

**APPENDIX D****GROUNDWATER MONITORING RESULTS**

Groundwater samples are collected from onsite and offsite drinking water supplies, monitoring wells, and seeps. These samples are analyzed for radionuclides, volatile organic compounds (VOCs), and inorganic substances. Results of groundwater monitoring activities in 2000 are presented in this Appendix. DOE or EPA standards for drinking water are also provided for comparison. Such standards are established to protect drinking water supplies.

It should be noted that for monitoring wells, these standards are provided for reference only since these wells do not serve as sources of drinking water.

Radionuclide results tables show the number of samples analyzed during the year, minimum and maximum concentrations measured, and the average value with error limits. Because of the large volume of nonradiological data for onsite monitoring wells, VOC and inorganic results have been summarized. Generally, data for monitoring wells have only been included in the tables if detectable levels of VOCs or inorganics were observed during one of the sampling events (all VOCs are included; only inorganic parameters which have been assigned an MCL are included).

## ***Groundwater Monitoring Results***

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**Table D-1. Environmental Concentrations of Radionuclides in Groundwater in 2000**

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Radionuclide	Number of Samples	Average Concentration <sup>a, b</sup>	Unit of Measure
Tritium	10	c	c
Plutonium-238	12	0.002 ± 0.003	10 <sup>-9</sup> µCi/ml
Plutonium-239,240	12	0.001 ± 0.003	10 <sup>-9</sup> µCi/ml
Uranium-233,234	12	0.52 ± 0.06	10 <sup>-9</sup> µCi/ml
Uranium-238	12	0.47 ± 0.06	10 <sup>-9</sup> µCi/ml
Thorium-238	4	0.02 ± 0.04	10 <sup>-9</sup> µCi/ml
Thorium-230	4	c	10 <sup>-9</sup> µCi/ml
Thorium-232	4	0.004 ± 0.016	10 <sup>-9</sup> µCi/ml

<sup>a</sup> Measured 25 mi (40 km) north of MEMP in Tipp City.

<sup>b</sup> Error limits are estimates of the standard error at the 95% confidence level.

<sup>c</sup> Below reagent blanks.

**Table D-2. Tritium Concentrations in Offsite Drinking Water and Private Wells in 2000**

Sampling Location*	Historic Designation	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>e</sup>
			Minimum	Maximum	Average <sup>c,d</sup>	
0904	J-1	5	f	0.21	0.09 ± 0.11	0.5
0907	B-H	4	f	0.26	0.10 ± 0.19	0.5
0909 <sup>g</sup>	MCD	7	f	0.50	0.17 ± 0.16	0.9
Franklin <sup>g</sup>		11	f	0.11	f	f
Germantown <sup>g</sup>		11	f	0.10	f	f
Miamisburg <sup>g</sup>		11	f	0.34	0.16 ± 0.11	0.8
Middletown <sup>g</sup>		10	f	0.09	f	f
Springboro <sup>g</sup>		11	f	0.19	f	f
W. Carrollton <sup>g</sup>		10	f	0.16	f	f

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Estimated error at the 95% confidence level.

<sup>c</sup> Error limits are estimates of the standard error of the estimated mean at the 95 % confidence level.

<sup>d</sup> LDL for tritium in private well water is 0.46 nCi/L. LDL for tritium in community drinking water is 0.44 nCi/L.

<sup>e</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

<sup>f</sup> Below the blank value.

<sup>g</sup> Municipality drinking water supply.

\* Well locations shown on Figure 6-2.

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**Table D-3. Plutonium Concentrations in Offsite Drinking Water in 2000**

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Sampling Location*	Number of Samples	Plutonium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	12	d	0.008	0.0002 ± 0.002	0.01
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Sampling Location*	Number of Samples	Plutonium-239,240 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	12	d	0.011	0.0008 ± 0.003	0.07

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<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>b</sup> LDL for plutonium-238 is  $0.03 \times 10^9 \mu\text{Ci/mL}$ . LDL for plutonium-239,240 is  $0.03 \times 10^9 \mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for plutonium-238 and plutonium-239,240 are  $1.6 \times 10^9 \mu\text{Ci/mL}$  and  $1.2 \times 10^9 \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below reagent blank.

\* Well locations shown on Figure 6-2.

**Table D-4. Uranium Concentrations in Offsite Drinking Water in 2000**

Sampling Location*	Number of Samples	Uranium-233,234 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	12	0.49	0.77	$0.62 \pm 0.04$	3.1
Sampling Location*	Number of Samples	Uranium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	12	0.42	0.77	$0.52 \pm 0.06$	2.2

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>b</sup> LDL for uranium-233,234 is  $0.04 \times 10^9 \mu\text{Ci/mL}$ . LDL for uranium-238 is  $0.03 \times 10^9 \mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234 and uranium-238 are  $20 \times 10^9 \mu\text{Ci/mL}$  and  $24 \times 10^9 \mu\text{Ci/mL}$ , respectively.

\* Well locations shown on Figure 6-2.

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**Table D-5. Thorium Concentrations in Offsite Drinking Water in 2000**

Sampling Location*	Number of Samples	Thorium-228 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	4	d	0.014	d	d
Sampling Location*	Number Of Samples	Thorium-230 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	4	d	0.012	0.003 $\pm$ 0.016	0.03
Sampling Location*	Number Of Samples	Thorium-232 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Minimum	Maximum	Average <sup>a,b</sup>	
Miamisburg	4	d	0.005	0.002 $\pm$ 0.004	0.1

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>b</sup> LDL for thorium-228 is  $1.18 \times 10^{-9}$   $\mu\text{Ci/mL}$ . LDL for thorium-230 is  $0.10 \times 10^{-9}$   $\mu\text{Ci/mL}$ . LDL for thorium-232 is  $0.16 \times 10^{-9}$   $\mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^{-9}$   $\mu\text{Ci/mL}$ ,  $12 \times 10^{-9}$   $\mu\text{Ci/mL}$ , and  $2 \times 10^{-9}$   $\mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below reagent blank.

\* Well locations shown on Figure 6-2.

**Table D-6. Tritium Concentrations in Offsite Monitoring Wells in 2000**

Well I.D.*	Number of Samples	Value <sup>a</sup>	Tritium nCi/L			Average as a % of the EPA Standard <sup>d</sup>
			Minimum	Maximum	Average <sup>b,c</sup>	
0123	1	0.83				4.2
0127	4	e	0.79	0.39 ± 0.45		2.0
0128	4	e	0.71	0.33 ± 0.39		1.7
0302	4	1.24	1.95	1.55 ± 0.32		7.8
0303	4	6.30	7.54	6.92 ± 0.51		34.6
0304	4	3.29	3.64	3.45 ± 0.15		17.3
0330	4	e	0.41	0.23 ± 0.17		1.1
0342	4	0.40	10.80	3.15 ± 5.10		15.7
0343	4	6.60	7.90	7.33 ± 0.55		36.7
0376	4	e	0.58	0.26 ± 0.24		1.3
0377	4	e	0.72	0.35 ± 0.32		1.8
0378	1	0.88				4.4
0383	4	e	0.42	0.20 ± 0.23		1.0
0386	4	e	1.06	0.40 ± 0.46		2.0
0387	4	e	0.36	0.13 ± 0.17		0.7
0388	3	e	0.29	0.16 ± 0.15		0.8
0389	4	e	1.01	0.33 ± 0.48		1.7
0392	1	e				0.0

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>c</sup> LDL for tritium in monitoring wells is 0.5 nCi/L.

<sup>d</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

e Below the blank value.

\* Well locations shown on Figure 6-2.

