DOE Oversight Bureau, New Mexico Environment Department

Groundwater Monitoring at Sandia National Laboratories/New Mexico Burn Site Groundwater Area of Concern

Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2016 Q-3

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Final Report

12/20/2016

The purpose of this communication is to transmit groundwater quality data collected by the New Mexico Environment Department DOE Oversight Bureau from Burn Site Groundwater monitoring wells during third quarter of FFY 2016.

Acknowledgment:
This material is based upon work supported by the Department of Energy Office of Environmental Management under Award Number *DE-EM0002420*.

Introduction

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or Bureau) has compiled and assessed groundwater data collected during April 2016. The Bureau collected groundwater samples from Burn Site Groundwater (BSG) Area of Concern (AOC) monitoring wells CYN-MW4, CYN-MW7, CYN-MW8, CYN-MW9, CYN-MW10, CYN-MW11, CYN-MW12, CYN-MW13 (plus duplicate), CYN-MW14A and CYN-MW15. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM) sampling procedures and equipment. Samples were analyzed for organics, inorganics and radionuclides. The Bureau used ALS Environmental Laboratory located in Fort Collins, Colorado to analyze and report data results from samples collected at BSG. ALS Environmental is an independent analytical laboratory under contract with the NMED. Samples collected from monitoring wells CYN-MW4, CYN-MW7 and CYN-MW8 were analyzed for nitrate-nitrite as Nitrogen only. All other monitoring wells were collected and analyzed for the full analytical suite.

Nitrate-nitrite levels exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL), or drinking water standard of 10 mg/L at monitoring wells CYN-MW9, CYN-MW10, CYN-MW11, CYN-MW12, CYN-MW13, CYN-MW14A and CYN-MW15.

Data Assessment

All groundwater samples were collected and analyzed in accordance with U.S. EPA protocols. Data results are compared to applicable MCLs established by the U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002. Perchlorate results are compared to the *Compliance Order on Consent (COOC) Pursuant to the New Mexico Hazardous Waste Act 74-4-10: Sandia National Laboratories Consent Order*, New Mexico Environment Department, April 19, 2004.

Results

Analytical results for total target analyte list (TAL) metals plus uranium are presented in Table-1. No metal parameters were detected above established regulatory standards.

Analytical results for anions (bromide, chloride, fluoride and sulfate), nitrate-nitrite as nitrogen and perchlorate are presented in Table-2. No anions exceeded established MCLs. Nitrate-nitrite levels exceeded the EPA MCL of 10 mg/L at monitoring wells CYN-MW9 (32 mg/L), CYN-MW10 (20 mg/L), CYN-MW11 (13 mg/L), CYN-MW12 (13 mg/L), CYN-MW13 (35 mg/L), CYN-MW14A (13 mg/L) and CYN-MW15 (19 mg/L). Samples for perchlorate were collected from CYN-MW15 only. Perchlorate was detected at a concentration of 0.0045 mg/L, which exceeds the COOC perchlorate screening level of 0.004 mg/L.

Analytical results for high explosive (HE) compounds are listed in Table-3. No HE compounds were detected above laboratory method detection limits (MDLs).

No volatile organic compounds (VOCs) were detected at concentrations above the laboratory MDLs. Table-4 summarizes the laboratory MDLs for VOCs analyzed in samples collected from BSG monitoring wells.

Analytical results for total petroleum hydrocarbons (TPH) gasoline range organics (GRO) and diesel range organics (DRO) are presented in Table-5. No samples were detected above laboratory MDLs.

Analytical results for radionuclides are summarized in Table-6 and used to screen for potential radiological contamination. Samples were analyzed for gross alpha, gross beta, gamma emitting isotopes, isotopic uranium and tritium. Unadjusted gross alpha activity ranged from 4.8 ± 0.79 pCi/L at CYN-MW11 to 19 ± 1.8 pCi/L at CYN-MW15. 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 radionuclide results are below established EPA MCLs and consistent with previous monitoring results.

