DOE Oversight Bureau, New Mexico Environment Department

Groundwater Monitoring at Sandia National Laboratories/New Mexico Long-Term Stewardship Consolidated Groundwater Monitoring Program

Conducted by the New Mexico Environment Department DOE Oversight Bureau for FFY 2016 Q-2

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Final Report

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The purpose of this communication is to transmit groundwater data collected by the New Mexico Environment Department DOE Oversight Bureau from Long-Term Stewardship Consolidated Groundwater Monitoring Program monitoring wells during second quarter FFY 2016.

Acknowledgment:
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Introduction

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or Bureau) has compiled and assessed groundwater data collected during January and February 2016. The Bureau collected groundwater samples from Long-Term Stewardship (LTS) Consolidated Groundwater Monitoring Program (GMP) monitoring wells MRN-3D, SFR-2S (plus duplicate), SWTA3-MW2, SWTA3-MW3, SWTA3-MW4 and TRE-1. Samples were also collected from Coyote Spring located in Arroyo del Coyote. Split samples were collected using standard Sandia National Laborites/New Mexico (SNL/NM) sampling procedures and equipment. The samples were submitted for analysis to an independent analytical laboratory for target analyte list (TAL) metals plus uranium, total mercury, anions, nitrate-nitrite as nitrogen, cyanide, high explosives (HE), volatile organic compounds (VOCs), gamma emitting isotopes, gross alpha and beta, radium, and isotopic uranium. All samples were filtered in the field using in-line filters of 0.45-micron pore size, except those for VOCs, HE, and mercury fractions. An elevated concentration of beryllium, exceeding the U.S. Environmental Protection Agency (EPA) drinking water standard was observed in the sample collected from Coyote Springs. All other sample results were detected below EPA standards.

Data Assessment

All groundwater samples were collected and analyzed in accordance with U.S EPA-specified protocols. Data results are compared to applicable Maximum Contaminant Levels (MCLs) established by the U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002.

Results

Analytical results for TAL metals are presented in Table-1. Samples were analyzed for dissolved (filtered) metals plus uranium and total (unfiltered) mercury. No metal parameters were detected above established regulatory standards, except for beryllium. Beryllium was detected above the EPA MCL of 0.004 mg/L from the sample collected at Coyote Springs at a concentration of 0.0066 mg/L. Mercury was not detected above associated laboratory method detection limits (MDLs) in any groundwater samples.

Analytical results for anions (bromide, chloride, fluoride and sulfate), nitrate-nitrite as nitrogen and total cyanide are presented in Table-2. No samples exceeded established regulatory limits.

Analytical results for HE compounds are listed in Table-3. Analysis for HE compounds was only conducted on groundwater samples collected from monitoring wells SFR-2S, SWTA3-MW3, SWTA3-MW4 and TRE-1. No HE compounds were detected above laboratory MDLs.

Volatile organic compounds detected above the laboratory MDLs are listed in Table-4. Chloroform was the only compound detected above the laboratory MDL at monitoring well TRE-1 at a concentration of 0.59 µg/L. No MCL exists for chloroform. The MDLs for the remaining VOCs are presented in Table-5.

Analytical results for radiological analyses are summarized in Table-6. Samples were analyzed for gross alpha and beta, gamma emitting isotopes, radium-226, radium-228, and isotopic uranium. Unadjusted gross alpha activity ranged from 3.1 ± 0.41 pCi/L at SWTA3-MW4 to 21 ± 2.1 pCi/L at SFR-2S duplicate. The EPA MCL for gross alpha activity of 15 pCi/L is based on a corrected gross alpha value, which excludes both total uranium and radon from initial gross alpha count. Subsequently, when the total uranium activity is subtracted from the gross alpha value, the gross activity results from all samples are below the MCL. All other gamma emitters and radium isotopes were below established MCLs.

Conclusion

Groundwater samples were collected from six (6) monitoring wells (MRN-3D, SFR-2S, SWTA3-MW2, SWTA3-MW3, SWTA3-MW4 and TRE-1) and one (1) spring (Coyote Spring) during the annual sampling event for LTS GMP. Beryllium was detected above the MCL of 0.004 mg/L in the sample from Coyote Springs at a concentration of 0.0066 mg/L. Beryllium concentrations observed during this event compare well to past data. Historically, beryllium concentrations at Coyote Springs have continually exceeded the EPA drinking water standard. All other sample results were detected below associated MCLs.

The DOE-OB will continue to collect and monitor groundwater quality at these GMP wells, including Coyote Spring and provide data results to DOE.