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**Table D-7. Plutonium Concentrations in Offsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Plutonium-238 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4		0.005 <sup>d</sup>	0.014 <sup>d</sup>	0.008 ± 0.004
0376	4		0.007	0.030 <sup>d</sup>	0.018 ± 0.011
0377	4		0.010 <sup>d</sup>	0.037	0.021 ± 0.011
0383	4		0.005 <sup>d</sup>	0.015	0.009 ± 0.005
0386	1	0.006 <sup>d</sup>			0.4
0387	1	0.006 <sup>d</sup>			0.4
0388	2		0.016	0.021 <sup>d</sup>	0.019 ± 0.004

  

Sampling Location*	Number of Samples	Plutonium-239 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4		0.005 <sup>d</sup>	0.008 <sup>d</sup>	0.006 ± 0.001
0376	4		0.005 <sup>d</sup>	0.024 <sup>d</sup>	0.012 ± 0.008
0377	4		0.007 <sup>d</sup>	0.018 <sup>d</sup>	0.013 ± 0.005
0383	4		0.010 <sup>d</sup>	0.024 <sup>d</sup>	0.017 ± 0.017
0386	1	0.006 <sup>d</sup>			0.5
0387	1	0.017 <sup>d</sup>			1.4
0388	2		0.008 <sup>d</sup>	0.024 <sup>d</sup>	0.016 ± 0.011

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for plutonium-238, and plutonium-239,240 are  $1.6 \times 10^{-9}$   $\mu\text{Ci/mL}$  and  $1.2 \times 10^{-9}$   $\mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-8. Uranium Concentrations in Offsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Uranium-233,234 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4		0.013	0.021	0.017 ± 0.004
0376	4		0.194	0.279	0.226 ± 0.038
0377	4		0.133	0.198	0.172 ± 0.028
0383	4		0.454	0.543	0.488 ± 0.039
0386	1	0.387			1.9
0387	1	0.275			1.4
0388	2		0.323	0.362	0.343 ± 0.028

  

Sampling Location*	Number of Samples	Uranium-235 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4		0.003	0.018 <sup>d</sup>	0.011 ± 0.008
0376	4		0.008	0.027	0.018 ± 0.009
0377	4		0.007	0.022	0.018 ± 0.007
0383	4		0.020	0.030	0.025 ± 0.004
0386	1	0.018			0.1
0387	1	0.021 <sup>d</sup>			0.1
0388	2		0.012	0.020	0.016 ± 0.006

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234, uranium-235, and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$ ,  $24 \times 10^{-9} \mu\text{Ci/mL}$ , and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-8. Uranium Concentrations in Offsite Monitoring Wells in 2000 (continued)**

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Sampling Location*	Number of Samples	Uranium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4		0.007	0.023	0.015 ± 0.007
0376	4		0.183	0.254	0.209 ± 0.032
0377	4		0.145	0.182	0.159 ± 0.017
0383	4		0.304	0.477	0.418 ± 0.078
0386	1	0.292			
0387	1	0.233			
0388	2		0.264	0.271	0.268 ± 0.005

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<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234, uranium-235, and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$ ,  $24 \times 10^{-9} \mu\text{Ci/mL}$ , and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-9. Thorium Concentrations in Offsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Thorium-228 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4	0.003	0.130	$0.053 \pm 0.055$	0.3
0376	4	0.015	0.056	$0.031 \pm 0.018$	0.2
0377	4	0.018	0.116	$0.057 \pm 0.043$	0.4
0383	4	0.007 <sup>d</sup>	0.031 <sup>d</sup>	$0.014 \pm 0.011$	0.1
0386	1	0.009			0.1
0387	1	0.019 <sup>d</sup>			0.1
0388	2	0.036	0.073	$0.055 \pm 0.026$	0.3

  

Sampling Location*	Number of Samples	Thorium-230 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4	0.010	0.094	$0.039 \pm 0.039$	0.3
0376	4	0.009 <sup>d</sup>	0.066	$0.036 \pm 0.027$	0.3
0377	4	0.009 <sup>d</sup>	0.040	$0.017 \pm 0.016$	0.1
0383	4	0.006 <sup>d</sup>	0.022	$0.012 \pm 0.007$	0.1
0386	1	0.015			0.1
0387	1	0.019 <sup>d</sup>			0.2
0388	2	0.024 <sup>d</sup>	0.030	$0.027 \pm 0.004$	0.2

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^9 \mu\text{Ci/mL}$ ,  $12 \times 10^9 \mu\text{Ci/mL}$ , and  $2 \times 10^9 \mu\text{Ci/mL}$  respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-9. Thorium Concentrations in Offsite Monitoring Wells in 2000 (continued)**

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Sampling Location*	Number of Samples	Thorium-232 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0303	4	0.015	0.027 <sup>d</sup>	0.019 ± 0.005	1.0
0376	4	0.008 <sup>d</sup>	0.031 <sup>d</sup>	0.018 ± 0.011	0.9
0377	4	0.009 <sup>d</sup>	0.024 <sup>d</sup>	0.015 ± 0.007	0.8
0383	4	0.006 <sup>d</sup>	0.025 <sup>d</sup>	0.012 ± 0.009	0.6
0386	1	0.002			0.1
0387	1	0.007 <sup>d</sup>			0.4
0388	2		0.009 <sup>d</sup>	0.024 <sup>d</sup>	0.017 ± 0.011

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<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^9 \mu\text{Ci/mL}$ ,  $12 \times 10^9 \mu\text{Ci/mL}$ , and  $2 \times 10^9 \mu\text{Ci/mL}$  respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-10. VOC Concentrations in Offsite Monitoring Wells in 2000**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0123	None detected	1	d			
0302	None detected	1	d			
0303	None detected	4		d	d	
0343	None detected	1	d			
0376	Bromodichloromethane	4	1.60	2.90	1.98 ± 0.62	100
	Chloroform	4	d	2.50	1.50 ± 1.07	100
	Dibromochloromethane	4	d	3.30	1.15 ± 1.56	100
	1,1,1-Trichloroethane	4	d	0.30	0.08 ± 0.15	200
0377	Bromodichloromethane	4	1.70	3.10	2.63 ± 0.66	100
	Chloroform	4	1.40	2.50	1.80 ± 0.50	100
	Dibromochloromethane	4	1.20	3.30	2.15 ± 1.01	100
	1,1,1-Trichloroethane	4	d	2.40	0.80 ± 1.09	200
0378	Bromodichloromethane	1	1.30			100
	Chloroform	1	1.50			100
	1,1,1-Trichloroethane	1	3.40			200
0383	Bromodichloromethane	4	2.40	5.50	3.98 ± 1.29	100
	Bromoform	4	d	6.70	3.83 ± 2.98	100
	Chloroform	4	1.30	2.80	2.13 ± 0.74	100
	Dibromochloromethane	4	1.70	10.0	6.50 ± 3.54	100
	Tetrachloroethene	4	0.58	1.80	1.12 ± 0.51	5
	1,1,1-Trichloroethane	4	d	0.41	0.10 ± 0.21	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-10. VOC Concentrations in Offsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0386	Bromodichloromethane	1	2.80			100
	Bromoform	1	3.60			100
	Chloroform	1	0.88			100
	Dibromochloromethane	1	5.60			100
	Tetrachloroethene	1	2.70			5
	Trichloroethene	1	0.78			5
0387	Bromodichloromethane	1	2.00			100
	Chloroform	1	1.50			100
	Dibromochloromethane	1	2.30			100
0388	Bromodichloromethane	3		1.70	1.90	1.77 ± 0.12
	Chloroform	3		0.86	3.10	2.02 ± 1.12
	Tetrachloroethene	3		d	0.66	0.40 ± 0.35
	1,1,1-Trichloroethane	3		d	0.59	0.20 ± 0.34
0389	Bromodichloromethane	1	3.20			100
	Chloroform	1	1.50			100
	Dibromochloromethane	1	4.50			100
0392	Bromodichloromethane	1	2.80			100
	Bromoform	1	4.60			100
	Chloroform	1	1.40			100
	Dibromochloromethane	1	6.20			100
	Tetrachloroethene	1	0.58			5

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-11. Inorganic Concentrations in Offsite Monitoring Wells in 2000**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0123	Aluminum	1	92.5			50-200 <sup>e</sup>
	Manganese	1	471			50 <sup>d</sup>
0302	Aluminum	1	50.0			50-200 <sup>e</sup>
	Barium	1	372			2000 <sup>c</sup>
	Iron	1	2200			300 <sup>d</sup>
	Manganese	1	41.7			50 <sup>d</sup>
0303	Aluminum	4	10.6	130	44.1 ± 57.4	50-200 <sup>e</sup>
	Barium	4	227	249	237 ± 9.0	2000 <sup>c</sup>
	Chromium	4	g	80.7	20.2 ± 40.4	100 <sup>c</sup>
	Iron	4	4850	7470	5957 ± 1110	300 <sup>d</sup>
	Manganese	4	393	426	404 ± 15.4	50 <sup>d</sup>
0343	Aluminum	1	1340			50-200 <sup>e</sup>
	Iron	1	7930			300 <sup>d</sup>
	Lead	1	5.6			15 <sup>f</sup>
	Manganese	1	517			50 <sup>d</sup>
0376	Aluminum	4	10.6	84.8	33.7 ± 34.4	50-200 <sup>e</sup>
	Iron	4	81.6	156	111 ± 31.8	300 <sup>d</sup>
	Lead	4	2.1	29.4	9.2 ± 13.5	15 <sup>f</sup>
	Nickel	4	56.2	172	104 ± 49.6	100 <sup>c</sup>
0377	Aluminum	4	g	92.7	28.5 ± 44.0	50-200 <sup>e</sup>
	Iron	4	173	547	327 ± 185	300 <sup>d</sup>
	Manganese	4	12.5	41.9	28.1 ± 12.1	50 <sup>d</sup>
	Nickel	4	104	219	145 ± 53.1	100 <sup>c</sup>