Conclusion

The DOE-OB collected split samples from ten (10) BSG groundwater monitoring wells during third quarter FFY 2016. Samples were submitted and analyzed by ALS Environmental laboratory. Nitrate concentrations exceeded the EPA MCL of 10 mg/L in samples collected from monitoring wells CYN-MW9, CYN-MW10, CYN-MW11, CYN-MW12, CYN-MW13, CYN-MW14A and CYN-MW15.

Nitrate has been identified as a constituent of concern in groundwater from the BSG AOC. Historically, nitrate at these wells have exceeded the EPA MCL and the Bureau's results for this reporting period are consistent with past results.

The DOE-OB will continue to collect split samples with SNL/NM from BSG groundwater monitoring wells and continue to independently monitor nitrate concentrations in the AOC.

Table-1 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Total Target Analyte List Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 7-Apr-16	Aluminum	0.027	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.00015	0.006	0.001	0.000084	J	SW-846:6020
	Arsenic	0.0011	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.054	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00043	0.004	0.0005	0.00027	J	SW-846:6020
	Cadmium	0.000099	0.005	0.002	0.000099	U	SW-846:6020
	Calcium	140	NE	1	0.061		SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00022	NE	0.005	0.00007	J	SW-846:6020
	Copper	0.0021	NE	0.02	0.0011	J	SW-846:6020
	Iron	0.083	NE	0.1	0.0053	JB	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	37	NE	0.1	0.02		SW-846:6020
	Manganese	0.00036	NE	0.005	0.0003	JB	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2.4	NE	1	0.32		SW-846:6020
	Selenium	0.0057	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	44	NE	1	0.19		SW-846:6020
	Thallium	0.000014	0.002	0.0001	0.000014	U	SW-846:6020
	Uranium	0.007	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.0027	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.0091	NE	0.1	0.0091	U	SW-846:6020

B = Compound was found in the blank and sample.

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NE = Not Established

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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
CYN-MW10 6-Apr-16	Aluminum	0.014	NE	0.1	0.014	U	SW-846:6020
	Antimony	0.000084	0.006	0.001	0.000084	U	SW-846:6020
	Arsenic	0.00043	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.065	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.000099	0.005	0.002	0.000099	U	SW-846:6020
	Calcium	130	NE	1	0.061	B	SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00007	NE	0.005	0.00007	U	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.019	NE	0.1	0.0053	J	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	33	NE	0.1	0.02		SW-846:6020
	Manganese	0.00038	NE	0.005	0.0003	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	1.8	NE	1	0.32		SW-846:6020
	Selenium	0.0059	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	36	NE	1	0.19		SW-846:6020
	Thallium	0.000014	0.002	0.0001	0.000014	U	SW-846:6020
	Uranium	0.0064	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.002	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.0091	NE	0.1	0.0091	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
CYN-MW11 8-Apr-16	Aluminum	0.024	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.00039	0.006	0.001	0.000084	J	SW-846:6020
	Arsenic	0.00075	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.075	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.000099	0.005	0.002	0.000099	U	SW-846:6020
	Calcium	140	NE	1	0.061		SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00009	NE	0.005	0.00007	J	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.033	NE	0.1	0.0053	JB	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	39	NE	0.1	0.02		SW-846:6020
	Manganese	0.14	NE	0.005	0.0003	B	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	3	NE	1	0.32		SW-846:6020
	Selenium	0.0051	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	38	NE	1	0.19		SW-846:6020
	Thallium	0.00003	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0054	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.0011	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.016	NE	0.1	0.0091	J	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
CYN-MW12 7-Apr-16	Aluminum	0.019	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.000084	0.006	0.001	0.000084	U	SW-846:6020
	Arsenic	0.0003	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.032	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.00029	0.005	0.002	0.000099	J	SW-846:6020
	Calcium	150	NE	1	0.061		SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.0003	NE	0.005	0.00007	J	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.048	NE	0.1	0.0053	JB	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	38	NE	0.1	0.02		SW-846:6020
	Manganese	0.018	NE	0.005	0.0003	B	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2.6	NE	1	0.32		SW-846:6020
	Selenium	0.0087	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	42	NE	1	0.19		SW-846:6020
	Thallium	0.00003	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0075	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.00072	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.017	NE	0.1	0.0091	J	SW-846:6020

