

DOE Oversight Bureau, New Mexico Environment Department

**Groundwater Monitoring at the
Sandia National Laboratories/New Mexico
Burn Site Groundwater**

**Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2015 Q-3**

**Prepared by Chris Armijo, Geoscientist
Sandia Oversight Section
P.O. Box 5400 MS 1396
Albuquerque, NM 87185-5400
(505) 845-5823
chris.armijo1@state.nm.us**

Final Report

6/21/2016

The purpose of this communication is to transmit groundwater data collected by the New Mexico Environment Department DOE Oversight Bureau at the Burn Site Groundwater Area of Concern monitoring wells during the third quarter of FFY 2015.

Acknowledgment:

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

Disclaimer:

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

Introduction

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or Bureau) has compiled and assessed groundwater data collected during June 2015. The Bureau collected groundwater samples from the 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, CYN-MW14A, and CYN-MW15. Split samples were collected using standard Sandia sampling procedures and equipment. The samples were submitted to an independent analytical laboratory where they were analyzed for target analyte list (TAL) metals, major anions, nitrate-nitrite, perchlorate, high explosive (HE) compounds, volatile organic compounds (VOCs), gasoline and diesel range organics, gross alpha and beta, gamma-emitting isotopes, tritium, and isotopic uranium. Nitrate-nitrite levels exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCL) of 10 mg/L at monitoring wells CYN-MW9, CYN-MW10, CYN-MW11, CYN-MW13, CYN-MW14A, and CYN-MW15.

Data Assessment

All groundwater samples were collected and analyzed in accordance with 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 TAL metals plus uranium are presented in Table 1. All metal concentrations were below established MCLs.

Analytical results for major anions (as bromide, chloride, fluoride, and sulfate), nitrate-nitrite and perchlorate are listed in Table 2. Perchlorate samples were only collected from monitoring wells CYN-MW14A and CYN-MW15. No major anions were detected above established MCLs. Nitrate-nitrite levels exceeded the EPA MCL of 10 mg/L at monitoring wells CYN-MW9 (27 mg/L), CYN-MW10 (14 mg/L), CYN-MW11 (14 mg/L), CYN-MW13 (25 mg/L), CYN-MW14A (13 mg/L), and CYN-MW15 (17 mg/L). Perchlorate samples were analyzed using EPA analytical method EPA 314.0. Perchlorate was detected above the method detection limit (MDL) at monitoring well CYN-MW14A at a concentration of 3.5

µg/L, but was a non-detect in the duplicate sample. The Bureau had the laboratory re-analyze the sample and both the environmental and duplicate samples from CYN-MW14A came back as non-detects for perchlorate. The perchlorate screening level required by the Consent Order is 4 µg/L

Analytical results for HE compounds are listed in Table 3. No HE compounds were detected above the MDL.

No VOCs were detected above the MDL. Table-4 lists the MDLs for the VOCs analyzed from BSG monitoring wells.

Analytical results for total petroleum hydrocarbons (TPH) diesel and gasoline range organics are listed in Table-5. No diesel range organics (DRO) or gasoline range organics (GRO) were detected above the MDL. No MCLs have been established for TPH-DRO or TPH-GRO.

Analytical results for radiochemistry samples are listed in Table 6. Samples were analyzed for gross alpha, gross beta, gamma emitting isotopes, tritium and isotopic uranium. No isotopes were detected above U.S. EPA MCLs.

Conclusion

Groundwater samples were collected from ten (10) BSG AOC monitoring wells during FFY 2015 Q-3. Only nitrate-nitrite was detected above the EPA MCL in groundwater samples from BSG AOC monitoring wells. Nitrate concentrations exceeded the MCL of 10 mg/L in samples taken from monitoring wells CYN-MW9, CYN-MW10, CYN-MW11, CYN-MW13, CYN-MW14A, and CYN-MW15, with a maximum concentration of 27 mg/L in the sample from monitoring well CYN-MW9.

References

Sandia National Laboratories/New Mexico, Annual Groundwater Monitoring Report, Calendar Year 2014

U.S. EPA National Primary Drinking Water Regulations (40 CFR 141), National Primary Drinking Water Standards, EPA, July 2002.