Table-1 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program
Groundwater Quality Results: Dissolved TAL Metals plus Uranium and Total Mercury

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
Coyote Spring 22-Jan-16	Aluminum	0.2	NE	0.05	0.019		SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.004	0.01	0.002	0.00036		SW-846:6020
	Barium	0.042	2	0.001	0.00094		SW-846:6020
	Beryllium	**0.0066**	0.004	0.0005	0.00014		SW-846:6020
	Cadmium	0.00016	0.005	0.0003	0.00013	J	SW-846:6020
	Calcium	290	NE	1	0.094		SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.0098	NE	0.001	0.00021		SW-846:6020
	Copper	0.0034	NE	0.01	0.002	JB	SW-846:6020
	Iron	0.044	NE	0.1	0.013	J	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	61	NE	0.1	0.039		SW-846:6020
	Manganese	1.4	NE	0.002	0.00074		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.027	NE	0.005	0.0023		SW-846:6020
	Potassium	30	NE	1	0.2		SW-846:6020
	Selenium	0.00082	0.05	0.001	0.00042	JB	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	400	NE	1	0.84		SW-846:6020
	Thallium	0.0014	0.002	0.0002	0.000034		SW-846:6020
	Uranium	0.0064	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.00027	NE	0.001	0.00027	U	SW-846:6020
	Zinc	0.042	NE	0.02	0.0071		SW-846:6020

B = Compound was found in the blank and sample.

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Table-1 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Dissolved TAL Metals plus Uranium and Total Mercury

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
MRN-3D 5-Feb-16	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.00072	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.11	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	58	NE	1	0.094	B	SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	13	NE	0.1	0.039		SW-846:6020
	Manganese	0.00074	NE	0.002	0.00074	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	4.1	NE	1	0.2		SW-846:6020
	Selenium	0.0015	0.05	0.001	0.00042		SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	26	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.0035	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0051	NE	0.001	0.00027	B	SW-846:6020
	Zinc	0.032	NE	0.02	0.0071		SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SFR-2S 26-Jan-16	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.00058	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.06	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	130	NE	1	0.094		SW-846:6020
	Chromium	0.0016	0.1	0.01	0.00074	J	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.013	NE	0.01	0.002	B	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	35	NE	0.1	0.039		SW-846:6020
	Manganese	0.0024	NE	0.002	0.00074		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0061	NE	0.005	0.0023		SW-846:6020
	Potassium	7.3	NE	1	0.2		SW-846:6020
	Selenium	0.0034	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.00005	NE	0.0001	0.000041	JB	SW-846:6020
	Sodium	78	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.015	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0038	NE	0.001	0.00027		SW-846:6020
	Zinc	0.03	NE	0.02	0.0071		SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SFR-2S 26-Jan-16 DUP	Aluminum	0.027	NE	0.05	0.019	J	SW-846:6020
	Antimony	0.0006	0.006	0.0003	0.00023		SW-846:6020
	Arsenic	0.0004	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.064	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	130	NE	1	0.094		SW-846:6020
	Chromium	0.0024	0.1	0.01	0.00074	J	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.015	NE	0.01	0.002	B	SW-846:6020
	Iron	0.021	NE	0.1	0.013	J	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	37	NE	0.1	0.039		SW-846:6020
	Manganese	0.003	NE	0.002	0.00074		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0061	NE	0.005	0.0023		SW-846:6020
	Potassium	8.3	NE	1	0.2		SW-846:6020
	Selenium	0.0024	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	84	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.016	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0036	NE	0.001	0.00027		SW-846:6020
	Zinc	0.1	NE	0.02	0.0071		SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW2 2-Feb-16	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.00096	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.073	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	49	NE	1	0.094		SW-846:6020
	Chromium	0.0012	0.1	0.01	0.00074	J	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	13	NE	0.1	0.039		SW-846:6020
	Manganese	0.00074	NE	0.002	0.00074	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	3.9	NE	1	0.2		SW-846:6020
	Selenium	0.00042	0.05	0.001	0.00042	U	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	36	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.0029	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0064	NE	0.001	0.00027		SW-846:6020
	Zinc	0.0071	NE	0.02	0.0071	U	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW3 3-Feb-16	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.00059	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.06	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	38	NE	1	0.094		SW-846:6020
	Chromium	0.00086	0.1	0.01	0.00074	J	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	11	NE	0.1	0.039		SW-846:6020
	Manganese	0.00086	NE	0.002	0.00074	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	4.4	NE	1	0.2		SW-846:6020
	Selenium	0.00075	0.05	0.001	0.00042	J	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	48	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.0022	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.008	NE	0.001	0.00027		SW-846:6020
	Zinc	0.0071	NE	0.02	0.0071	U	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW4 1-Feb-16	Aluminum	0.073	NE	0.05	0.019		SW-846:6020
	Antimony	0.00043	0.006	0.0003	0.00023		SW-846:6020
	Arsenic	0.00057	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.053	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	38	NE	1	0.094		SW-846:6020
	Chromium	0.0019	0.1	0.01	0.00074	J	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.00027	NE	0.0005	0.0002	J	SW-846:6020
	Magnesium	10	NE	0.1	0.039		SW-846:6020
	Manganese	0.00074	NE	0.002	0.00074	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0024	NE	0.005	0.0023	J	SW-846:6020
	Potassium	4.5	NE	1	0.2		SW-846:6020
	Selenium	0.00042	0.05	0.001	0.00042	U	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	54	NE	1	0.84		SW-846:6020
	Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020
	Uranium	0.0025	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0084	NE	0.001	0.00027		SW-846:6020
	Zinc	0.0081	NE	0.02	0.0071	JB	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TRE-1 25-Jan-16	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	U	SW-846:6020
	Arsenic	0.00055	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.043	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00013	0.005	0.0003	0.00013	U	SW-846:6020
	Calcium	160	NE	1	0.094		SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.00021	NE	0.001	0.00021	U	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.013	NE	0.1	0.013	U	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	34	NE	0.1	0.039		SW-846:6020
	Manganese	0.0022	NE	0.002	0.00074		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Mercury (Total)	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	7.2	NE	1	0.2		SW-846:6020
	Selenium	0.002	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	110	NE	1	0.84		SW-846:6020
	Thallium	0.00004	0.002	0.0002	0.000034	J	SW-846:6020
	Uranium	0.017	0.03	0.0001	0.000046		SW-846:6020
	Vanadium	0.0031	NE	0.001	0.00027		SW-846:6020
	Zinc	0.038	NE	0.02	0.0071		SW-846:6020