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CYN-MW13 8-Apr-16	Aluminum	0.028	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.00013	0.006	0.001	0.000084	J	SW-846:6020
	Arsenic	0.00058	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.096	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.00018	0.005	0.002	0.000099	J	SW-846:6020
	Calcium	110	NE	1	0.061		SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00007	NE	0.005	0.00007	U	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.021	NE	0.1	0.0053	JB	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	20	NE	0.1	0.02		SW-846:6020
	Manganese	0.0074	NE	0.005	0.0003	B	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2.2	NE	1	0.32		SW-846:6020
	Selenium	0.0028	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	24	NE	1	0.19		SW-846:6020
	Thallium	0.00004	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0044	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.0024	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.0092	NE	0.1	0.0091	J	SW-846:6020

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CYN-MW13 8-Apr-16 (Duplicate)	Aluminum	0.021	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.00011	0.006	0.001	0.000084	J	SW-846:6020
	Arsenic	0.00064	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.094	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.00012	0.005	0.002	0.000099	J	SW-846:6020
	Calcium	110	NE	1	0.061		SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00007	NE	0.005	0.00007	U	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.013	NE	0.1	0.0053	JB	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	19	NE	0.1	0.02		SW-846:6020
	Manganese	0.0057	NE	0.005	0.0003	B	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2	NE	1	0.32		SW-846:6020
	Selenium	0.0031	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	23	NE	1	0.19		SW-846:6020
	Thallium	0.00003	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0045	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.0024	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.01	NE	0.1	0.0091	J	SW-846:6020

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CYN-MW14A 6-Apr-16	Aluminum	0.014	NE	0.1	0.014	U	SW-846:6020
	Antimony	0.000084	0.006	0.001	0.000084	U	SW-846:6020
	Arsenic	0.00018	0.01	0.002	0.00018	U	SW-846:6020
	Barium	0.048	2	0.005	0.00023		SW-846:6020
	Beryllium	0.00027	0.004	0.0005	0.00027	U	SW-846:6020
	Cadmium	0.000099	0.005	0.002	0.000099	U	SW-846:6020
	Calcium	130	NE	1	0.061	B	SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.004	NE	0.005	0.00007	J	SW-846:6020
	Copper	0.0011	NE	0.02	0.0011	U	SW-846:6020
	Iron	0.069	NE	0.1	0.0053	J	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	32	NE	0.1	0.02		SW-846:6020
	Manganese	0.014	NE	0.005	0.0003		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2.1	NE	1	0.32		SW-846:6020
	Selenium	0.0093	0.05	0.01	0.00066	J	SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	36	NE	1	0.19		SW-846:6020
	Thallium	0.00002	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0078	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.00058	NE	0.005	0.00058	U	SW-846:6020
	Zinc	0.018	NE	0.1	0.0091	J	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
CYN-MW15 5-Apr-16	Aluminum	0.016	NE	0.1	0.014	J	SW-846:6020
	Antimony	0.000084	0.006	0.001	0.000084	U	SW-846:6020
	Arsenic	0.00067	0.01	0.002	0.00018	J	SW-846:6020
	Barium	0.063	2	0.005	0.00023		SW-846:6020
	Beryllium	0.0003	0.004	0.0005	0.00027	J	SW-846:6020
	Cadmium	0.000099	0.005	0.002	0.000099	U	SW-846:6020
	Calcium	160	NE	1	0.061	B	SW-846:6020
	Chromium	0.0011	0.1	0.01	0.0011	U	SW-846:6020
	Cobalt	0.00012	NE	0.005	0.00007	J	SW-846:6020
	Copper	0.0019	NE	0.02	0.0011	J	SW-846:6020
	Iron	0.0086	NE	0.1	0.0053	J	SW-846:6020
	Lead	0.00016	NE	0.002	0.00016	U	SW-846:6020
	Magnesium	46	NE	0.1	0.02		SW-846:6020
	Manganese	0.00053	NE	0.005	0.0003	J	SW-846:6020
	Mercury	0.000078	0.002	0.0001	0.00006	J	SW-846:7470A
	Nickel	0.0042	NE	0.02	0.0042	U	SW-846:6020
	Potassium	2.5	NE	1	0.32		SW-846:6020
	Selenium	0.011	0.05	0.01	0.00066		SW-846:6020
	Silver	0.000039	NE	0.0005	0.000039	U	SW-846:6020
	Sodium	42	NE	1	0.19		SW-846:6020
	Thallium	0.00002	0.002	0.0001	0.000014	J	SW-846:6020
	Uranium	0.0096	0.03	0.0001	0.000027		SW-846:6020
	Vanadium	0.0013	NE	0.005	0.00058	J	SW-846:6020
	Zinc	0.0091	NE	0.1	0.0091	U	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-3 Burn Site Groundwater Quality Results: Anions, Perchlorate and Nitrate -Nitrite as Nitrogen