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-11. Inorganic Concentrations in Offsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	µg/L				
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>	MCL
0378	Aluminum	1	71.0				50-200 <sup>e</sup>
0383	Aluminum	4		10.6	93.9	38.3 ± 38.1	50-200 <sup>e</sup>
	Iron	4		14.6	252	80.0 ± 114.8	300 <sup>d</sup>
	Nickel	4		8.1	78.9	33.5 ± 31.9	100 <sup>c</sup>
0386	Manganese	1	15.9				50 <sup>d</sup>
	Nickel	1	104				100 <sup>c</sup>
0387	Aluminum	1	29.6				50-200 <sup>e</sup>
	Chromium	1	39.6				100 <sup>c</sup>
	Iron	1	653				300 <sup>d</sup>
	Manganese	1	62.7				50 <sup>d</sup>
	Nickel	1	88.8				100 <sup>c</sup>
0388	Aluminum	3		10.6	52.0	29.3 ± 21.0	50-200 <sup>e</sup>
0389	Aluminum	1	28.9				50-200 <sup>e</sup>
0392	Aluminum	1	32.9				50-200 <sup>e</sup>
	Chromium	1	38.3				100 <sup>c</sup>
	Iron	1	597				300 <sup>d</sup>
	Manganese	1	70.1				50 <sup>d</sup>
	Nickel	1	96.6				100 <sup>c</sup>

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-12. Tritium Concentrations in Onsite Production Wells in 2000**

Well I.D.*	Historic Designation	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	42	d	0.85	0.29 ± 0.06	1.5
0271	2	41	0.01	0.88	0.33 ± 0.06	1.7
0076	3	42	d	1.81	0.38 ± 0.09	1.9

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>b</sup> LDL for tritium in onsite well water is 0.44 nCi/L.

<sup>c</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

<sup>d</sup> Below reagent blank.

\* Well locations shown on Figure 6-2.

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**Table D-13. Plutonium Concentrations in Onsite Production Wells in 2000**

Well I.D.*	Historic Designation	Number of Samples	Plutonium-238 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	16	d	0.008	$0.0007 \pm 0.002$	0.04
0271	2	16	d	0.008	$0.002 \pm 0.002$	0.13
0076	3	16	d	0.009	$0.002 \pm 0.002$	0.13

  

Well I.D.*	Historic Designation	Number of Samples	Plutonium-239,240 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	16	d	0.011	d	d
0271	2	16	d	0.006	$0.00005 \pm 0.002$	0.004
0076	3	16	d	0.011	d	d

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95 % confidence level.

<sup>b</sup> LDL for plutonium-238 is  $0.03 \times 10^{-9}$   $\mu\text{Ci/mL}$ . LDL for plutonium-239,240 is  $0.03 \times 10^{-9}$   $\mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for plutonium-238, and plutonium-239,240 are  $1.6 \times 10^{-9}$   $\mu\text{Ci/mL}$  and  $1.2 \times 10^{-9}$   $\mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below reagent blank.

\* Well locations shown on Figure 6-2.

**Table D-14. Uranium Concentrations in Onsite Production Wells in 2000**

Well I.D.*	Historic Designation	Number of Samples	Uranium-233,234 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	16	0.13	0.27	$0.19 \pm 0.02$	1.0
0271	2	16	0.17	0.30	$0.22 \pm 0.02$	1.1
0076	3	16	0.19	0.30	$0.25 \pm 0.02$	1.3

  

Well I.D.*	Historic Designation	Number Of Samples	Uranium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	16	0.10	0.28	$0.16 \pm 0.02$	0.7
0271	2	16	0.15	0.28	$0.20 \pm 0.02$	0.8
0076	3	16	0.16	0.31	$0.24 \pm 0.02$	1.0

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95 % confidence level.

<sup>b</sup> LDL for uranium-233,234 is  $0.04 \times 10^{-9} \mu\text{Ci/mL}$ . LDL for uranium-238 is  $0.03 \times 10^{-9} \mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234 and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$  and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

\* Well locations shown on Figure 6-2.

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**Table D-15. Thorium Concentrations in Onsite Production Wells in 2000**

Well I.D.*	Historic Designation	Number of Samples	Thorium-228 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	8	d	0.08	0.01 ± 0.02	0.06
0271	2	8	d	0.03	0.005 ± 0.01	0.03
0076	3	8	d	0.02	0.006 ± 0.005	0.04

  

Well I.D.*	Historic Designation	Number of Samples	Thorium-230 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	8	d	0.010	d	d
0271	2	8	d	0.009	d	d
0076	3	8	d	0.050	0.008 ± 0.01	0.07

  

Well I.D.*	Historic Designation	Number Of Samples	Thorium-232 $10^{-9}$ $\mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0071	1	8	d	0.006	d	d
0271	2	8	d	0.020	0.0008 ± 0.006	0.04
0076	3	8	d	0.008	0.002 ± 0.003	0.1

<sup>a</sup> Error limits are estimates of the standard error of the estimated mean at the 95% confidence level.

<sup>b</sup> LDL for thorium-228 is  $1.2 \times 10^{-9}$   $\mu\text{Ci/mL}$ . LDL for thorium-230 is  $0.10 \times 10^{-9}$   $\mu\text{Ci/mL}$ . LDL for thorium-232 is  $0.2 \times 10^{-9}$   $\mu\text{Ci/mL}$ .

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^{-9}$   $\mu\text{Ci/mL}$ ,  $12 \times 10^{-9}$ , and  $2 \times 10^{-9}$   $\mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below reagent blank.

\* Well locations shown on Figure 6-2.

**Table D-16. VOC Concentrations in Onsite Production Wells in 2000**

Well I.D.*	Historic Designation	Compound	Number of Samples	μg/L			MCL
				Minimum	Maximum	Average <sup>a</sup>	
0071	1	Bromodichloromethane	5	b	1.4	0.7 ± 0.5	100
		Chloroform	5	0.5	1.1	0.8 ± 0.2	100
		Dibromochloromethane	5	b	0.9	0.2 ± 0.4	100
		Trichloroethene	5	b	0.6	0.1 ± 0.3	5
		1,1,1-Trichloroethane	5	1.6	2.0	1.9 ± 0.2	200
0271	2	Bromodichloromethane	5	b	0.7	0.2 ± 0.3	100
		Chloroform	5	b	0.6	0.1 ± 0.3	100
		Tetrachloroethene	5	b	0.7	0.1 ± 0.3	5
		Trichloroethene	5	b	0.7	0.1 ± 0.3	5
		1,1,1-Trichloroethane	5	1.4	2.0	1.7 ± 0.3	200
0076	3	Trichloroethene	5	b	1.1	0.7 ± 0.4	5
		1,1,1-Trichloroethane	5	b	0.6	0.1 ± 0.3	200

<sup>a</sup> Error limits are one standard deviation of the estimated mean.<sup>b</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-17. Tritium Concentrations in Onsite Monitoring Wells in 2000**

Well I.D.*	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>d</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0063	4		e	0.90	0.32 ± 0.42
0111	2		e	0.47	0.24 ± 0.33
0117	1	4.26			21.3
0119	2		0.63	0.85	0.74 ± 0.16
0125	2		1.02	1.49	1.26 ± 0.33
0158	1	0.95			4.8
0305	4		e	0.54	0.28 ± 0.29
0308	1	6.62			33.1
0313	4		e	0.55	0.27 ± 0.31
0314	2		0.38	2.50	1.44 ± 1.50
0315	2		e	0.09	0.05 ± 0.06
0317	4		e	1.10	0.67 ± 0.47
0319	4		e	1.21	0.77 ± 0.56
0320	4		0.41	1.03	0.67 ± 0.28
0326	1	0.18			0.9
0344	1	1.02			5.1
0345	2		e	0.80	0.40 ± 0.57
0346	2		0.83	5.50	3.17 ± 3.30
0347	4		e	0.89	0.50 ± 0.37
0353	2		e	0.52	0.26 ± 0.37
0354	1	0.58			2.9
0356	4		0.31	0.90	0.62 ± 0.24
0370	4		0.47	1.71	1.12 ± 0.52
0373	4		0.48	1.42	1.08 ± 0.42
0374	4		1.17	2.36	1.64 ± 0.56
0379	2		1.23	2.33	1.78 ± 0.78
0382	2		e	0.10	0.05 ± 0.07
0395	1	0.19			1.0
0397	4		e	0.41	0.14 ± 0.19
0400	4		e	1.00	0.42 ± 0.46
0402	3		e	0.40	0.26 ± 0.23
0410	4		1.94	4.08	2.68 ± 1.00
0411	4		0.57	0.91	0.75 ± 0.14
0415	4		e	1.70	0.56 ± 0.80

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> LDL for tritium in monitoring wells is 0.5 nCi/L.

