	44.6	218
Plutonium-238	pCi/g	-0.00216U	0.000000115U	0.0105U	0.0069U
Plutonium-239/240	pCi/g	0.00648U	0U	0.00784U	0.0161U
Potassium	mg/kg	201	286	102*	678
Selenium	mg/kg	0.36U	0.36U	0.37U	1.2
Silicon	mg/kg	355	845	569*N	1040
Silver	mg/kg	0.09U	0.09U	0.09U	0.09U
Sodium	mg/kg	32	43.8	135	26.4
Technetium-99	pCi/g	0.17U	-0.0467U	0.25U	-0.00225U
Thallium	mg/kg	0.56U	0.55U	0.56U	0.56U
Tin	mg/kg	2J	2.2	1.8*	1.7
Titanium	mg/kg	51.6	89.3	34.8N	58

Table 2.11. Sediment monitoring program results – 2007 (continued)

Parameter	Unit	Location/results[a,b]			
		Background creeks			
		RM-10N North background	*RM-10S South background*	*RM-10E East background*	*RM-10W West background*
Uranium	µg/g	1.48	1.91	1.56	5.18
Uranium-233/234	pCi/g	0.409	0.722	0.481	1.75
Uranium-235	pCi/g	0.0138U	0.0297U	0.0238U	0.11
Uranium-236	pCi/g	0.0000000345U	0.00888U	0.00475U	0.00438U
Uranium-238	pCi/g	0.495	0.639	0.521	1.72
Vanadium	mg/kg	6.4	19.3	7*	52.9
Zinc	mg/kg	33.1	29.1	9.7*	135

[a]Abbreviations and data qualifiers are as follows: * – duplicate analysis is not within control limits; E – the reported value is estimated because of the presence of interferences; J – the reported value is an estimated concentration greater than the method detection limit but less than the practical quantitation limit; N – sample spike recovery is not within control limits; U – undetected; na – not analyzed.

[b]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

Table 2.12. Soil and vegetation monitoring at ambient air monitoring stations – 2007

Parameter[a]	Location/results[b,c]			
	A8 – On site at northwest boundary		*T7 – On site near X-230L North Holding Pond*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.0124U	0.0134U	0.0161U	0.00015U
Neptunium-237	0.00243U	0.0000000378U	0.00716U	0U
Plutonium-238	0.0000579U	0.00271U	0.00221U	0.00279U
Plutonium-239/240	0.00238U	0.0082U	0.00663U	-0.00246U
Technetium-99	0.131U	0.0597U	0.0914U	0.204U
Uranium	0.0304U	6.97	0.0013U	2.53
Uranium-233/234	0.00859U	2.67	0.0108U	0.92
Uranium-235	0.0106U	0.116	0.00266U	0.0247U
Uranium-236	0.00476U	0.0166U	0.00477U	0.0123U
Uranium-238	0.00856U	2.33	0U	0.848
	A10 – On site on northwest segment of Perimeter Road		*A29 – On site at OVEC*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.00393U	-0.00546U	0.0167U	0.00464U
Neptunium-237	0.0056U	0U	0.0154U	0.00195U
Plutonium-238	0.0000000381U	0.0422U	0.0000000409U	0.0000647U
Plutonium-239/240	0.00227U	0.0273U	0.00732U	0.00787U
Technetium-99	0.154	0.533U	0.12U	0.11U
Uranium	0.0939U	2.08	0.0256U	2.86
Uranium-233/234	0.0206U	0.724	0.0129U	0.805
Uranium-235	0.00509U	0.0654	0U	0.0337U
Uranium-236	0.00228U	0.0212U	0.00239U	0.00756U
Uranium-238	0.0308U	0.691	0.00859U	0.958
	A36 – On site at X-611 Water Treatment Plant		*A6 – North of PORTS in Piketon*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.00864U	0.0204U	0.0103U	0.00223U
Neptunium-237	0.00495U	0U	0.0000000911U	0.0000000749U
Plutonium-238	-0.00219U	0.00267U	-0.0023U	0.00252U
Plutonium-239/240	0.00877U	0.0000643U	0.00461U	0.00503U
Technetium-99	0.186	0.23U	0.105U	0.176U
Uranium	0.0333U	2.81	0.0206U	2.42
Uranium-233/234	0.00674U	0.993	0.00651U	0.81
Uranium-235	0U	0.0652	0.00268U	0.0441U
Uranium-236	0.00498U	0.0255U	0.00721U	0.00932U
Uranium-238	0.0112U	0.936	0.00648U	0.808