B = Compound was found in the blank and sample.

J = the reported value was obtained from a reading that was less than the Reporting Limit but greater than or equal to the Method Detection Limit (MDL).

NE = Not Established

U = the analyte was analyzed for but not detected

Table-2 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program
Groundwater Quality Results: Anions, Nitrate-Nitrite and Total Cyanide

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
Coyote Spring 22-Jan-16	Bromide	2	NE	1	0.3		EPA:300.0
	Chloride	540	NE	10	3		EPA:300.0
	Cyanide (Total)	0.014	200	0.01	0.003		SW-846:9014
	Fluoride	1.4	4	0.5	0.15		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.51	10	0.01	0.003		EPA:353.2
	Sulfate	130	NE	5	1.5		EPA:300.0
MRN-3D 5-Feb-16	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	17	NE	0.2	0.06		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	0.41	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	2.4	10	0.1	0.03		EPA:353.2
	Sulfate	81	NE	1	0.3		EPA:300.0
SFR-2S 26-Jan-16	Bromide	0.61	NE	0.4	0.12		EPA:300.0
	Chloride	140	NE	4	1.2		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1.4	4	0.2	0.06		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.87	10	0.1	0.03		EPA:353.2
	Sulfate	75	NE	2	0.6		EPA:300.0
SFR-2S 26-Jan-16 DUP	Bromide	0.62	NE	0.4	0.12		EPA:300.0
	Chloride	140	NE	4	1.2		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1.5	4	0.2	0.06		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.87	10	0.1	0.03		EPA:353.2
	Sulfate	75	NE	2	0.6		EPA:300.0
SWTA3-MW2 2-Feb-16	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	20	NE	0.2	0.06		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.87	10	0.01	0.003		EPA:353.2
	Sulfate	62	NE	1	0.3		EPA:300.0
SWTA3-MW3 3-Feb-16	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	16	NE	0.2	0.06		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1.4	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.56	10	0.01	0.003		EPA:353.2
	Sulfate	71	NE	1	0.3		EPA:300.0

NE = Not Established

U = the analyte was analyzed for but not detected

Table-2 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program
Groundwater Quality Results: Anions, Nitrate-Nitrite and Total Cyanide

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW4 1-Feb-16	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	21	NE	2	0.6		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1.7	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	1	10	0.01	0.003		EPA:353.2
	Sulfate	56	NE	1	0.3		EPA:300.0
TRE-1 25-Jan-16	Bromide	0.71	NE	0.4	0.12		EPA:300.0
	Chloride	150	NE	4	1.2		EPA:300.0
	Cyanide (Total)	0.003	200	0.01	0.003	U	SW-846:9014
	Fluoride	1.5	4	0.2	0.06		EPA:300.0
	Nitrate-Nitrite as Nitrogen	2.2	10	0.1	0.03		EPA:353.2
	Sulfate	110	NE	2	0.6		EPA:300.0