<sup>d</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

<sup>e</sup> Below the blank value.

\* Well locations shown on Figure 6-2.

**Table D-17. Tritium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>d</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0416	4	e	0.82	0.36 ± 0.42	1.8
0417	4	e	0.48	0.22 ± 0.20	1.1
0418	4	e	0.81	0.37 ± 0.43	1.9
0419	4	1.47	3.11	2.29 ± 0.67	11.4
0420	4	e	0.28	0.13 ± 0.12	0.6
0421	2	0.11	0.36	0.24 ± 0.18	1.2
0422	4	e	0.55	0.23 ± 0.27	1.1
0423	4	e	0.48	0.21 ± 0.24	1.1
0424	4	e	0.65	0.25 ± 0.29	1.2
0425	4	e	0.77	0.28 ± 0.36	1.4
0430	4	9.25	11.02	10.25 ± 0.73	51.2
0431	4	4.32	4.96	4.66 ± 0.28	23.3
P001	4	e	4.35	1.50 ± 1.96	7.5
P002	4	1.79	4.25	2.85 ± 1.23	14.2
P003	4	e	0.28	0.12 ± 0.14	0.6
P005	4	0.62	1.65	1.16 ± 0.42	5.8
P015	4	1.36	2.53	2.02 ± 0.49	10.1
P025	2	e	0.57	0.29 ± 0.40	1.4
P027	4	0.12	1.12	0.59 ± 0.43	3.0
P031	4	e	0.76	0.49 ± 0.35	2.5
P043	4	1.05	1.53	1.28 ± 0.21	6.4
P044	4	0.25	1.00	0.52 ± 0.35	2.6
P045	4	0.12	0.69	0.49 ± 0.25	2.4
P046	2	0.26	0.89	0.58 ± 0.45	2.9

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> LDL for tritium in monitoring wells is 0.5 nCi/L.

<sup>d</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

e Below the blank value.

\* Well locations shown on Figure 6-2.

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**Table D-18. Plutonium Concentrations in Onsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Plutonium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.007 <sup>d</sup>	0.016 <sup>d</sup>	0.012 ± 0.006
0119	2		0.007 <sup>d</sup>	0.020 <sup>d</sup>	0.014 ± 0.009
0125	1	0.005 <sup>d</sup>			0.3
0158	1	0.006 <sup>d</sup>			0.4
0314	2		0.005 <sup>d</sup>	0.015 <sup>d</sup>	0.010 ± 0.007
0315	2		0.006 <sup>d</sup>	0.007 <sup>d</sup>	0.007 ± 0.001
0319	1	0.014 <sup>d</sup>			0.9
0320	1	0.013 <sup>d</sup>			0.8
0344	1	0.091			5.7
0345	2		0.006 <sup>d</sup>	0.018 <sup>d</sup>	0.012 ± 0.008
0346	2		0.006 <sup>d</sup>	0.022 <sup>d</sup>	0.014 ± 0.011
0354	1	0.005 <sup>d</sup>			0.3
0356	1	0.065			4.1
0395	1	0.071			4.4
0400	1	0.023 <sup>d</sup>			1.4
0430	4		0.005 <sup>d</sup>	0.006 <sup>d</sup>	0.006 ± 0.001
0431	4		0.006 <sup>d</sup>	0.019 <sup>d</sup>	0.012 ± 0.007

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for plutonium-238, and plutonium-239,240 are  $1.6 \times 10^{-9} \mu\text{Ci/mL}$  and  $1.2 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-18. Plutonium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Sampling Location*	Number of Samples	Plutonium-239 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.005 <sup>d</sup>	0.007 <sup>d</sup>	0.006 ± 0.001
0119	2		0.020 <sup>d</sup>	0.020 <sup>d</sup>	0.020 ± 0.000
0125	1	0.005 <sup>d</sup>			0.4
0158	1	0.016 <sup>d</sup>			1.3
0314	2		0.005 <sup>d</sup>	0.005 <sup>d</sup>	0.005 ± 0.000
0315	2		0.006 <sup>d</sup>	0.024 <sup>d</sup>	0.015 ± 0.013
0319	1	0.018 <sup>d</sup>			1.5
0320	1	0.013 <sup>d</sup>			1.1
0344	1	0.006 <sup>d</sup>			0.5
0345	2		0.006 <sup>d</sup>	0.007 <sup>d</sup>	0.007 ± 0.001
0346	2		0.022 <sup>d</sup>	0.023 <sup>d</sup>	0.023 ± 0.001
0354	1	0.005 <sup>d</sup>			0.4
0356	1	0.008			0.7
0395	1	0.022 <sup>d</sup>			1.8
0400	1	0.008 <sup>d</sup>			0.7
0430	4		0.005 <sup>d</sup>	0.014 <sup>d</sup>	0.008 ± 0.004
0431	4		0.006 <sup>d</sup>	0.018 <sup>d</sup>	0.009 ± 0.006

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for plutonium-238, and plutonium-239,240 are  $1.6 \times 10^{-9} \mu\text{Ci/mL}$  and  $1.2 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-19. Uranium Concentrations in Onsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Uranium-233,234 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.269	0.353	0.311 ± 0.059 1.6
0119	2		0.312	0.315	0.314 ± 0.002 1.6
0125	2		1.973	2.435	2.204 ± 0.327 11.0
0158	1	0.145			0.7
0314	2		0.762	0.928	0.845 ± 0.117 4.2
0315	2		0.293	0.414	0.354 ± 0.086 1.8
0319	1	0.553			2.8
0320	1	0.221			1.1
0344	1	0.150			0.8
0345	2		0.156	0.224	0.190 ± 0.048 1.0
0346	2		0.286	0.327	0.307 ± 0.029 1.5
0354	1	0.316			1.6
0356	1	0.727			3.6
0395	1	0.889			4.4
0400	1	1.952			9.8
0430	4		0.171	0.222	0.194 ± 0.021 1.0
0431	4		0.553	0.590	0.574 ± 0.019 2.9

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234, uranium-235, and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$ ,  $24 \times 10^{-9} \mu\text{Ci/mL}$ , and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-19. Uranium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Sampling Location*	Number of Samples	Uranium-235 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.013	0.037	0.025 ± 0.017
0119	2		0.018	0.027	0.023 ± 0.006
0125	2		0.074	0.115	0.095 ± 0.029
0158	1	0.020 <sup>d</sup>			0.1
0314	2		0.026	0.026	0.026 ± 0.000
0315	2		0.026	0.043	0.035 ± 0.012
0319	1	0.018			0.1
0320	1	0.024 <sup>d</sup>			0.1
0344	1	0.015 <sup>d</sup>			0.1
0345	2		0.008	0.011	0.010 ± 0.002
0346	2		0.286	0.327	0.307 ± 0.029
0354	1	0.027			0.1
0356	1	0.039			0.2
0395	1	0.099			0.4
0400	1	0.109			0.5
0430	4		0.171	0.222	0.194 ± 0.021
0431	4		0.015	0.032	0.025 ± 0.008

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233,234, uranium-235, and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$ ,  $24 \times 10^{-9} \mu\text{Ci/mL}$ , and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-19. Uranium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Sampling Location*	Number of Samples	Uranium-238 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.203	0.224	0.214 ± 0.015
0119	2		0.267	0.276	0.272 ± 0.006
0125	2		1.464	1.767	1.616 ± 0.214
0158	1	0.134			0.6
0314	2		0.499	0.694	0.597 ± 0.138
0315	2		0.218	0.286	0.252 ± 0.048
0319	1	0.316			1.5
0320	1	0.184			0.8
0344	1	0.107			0.4
0345	2		0.114	0.165	0.140 ± 0.036
0346	2		0.205	0.233	0.219 ± 0.020
0354	1	0.191			0.8
0356	1	0.602			2.5
0395	1	0.678			2.8
0400	1	2.023			8.4
0430	4		0.111	0.148	0.133 ± 0.018
0431	4		0.428	0.469	0.447 ± 0.017