Table 2.12. Soil and vegetation monitoring at ambient air monitoring stations – 2007 (continued)

Parameter[a]	Location/results[b,c]			
	A24 – North of PORTS at Schuster Road		*A41 - North of PORTS at Zahns Corner*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	-0.000581U	0.0114U	0.0171U	0.0198U
Neptunium-237	0.0159U	0.00225U	0.0121U	0U
Plutonium-238	0.00663U	0.0000599U	-0.00446U	-0.00233U
Plutonium-239/240	0.0154U	0.00976U	0.0142U	0.00718U
Technetium-99	0.109U	0.331U	0.0606U	0U
Uranium	0.0545U	2.53	0.0339U	2.44
Uranium-233/234	0.00613U	0.818	0.00212U	0.791
Uranium-235	0U	0.0439U	0.00524U	0.0245U
Uranium-236	0.00679U	0.00927U	0.00235U	0.0176U
Uranium-238	0.0183U	0.846	0.0106U	0.817
	A23 – Northeastern PORTS boundary		*A12 – Eastern PORTS boundary*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.00806U	0.00703U	0.00532U	0.00172U
Neptunium-237	0.0187U	0.00458U	0.00683U	-0.00238U
Plutonium-238	-0.00433U	0.00504U	0.000000074U	-0.00208U
Plutonium-239/240	0.0238U	0.0199U	0.0133U	0.0147U
Technetium-99	0.227	0.268U	0.116U	0.136U
Uranium	0.15	2.4	0.064U	2.24
Uranium-233/234	0.0562	0.804	0.00833U	0.811
Uranium-235	0.00247U	0.0263U	0.00514U	0.0627
Uranium-236	0.0000000372U	0.00473U	0.0000000386U	0.0128U
Uranium-238	0.0499	0.803	0.0207U	0.743
	A15 – Southeast of PORTS on Loop Road		*A3 – Southern PORTS boundary*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.00291U	0.0125U	0.0268U	0.0278U
Neptunium-237	0.0101U	0.00407U	0.01U	0U
Plutonium-238	-0.00216U	-0.00243U	-0.00212U	0U
Plutonium-239/240	0.00431U	0.00499U	0.00635U	0.00272U
Technetium-99	0.133U	0.192U	0.131U	0.244U
Uranium	0.00596U	2.7	0.0353U	2.44
Uranium-233/234	0.0199U	0.849	0.0139U	0.85
Uranium-235	0U	0.0431U	0U	0.0437U
Uranium-236	0.00441U	0.0000000381U	0.00439U	0.00692U
Uranium-238	0.00198U	0.901	0.0118U	0.813

Table 2.12. Soil and vegetation monitoring at ambient air monitoring stations – 2007 (continued)

Parameter[a]	Location/results[b,c]			
	A9 – South of PORTS		*A28 – Southwest of PORTS on Camp Creek Road*	
	Vegetation	Soil	Vegetation	Soil
Americium-241	0.00402U	0.00222U	0.00111U	0.00916U
Neptunium-237	0.00762U	0.00633U	0.0163U	-0.0019U
Plutonium-238	0.00212U	-0.00831U	0.0000000363U	0.00259U
Plutonium-239/240	0.00211U	0.023U	0.00866U	0.00765U
Technetium-99	0.0918U	0.589	0.192	0.368U
Uranium	0.0612U	1.92	0.0376U	2.19
Uranium-233/234	0.0159U	0.552	0.00846U	0.801
Uranium-235	0.00491U	0.0176U	0U	0.0326U
Uranium-236	0.00441U	0.0079U	0.00234U	0.0133U
Uranium-238	0.0198U	0.642	0.0126U	0.73
	A37 – Background station near Otway			
	Vegetation	Soil		
Americium-241	0.0204U	0.0209U		
Neptunium-237	0.00728U	0.00265U		
Plutonium-238	0.00212U	0.00285U		
Plutonium-239/240	0.00848U	0.000137U		
Technetium-99	0.0995U	0.161U		
Uranium	0.0532U	2.55		
Uranium-233/234	0.00798U	0.907		
Uranium-235	0U	0.0454U		
Uranium-236	0.00442U	0.0102U		
Uranium-238	0.0179U	0.85		