Table 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW4 3-Jun--15	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00044	0.006	0.0003	0.00023		SW-846:6020
	Arsenic	0.00074	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.047	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	73	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	35	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
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	6.5	NE	1	0.2		SW-846:6020
	Selenium	0.017	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	47	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	0.0015	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.0071	NE	0.02	0.0071	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW7 2-Jun-15	Aluminum	0.23	NE	0.05	0.019	B	SW-846:6020
	Antimony	0.00042	0.006	0.0003	0.00023		SW-846:6020
	Arsenic	0.0013	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.13	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	110	NE	1	0.094		SW-846:6020
	Chromium	0.00099	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	0.022	NE	0.1	0.013	JB	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	21	NE	0.1	0.039		SW-846:6020
	Manganese	0.0011	NE	0.002	0.00074	J	SW-846:6020
	Mercury	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	2.5	NE	1	0.2		SW-846:6020
	Selenium	0.0048	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	41	NE	1	0.84		SW-846:6020
Thallium	0.00007	0.002	0.0002	0.000034	JB	SW-846:6020	
Uranium	0.0071	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0039	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.018	NE	0.02	0.0071	J	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW8 1-Jun-15	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00041	0.006	0.0003	0.00023		SW-846:6020
	Arsenic	0.00073	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.062	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00033	0.005	0.0003	0.00013		SW-846:6020
	Calcium	120	NE	1	0.094		SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.00098	NE	0.001	0.00021	J	SW-846:6020
	Copper	0.002	NE	0.01	0.002	U	SW-846:6020
	Iron	0.014	NE	0.1	0.013	JB	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	25	NE	0.1	0.039		SW-846:6020
	Manganese	0.006	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.3	NE	1	0.2		SW-846:6020
	Selenium	0.0076	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	50	NE	1	0.84		SW-846:6020
Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020	
Uranium	0.0089	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0043	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.02	NE	0.02	0.0071	J	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 16-Jun-15	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	0.00044	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.049	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.00059	0.005	0.0003	0.00013	B	SW-846:6020
	Calcium	140	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	0.12	NE	0.1	0.013	B	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	39	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
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	1.9	NE	1	0.2		SW-846:6020
	Selenium	0.0069	0.05	0.001	0.00042		SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	45	NE	1	0.84		SW-846:6020
Thallium	0.00004	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0069	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0027	NE	0.001	0.00027		SW-846:6020	
Zinc	0.0071	NE	0.02	0.0071	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW10 4-Jun-15	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	0.00085	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.065	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	140	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	35	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
	Nickel	0.0023	NE	0.005	0.0023	U	SW-846:6020
	Potassium	1.8	NE	1	0.2		SW-846:6020
	Selenium	0.005	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	39	NE	1	0.84		SW-846:6020
Thallium	0.000034	0.002	0.0002	0.000034	U	SW-846:6020	
Uranium	0.0067	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0035	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.0071	NE	0.02	0.0071	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW11 10-Jun-15	Aluminum	0.019	NE	0.05	0.019	U	SW-846:6020
	Antimony	0.00023	0.006	0.0003	0.00023	J	SW-846:6020
	Arsenic	0.0011	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.089	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	150	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	0.023	NE	0.1	0.013	J	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	43	NE	0.1	0.039		SW-846:6020
	Manganese	0.19	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.7	NE	1	0.2		SW-846:6020
	Selenium	0.0072	0.05	0.001	0.00042		SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	41	NE	1	0.84		SW-846:6020
Thallium	0.0001	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0063	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0013	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.02	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW12 8-Jun-15	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	0.00036	0.01	0.002	0.00036	U	SW-846:6020
	Barium	0.034	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	150	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	0.047	NE	0.1	0.013	JB	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	39	NE	0.1	0.039		SW-846:6020
	Manganese	0.017	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.2	NE	1	0.2		SW-846:6020
	Selenium	0.0066	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	40	NE	1	0.84		SW-846:6020
Thallium	0.00004	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0087	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0013	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.012	NE	0.02	0.0071	J	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW13 15-Jun-15	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	0.00065	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.09	2	0.001	0.00094		SW-846:6020
	Beryllium	0.00014	0.004	0.0005	0.00014	U	SW-846:6020
	Cadmium	0.0024	0.005	0.0003	0.00013	B	SW-846:6020
	Calcium	110	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	0.11	NE	0.1	0.013	B	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	21	NE	0.1	0.039		SW-846:6020
	Manganese	0.014	NE	0.002	0.00074		SW-846:6020
	Mercury	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	1.7	NE	1	0.2		SW-846:6020
	Selenium	0.015	0.05	0.001	0.00042		SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	24	NE	1	0.84		SW-846:6020
Thallium	0.0002	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0049	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0025	NE	0.001	0.00027		SW-846:6020	
Zinc	0.015	NE	0.02	0.0071	J	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 9-Jun-15	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	0.00081	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	150	NE	1	0.094		SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.0023	NE	0.001	0.00021		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	37	NE	0.1	0.039		SW-846:6020
	Manganese	0.066	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.4	NE	1	0.2		SW-846:6020
	Selenium	0.012	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	41	NE	1	0.84		SW-846:6020
Thallium	0.0001	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0096	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0011	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.055	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 9-Jun-15 DUP	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	0.0004	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.061	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	150	NE	1	0.094		SW-846:6020
	Chromium	0.00074	0.1	0.01	0.00074	U	SW-846:6020
	Cobalt	0.0024	NE	0.001	0.00021		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	37	NE	0.1	0.039		SW-846:6020
	Manganese	0.064	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.6	NE	1	0.2		SW-846:6020
	Selenium	0.012	0.05	0.001	0.00042	B	SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	41	NE	1	0.84		SW-846:6020
Thallium	0.00005	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.0095	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0013	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.058	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 1 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Total TAL Metals plus Uranium