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for uranium-233, 234, uranium-235, and uranium-238 are  $20 \times 10^{-9} \mu\text{Ci/mL}$ ,  $24 \times 10^{-9} \mu\text{Ci/mL}$ , and  $24 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-20. Thorium Concentrations in Onsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Thorium-228 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>	
		Value <sup>a</sup>	Minimum	Maximum		
0111	2		0.009	0.029 <sup>d</sup>	0.019 ± 0.014	0.1
0119	2		0.006	0.007 <sup>d</sup>	0.007 ± 0.001	0.1
0125	1	0.008 <sup>d</sup>				0.1
0158	1	0.008 <sup>d</sup>				0.1
0314	2		0.065	0.970	0.518 ± 0.640	3.2
0315	2		0.005	0.009	0.007 ± 0.003	0.1
0319	1	0.008 <sup>d</sup>				0.1
0320	1	0.035 <sup>d</sup>				0.2
0344	1	0.147				0.9
0345	2		0.006 <sup>d</sup>	0.009 <sup>d</sup>	0.008 ± 0.002	0.1
0346	2		0.006	0.012	0.009 ± 0.004	0.1
0354	1	1.763				11.0
0356	1	0.214				1.3
0395	1	0.195				1.2
0430	4		0.013	0.035 <sup>d</sup>	0.023 ± 0.010	0.1
0431	4		0.011 <sup>d</sup>	0.050	0.030 ± 0.016	0.2

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^{-9} \mu\text{Ci/mL}$ ,  $12 \times 10^{-9} \mu\text{Ci/mL}$ , and  $2 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-20. Thorium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Sampling Location*	Number of Samples	Thorium-230 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.012	0.021 <sup>d</sup>	0.017 ± 0.006
0119	2		0.013	0.030	0.022 ± 0.012
0125	1	0.009			0.1
0158	1	0.003			0.1
0314	2		0.048	0.223	0.136 ± 0.124
0315	2		0.005	0.025	0.015 ± 0.014
0319	1	0.012			0.1
0320	1	0.009 <sup>d</sup>			0.1
0344	1	0.079			0.7
0345	2		0.017	0.025 <sup>d</sup>	0.021 ± 0.006
0346	2		0.011	0.020	0.016 ± 0.006
0354	1	0.473			3.9
0356	1	0.059			0.5
0395	1	0.177			1.5
0430	4		0.011	0.044	0.023 ± 0.015
0431	4		0.021	0.111	0.050 ± 0.041

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^{-9} \mu\text{Ci/mL}$ ,  $12 \times 10^{-9} \mu\text{Ci/mL}$ , and  $2 \times 10^{-9} \mu\text{Ci/mL}$ , respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

**Table D-20. Thorium Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Sampling Location*	Number of Samples	Thorium-232 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2		0.008 <sup>d</sup>	0.008 <sup>d</sup>	0.008 ± 0.000
0119	2		0.005 <sup>d</sup>	0.007 <sup>d</sup>	0.006 ± 0.001
0125	1	0.008 <sup>d</sup>			0.4
0158	1	0.008 <sup>d</sup>			0.4
0314	2		0.017	0.078	0.048 ± 0.043
0315	2		0.002	0.009 <sup>d</sup>	0.006 ± 0.005
0319	1	0.008 <sup>d</sup>			0.4
0320	1	0.009 <sup>d</sup>			0.5
0344	1	0.049			2.5
0345	2		0.006 <sup>d</sup>	0.009 <sup>d</sup>	0.008 ± 0.002
0346	2		0.005 <sup>d</sup>	0.016	0.011 ± 0.008
0354	1	0.973			48.7
0356	1	0.014			0.7
0395	1	0.033 <sup>d</sup>			1.7
0430	4		0.004	0.015 <sup>d</sup>	0.011 ± 0.005
0431	4		0.010 <sup>d</sup>	0.061	0.024 ± 0.025

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The averages have been reported as a percentage of the EPA dose standard of 4 mrem/year. The dose standard concentrations for thorium-228, thorium-230, and thorium-232 are  $16 \times 10^{-9} \mu\text{Ci/mL}$ ,  $12 \times 10^{-9} \mu\text{Ci/mL}$ , and  $2 \times 10^{-9} \mu\text{Ci/mL}$  respectively.

<sup>d</sup> Below the indicated LDL.

\* Well locations shown on Figure 6-2.

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**Table D-21. Radium Concentrations in Onsite Monitoring Wells in 2000**

Sampling Location*	Number of Samples	Radium-226 pCi/mL			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2	0.271	0.549	0.410 ± 0.197	8.2
0119	2	0.556	0.672	0.614 ± 0.082	12.3
0125	2	0.126 <sup>d</sup>	0.247	0.187 ± 0.086	3.7
0314	2	0.398	0.745	0.572 ± 0.245	11.4
0315	2	0.227	0.252 <sup>d</sup>	0.240 ± 0.018	4.8
0345	2	0.208	0.247 <sup>d</sup>	0.228 ± 0.028	4.6
0346	2	0.412	0.776	0.594 ± 0.257	11.9
0395	1	0.492			9.8
0430	1	2.050			41.0
0431	1	0.600			12.0

  

Sampling Location*	Number of Samples	Radium-228 $10^9 \mu\text{Ci/mL}$			Average as a % of the EPA Standard <sup>c</sup>
		Value <sup>a</sup>	Minimum	Maximum	
0111	2	0.658	1.580 <sup>d</sup>	1.119 ± 0.652	22.4
0119	2	1.310	1.450 <sup>d</sup>	1.380 ± 0.099	27.6
0125	2	0.623	1.600 <sup>d</sup>	1.112 ± 0.691	22.2
0314	2	1.470	1.500	1.485 ± 0.021	29.7
0315	2	0.510 <sup>d</sup>	1.310 <sup>d</sup>	0.910 ± 0.566	18.2
0345	2	0.773	1.500 <sup>d</sup>	1.137 ± 0.514	22.7
0346	2	0.755	1.530	1.143 ± 0.548	22.9
0395	1	1.630 <sup>d</sup>			32.6
0430	1	2.300			46.0
0431	1	1.230			24.6

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> The EPA standard for radium in drinking water is 5 pCi/L.

<sup>d</sup> Results below the method detection limit.

\* Well locations shown on Figure 6-2.

**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0063	Bromodichloromethane	4	d	2.50	1.23 ± 1.42	100
	Chloroform	4	d	2.20	1.06 ± 0.91	100
	Dibromochloromethane	4	d	1.90	0.83 ± 0.97	100
	Tetrachloroethene	4	5.10	6.70	5.75 ± 0.75	5
	Trichloroethene	4	2.70	3.90	3.38 ± 0.50	5
	1,1,1-Trichloroethane	4	d	0.60	0.15 ± 0.30	200
0111	Chloroform	2	2.00	2.00	2.00 ± 0.00	100
0117	None detected	1	d			
0119	None detected	2	d	d		
0125	None detected	2	d	d		
0158	None detected	1	d			
0305	Bromodichloromethane	4	d	1.60	0.95 ± 0.68	100
	Chloroform	4	0.78	1.70	1.27 ± 0.41	100
	Dibromochloromethane	4	d	1.70	1.00 ± 0.72	100
	Tetrachloroethene	4	1.70	4.90	2.90 ± 1.42	5
	Trichloroethene	4	1.40	5.20	3.13 ± 1.65	5
	1,1,1-Trichloroethane	4	0.47	1.50	0.82 ± 0.47	200
0308	None detected	1	d			
0313	Bromodichloromethane	4	d	2.40	1.33 ± 1.00	100
	Chloroform	4	d	2.00	1.18 ± 0.87	100
	Dibromochloromethane	4	d	2.40	0.90 ± 1.15	100
	Tetrachloroethene	4	2.90	6.30	4.15 ± 1.49	5
	Trichloroethene	4	1.30	2.90	2.05 ± 0.68	5
	1,1,1-Trichloroethane	4	d	0.42	0.21 ± 0.24	200
0314	None detected	2	d	d		

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L				MCL
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>	
0315	Bromodichloromethane	2	1.70	1.90	1.80 ± 0.14	100	
	Chloroform	2	0.70	1.50	1.10 ± 0.57	100	
	Dibromochloromethane	2	1.40	1.50	1.45 ± 0.07	100	
	Carbon Tetrachloride	2	1.20	1.80	1.50 ± 0.42	5	
	Trichloroethene	2	3.80	3.80	3.80 ± 0.00	5	
0317	1,1,1-Trichloroethane	4	d	0.65	0.16 ± 0.33	200	
0319	None detected	4	d	d			
0320	None detected	4	d	d			
0326	None detected	1	d				
0344	None detected	1	d				
0345	None detected	2	d	d			
0346	None detected	2	d	d			
0347	Carbon Tetrachloride	1	6.00			5	
	Trichloroethene	1	28.0			5	
0353	None detected	2	d	d			
0354	None detected	1	d				
0356	None detected	1	d				