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW4 4-Apr-16	Nitrate-Nitrite as Nitrogen	0.13	10	0.01	0.003		EPA:353.2
CYN-MW7 4-Apr-16	Nitrate-Nitrite as Nitrogen	2.2	10	0.05	0.015		EPA:353.2
CYN-MW8 5-Apr-16	Nitrate-Nitrite as Nitrogen	4.7	10	0.05	0.015		EPA:353.2
CYN-MW9 7-Apr-16	Bromide	0.33	NE	0.2	0.06		EPA:300.0
	Chloride	56	NE	2	0.6		EPA:300.0
	Fluoride	0.59	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**32**	10	0.5	0.15		EPA:353.2
	Sulfate	120	NE	10	3		EPA:300.0
CYN-MW10 6-Apr-16	Bromide	0.47	NE	0.2	0.06		EPA:300.0
	Chloride	62	NE	2	0.6		EPA:300.0
	Fluoride	0.6	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**20**	10	0.05	0.015		EPA:353.2
	Sulfate	190	NE	10	3		EPA:300.0
CYN-MW11 8-Apr-16	Bromide	0.81	NE	0.2	0.06		EPA:300.0
	Chloride	92	NE	2	0.6		EPA:300.0
	Fluoride	0.72	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**13**	10	1	0.3		EPA:353.2
	Sulfate	200	NE	10	3		EPA:300.0
CYN-MW12 7-Apr-16	Bromide	0.7	NE	0.2	0.06		EPA:300.0
	Chloride	95	NE	2	0.6		EPA:300.0
	Fluoride	1.2	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**13**	10	1	0.3		EPA:353.2
	Sulfate	220	NE	10	3		EPA:300.0
CYN-MW13 8-Apr-16	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	22	NE	2	0.6		EPA:300.0
	Fluoride	1.8	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**35**	10	1	0.3		EPA:353.2
	Sulfate	86	NE	1	0.3		EPA:300.0
CYN-MW13 8-Apr-16 (Duplicate)	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	23	NE	2	0.6		EPA:300.0
	Fluoride	1.8	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**34**	10	1	0.3		EPA:353.2
	Sulfate	84	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-3 Burn Site Groundwater Quality Results: Anions, Perchlorate and Nitrate -Nitrite as Nitrogen

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 6-Apr-16	Bromide	0.6	NE	0.2	0.06		EPA:300.0
	Chloride	86	NE	2	0.6		EPA:300.0
	Fluoride	1.1	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**13**	10	0.05	0.015		EPA:353.2
	Sulfate	210	NE	10	3		EPA:300.0
CYN-MW15 5-Apr-16	Bromide	0.86	NE	0.2	0.06		EPA:300.0
	Chloride	150	NE	2	0.6		EPA:300.0
	Fluoride	0.6	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	**19**	10	0.05	0.015		EPA:353.2
	Perchlorate	0.0045	NE	0.0002	0.000026		SW-846:6850
	Sulfate	240	NE	10	3		EPA:300.0