NE = Not Established

U = the analyte was analyzed for but not detected

Table-3 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Hgih Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
SFR-2S 26-Jan-16	Amino-2,6-dinitrotoluene[4-]	0.127	0.127	0.0241	U	SW-846:8321A
	Amino-4,6-dinitrotoluene[2-]	0.127	0.127	0.0266	U	SW-846:8321A
	Dinitrobenzene[1,3-]	0.127	0.127	0.0178	U	SW-846:8321A
	Dinitrotoluene[2,4-]	0.127	0.127	0.0241	U	SW-846:8321A
	Dinitrotoluene[2,6-]	0.127	0.127	0.0279	U	SW-846:8321A
	HMX	0.127	0.127	0.0241	U	SW-846:8321A
	Nitrobenzene	0.127	0.127	0.0419	U	SW-846:8321A
	Nitroglycerin	0.178	0.178	0.0571	U	SW-846:8321A
	Nitrotoluene[2-]	0.127	0.127	0.0279	U	SW-846:8321A
	Nitrotoluene[3-]	0.127	0.127	0.0317	U	SW-846:8321A
	Nitrotoluene[4-]	0.127	0.127	0.033	U	SW-846:8321A
	PETN	0.127	0.127	0.0228	U	SW-846:8321A
	RDX	0.127	0.127	0.0266	U	SW-846:8321A
	Tetryl	0.127	0.127	0.0266	U	SW-846:8321A
	Trinitrobenzene[1,3,5-]	0.127	0.127	0.0216	U	SW-846:8321A
	Trinitrotoluene[2,4,6-]	0.127	0.127	0.0279	U	SW-846:8321A
SFR-2S 26-Jan-16 DUP	Amino-2,6-dinitrotoluene[4-]	0.127	0.127	0.0241	U	SW-846:8321A
	Amino-4,6-dinitrotoluene[2-]	0.127	0.127	0.0266	U	SW-846:8321A
	Dinitrobenzene[1,3-]	0.127	0.127	0.0177	U	SW-846:8321A
	Dinitrotoluene[2,4-]	0.127	0.127	0.0241	U	SW-846:8321A
	Dinitrotoluene[2,6-]	0.127	0.127	0.0279	U	SW-846:8321A
	HMX	0.127	0.127	0.0241	U	SW-846:8321A
	Nitrobenzene	0.127	0.127	0.0418	U	SW-846:8321A
	Nitroglycerin	0.177	0.177	0.057	U	SW-846:8321A
	Nitrotoluene[2-]	0.127	0.127	0.0279	U	SW-846:8321A
	Nitrotoluene[3-]	0.127	0.127	0.0317	U	SW-846:8321A
	Nitrotoluene[4-]	0.127	0.127	0.033	U	SW-846:8321A
	PETN	0.127	0.127	0.0228	U	SW-846:8321A
	RDX	0.127	0.127	0.0266	U	SW-846:8321A
	Tetryl	0.127	0.127	0.0266	U	SW-846:8321A
	Trinitrobenzene[1,3,5-]	0.127	0.127	0.0216	U	SW-846:8321A
	Trinitrotoluene[2,4,6-]	0.127	0.127	0.0279	U	SW-846:8321A

U = Analyte not detected at or above the reporting limit or MDL

Table-3 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Hgih Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW3 3-Feb-16	Amino-2,6-dinitrotoluene[4-]	0.11	0.11	0.0208	U	SW-846:8321A
	Amino-4,6-dinitrotoluene[2-]	0.11	0.11	0.023	U	SW-846:8321A
	Dinitrobenzene[1,3-]	0.11	0.11	0.0153	U	SW-846:8321A
	Dinitrotoluene[2,4-]	0.11	0.11	0.0208	U	SW-846:8321A
	Dinitrotoluene[2,6-]	0.11	0.11	0.0241	U	SW-846:8321A
	HMX	0.11	0.11	0.0208	U	SW-846:8321A
	Nitrobenzene	0.11	0.11	0.0362	U	SW-846:8321A
	Nitroglycerin	0.153	0.153	0.0493	U	SW-846:8321A
	Nitrotoluene[2-]	0.11	0.11	0.0241	U	SW-846:8321A
	Nitrotoluene[3-]	0.11	0.11	0.0274	U	SW-846:8321A
	Nitrotoluene[4-]	0.11	0.11	0.0285	U	SW-846:8321A
	PETN	0.11	0.11	0.0197	U	SW-846:8321A
	RDX	0.11	0.11	0.023	U	SW-846:8321A
	Tetryl	0.11	0.11	0.023	U	SW-846:8321A
	Trinitrobenzene[1,3,5-]	0.11	0.11	0.0186	U	SW-846:8321A
	Trinitrotoluene[2,4,6-]	0.11	0.11	0.0241	U	SW-846:8321A
SWTA3-MW4 1-Feb-16	Amino-2,6-dinitrotoluene[4-]	0.122	0.122	0.0233	U	SW-846:8321A
	Amino-4,6-dinitrotoluene[2-]	0.122	0.122	0.0257	U	SW-846:8321A
	Dinitrobenzene[1,3-]	0.122	0.122	0.0171	U	SW-846:8321A
	Dinitrotoluene[2,4-]	0.122	0.122	0.0233	U	SW-846:8321A
	Dinitrotoluene[2,6-]	0.122	0.122	0.0269	U	SW-846:8321A
	HMX	0.245	0.245	0.0465	U	SW-846:8321A
	Nitrobenzene	0.122	0.122	0.0404	U	SW-846:8321A
	Nitroglycerin	0.171	0.171	0.0551	U	SW-846:8321A
	Nitrotoluene[2-]	0.122	0.122	0.0269	U	SW-846:8321A
	Nitrotoluene[3-]	0.122	0.122	0.0306	U	SW-846:8321A
	Nitrotoluene[4-]	0.122	0.122	0.0318	U	SW-846:8321A
	PETN	0.122	0.122	0.022	U	SW-846:8321A
	RDX	0.122	0.122	0.0257	U	SW-846:8321A
	Tetryl	0.122	0.122	0.0257	U	SW-846:8321A
	Trinitrobenzene[1,3,5-]	0.122	0.122	0.0208	U	SW-846:8321A
	Trinitrotoluene[2,4,6-]	0.122	0.122	0.0269	U	SW-846:8321A