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW15 11-Jun-15	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	0.00064	0.01	0.002	0.00036	J	SW-846:6020
	Barium	0.063	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	180	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	0.027	NE	0.1	0.013	J	SW-846:6020
	Lead	0.0002	NE	0.0005	0.0002	U	SW-846:6020
	Magnesium	47	NE	0.1	0.039		SW-846:6020
	Manganese	0.0038	NE	0.002	0.00074		SW-846:6020
	Mercury	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	2.4	NE	1	0.2		SW-846:6020
	Selenium	0.013	0.05	0.001	0.00042		SW-846:6020
	Silver	0.000041	NE	0.0001	0.000041	U	SW-846:6020
	Sodium	44	NE	1	0.84		SW-846:6020
Thallium	0.00006	0.002	0.0002	0.000034	J	SW-846:6020	
Uranium	0.01	0.03	0.0001	0.000046		SW-846:6020	
Vanadium	0.0017	NE	0.001	0.00027	B	SW-846:6020	
Zinc	0.01	NE	0.02	0.0071	J	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 2015 Q-3 Burn Site Groundwater Quality Results: Anions and Nitrate-Nitrite

Monitoring Well/ Sample Date	Analyte	Result	EPA MCL	Quantitation Limit	MDL	Units	Laboratory Qualifier	Analytical Method
CYN-MW4 3-Jun-15	Bromide	0.32	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	27	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	0.8	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	0.11	10	0.01	0.003	mg/L		EPA:353.2
	Sulfate	140	NE	10	3	mg/L		EPA:300.0
CYN-MW7 2-Jun-15	Bromide	0.55	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	45	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.4	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	2.2	10	0.05	0.015	mg/L		EPA:353.2
	Sulfate	87	NE	1	0.3	mg/L		EPA:300.0
CYN-MW8 1-Jun-15	Bromide	0.73	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	63	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.5	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	4.6	10	0.05	0.015	mg/L		EPA:353.2
	Sulfate	120	NE	10	3	mg/L		EPA:300.0
CYN-MW9 16-Jun-15	Bromide	0.44	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	43	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	0.57	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	27	10	0.2	0.06	mg/L		EPA:353.2
	Sulfate	110	NE	10	3	mg/L		EPA:300.0
CYN-MW10 4-Jun-15	Bromide	0.64	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	56	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	0.68	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	14	10	0.2	0.06	mg/L		EPA:353.2
	Sulfate	170	NE	10	3	mg/L		EPA:300.0
CYN-MW11 10-Jun-15	Bromide	1	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	86	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	0.68	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	14	10	0.1	0.03	mg/L		EPA:353.2
	Sulfate	180	NE	10	3	mg/L		EPA:300.0
CYN-MW12 8-Jun-15	Bromide	0.81	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	91	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.1	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	3.8	10	0.1	0.03	mg/L		EPA:353.2
	Sulfate	210	NE	10	3	mg/L		EPA:300.0

NE = Not Established

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

Table 2 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Anions and Nitrate-Nitrite