NE = Not Established

U = the analyte was analyzed for but not detected

Table-3 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Reporting Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 7-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B
CYN-MW10 6-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B

U = the analyte was analyzed for but not detected

Table-3 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Reporting Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
CYN-MW11 8-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B
CYN-MW12 7-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B

U = the analyte was analyzed for but not detected

Table-3 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Reporting Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
CYN-MW13 8-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B
CYN-MW13 8-Apr-16 (Duplicate)	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B

U = the analyte was analyzed for but not detected

Table-3 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	Reporting Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 6-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B
CYN-MW15 5-Apr-16	1,3,5-Trinitrobenzene	0.33	0.65	0.33	U	SW-846:8330B
	1,3-Dinitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	2,4,6-Trinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,4-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2,6-Dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Amino-4,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	2-Nitrotoluene	0.26	0.65	0.26	U	SW-846:8330B
	3-Nitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Amino-2,6-dinitrotoluene	0.2	0.65	0.2	U	SW-846:8330B
	4-Nitrotoluene	0.21	0.65	0.21	U	SW-846:8330B
	HMX	0.21	0.65	0.21	U	SW-846:8330B
	Nitrobenzene	0.2	0.65	0.2	U	SW-846:8330B
	Nitroglycerin	0.29	0.97	0.29	U	SW-846:8330B
	PETN	0.29	0.97	0.29	U	SW-846:8330B
	RDX	0.2	0.65	0.2	U	SW-846:8330B
	TETRYL	0.25	0.65	0.25	U	SW-846:8330B

U = the analyte was analyzed for but not detected

Table-4 NMED DOE OB FFY 2016 Q-3 Burn Site 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-]	0.4
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	0.38
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	0.3
Vinyl Chloride	0.3
Xylene[1,2-]	0.3
Xylene[1,3-]+Xylene[1,4-]	0.3

Table-5 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Total Petroleum Hydrocarbons Gasoline Range Organics and Diesel Range Organics

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	Reporting Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 7-Apr-16	Diesel Range Organics	0.19	0.63	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW10 6-Apr-16	Diesel Range Organics	0.18	0.61	0.18	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW11 8-Apr-16	Diesel Range Organics	0.19	0.63	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW12 7-Apr-16	Diesel Range Organics	0.19	0.64	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW13 8-Apr-16	Diesel Range Organics	0.19	0.64	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW13 8-Apr-16 (Duplicate)	Diesel Range Organics	0.19	0.63	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW14A 6-Apr-16	Diesel Range Organics	0.18	0.61	0.18	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW15 5-Apr-16	Diesel Range Organics	0.19	0.62	0.19	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015