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0370	Bromodichloromethane	4	d	1.20	0.60 ± 0.69	100
	Carbon Tetrachloride	4	d	1.10	0.28 ± 0.55	5
	Chloroform	4	0.82	2.20	1.53 ± 0.72	100
	Dibromochloromethane	4	d	1.80	0.78 ± 0.92	100
	cis-1,2-Dichloroethene	4	d	1.10	0.28 ± 0.55	70
	Tetrachloroethene	4	34.0	35.0	31.3 ± 3.77	5
	Trichloroethene	4	8.30	9.80	8.95 ± 0.62	5
	1,1,1-Trichloroethane	4	d	0.45	0.11 ± 0.23	200
0373	Carbon Tetrachloride	4	d	1.50	0.95 ± 0.67	5
	Chloroform	4	d	2.00	0.63 ± 0.95	100
	Dibromochloromethane	4	d	0.75	0.19 ± 0.38	100
	Tetrachloroethene	4	8.40	16.0	11.4 ± 3.48	5
	Trichloroethene	4	3.30	7.10	4.75 ± 1.64	5
0374	Chloroform	4	d	1.80	0.86 ± 0.75	100
	cis-1,2-Dichloroethene	4	9.50	16.0	12.1 ± 2.78	70
	Tetrachloroethene	4	2.80	7.40	4.63 ± 1.98	5
	Trichloroethene	4	1.30	5.80	3.48 ± 2.21	5
	1,1,1-Trichloroethane	4	d	0.38	0.10 ± 0.19	200
	Vinyl Chloride	4	d	0.38	0.10 ± 0.19	2
0379	Trichloroethene	2	d	1.40	0.70 ± 0.99	5
0382	None detected	2	d	d		
0395	None detected	1	d			
0397	Bromodichloromethane	4	d	3.90	1.78 ± 1.62	100
	Chloroform	4	d	2.70	1.26 ± 1.14	100
	Dibromochloromethane	4	d	1.60	0.75 ± 0.87	100
	cis-1,2-Dichloroethene	4	d	4.80	2.08 ± 2.45	70
	Tetrachloroethene	4	3.60	5.40	4.68 ± 0.85	5
	Trichloroethene	4	2.00	2.70	2.28 ± 0.31	5
	1,1,1-Trichloroethane	4	d	0.62	0.25 ± 0.30	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.<sup>b</sup> Error limits are one standard deviation of the estimated mean.<sup>c</sup> No MCL assigned.<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

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\* Well locations shown on Figure 6-2.

**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0400	None detected	4	d	d		
0402	None detected	3	d	d		
0410	Chloroform	4	0.76	1.50	1.07 ± 0.32	100
	cis-1,2-Dichloroethene	4	40.0	74.0	52.0 ± 15.1	70
	trans-1,2-Dichloroethene	4	d	1.20	0.30 ± 0.60	70
	Tetrachloroethene	4	2.10	6.90	4.08 ± 2.11	5
	Trichloroethene	4	10.0	29.0	18.0 ± 8.04	5
	Toluene	4	d	3.80	0.95 ± 1.90	1000
	Freon	4	d	3.40	0.85 ± 1.70	c
0411	cis-1,2-Dichloroethene	4	d	3.00	1.95 ± 1.34	70
	Trichloroethene	4	13.0	22.0	16.3 ± 4.03	5
	Toluene	4	d	2.40	0.60 ± 1.20	1000
0415	Bromodichloromethane	4	1.20	2.20	1.53 ± 0.46	100
	Chloroform	4	d	2.50	1.28 ± 1.02	100
	Dibromochloromethane	4	d	2.40	1.23 ± 1.00	100
	Tetrachloroethene	4	1.20	2.10	1.63 ± 0.44	5
	Trichloroethene	4	2.00	2.50	2.30 ± 0.24	5
	1,1,1-Trichloroethane	4	d	0.42	0.19 ± 0.22	200
0416	Bromodichloromethane	4	2.00	4.00	3.10 ± 0.89	100
	Chloroform	4	d	1.60	0.98 ± 0.71	100
	Dibromochloromethane	4	1.70	2.70	2.15 ± 0.42	100
	Tetrachloroethene	4	d	0.91	0.63 ± 0.42	5
	Trichloroethene	4	d	1.20	0.30 ± 0.60	5
	1,1,1-Trichloroethane	4	d	0.43	0.19 ± 0.22	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0417	Bromodichloromethane	4	1.10	2.10	1.60 ± 0.48	100
	Chloroform	4	0.66	2.30	1.31 ± 0.71	100
	Dibromochloromethane	4	d	1.80	1.10 ± 0.77	100
	Dibromomethane	4	d	1.30	0.33 ± 0.65	c
	Tetrachloroethene	4	d	1.40	0.93 ± 0.63	5
	Trichloroethene	4	d	1.20	0.55 ± 0.64	5
	1,1,1-Trichloroethane	4	d	0.65	0.25 ± 0.31	200
0418	Bromodichloromethane	4	d	2.20	1.35 ± 0.97	100
	Chloroform	4	0.94	2.00	1.41 ± 0.52	100
	Dibromochloromethane	4	d	1.40	0.98 ± 0.67	100
	Tetrachloroethene	4	1.50	9.20	4.03 ± 3.50	5
	Trichloroethene	4	2.00	3.30	2.68 ± 0.56	5
	1,1,1-Trichloroethane	4	0.77	1.40	1.09 ± 0.31	200
0419	Carbon Tetrachloride	4	1.30	1.90	1.70 ± 0.28	5
	Chloroform	4	1.50	2.60	1.85 ± 0.51	100
	Freon	4	d	2.40	1.60 ± 1.10	c
	cis-1,2-Dichloroethene	4	5.50	40.0	19.9 ± 14.7	70
	Tetrachloroethene	4	7.20	12.0	9.80 ± 1.97	5
	Trichloroethene	4	19.0	30.0	24.0 ± 4.97	5
	1,1,1-Trichloroethane	4	d	0.36	0.09 ± 0.18	200
0420	Bromodichloromethane	4	d	3.80	2.28 ± 1.65	100
	Bromoform	4	d	2.80	0.70 ± 1.40	100
	Chloroform	4	d	2.30	1.15 ± 1.08	100
	Dibromochloromethane	4	d	4.40	2.08 ± 1.86	100
	Tetrachloroethene	4	3.50	4.40	4.00 ± 0.39	5
	Trichloroethene	4	d	1.60	1.08 ± 0.74	5
	1,1,1-Trichloroethane	4	d	0.44	0.18 ± 0.22	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0421	Bromodichloromethane	2	1.50	1.60	1.55 ± 0.07	100
	Chloroform	2	d	1.40	0.70 ± 0.99	100
	Dibromochloromethane	2	1.90	3.40	2.65 ± 1.06	100
	Tetrachloroethene	2	0.66	1.10	0.88 ± 0.31	5
	Trichloroethene	2	d	0.96	0.48 ± 0.68	5
	1,1,1-Trichloroethane	2	d	0.30	0.15 ± 0.21	200
0422	Bromodichloromethane	4	d	3.50	1.93 ± 1.55	100
	Bromoform	4	d	1.20	0.30 ± 0.60	100
	Chloroform	4	d	2.40	1.00 ± 1.20	100
	Dibromochloromethane	4	d	3.80	1.93 ± 1.73	100
	Tetrachloroethene	4	3.40	4.30	3.83 ± 0.40	5
	Trichloroethene	4	1.20	2.80	1.95 ± 0.66	5
	1,1,1-Trichloroethane	4	d	0.49	0.12 ± 0.25	200
0423	Bromodichloromethane	4	d	2.70	1.08 ± 1.32	100
	Chloroform	4	d	1.50	0.94 ± 0.67	100
	Dibromochloromethane	4	d	3.10	1.13 ± 1.47	100
	Tetrachloroethene	4	2.70	3.90	3.25 ± 0.49	5
	Trichloroethene	4	d	2.80	1.73 ± 1.21	5
	1,1,1-Trichloroethane	4	d	0.32	0.15 ± 0.17	200
0424	Bromodichloromethane	4	1.20	1.80	1.43 ± 0.29	100
	Chloroform	4	0.83	1.30	1.06 ± 0.23	100
	Dibromochloromethane	4	d	1.80	1.15 ± 0.83	100
	Tetrachloroethene	4	0.58	0.96	0.78 ± 0.18	5
	Trichloroethene	4	d	1.30	0.63 ± 0.72	5
	1,1,1-Trichloroethane	4	0.73	1.60	1.10 ± 0.37	200
0425	Bromodichloromethane	4	d	1.70	1.13 ± 0.76	100
	Chloroform	4	d	1.30	0.88 ± 0.59	100
	Dibromochloromethane	4	d	2.00	1.23 ± 0.88	100
	Tetrachloroethene	4	0.73	1.30	0.95 ± 0.25	5
	1,1,1-Trichloroethane	4	0.57	1.20	0.82 ± 0.30	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0430	None detected	4	d	d		
0431	None detected	4	d	d		
P001	Bromodichloromethane	4	d	1.60	0.75 ± 0.87	100
	Chloroform	4	d	1.70	0.58 ± 0.80	100
	Dibromochloromethane	4	d	1.30	0.60 ± 0.70	100
	Carbon Tetrachloride	4	d	1.40	0.35 ± 0.70	5
	Tetrachloroethene	4	d	4.10	2.85 ± 1.93	5
	Trichloroethene	4	d	4.20	2.73 ± 1.87	5
P002	Tetrachloroethene	1	5.50			5
	Trichloroethene	1	3.60			5
P003	Bromodichloromethane	4	d	2.30	1.38 ± 1.03	100
	Chloroform	4	d	2.70	1.28 ± 1.48	100
	Dibromochloromethane	4	d	2.40	1.10 ± 1.28	100
	Tetrachloroethene	4	2.60	4.50	3.83 ± 0.87	5
	Trichloroethene	4	1.10	2.50	1.95 ± 0.60	5
	1,1,1-Trichloroethane	4	d	0.35	0.09 ± 0.18	200
P005	Carbon Tetrachloride	4	d	1.60	1.13 ± 0.75	5
	Chloroform	4	d	2.40	0.84 ± 1.13	100
	Dibromochloromethane	4	d	1.20	0.30 ± 0.60	100
	Tetrachloroethene	4	7.00	12.0	9.88 ± 2.53	5
	Trichloroethene	4	2.70	6.00	4.45 ± 1.38	5
P015	Chloroform	4	d	2.00	1.30 ± 0.89	100
	cis-1,2-Dichloroethene	4	2.20	3.00	2.80 ± 0.40	70
	Tetrachloroethene	4	5.00	6.00	5.40 ± 0.49	5
	Trichloroethene	4	16.0	25.0	18.8 ± 4.19	5
	1,1,1-Trichloroethane	4	d	0.32	0.09 ± 0.16	200