Monitoring Well/ Sample Date	Analyte	Result	EPA MCL	Quantitation Limit	MDL	Units	Laboratory Qualifier	Analytical Method
CYN-MW13 15-Jun-15	Bromide	0.29	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	20	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.7	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	25	10	0.2	0.06	mg/L		EPA:353.2
	Sulfate	78	NE	1	0.3	mg/L		EPA:300.0
CYN-MW14A 9-Jun-15	Bromide	0.81	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	79	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.1	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	13	10	0.1	0.03	mg/L		EPA:353.2
	Perchlorate	3.5	NE	1	0.4	ug/L		EPA:314.0
	Perchlorate	0.4	NE	1	0.4	ug/L	U,*	EPA:314.0
	Sulfate	190	NE	10	3	mg/L		EPA:300.0
CYN-MW14A 9-Jun-15 DUP	Bromide	0.79	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	82	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	1.1	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	13	10	0.1	0.03	mg/L		EPA:353.2
	Perchlorate	0.4	NE	1	0.4	ug/L	U	EPA:314.0
	Perchlorate	0.4	NE	1	0.4	ug/L	U,*	EPA:314.0
	Sulfate	190	NE	10	3	mg/L		EPA:300.0
CYN-MW15 11-Jun-15	Bromide	1.1	NE	0.2	0.06	mg/L		EPA:300.0
	Chloride	110	NE	2	0.6	mg/L		EPA:300.0
	Fluoride	0.78	4	0.1	0.03	mg/L		EPA:300.0
	Nitrate-Nitrite as Nitrogen	17	10	0.2	0.06	mg/L		EPA:353.2
	Sulfate	200	NE	10	3	mg/L		EPA:300.0
	Perchlorate	0.4	NE	1	0.4	ug/L	U	EPA:314.0

NE = Not Established

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

* = Samples were re-analyzed past holding time.