U = the analyte was analyzed for but not detected

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 7-Apr-16	Actinium-228	15	±	3.9	18	U	EPA:901.1
	Americium-241	-0.53	±	7.9	26	U	EPA:901.1
	Beryllium-7	-13	±	13	44	U	EPA:901.1
	Bismuth-212	12	±	19	65	U	EPA:901.1
	Bismuth-214	2.5	±	5.7	19	U	EPA:901.1
	Cesium-134	-3.6	±	1.4	5	U	EPA:901.1
	Cesium-137	-1.8	±	1.4	4.9	U	EPA:901.1
	Cobalt-60	1.4	±	1.7	5.8	U	EPA:901.1
	Gross alpha	8.2	±	1	1.8		EPA:900
	Gross beta	3.9	±	0.72	2.1		EPA:900
	Iodine-131	14	±	7	23	U	EPA:901.1
	Lead-212	-1.7	±	4.5	15	U	EPA:901.1
	Lead-214	-1.3	±	6	20	U	EPA:901.1
	Potassium-40	-33	±	42	140	U	EPA:901.1
	Protactinium-234m	250	±	230	770	U	EPA:901.1
	Sodium-22	1.5	±	2.3	7.7	U	EPA:901.1
	Thallium-208	1.5	±	2.8	9.8	U	EPA:901.1
	Thorium-234	-15	±	36	120	U	EPA:901.1
	Tritium	-17	±	100	350	U	EPA:906.0
	Uranium-234	8.6	±	0.77	0.072		HASL-300:ISOU
	Uranium-235	0.14	±	0.044	0.035		HASL-300:ISOU
	Uranium-238	2.5	±	0.26	0.06		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW10 6-Apr-16	Actinium-228	9.7	±	7.8	26	U	EPA:901.1
	Americium-241	9.6	±	10	34	U	EPA:901.1
	Beryllium-7	0.58	±	17	56	U	EPA:901.1
	Bismuth-212	7.4	±	27	90	U	EPA:901.1
	Bismuth-214	19	±	4.2	13		EPA:901.1
	Cesium-134	-5.1	±	2	7	U	EPA:901.1
	Cesium-137	-1	±	1.9	6.4	U	EPA:901.1
	Cobalt-60	-1.7	±	2.5	8.6	U	EPA:901.1
	Gross alpha	9.1	±	0.99	1.5		EPA:900
	Gross beta	3.1	±	0.74	2.2		EPA:900
	Iodine-131	20	±	10	33	U	EPA:901.1
	Lead-212	5.7	±	4.4	15	U	EPA:901.1
	Lead-214	4.7	±	6.2	21	U	EPA:901.1
	Potassium-40	47	±	60	200	U	EPA:901.1
	Protactinium-234m	710	±	360	1200	U	EPA:901.1
	Sodium-22	3.8	±	2.4	8	U	EPA:901.1
	Thallium-208	4.4	±	1.9	6.2	U	EPA:901.1
	Thorium-234	17	±	49	160	U	EPA:901.1
	Tritium	-130	±	83	280	U	EPA:906.0
	Uranium-234	7.1	±	0.64	0.11		HASL-300:ISOU
	Uranium-235	0.17	±	0.05	0.093		HASL-300:ISOU
	Uranium-238	2.5	±	0.26	0.07		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW11 8-Apr-16	Actinium-228	24	±	5.7	17		EPA:901.1
	Americium-241	4	±	1.5	4.8	U	EPA:901.1
	Beryllium-7	-5	±	11	36	U	EPA:901.1
	Bismuth-212	13	±	20	68	U	EPA:901.1
	Bismuth-214	5.5	±	5.7	19	U	EPA:901.1
	Cesium-134	-1.8	±	1.2	4.2	U	EPA:901.1
	Cesium-137	-0.94	±	1.3	4.3	U	EPA:901.1
	Cobalt-60	0.39	±	1.4	4.8	U	EPA:901.1
	Gross alpha	4.8	±	0.79	1.9		EPA:900
	Gross beta	4.8	±	0.73	1.9		EPA:900
	Iodine-131	-5.2	±	6.2	21	U	EPA:901.1
	Lead-212	-1.6	±	3.4	11	U	EPA:901.1
	Lead-214	-3.2	±	5.9	20	U	EPA:901.1
	Potassium-40	-14	±	37	130	U	EPA:901.1
	Protactinium-234m	700	±	230	710	U	EPA:901.1
	Sodium-22	-1	±	1.6	5.6	U	EPA:901.1
	Thallium-208	0.95	±	2.5	8.3	U	EPA:901.1
	Thorium-234	16	±	19	77	U	EPA:901.1
	Tritium	75	±	110	350	U	EPA:906.0
	Uranium-234	6.2	±	0.56	0.028		HASL-300:ISOU
	Uranium-235	0.1	±	0.038	0.081		HASL-300:ISOU
	Uranium-238	2.3	±	0.24	0.057		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW12 7-Apr-16	Actinium-228	15	±	4.5	14		EPA:901.1
	Americium-241	1.5	±	1.2	4	U	EPA:901.1
	Beryllium-7	7.4	±	9.2	31	U	EPA:901.1
	Bismuth-212	13	±	16	55	U	EPA:901.1
	Bismuth-214	10	±	4.1	17	U	EPA:901.1
	Cesium-134	-2.1	±	1.1	3.8	U	EPA:901.1
	Cesium-137	-0.61	±	1.1	3.7	U	EPA:901.1
	Cobalt-60	-0.14	±	1.3	4.5	U	EPA:901.1
	Gross alpha	11	±	1.2	1.8		EPA:900
	Gross beta	4.2	±	0.69	1.9		EPA:900
	Iodine-131	7.7	±	5.3	18	U	EPA:901.1
	Lead-212	0.56	±	3	10	U	EPA:901.1