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-22. VOC Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
P025	Bromodichloromethane	2	d	2.00	1.00 ± 1.41	100
	Chloroform	2	d	1.70	0.85 ± 1.20	100
	Dibromochloromethane	2	d	1.50	0.75 ± 1.06	100
	1,1,1-Trichloroethane	2	1.10	1.10	1.10 ± 0.00	200
P027	Bromodichloromethane	4	d	1.30	0.58 ± 0.68	100
	Chloroform	4	d	1.30	0.60 ± 0.70	100
	Dibromochloromethane	4	d	1.00	0.25 ± 0.50	100
	Tetrachloroethene	4	0.40	0.96	0.76 ± 0.25	5
	Trichloroethene	4	d	1.10	0.28 ± 0.55	5
	1,1,1-Trichloroethane	4	0.89	2.10	1.32 ± 0.55	200
P031	Chloroform	4	d	3.50	1.10 ± 1.66	100
	Dibromochloromethane	4	d	1.30	0.33 ± 0.65	100
	Tetrachloroethene	4	0.93	1.80	1.46 ± 0.37	5
	Trichloroethene	4	1.30	3.00	1.95 ± 0.73	5
	1,1,1-Trichloroethane	4	0.68	6.70	2.69 ± 2.78	200
P043	None detected	4	d	d		
P044	Chloroform	4	d	1.80	0.45 ± 0.90	100
	1,1,1-Trichloroethane	4	1.50	3.20	2.50 ± 0.74	200
P045	None detected	4	d	d		
P046	Chloroform	2	0.84	0.85	0.85 ± 0.01	100
	Tetrachloroethene	2	0.46	0.72	0.59 ± 0.18	5
	Trichloroethene	2	2.50	4.40	3.45 ± 1.34	5

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> No MCL assigned.

<sup>d</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-23. Inorganic Concentrations in Onsite Monitoring Wells in 2000**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0111	Aluminum	2	38.2	50.9	44.6 ± 9.0	50-200 <sup>e</sup>
	Chromium	2	7.3	14.5	10.9 ± 5.1	100 <sup>c</sup>
	Iron	2	37.3	157	97.2 ± 84.6	300 <sup>d</sup>
0119	Aluminum	2	35.6	48.4	42.0 ± 9.1	50-200 <sup>e</sup>
	Iron	2	1080	1280	1180 ± 141	300 <sup>d</sup>
	Manganese	2	39.5	44.2	41.9 ± 3.3	50 <sup>d</sup>
0125	Aluminum	3	27.4	1390	483 ± 785	50-200 <sup>e</sup>
	Chromium	3	2.9	12.1	7.0 ± 4.7	100 <sup>c</sup>
	Iron	3	10.8	1230	419 ± 703	300 <sup>d</sup>
	Manganese	3	g	23.2	7.8 ± 13.3	50 <sup>d</sup>
0158	Aluminum	3	30.9	3160	1080 ± 1801	50-200 <sup>e</sup>
	Arsenic	3	3.2	933	314 ± 537	50 <sup>c</sup>
	Barium	3	71.7	239	130 ± 94.5	2000 <sup>c</sup>
	Chromium	3	g	316	106 ± 182	100 <sup>c</sup>
	Iron	3	17.0	192000	64892 ± 110086	300 <sup>d</sup>
	Lead	3	2.3	13.4	6.0 ± 6.4	15 <sup>f</sup>
	Manganese	3	31.3	204	90.0 ± 98.7	50 <sup>d</sup>
	Nickel	3	2.6	182	63.5 ± 103	100 <sup>c</sup>
0315	Zinc	3	2.5	26.5	10.6 ± 13.8	5000 <sup>d</sup>
	Aluminum	2	37.7	48.3	43.0 ± 7.5	50-200 <sup>e</sup>
0319	Aluminum	4	17.1	98.0	45.0 ± 37.8	50-200 <sup>e</sup>
	Iron	4	159	288	217 ± 64.0	300 <sup>d</sup>
	Manganese	4	341	434	382 ± 43.6	50 <sup>d</sup>
	Nickel	4	89.3	126	115 ± 17.5	100 <sup>c</sup>

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-23. Inorganic Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	Value <sup>a</sup>	μg/L			MCL
				Minimum	Maximum	Average <sup>b</sup>	
0320	Aluminum	4	10.6	87.2	38.9 ± 34.7	50-200 <sup>e</sup>	
	Chromium	4	g	79.5	23.4 ± 37.7	100 <sup>c</sup>	
	Iron	4	19.1	908	276 ± 426	300 <sup>d</sup>	
	Lead	4	2.1	3.2	2.5 ± 0.5	15 <sup>f</sup>	
	Manganese	4	12.1	109	45.1 ± 43.8	50 <sup>d</sup>	
	Nickel	4	12.3	41.0	24.7 ± 12.4	100 <sup>c</sup>	
0344	Aluminum	1	120			50-200 <sup>e</sup>	
	Barium	1	427			2000 <sup>c</sup>	
	Iron	1	4110			300 <sup>d</sup>	
	Manganese	1	102			50 <sup>d</sup>	
0345	Aluminum	2	38.5	53.0	45.8 ± 10.3	50-200 <sup>e</sup>	
	Chromium	2	6.3	23.9	15.1 ± 12.4	100 <sup>c</sup>	
	Iron	2	161	402	282 ± 170	300 <sup>d</sup>	
	Lead	2	2.3	3.1	2.7 ± 0.6	15 <sup>f</sup>	
	Manganese	2	23.9	28.3	26.1 ± 3.1	50 <sup>d</sup>	
	Nickel	2	31.1	46.9	39.0 ± 11.2	100 <sup>c</sup>	
0346	Aluminum	2	30.5	50.3	40.4 ± 14.0	50-200 <sup>e</sup>	
	Iron	2	1010	1180	1095 ± 120	300 <sup>d</sup>	
	Manganese	2	41.0	41.4	41.2 ± 0.3	50 <sup>d</sup>	
0347	Aluminum	1	27.1			50-200 <sup>e</sup>	
	Iron	1	104			300 <sup>d</sup>	
	Nickel	1	352			100 <sup>c</sup>	
0353	Aluminum	2	38.2	40.3	39.3 ± 1.5	50-200 <sup>e</sup>	
	Iron	2	1120	1580	1350 ± 325	300 <sup>d</sup>	
	Manganese	2	95.1	127	111 ± 22.6	50 <sup>d</sup>	
	Nickel	2	26.6	160	93.3 ± 94.3	100 <sup>c</sup>	