[a]All parameters are measured in pCi/g with the exception of uranium which is measured in μg/g.
[b]Abbreviations and data qualifiers are as follows: U – undetected.
[c]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

Table 2.13. Biota (fish) monitoring program results – 2007

Parameter	Unit	Location/type of fish/results[a,b]	
		Little Beaver Creek (RW-8)[c]	*Scioto River (RW-1)*[c]
Americium-241	pCi/g	0.001881U	0.002717U
Chromium	mg/kg	0.63*	0.22*
Neptunium-237	pCi/g	0.001636U	-0.001883U
PCB, total	µg/kg	1100U	54J
PCB-1016	µg/kg	350U	62U
PCB-1221	µg/kg	350U	62U
PCB-1232	µg/kg	350U	62U
PCB-1242	µg/kg	350U	62U
PCB-1248	µg/kg	350U	27J
PCB-1254	µg/kg	350U	62U
PCB-1260	µg/kg	350U	18J
PCB-1268	µg/kg	350U	62U
Plutonium-238	pCi/g	0.004875U	0.002513U
Plutonium-239/240	pCi/g	0.004875U	0.001258U
Technetium-99	pCi/g	0.0928U	-0.0134U
Uranium	µg/g	-0.01116U	0.004107U
Uranium-233/234	pCi/g	0.00003749U	0.002166U
Uranium-235	pCi/g	-0.0022U	0.0008889U
Uranium-236	pCi/g	0U	0U
Uranium-238	pCi/g	-0.003553U	0.001439U

[a]Abbreviations and data qualifiers are as follows: * – duplicate analysis is not within control limits; J – the reported value is an estimated concentration greater than the method detection limit but less than the practical quantitation limit; U – undetected.

[b]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

[c]Fish samples for Little Beaver Creek: metals and PCBs – blue gill; radionuclides - rock bass, blue gill, and suckers. Fish samples for Scioto River are a mixture of suckers and small mouth bass.

Table 2.14. Biota (crops) monitoring program results – 2007

Type	Location	Tc-99[a,b,c]	U	U-233/234	U-235	U-238
Beets	Off site #1	0.0324U	0.00961	0.004162U	5.69E-07U	0.003229
Corn	Off site #1	0.00754U	0.002963U	0.003489U	6.14E-07U	0.0009954U
Green peppers	Off site #1	0.00767U	0.004342U	0.004377	0U	0.001456U
Tomatoes	Off site #1	0.0274U	0.01168	0.002248U	0U	0.003924
Cucumbers	Off site #2	-0.000478U	6.46E-07U	0.004036U	-0.0006216U	5.02E-07U
Squash	Off site #2	0.0106U	0.001389U	-0.0009324U	0U	0.0004669U
Red peppers	Off site #3	0.00365U	0.008292U	0.00539	0.001108U	0.00269U
Tomatoes	Off site #3	-0.00373U	0.005627U	0.003782	0U	0.001888U
Tomatoes	Off site #4	-0.0609U	0.003582U	0.001631U	0.00134U	0.001084U
Corn	Off site #5	0.0539U	0.00844U	0.000409U	0U	0.002836U
Squash	Off site #5	0.00742U	0.002583U	0.002588U	0U	0.0008605U
Tomatoes	Off site #5	0.00989U	0.005471U	0.001842U	0U	0.001838U

[a]Results are reported in μg/g (uranium) and pCi/g (all other parameters). Abbreviations are as follows: Tc-99 – technetium-99, U – uranium, U-233/234 – uranium-233/234, U-235 – uranium-235, U-238 – uranium-238. Data qualifiers are as follows: U – undetected.

[b]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

[c]Samples were also analyzed for transuranic radionuclides (americium-241, neptunium-237, plutonium-238, and plutonium-239/240) and uranium-236. None of these radionuclides were detected in the samples.