U = Analyte not detected at or above the reporting limit or MDL

Table-3 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Hgih Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
TRE-1 25-Jan-16	Amino-2,6-dinitrotoluene[4-]	0.122	0.122	0.0231	U	SW-846:8321A
	Amino-4,6-dinitrotoluene[2-]	0.122	0.122	0.0255	U	SW-846:8321A
	Dinitrobenzene[1,3-]	0.122	0.122	0.017	U	SW-846:8321A
	Dinitrotoluene[2,4-]	0.122	0.122	0.0231	U	SW-846:8321A
	Dinitrotoluene[2,6-]	0.122	0.122	0.0268	U	SW-846:8321A
	HMX	0.122	0.122	0.0231	U	SW-846:8321A
	Nitrobenzene	0.122	0.122	0.0401	U	SW-846:8321A
	Nitroglycerin	0.17	0.17	0.0547	U	SW-846:8321A
	Nitrotoluene[2-]	0.122	0.122	0.0268	U	SW-846:8321A
	Nitrotoluene[3-]	0.122	0.122	0.0304	U	SW-846:8321A
	Nitrotoluene[4-]	0.122	0.122	0.0316	U	SW-846:8321A
	PETN	0.122	0.122	0.0219	U	SW-846:8321A
	RDX	0.122	0.122	0.0255	U	SW-846:8321A
	Tetryl	0.122	0.122	0.0255	U	SW-846:8321A
	Trinitrobenzene[1,3,5-]	0.122	0.122	0.0207	U	SW-846:8321A
	Trinitrotoluene[2,4,6-]	0.122	0.122	0.0268	U	SW-846:8321A

U = Analyte not detected at or above the reporting limit or MDL

Table-4 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Detected Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
TRE-1 25-Jan-16	Chloroform	0.59	NE	1	0.3	J	SW-846:8260B_25

J = The result is an estimated value.

NE = Not Established

Table-5 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program
Groundwater Quality Results: Method Detection Limits for Volatile Organic Compounds
(EPA Method SW-846:8260B)

Analyte	MDL (µg/L)
Acetone	3
Benzene	0.3
Bromobenzene	0.3
Bromochloromethane	0.3
Bromodichloromethane	0.3
Bromoform	0.3
Bromomethane	0.3
Butanone[2-]	3
Butylbenzene[n-]	0.3
Butylbenzene[sec-]	0.3
Butylbenzene[tert-]	0.3
Carbon Disulfide	0.3
Carbon Tetrachloride	0.3
Chlorobenzene	0.3
Chlorodibromomethane	0.3
Chloroethane	0.3
Chloroform	0.3
Chlorohexane[1-]	0.3
Chloromethane	0.3
Chlorotoluene[2-]	0.3
Chlorotoluene[4-]	0.3
Dibromo-3-Chloropropane[1,2-]	0.3
Dibromoethane[1,2-]	0.3
Dibromomethane	0.3
Dichlorobenzene[1,2-]	0.3
Dichlorobenzene[1,3-]	0.3
Dichlorobenzene[1,4-]	0.3
Dichlorodifluoromethane	0.3
Dichloroethane[1,1-]	0.3
Dichloroethane[1,2-]	0.3
Dichloroethene[1,1-]	0.3
Dichloroethene[cis-1,2-]	0.3
Dichloroethene[trans-1,2-]	0.3
Dichloropropane[1,2-]	0.3
Dichloropropane[1,3-]	0.3
Dichloropropane[2,2-]	0.3
Dichloropropene[1,1-]	0.3
Dichloropropene[cis-1,3-]	0.3
Dichloropropene[trans-1,3-]	0.3
Ethylbenzene	0.3