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-23. Inorganic Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	μg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0354	Aluminum	1	3160			50-200 <sup>e</sup>
	Iron	1	4460			300 <sup>d</sup>
	Manganese	1	313			50 <sup>d</sup>
0356	Aluminum	1	70.5			50-200 <sup>e</sup>
	Iron	1	829			300 <sup>d</sup>
	Manganese	1	192			50 <sup>d</sup>
0379	Aluminum	2		26.0	30.6	28.3 ± 3.3
	Chromium	2		1.6	189	95.3 ± 132.5
	Iron	2		257	3160	1709 ± 2053
	Manganese	2		6.3	15.8	11.1 ± 6.7
	Nickel	2		58.1	129	93.6 ± 50.1
0382	Aluminum	2		20.1	103	61.6 ± 58.6
	Barium	2		326	329	328 ± 2.1
	Iron	2		112	374	243 ± 185
	Manganese	2		21.5	24.7	23.1 ± 2.3
0395	Manganese	1	17.6			50 <sup>d</sup>
	Nickel	1	365			100 <sup>c</sup>
	Zinc	1	325			5000 <sup>d</sup>
0400	Aluminum	4		10.6	308	139 ± 124
	Chromium	4		g	130	62.0 ± 70.7
	Iron	4		18.4	2580	1179 ± 1320
	Lead	4		2.1	11.6	4.6 ± 4.7
	Manganese	4		13.3	54.4	35.2 ± 19.0
	Nickel	4		117	304	177 ± 86.5
	Zinc	4		1.9	48.4	23.8 ± 19.2

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

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**Table D-23. Inorganic Concentrations in Onsite Monitoring Wells in 2000 (continued)**

Well I.D.*	Compound	Number of Samples	µg/L			
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>
0402	Aluminum	3	10.6	236	112 ± 114	50-200 <sup>e</sup>
	Chromium	3	g	37.6	13.2 ± 21.2	100 <sup>c</sup>
	Iron	3	16.4	501	192 ± 268	300 <sup>d</sup>
	Manganese	3	g	17.3	6.2 ± 9.6	50 <sup>d</sup>
0410	Manganese	1	34.3			50 <sup>d</sup>
0411	Aluminum	4	17.1	621	251 ± 290	50-200 <sup>e</sup>
	Chromium	4	1.3	290	141 ± 161	100 <sup>c</sup>
	Copper	4	1.3	27.5	9.1 ± 12.4	1300 <sup>f</sup>
	Iron	4	13.3	6090	2177 ± 2863	300 <sup>d</sup>
	Lead	4	2.1	6.3	3.3 ± 2.0	15 <sup>f</sup>
	Manganese	4	7.1	1500	424 ± 721	50 <sup>d</sup>
	Nickel	4	10.9	539	203 ± 248	100 <sup>c</sup>
	Zinc	4	3.5	24.6	10.9 ± 9.5	5000 <sup>d</sup>
0430	Aluminum	4	17.1	84.6	50.3 ± 29.5	50-200 <sup>e</sup>
	Iron	4	3320	3590	3415 ± 128	300 <sup>d</sup>
	Manganese	4	97.0	105	100 ± 3.5	50 <sup>d</sup>
0431	Aluminum	4	17.1	72.1	36.9 ± 24.3	50-200 <sup>e</sup>
	Iron	4	987	1200	1114 ± 101	300 <sup>d</sup>
	Manganese	4	40.0	41.1	40.3 ± 0.5	50 <sup>d</sup>
P015	Aluminum	3	14.5	63.3	41.6 ± 24.8	50-200 <sup>e</sup>
	Iron	3	10.8	197	84.3 ± 99.1	300 <sup>d</sup>
P031	Aluminum	2	63.6	4570	2317 ± 3187	50-200 <sup>e</sup>
	Iron	2	124	9310	4717 ± 6496	300 <sup>d</sup>
	Lead	2	2.3	3.1	2.7 ± 0.6	15 <sup>f</sup>
	Manganese	2	2.5	150	76.3 ± 104	50 <sup>d</sup>
	Zinc	2	20.6	36.9	28.8 ± 11.5	5000 <sup>d</sup>

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Primary Maximum Contaminant Level.

<sup>d</sup> Secondary Maximum Contaminant Level.

<sup>e</sup> The secondary MCL for aluminum is a range; final MCL values have not been established.

<sup>f</sup> Action level.

<sup>g</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Primary Drinking Water Standards).

\* Well locations shown on Figure 6-2.

**Table D-24. Tritium Concentrations in Seeps in 2000**

Seep I.D.*	Historic Designation	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>d</sup>
			Value <sup>a</sup>	Minimum	Maximum	
0601	S001	326		20.37	111.6	66.71 ± 20.81
0602	S002	1	12.88			334
0603	S003	1	0.11			64
0605	S005	2		33.76	44.00	0.6
0606	S006	0				194
0607	S007	24		9.17	21.05	-
0608	S008	2		9.33	11.65	74.7
0609	S009	1	e			53
						0

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> LDL for tritium in seep water is 0.5 nCi/L.

<sup>d</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

<sup>e</sup> Below the blank value.

\* Seep locations are shown on Figure 6-6.

## ***Groundwater Monitoring Results***

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**Table D-25. VOC Concentrations in Seeps in 2000**

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Seep I.D.*	Compound	Number of Samples	μg/L				MCL
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>	
0601	cis-1,2-Dichloroethene	4		c	2.00	1.03 ± 0.83	70
	Tetrachloroethene	4		12.0	18.0	13.8 ± 2.87	5
	Trichloroethene	4		3.20	6.20	4.95 ± 1.42	5
0602	cis-1,2-Dichloroethene	1	1.70				70
0603	None detected	1	c				
0605	cis-1,2-Dichloroethene	2		1.10	2.10	1.60 ± 0.71	70
	Trichloroethene	2		1.70	2.30	2.00 ± 0.42	5
0606	Not sampled	0					
0607	Chloroform	4		c	1.10	0.43 ± 0.53	100
	cis-1,2-Dichloroethene	4		c	1.00	0.25 ± 0.50	70
	Trichloroethene	4		c	2.50	1.48 ± 1.05	5
0608	None detected	2		c	c		
0609	None detected	1	c				

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<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Drinking Water Standard).

\* Seep locations are shown on Figure 6-6.

**Table D-26. Tritium Concentrations in Capture Pits in 2000**

Capture Pit I.D.*	Historic Designation	Number of Samples	Tritium nCi/L			Average as a % of the EPA Standard <sup>c</sup>
			Minimum	Maximum	Average <sup>a,b</sup>	
0712	P012	37	e	2.73	1.33 ± 0.57	6.7
0713	P013	2	1.10	398.3	199.7 ± 280.9	999
0714	P014	39	5.21	85.24	59.01 ± 19.15	295
0725	W005	37	0.81	3.69	2.23 ± 0.80	11.2
0726	W006	38	2.56	316.9	112.0 ± 97.97	560
0727	W007	2	2.31	158.08	80.0 ± 110.2	401

<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> LDL for tritium in seep water is 0.5 nCi/L.

<sup>d</sup> The EPA standard for tritium in drinking water is 20 nCi/L.

<sup>e</sup> Below the blank value.

\* Capture Pit locations are shown on Figure 6-6.

## ***Groundwater Monitoring Results***

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**Table D-27. VOC Concentrations in Capture Pits in 2000**

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Capture Pit I.D.*	Compound	Number of Samples	µg/L				MCL
			Value <sup>a</sup>	Minimum	Maximum	Average <sup>b</sup>	
0712	cis-1,2-Dichloroethene	2	c	1.30	0.65 ± 0.92	70	5
	Trichloroethene	2		1.20	0.60 ± 0.85		
0713	Tetrachloroethene	2	c	0.52	0.26 ± 0.37	5	
0714	None detected	2	c	c			
0725	Trichloroethene	1	1.50				5
0726	cis-1,2-Dichloroethene	2	2.00	4.40	3.20 ± 1.70	70	70
	trans-1,2-Dichloroethene	2		c	1.20	0.60 ± 0.85	
	Tetrachloroethene	2	c	0.24	0.12 ± 0.17	5	
	Trichloroethene	2	27.0	33.0	30.0 ± 4.2	5	
0727	Tetrachloroethene	2	c	2.40	1.20 ± 1.70	5	

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<sup>a</sup> In cases where only one sample was collected, minimum, maximum, and average values do not apply.

<sup>b</sup> Error limits are one standard deviation of the estimated mean.

<sup>c</sup> Results below the method detection limit.

MCL = Maximum Contaminant Level (based on EPA Drinking Water Standard).

\* Capture pit locations are shown on Figure 6-6.