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW4 3-Jun-15	1,3,5-Trinitrobenzene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0845	0.258	0.0845	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	4-Nitrotoluene	0.155	0.515	0.155	U	SW-846:8321A(M)
	HMX	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	Nitrobenzene	0.0825	0.258	0.0825	U	SW-846:8321A(M)
	Nitroglycerin	0.171	0.515	0.171	U	SW-846:8321A(M)
	PETN	0.103	0.515	0.103	U	SW-846:8321A(M)
	RDX	0.0825	0.258	0.0825	U	SW-846:8321A(M)
Tetryl	0.0825	0.515	0.0825	U	SW-846:8321A(M)	
CYN-MW7 2-Jun-15	1,3,5-Trinitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2-Nitrotoluene	0.097	0.296	0.097	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	4-Nitrotoluene	0.178	0.592	0.178	UQ	SW-846:8321A(M)
	HMX	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	Nitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	Nitroglycerin	0.196	0.592	0.196	U	SW-846:8321A(M)
	PETN	0.118	0.592	0.118	U	SW-846:8321A(M)
	RDX	0.0947	0.296	0.0947	U	SW-846:8321A(M)
Tetryl	0.0947	0.592	0.0947	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW8 1-Jun-15	1,3,5-Trinitrobenzene	0.101	0.316	0.101	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.101	0.316	0.101	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	2-Nitrotoluene	0.104	0.316	0.104	U	SW-846:8321A(M)
	3-Nitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.101	0.316	0.101	U	SW-846:8321A(M)
	4-Nitrotoluene	0.19	0.633	0.19	U	SW-846:8321A(M)
	HMX	0.101	0.316	0.101	U	SW-846:8321A(M)
	Nitrobenzene	0.101	0.316	0.101	U	SW-846:8321A(M)
	Nitroglycerin	0.21	0.633	0.21	U	SW-846:8321A(M)
	PETN	0.127	0.633	0.127	U	SW-846:8321A(M)
	RDX	0.101	0.316	0.101	U	SW-846:8321A(M)
Tetryl	0.101	0.633	0.101	U	SW-846:8321A(M)	
CYN-MW9 16-Jun-15	1,3,5-Trinitrobenzene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	2-Nitrotoluene	0.1	0.305	0.1	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	4-Nitrotoluene	0.183	0.61	0.183	U	SW-846:8321A(M)
	HMX	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	Nitrobenzene	0.0976	0.305	0.0976	U	SW-846:8321A(M)
	Nitroglycerin	0.202	0.61	0.202	U	SW-846:8321A(M)
	PETN	0.122	0.61	0.122	U	SW-846:8321A(M)
	RDX	0.0976	0.305	0.0976	U	SW-846:8321A(M)
Tetryl	0.0976	0.61	0.0976	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW10 4-Jun-15	1,3,5-Trinitrobenzene	0.093	0.291	0.093	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.093	0.291	0.093	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0953	0.291	0.0953	U	SW-846:8321A(M)
	3-Nitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.093	0.291	0.093	U	SW-846:8321A(M)
	4-Nitrotoluene	0.174	0.581	0.174	UQ	SW-846:8321A(M)
	HMX	0.093	0.291	0.093	U	SW-846:8321A(M)
	Nitrobenzene	0.093	0.291	0.093	U	SW-846:8321A(M)
	Nitroglycerin	0.193	0.581	0.193	U	SW-846:8321A(M)
	PETN	0.116	0.581	0.116	U	SW-846:8321A(M)
	RDX	0.093	0.291	0.093	U	SW-846:8321A(M)
Tetryl	0.093	0.581	0.093	U	SW-846:8321A(M)	
CYN-MW11 10-Jun-15	1,3,5-Trinitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	2-Nitrotoluene	0.097	0.296	0.097	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	4-Nitrotoluene	0.178	0.592	0.178	U	SW-846:8321A(M)
	HMX	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	Nitrobenzene	0.0947	0.296	0.0947	U	SW-846:8321A(M)
	Nitroglycerin	0.196	0.592	0.196	U	SW-846:8321A(M)
	PETN	0.118	0.592	0.118	U	SW-846:8321A(M)
	RDX	0.0947	0.296	0.0947	U	SW-846:8321A(M)
Tetryl	0.0947	0.592	0.0947	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW12 8-Jun-15	1,3,5-Trinitrobenzene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0921	0.281	0.0921	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	4-Nitrotoluene	0.169	0.562	0.169	UQ	SW-846:8321A(M)
	HMX	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	Nitrobenzene	0.0899	0.281	0.0899	U	SW-846:8321A(M)
	Nitroglycerin	0.187	0.562	0.187	U	SW-846:8321A(M)
	PETN	0.112	0.562	0.112	U	SW-846:8321A(M)
	RDX	0.0899	0.281	0.0899	U	SW-846:8321A(M)
Tetryl	0.0899	0.562	0.0899	U	SW-846:8321A(M)	
CYN-MW13 15-Jun-15	1,3,5-Trinitrobenzene	0.092	0.287	0.092	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.092	0.287	0.092	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0943	0.287	0.0943	U	SW-846:8321A(M)
	3-Nitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.092	0.287	0.092	U	SW-846:8321A(M)
	4-Nitrotoluene	0.172	0.575	0.172	U	SW-846:8321A(M)
	HMX	0.092	0.287	0.092	U	SW-846:8321A(M)
	Nitrobenzene	0.092	0.287	0.092	U	SW-846:8321A(M)
	Nitroglycerin	0.191	0.575	0.191	U	SW-846:8321A(M)
	PETN	0.115	0.575	0.115	U	SW-846:8321A(M)
	RDX	0.092	0.287	0.092	U	SW-846:8321A(M)
Tetryl	0.092	0.575	0.092	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 9-Jun-15	1,3,5-Trinitrobenzene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0937	0.286	0.0937	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	4-Nitrotoluene	0.171	0.571	0.171	U	SW-846:8321A(M)
	HMX	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	Nitrobenzene	0.0914	0.286	0.0914	U	SW-846:8321A(M)
	Nitroglycerin	0.19	0.571	0.19	U	SW-846:8321A(M)
	PETN	0.114	0.571	0.114	U	SW-846:8321A(M)
	RDX	0.0914	0.286	0.0914	U	SW-846:8321A(M)
Tetryl	0.0914	0.571	0.0914	U	SW-846:8321A(M)	
CYN-MW14A 9-Jun-15 DUP	1,3,5-Trinitrobenzene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	2-Nitrotoluene	0.0965	0.294	0.0965	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	4-Nitrotoluene	0.176	0.588	0.176	U	SW-846:8321A(M)
	HMX	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	Nitrobenzene	0.0941	0.294	0.0941	U	SW-846:8321A(M)
	Nitroglycerin	0.195	0.588	0.195	U	SW-846:8321A(M)
	PETN	0.118	0.588	0.118	U	SW-846:8321A(M)
	RDX	0.0941	0.294	0.0941	U	SW-846:8321A(M)
Tetryl	0.0941	0.588	0.0941	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 3 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: High Explosive Compounds