Analyte	MDL (µg/L)
Hexachlorobutadiene	0.3
Hexanone[2-]	3
Iodomethane	0.3
Isopropylbenzene	0.3
Isopropyltoluene[4-]	0.3
Methyl tert-Butyl Ether	0.3
Methyl-2-pentanone[4-]	3
Methylene Chloride	0.44
Naphthalene	0.3
Propylbenzene[1-]	0.3
Styrene	0.3
Tetrachloroethane[1,1,1,2-]	0.3
Tetrachloroethane[1,1,2,2-]	0.3
Tetrachloroethene	0.2
Toluene	0.3
Trichloro-1,2,2-trifluoroethane[1,1,2-]	0.3
Trichlorobenzene[1,2,3-]	0.3
Trichlorobenzene[1,2,4-]	0.3
Trichloroethane[1,1,1-]	0.3
Trichloroethane[1,1,2-]	0.3
Trichloroethene	0.3
Trichlorofluoromethane	0.3
Trichloropropane[1,2,3-]	0.3
Trimethylbenzene[1,2,4-]	0.3
Trimethylbenzene[1,3,5-]	0.3
Vinyl acetate	0.52
Vinyl Chloride	0.3
Xylene[1,2-]	0.3
Xylene[1,3-]+Xylene[1,4-]	0.3

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
Coyote Spring 22-Jan-16	Actinium-228	23	±	6.2	19		EPA:901.1
	Americium-241	-11	±	10	35	U	EPA:901.1
	Beryllium-7	8.7	±	16	53	U	EPA:901.1
	Bismuth-212	47	±	22	71	U	EPA:901.1
	Bismuth-214	-0.96	±	8	27	U	EPA:901.1
	Cesium-134	-0.94	±	2.2	7.5	U	EPA:901.1
	Cesium-137	-1.8	±	1.5	5.2	U	EPA:901.1
	Cobalt-60	-3.5	±	1.7	6.2	U	EPA:901.1
	Gross alpha	13	±	4.7	15	U	EPA:900
	Gross beta	25	±	7	22		EPA:900
	Iodine-131	-2.1	±	11	38	U	EPA:901.1
	Lead-212	-1	±	4.4	15	U	EPA:901.1
	Lead-214	-2.3	±	6	20	U	EPA:901.1
	Potassium-40	45	±	43	140	U	EPA:901.1
	Protactinium-234m	130	±	240	800	U	EPA:901.1
	Ra-226	0.16	±	0.061	0.16	U	EPA:903.1
	Ra-228	0.51	±	0.16	0.59	U	EPA:904
	Sodium-22	0.67	±	1.6	5.3	U	EPA:901.1
	Thallium-208	2.3	±	3.1	10	U	EPA:901.1
	Thorium-234	2.8	±	48	160	U	EPA:901.1
	Uranium-234	11	±	0.88	0.077		HASL-300:ISOU
	Uranium-235	0.14	±	0.034	0.046		HASL-300:ISOU
	Uranium-238	2.2	±	0.21	0.016		HASL-300:ISOU

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
MRN-3D 5-Feb-16	Actinium-228	23	±	5.7	17		EPA:901.1
	Americium-241	8.4	±	8	27	U	EPA:901.1
	Beryllium-7	-3.2	±	11	37	U	EPA:901.1
	Bismuth-212	42	±	19	60	U	EPA:901.1
	Bismuth-214	-4.1	±	7.6	25	U	EPA:901.1
	Cesium-134	-4.1	±	1.3	4.7	U	EPA:901.1
	Cesium-137	-1.5	±	1.3	4.5	U	EPA:901.1
	Cobalt-60	-0.92	±	1.5	5.4	U	EPA:901.1
	Gross alpha	3.5	±	0.46	0.97		EPA:900
	Gross beta	3.6	±	0.49	1.2		EPA:900
	Iodine-131	-0.24	±	3.6	12	U	EPA:901.1
	Lead-212	-7.1	±	4.4	15	U	EPA:901.1
	Lead-214	-5.2	±	5.4	18	U	EPA:901.1
	Potassium-40	-46	±	40	140	U	EPA:901.1
	Protactinium-234m	390	±	230	760	U	EPA:901.1
	Ra-226	0.03	±	0.046	0.17	U	EPA:903.1
	Ra-228	0.3	±	0.13	0.54	U	EPA:904
	Sodium-22	-0.72	±	1.5	5.3	U	EPA:901.1
	Thallium-208	1.8	±	2.5	8.5	U	EPA:901.1
	Thorium-234	0.55	±	40	130	U	EPA:901.1