	Lead-214	-0.9	±	4.5	15	U	EPA:901.1
	Potassium-40	9	±	33	110	U	EPA:901.1
	Protactinium-234m	300	±	150	480	U	EPA:901.1
	Sodium-22	1.2	±	1.2	3.8	U	EPA:901.1
	Thallium-208	-0.71	±	2.3	7.8	U	EPA:901.1
	Thorium-234	-16	±	20	66	U	EPA:901.1
	Tritium	94	±	110	350	U	EPA:906.0
	Uranium-234	12	±	1.1	0.071		HASL-300:ISOU
	Uranium-235	0.24	±	0.064	0.041		HASL-300:ISOU
	Uranium-238	2.4	±	0.27	0.097		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW13 8-Apr-16	Actinium-228	8	±	4.8	16	U	EPA:901.1
	Americium-241	31	±	48	160	U	EPA:901.1
	Beryllium-7	1.1	±	11	37	U	EPA:901.1
	Bismuth-212	26	±	17	57	U	EPA:901.1
	Bismuth-214	13	±	2.8	8.3		EPA:901.1
	Cesium-134	-1.2	±	1.2	4.2	U	EPA:901.1
	Cesium-137	-2.1	±	1.3	4.5	U	EPA:901.1
	Cobalt-60	-1.6	±	1.4	4.8	U	EPA:901.1
	Gross alpha	9.8	±	1	1.5		EPA:900
	Gross beta	3.5	±	0.5	1.3		EPA:900
	Iodine-131	2	±	6.8	23	U	EPA:901.1
	Lead-212	14	±	2.2	6.4		EPA:901.1
	Lead-214	15	±	2.5	7.3		EPA:901.1
	Potassium-40	210	±	21	43		EPA:901.1
	Protactinium-234m	270	±	210	680	U	EPA:901.1
	Sodium-22	0.79	±	1.3	4.4	U	EPA:901.1
	Thallium-208	6.2	±	1.3	3.9		EPA:901.1
	Thorium-234	120	±	62	200	U	EPA:901.1
	Tritium	-44	±	100	350	U	EPA:906.0
	Uranium-234	9	±	0.79	0.057		HASL-300:ISOU
	Uranium-235	0.08	±	0.033	0.066		HASL-300:ISOU
	Uranium-238	1.6	±	0.18	0.028		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW13 8-Apr-16 (Duplicate)	Actinium-228	5.5	±	11	36	U	EPA:901.1
	Americium-241	7	±	7.8	26	U	EPA:901.1
	Beryllium-7	3	±	11	38	U	EPA:901.1
	Bismuth-212	33	±	19	61	U	EPA:901.1
	Bismuth-214	7.7	±	6	20	U	EPA:901.1
	Cesium-134	-3.5	±	1.3	4.4	U	EPA:901.1
	Cesium-137	1.3	±	1.3	4.3	U	EPA:901.1
	Cobalt-60	2.2	±	1.6	5.2	U	EPA:901.1
	Gross alpha	9.6	±	1	1.4		EPA:900
	Gross beta	3.4	±	0.54	1.5		EPA:900
	Iodine-131	-8.7	±	6.7	23	U	EPA:901.1
	Lead-212	6.2	±	3.7	12	U	EPA:901.1
	Lead-214	-1.8	±	5	17	U	EPA:901.1
	Potassium-40	18	±	34	110	U	EPA:901.1
	Protactinium-234m	610	±	220	710	U	EPA:901.1
	Sodium-22	-1.5	±	1.5	5.2	U	EPA:901.1
	Thallium-208	1.5	±	2.9	9.5	U	EPA:901.1
	Thorium-234	21	±	37	120	U	EPA:901.1
	Tritium	-55	±	100	350	U	EPA:906.0
	Uranium-234	9.8	±	0.86	0.028		HASL-300:ISOU
	Uranium-235	0.1	±	0.038	0.082		HASL-300:ISOU
	Uranium-238	1.5	±	0.17	0.079		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 6-Apr-16	Actinium-228	19	±	4.9	15		EPA:901.1
	Americium-241	51	±	28	91	U	EPA:901.1
	Beryllium-7	-6.2	±	11	38	U	EPA:901.1
	Bismuth-212	54	±	18	56	U	EPA:901.1
	Bismuth-214	12	±	4.7	19	U	EPA:901.1
	Cesium-134	2.7	±	1.8	5.7	U	EPA:901.1
	Cesium-137	-2	±	1.3	4.6	U	EPA:901.1
	Cobalt-60	1.7	±	1.3	4.5	U	EPA:901.1
	Gross alpha	15	±	1.4	1.6		EPA:900
	Gross beta	5.7	±	0.8	2		EPA:900
	Iodine-131	11	±	7.1	23	U	EPA:901.1
	Lead-212	4.3	±	4.1	13	U	EPA:901.1
	Lead-214	4	±	7.7	26	U	EPA:901.1
	Potassium-40	24	±	38	130	U	EPA:901.1
	Protactinium-234m	890	±	220	650		EPA:901.1
	Sodium-22	0.99	±	1.2	4.2	U	EPA:901.1
	Thallium-208	-0.15	±	3	9.8	U	EPA:901.1
	Thorium-234	150	±	34	100		EPA:901.1
	Tritium	-260	±	110	390	U	EPA:906.0
	Uranium-234	13	±	1.1	0.081		HASL-300:ISOU
	Uranium-235	0.15	±	0.047	0.084		HASL-300:ISOU
	Uranium-238	2.8	±	0.29	0.071		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-6 NMED DOE OB FFY 2016 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Isotopic Uranium and Tritium