Monitoring Well/ Sample Date	Analyte	Result (ug/L)	Quantitation Limit (ug/L)	MDL (ug/L)	Laboratory Qualifier	Analytical Method
CYN-MW15 11-Jun-15	1,3,5-Trinitrobenzene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	1,3-Dinitrobenzene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	2,4,6-Trinitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	2,4-Dinitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	2,6-Dinitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	2-Amino-4,6-dinitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	2-Nitrotoluene	0.101	0.309	0.101	U	SW-846:8321A(M)
	3-Nitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	4-Amino-2,6-dinitrotoluene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	4-Nitrotoluene	0.185	0.617	0.185	U	SW-846:8321A(M)
	HMX	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	Nitrobenzene	0.0988	0.309	0.0988	U	SW-846:8321A(M)
	Nitroglycerin	0.205	0.617	0.205	U	SW-846:8321A(M)
	PETN	0.123	0.617	0.123	U	SW-846:8321A(M)
	RDX	0.0988	0.309	0.0988	U	SW-846:8321A(M)
Tetryl	0.0988	0.617	0.0988	U	SW-846:8321A(M)	

Q = One or more quality control criteria have not been met. Continuing calibration verification standards have not met requirements of 80-120%

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

Table 4 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Method Detection Limits for Volatile Organic Compounds by Method SW-846:8260B_25

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
Hexachlorobutadiene	0.3

Analyte	MDL (µg/L)
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 5 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Diesel and Gasoline Range Organics

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
CYN-MW4 3-Jun-15	Diesel Range Organics	0.22	0.74	0.22	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW7 2-Jun-15	Diesel Range Organics	0.22	0.73	0.22	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW8 1-Jun-15	Diesel Range Organics	0.22	0.73	0.22	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW9 16-Jun-15	Diesel Range Organics	0.17	0.57	0.17	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW10 4-Jun-15	Diesel Range Organics	0.18	0.59	0.18	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW11 10-Jun-15	Diesel Range Organics	0.17	0.58	0.17	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW12 8-Jun-15	Diesel Range Organics	0.18	0.59	0.18	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW13 15-Jun-15	Diesel Range Organics	0.18	0.59	0.18	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW14A 9-Jun-15	Diesel Range Organics	0.17	0.58	0.17	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW14A 9-Jun-15 DUP	Diesel Range Organics	0.17	0.58	0.17	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015
CYN-MW15 11-Jun-15	Diesel Range Organics	0.17	0.58	0.17	U	SW-846:8015M
	TPH Gasoline Range Organics	0.01	0.1	0.01	U	SW-846:8015