Table 2.15. Biota (deer) monitoring program results – 2007

Parameter	Units	January 2007 regular sample[a,b]	January 2007 duplicate sample[a,b]
		kidney	
Americium-241	pCi/g	-0.000754U	0.0016U
Neptunium-237	pCi/g	0U	0.00221U
Plutonium-238	pCi/g	0.0171U	0.00593U
Plutonium-239/240	pCi/g	0.0245U	0.0000000331U
Technetium-99	pCi/g	0.208	0.169
Uranium	µg/g	0.0274U	0.0187U
Uranium-233/234	pCi/g	0.00422U	0.00934U
Uranium-235	pCi/g	0.00521U	0.00461U
Uranium-236	pCi/g	0.00234U	0U
Uranium-238	pCi/g	0.00841U	0.00558U
		liver	
Americium-241	pCi/g	0.00516U	-0.00254U
Neptunium-237	pCi/g	0.00522U	0U
Plutonium-238	pCi/g	0.0111U	0.00397U
Plutonium-239/240	pCi/g	0.0155U	0U
Technetium-99	pCi/g	0.135	0.178
Uranium	µg/g	0.0392U	0.0416U
Uranium-233/234	pCi/g	0.00828U	0.0204U
Uranium-235	pCi/g	0.0051U	0.00686U
Uranium-236	pCi/g	0.00458U	0.0041U
Uranium-238	pCi/g	0.0124U	0.0129U
		muscle	
Americium-241	pCi/g	-0.00398U	-0.00124U
Neptunium-237	pCi/g	0.00235U	0.0000983U
Plutonium-238	pCi/g	0.00391U	0.00184U
Plutonium-239/240	pCi/g	0.00587U	0.00551U
Technetium-99	pCi/g	0.21	0.242
Uranium	µg/g	0.0169U	0.0217U
Uranium-233/234	pCi/g	0.0125U	0.00873U
Uranium-235	pCi/g	0.0022U	0.00215U
Uranium-236	pCi/g	0U	0.00193U
Uranium-238	pCi/g	0.00533U	0.00696U

Table 2.15. Biota (deer) monitoring program results – 2007 (continued)

Parameter	Units	October 2007 sample[a,b]
	kidney	
Americium-241	pCi/g	0.0008045U
Neptunium-237	pCi/g	-0.002035U
Plutonium-238	pCi/g	0.002032U
Plutonium-239/240	pCi/g	-0.0006747U
Technetium-99	pCi/g	-0.0252U
Uranium	µg/g	0.000001114U
Uranium-233/234	pCi/g	0.006962U
Uranium-235	pCi/g	0U
Uranium-236	pCi/g	0U
Uranium-238	pCi/g	0U
	liver	
Americium-241	pCi/g	-0.002835U
Neptunium-237	pCi/g	-0.009736U
Plutonium-238	pCi/g	0.003741U
Plutonium-239/240	pCi/g	0.000002241U
Technetium-99	pCi/g	0.00116U
Uranium	µg/g	-0.001422U
Uranium-233/234	pCi/g	0.001447U
Uranium-235	pCi/g	0U
Uranium-236	pCi/g	0.0005341U
Uranium-238	pCi/g	-0.0004808U
	muscle	
Americium-241	pCi/g	0.001214U
Neptunium-237	pCi/g	-0.004807U
Plutonium-238	pCi/g	-0.0005314U
Plutonium-239/240	pCi/g	-0.001598U
Technetium-99	pCi/g	-0.0164U
Uranium	µg/g	0.003405U
Uranium-233/234	pCi/g	0.0005732U
Uranium-235	pCi/g	0U
Uranium-236	pCi/g	0.000633U
Uranium-238	pCi/g	0.001141U

[a]Abbreviations and data qualifiers are as follows: U – undetected.

[b]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

Table 2.16. Off-site dairy monitoring – 2007

Parameter	Units	Milk[a,b]	Eggs[a,b]
Americium-241	pCi/g	0.0007322U	0.002695U
Neptunium-237	pCi/g	0.0006431U	0.0006432U
Plutonium-238	pCi/g	0.001924U	0.003838U
Plutonium-239/240	pCi/g	0.0006412U	0.00128U
Technetium-99	pCi/g	0.0155U	-0.0123U
Uranium	µg/g	0.001757U	0.00394U
Uranium-233/234	pCi/g	0.001279U	0.003824U
Uranium-235	pCi/g	0.0007891U	-0.0007844U
Uranium-236	pCi/g	0.0007085U	0U
Uranium-238	pCi/g	0.000639U	0.001272U

[a]Abbreviations and data qualifiers are as follows: U – undetected.
[b]Because of the statistical nature of radiation detection, results for samples that have no radioactivity are often negative values because background radioactivity is subtracted out.

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