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
SFR-2S 26-Jan-16	Actinium-228	16	±	4.3	16	U	EPA:901.1
	Americium-241	7.9	±	7.9	26	U	EPA:901.1
	Beryllium-7	19	±	12	39	U	EPA:901.1
	Bismuth-212	38	±	18	59	U	EPA:901.1
	Bismuth-214	-2.1	±	6.5	22	U	EPA:901.1
	Cesium-134	-3.5	±	1.3	4.7	U	EPA:901.1
	Cesium-137	1.3	±	1.4	4.5	U	EPA:901.1
	Cobalt-60	1.4	±	1.5	5.1	U	EPA:901.1
	Gross alpha	20	±	2	2.5		EPA:900
	Gross beta	7.2	±	1.3	3.9		EPA:900
	Iodine-131	2.6	±	6.4	22	U	EPA:901.1
	Lead-212	-2.1	±	3.6	12	U	EPA:901.1
	Lead-214	-4	±	4.9	16	U	EPA:901.1
	Potassium-40	23	±	37	120	U	EPA:901.1
	Protactinium-234m	-120	±	240	820	U	EPA:901.1
	Ra-226	0.3	±	0.063	0.096		EPA:903.1
	Ra-228	0.91	±	0.2	0.66		EPA:904
	Sodium-22	-0.038	±	1.5	5.3	U	EPA:901.1
	Thallium-208	6.1	±	1.4	4		EPA:901.1
	Thorium-234	2.1	±	33	110	U	EPA:901.1
	Uranium-234	21	±	1.7	0.05		HASL-300:ISOU
	Uranium-235	0.39	±	0.058	0.041		HASL-300:ISOU
	Uranium-238	5.6	±	0.47	0.043		HASL-300:ISOU

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
SFR-2S 26-Jan-16 DUP	Actinium-228	0.26	±	11	38	U	EPA:901.1
	Americium-241	14	±	7.9	26	U	EPA:901.1
	Beryllium-7	-13	±	14	47	U	EPA:901.1
	Bismuth-212	29	±	20	64	U	EPA:901.1
	Bismuth-214	-3.4	±	8	26	U	EPA:901.1
	Cesium-134	-0.38	±	1.9	6.5	U	EPA:901.1
	Cesium-137	-0.41	±	1.4	4.9	U	EPA:901.1
	Cobalt-60	-1.8	±	1.7	5.9	U	EPA:901.1
	Gross alpha	21	±	2.1	2.6		EPA:900
	Gross beta	7.2	±	1	2.7		EPA:900
	Iodine-131	-14	±	8.3	28	U	EPA:901.1
	Lead-212	3.6	±	3.9	13	U	EPA:901.1
	Lead-214	-5.4	±	5.6	19	U	EPA:901.1
	Potassium-40	6	±	40	130	U	EPA:901.1
	Protactinium-234m	370	±	240	770	U	EPA:901.1
	Ra-226	0.16	±	0.058	0.15		EPA:903.1
	Ra-228	0.66	±	0.17	0.6		EPA:904
	Sodium-22	1.2	±	1.6	5.4	U	EPA:901.1
	Thallium-208	1.2	±	3.3	11	U	EPA:901.1
	Thorium-234	32	±	40	130	U	EPA:901.1
	Uranium-234	19	±	1.5	0.034		HASL-300:ISOU
	Uranium-235	0.24	±	0.044	0.05		HASL-300:ISOU
	Uranium-238	5	±	0.42	0.034		HASL-300:ISOU

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW2 2-Feb-16	Actinium-228	1.8	±	9.8	33	U	EPA:901.1
	Americium-241	3.4	±	42	140	U	EPA:901.1
	Beryllium-7	2.8	±	10	35	U	EPA:901.1
	Bismuth-212	39	±	17	56	U	EPA:901.1
	Bismuth-214	-0.84	±	6.2	21	U	EPA:901.1
	Cesium-134	-4.7	±	1.3	4.5	U	EPA:901.1
	Cesium-137	-0.38	±	1.2	4.1	U	EPA:901.1
	Cobalt-60	-1.4	±	1.3	4.5	U	EPA:901.1
	Gross alpha	4	±	0.48	0.88		EPA:900
	Gross beta	4.7	±	0.54	1.1		EPA:900
	Iodine-131	0.85	±	4.4	15	U	EPA:901.1
	Lead-212	2.2	±	3.5	11	U	EPA:901.1
	Lead-214	-10	±	5.1	17	U	EPA:901.1
	Potassium-40	-82	±	41	140	U	EPA:901.1
	Protactinium-234m	92	±	190	660	U	EPA:901.1
	Ra-226	0.21	±	0.066	0.16		EPA:903.1
	Ra-228	0.35	±	0.13	0.52	U	EPA:904
	Sodium-22	3.7	±	1.2	3.9	U	EPA:901.1
	Thallium-208	5	±	1.3	4.1		EPA:901.1
	Thorium-234	-23	±	69	230	U	EPA:901.1