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

Table 6 NMED DOE OB FFY 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW4 3-Jun-15	Actinium-228	17 ± 5.2	16		EPA:901.1
	Americium-241	8.9 ± 11	38	U	EPA:901.1
	Beryllium-7	-8.5 ± 11	37	U	EPA:901.1
	Bismuth-212	17 ± 19	64	U	EPA:901.1
	Bismuth-214	23 ± 5.6	21	J	EPA:901.1
	Cesium-134	-4.9 ± 1.4	4.7	U	EPA:901.1
	Cesium-137	-0.71 ± 1.8	6.2	U	EPA:901.1
	Cobalt-60	0.53 ± 1.5	5.1	U	EPA:901.1
	Gross alpha	38 ± 3.3	1.4		EPA:900
	Gross beta	9.4 ± 0.98	1.9		EPA:900
	Iodine-131	-0.3 ± 2	6.6	U	EPA:901.1
	Lead-212	-2.2 ± 4.1	14	U	EPA:901.1
	Lead-214	15 ± 3.6	14	J	EPA:901.1
	Potassium-40	-6.5 ± 38	130	U	EPA:901.1
	Protactinium-234m	56 ± 230	770	U	EPA:901.1
	Sodium-22	0.15 ± 1.5	5.1	U	EPA:901.1
	Thallium-208	4.6 ± 1.3	4.1		EPA:901.1
	Thorium-234	66 ± 46	160	U	EPA:901.1
	Tritium	-71 ± 97	330	U	EPA:906.0
	Uranium-234	35 ± 2.9	0.023		HASL-300:ISOU
Uranium-235	0.38 ± 0.069	0.054		HASL-300:ISOU	
Uranium-238	4.5 ± 0.42	0.046		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW7 2-Jun-15	Actinium-228	18 ± 5.5	17		EPA:901.1
	Americium-241	6.6 ± 12	41	U	EPA:901.1
	Beryllium-7	0.66 ± 11	36	U	EPA:901.1
	Bismuth-212	-3.4 ± 20	69	U	EPA:901.1
	Bismuth-214	71 ± 15	50	J	EPA:901.1
	Cesium-134	-3.9 ± 1.4	5	U	EPA:901.1
	Cesium-137	-0.3 ± 1.4	4.9	U	EPA:901.1
	Cobalt-60	-1.1 ± 1.4	5	U	EPA:901.1
	Gross alpha	24 ± 2.2	1.9		EPA:900
	Gross beta	6.2 ± 0.77	1.8		EPA:900
	Iodine-131	-2.7 ± 2.4	8.2	U	EPA:901.1
	Lead-212	1.2 ± 3.5	12	U	EPA:901.1
	Lead-214	90 ± 7.1	15	J	EPA:901.1
	Potassium-40	6.8 ± 45	150	U	EPA:901.1
	Protactinium-234m	410 ± 240	780	U	EPA:901.1
	Sodium-22	0.88 ± 1.5	5	U	EPA:901.1
	Thallium-208	3.5 ± 1.4	4.7	U	EPA:901.1
	Thorium-234	20 ± 35	120	U	EPA:901.1
	Tritium	-37 ± 98	330	U	EPA:906.0
	Uranium-234	18 ± 1.5	0.064		HASL-300:ISOU
Uranium-235	0.29 ± 0.062	0.031		HASL-300:ISOU	
Uranium-238	2.3 ± 0.24	0.073		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW8 1-Jun-15	Actinium-228	21 ± 6	18		EPA:901.1
	Americium-241	-3.6 ± 8.4	28	U	EPA:901.1
	Beryllium-7	-22 ± 11	37	U	EPA:901.1
	Bismuth-212	5.2 ± 20	66	U	EPA:901.1
	Bismuth-214	340 ± 27	51	J	EPA:901.1
	Cesium-134	-0.49 ± 1.4	4.8	U	EPA:901.1
	Cesium-137	-2.8 ± 1.3	4.7	U	EPA:901.1
	Cobalt-60	-2.4 ± 1.5	5.3	U	EPA:901.1
	Gross alpha	4.8 ± 0.64	1.3		EPA:900
	Gross beta	25 ± 2.1	1.7		EPA:900
	Iodine-131	4.1 ± 2.2	7.1	U	EPA:901.1
	Lead-212	-1.3 ± 3.8	13	U	EPA:901.1
	Lead-214	380 ± 23	17	J	EPA:901.1
	Potassium-40	-43 ± 36	120	U	EPA:901.1
	Protactinium-234m	250 ± 230	770	U	EPA:901.1
	Sodium-22	-1.8 ± 1.5	5.2	U	EPA:901.1
	Thallium-208	0.75 ± 2.5	8.2	U	EPA:901.1
	Thorium-234	-3 ± 37	120	U	EPA:901.1
	Tritium	-12 ± 110	380	U	EPA:906.0
	Uranium-234	25 ± 2.1	0.074		HASL-300:ISOU
Uranium-235	0.17 ± 0.046	0.077		HASL-300:ISOU	
Uranium-238	2.8 ± 0.27	0.072		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW9 16-Jun-15	Actinium-228	12 ± 4.9	16	U	EPA:901.1
	Americium-241	14 ± 8.8	29	U	EPA:901.1
	Beryllium-7	-20 ± 13	44	U	EPA:901.1
	Bismuth-212	34 ± 24	78	U	EPA:901.1
	Bismuth-214	30 ± 9.2	36	UJ	EPA:901.1
	Cesium-134	0.79 ± 15	50	U	EPA:901.1
	Cesium-137	0.32 ± 1.6	5.5	U	EPA:901.1