Monitoring Well/ Sample Date	Analyte	Activity[a] (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW15 5-Apr-16	Actinium-228	14	±	5.6	18	U	EPA:901.1
	Americium-241	-8.1	±	15	52	U	EPA:901.1
	Beryllium-7	13	±	14	47	U	EPA:901.1
	Bismuth-212	52	±	21	67	U	EPA:901.1
	Bismuth-214	5.3	±	6.9	23	U	EPA:901.1
	Cesium-134	5.3	±	2.2	6.9	U	EPA:901.1
	Cesium-137	1.3	±	1.4	4.8	U	EPA:901.1
	Cobalt-60	-1.7	±	1.6	5.6	U	EPA:901.1
	Gross alpha	19	±	1.8	1.8		EPA:900
	Gross beta	3.6	±	0.66	1.9		EPA:900
	Iodine-131	-2.2	±	9.1	31	U	EPA:901.1
	Lead-212	-1.3	±	4.3	14	U	EPA:901.1
	Lead-214	5.5	±	4.4	15	U	EPA:901.1
	Potassium-40	-35	±	40	140	U	EPA:901.1
	Protactinium-234m	320	±	240	780	U	EPA:901.1
	Sodium-22	-2	±	1.7	5.8	U	EPA:901.1
	Thallium-208	4.1	±	1.6	5	U	EPA:901.1
	Thorium-234	53	±	40	130	U	EPA:901.1
	Tritium	-82	±	120	400	U	EPA:906.0
	Uranium-234	14	±	1.2	0.051		HASL-300:ISOU
	Uranium-235	0.2	±	0.051	0.06		HASL-300:ISOU
	Uranium-238	3.2	±	0.31	0.062		HASL-300:ISOU

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

[a] Negative numbers indicate the sample count or result was less than the instrument background; result is below the Minimum Detectable Activity (MDA).