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW3 3-Feb-16	Actinium-228	14	±	5.6	21	U	EPA:901.1
	Americium-241	10	±	7.9	26	U	EPA:901.1
	Beryllium-7	-12	±	13	43	U	EPA:901.1
	Bismuth-212	33	±	19	61	U	EPA:901.1
	Bismuth-214	-4.5	±	7.1	24	U	EPA:901.1
	Cesium-134	1.4	±	1.9	6.3	U	EPA:901.1
	Cesium-137	-0.19	±	1.4	4.9	U	EPA:901.1
	Cobalt-60	1.5	±	1.6	5.4	U	EPA:901.1
	Gross alpha	3.6	±	0.44	0.81		EPA:900
	Gross beta	4.1	±	0.5	1.1		EPA:900
	Iodine-131	6	±	4.9	16	U	EPA:901.1
	Lead-212	-2.4	±	3.9	13	U	EPA:901.1
	Lead-214	-3.7	±	5.2	17	U	EPA:901.1
	Potassium-40	9.7	±	41	140	U	EPA:901.1
	Protactinium-234m	60	±	240	810	U	EPA:901.1
	Ra-226	0.037	±	0.038	0.13	U	EPA:903.1
	Ra-228	-0.006	±	0.11	0.51	U	EPA:904
	Sodium-22	-1.1	±	1.6	5.4	U	EPA:901.1
	Thallium-208	4.9	±	1.4	4.5		EPA:901.1
	Thorium-234	-0.2	±	40	130	U	EPA:901.1

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
SWTA3-MW4 1-Feb-16	Actinium-228	2.2	±	15	49	U	EPA:901.1
	Americium-241	15	±	9.4	31	U	EPA:901.1
	Beryllium-7	0	±	16	54	U	EPA:901.1
	Bismuth-212	3.7	±	63	210	U	EPA:901.1
	Bismuth-214	16	±	4.1	13		EPA:901.1
	Cesium-134	-4.4	±	1.9	6.7	U	EPA:901.1
	Cesium-137	1.6	±	1.8	5.9	U	EPA:901.1
	Cobalt-60	1.5	±	2.4	8	U	EPA:901.1
	Gross alpha	3.1	±	0.41	0.82		EPA:900
	Gross beta	5	±	0.52	1		EPA:900
	Iodine-131	-13	±	7.4	25	U	EPA:901.1
	Lead-212	-0.64	±	5.2	17	U	EPA:901.1
	Lead-214	-7.8	±	7	23	U	EPA:901.1
	Potassium-40	-45	±	60	200	U	EPA:901.1
	Protactinium-234m	340	±	330	1100	U	EPA:901.1
	Ra-226	0.27	±	0.071	0.15		EPA:903.1
	Ra-228	0.45	±	0.15	0.58	U	EPA:904
	Sodium-22	0.18	±	2.2	7.4	U	EPA:901.1
	Thallium-208	3.2	±	1.9	6.2	U	EPA:901.1
	Thorium-234	14	±	49	160	U	EPA:901.1

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

Table-6 NMED DOE OB FFY 2016 Q-2 Long-Term Stewardship Consolidated Groundwater Monitoring Program Groundwater Quality Results: Gamma Spectroscopy, Gross Alpha, Gross Beta, Isotopic Uranium, Radium 226 and Radium 228

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TRE-1 25-Jan-16	Actinium-228	19	±	5	15		EPA:901.1
	Americium-241	57	±	29	93	U	EPA:901.1
	Beryllium-7	-15	±	11	38	U	EPA:901.1
	Bismuth-212	33	±	17	56	U	EPA:901.1
	Bismuth-214	11	±	4.3	19	U	EPA:901.1
	Cesium-134	2.4	±	1.8	5.9	U	EPA:901.1
	Cesium-137	-2.3	±	1.2	4.2	U	EPA:901.1
	Cobalt-60	-2.3	±	1.2	4.4	U	EPA:901.1
	Gross alpha	16	±	2	3.8		EPA:900
	Gross beta	8	±	1.3	3.7		EPA:900
	Iodine-131	-2	±	7.1	24	U	EPA:901.1
	Lead-212	-1.2	±	4.4	15	U	EPA:901.1
	Lead-214	-5.9	±	5.5	18	U	EPA:901.1
	Potassium-40	-39	±	40	130	U	EPA:901.1
	Protactinium-234m	320	±	140	450	U	EPA:901.1
	Ra-226	0.4	±	0.081	0.12		EPA:903.1
	Ra-228	0.5	±	0.15	0.58	U	EPA:904
	Sodium-22	-0.27	±	1.3	4.3	U	EPA:901.1
	Thallium-208	5.3	±	1.3	4.1		EPA:901.1
	Thorium-234	-17	±	70	230	U	EPA:901.1
	Uranium-234	24	±	1.9	0.036		HASL-300:ISOU
	Uranium-235	0.55	±	0.074	0.042		HASL-300:ISOU
	Uranium-238	5.5	±	0.46	0.036		HASL-300:ISOU

J = the activity is an estimated value.

U = Result is less than the sample specific MDC or less than the associated TPU.

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