	Cobalt-60	1.8 ± 2.1	7.1	U	EPA:901.1
	Gross alpha	7.7 ± 0.96	1.9		EPA:900
	Gross beta	5.1 ± 0.83	2.3		EPA:900
	Iodine-131	-2.9 ± 2.4	8.4	U	EPA:901.1
	Lead-212	1.2 ± 4.6	15	U	EPA:901.1
	Lead-214	26 ± 5.6	23	J	EPA:901.1
	Potassium-40	-82 ± 56	190	U	EPA:901.1
	Protactinium-234m	48 ± 320	1100	U	EPA:901.1
	Sodium-22	-2.1 ± 2	7.2	U	EPA:901.1
	Thallium-208	-1.6 ± 4.2	14	U	EPA:901.1
	Thorium-234	-21 ± 45	150	U	EPA:901.1
	Tritium	-31 ± 97	330	U	EPA:906.0
	Uranium-234	7.3 ± 0.65	0.12		HASL-300:ISOU
Uranium-235	0.15 ± 0.043	0.073		HASL-300:ISOU	
Uranium-238	2.4 ± 0.25	0.078		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW10 4-Jun-15	Actinium-228	19 ± 4.9	15		EPA:901.1
	Americium-241	-53 ± 32	110	U	EPA:901.1
	Beryllium-7	-8.3 ± 11	37	U	EPA:901.1
	Bismuth-212	30 ± 17	55	U	EPA:901.1
	Bismuth-214	10 ± 5.9	19	UJ	EPA:901.1
	Cesium-134	-4.1 ± 2.1	7.1	U	EPA:901.1
	Cesium-137	-0.94 ± 1.3	4.5	U	EPA:901.1
	Cobalt-60	0.48 ± 1.3	4.3	U	EPA:901.1
	Gross alpha	7.9 ± 0.89	1.5		EPA:900
	Gross beta	3.6 ± 0.65	1.8		EPA:900
	Iodine-131	0.57 ± 4	13	U	EPA:901.1
	Lead-212	2 ± 4	13	U	EPA:901.1
	Lead-214	1.4 ± 5.2	17	UJ	EPA:901.1
	Potassium-40	-29 ± 37	120	U	EPA:901.1
	Protactinium-234m	67 ± 210	710	U	EPA:901.1
	Sodium-22	-2.1 ± 1.3	4.6	U	EPA:901.1
	Thallium-208	0.87 ± 2.8	9.1	U	EPA:901.1
	Thorium-234	-17 ± 65	210	U	EPA:901.1
	Tritium	17 ± 98	330	U	EPA:906.0
	Uranium-234	5.8 ± 0.53	0.056		HASL-300:ISOU
Uranium-235	0.15 ± 0.047	0.099		HASL-300:ISOU	
Uranium-238	2.3 ± 0.24	0.056		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW11 10-Jun-15	Actinium-228	18 ± 6.7	21	U	EPA:901.1
	Americium-241	8.9 ± 8.9	29	U	EPA:901.1
	Beryllium-7	6.4 ± 14	46	U	EPA:901.1
	Bismuth-212	3 ± 24	81	U	EPA:901.1
	Bismuth-214	17 ± 11	36	UJ	EPA:901.1
	Cesium-134	0.5 ± 2.6	8.7	U	EPA:901.1
	Cesium-137	-0.9 ± 1.7	5.7	U	EPA:901.1
	Cobalt-60	-1.7 ± 2.2	7.8	U	EPA:901.1
	Gross alpha	10 ± 1	1.3		EPA:900
	Gross beta	3.5 ± 0.6	1.7		EPA:900
	Iodine-131	-7.7 ± 3.7	13	U	EPA:901.1
	Lead-212	-0.92 ± 4.4	15	U	EPA:901.1
	Lead-214	13 ± 6.9	22	UJ	EPA:901.1
	Potassium-40	-56 ± 54	180	U	EPA:901.1
	Protactinium-234m	280 ± 330	1100	U	EPA:901.1
	Sodium-22	-0.74 ± 2	6.8	U	EPA:901.1
	Thallium-208	3.7 ± 1.8	5.7	U	EPA:901.1
	Thorium-234	-0.013 ± 43	150	U	EPA:901.1
	Tritium	-48 ± 97	330	U	EPA:906.0
	Uranium-234	5.7 ± 0.59	0.13		HASL-300:ISOU
Uranium-235	0.046 ± 0.038	0.14	U	HASL-300:ISOU	
Uranium-238	1.9 ± 0.25	0.095		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW12 8-Jun-15	Actinium-228	23 ± 5.6	17		EPA:901.1
	Americium-241	-10 ± 11	38	U	EPA:901.1
	Beryllium-7	-17 ± 12	40	U	EPA:901.1
	Bismuth-212	47 ± 22	70	U	EPA:901.1
	Bismuth-214	25 ± 4.6	17	J	EPA:901.1
	Cesium-134	-2 ± 1.3	4.6	U	EPA:901.1
	Cesium-137	-1 ± 1.4	4.8	U	EPA:901.1
	Cobalt-60	-0.34 ± 1.5	5.3	U	EPA:901.1
	Gross alpha	14 ± 1.4	1.7		EPA:900
	Gross beta	7.5 ± 0.93	2.2		EPA:900
	Iodine-131	-0.1 ± 3.3	11	U	EPA:901.1
	Lead-212	4.6 ± 3.9	13	U	EPA:901.1
	Lead-214	25 ± 5.2	19	J	EPA:901.1
	Potassium-40	-5.1 ± 38	130	U	EPA:901.1
	Protactinium-234m	270 ± 230	760	U	EPA:901.1
	Sodium-22	0.082 ± 1.6	5.3	U	EPA:901.1
	Thallium-208	1.5 ± 3.2	10	U	EPA:901.1
	Thorium-234	-41 ± 48	160	U	EPA:901.1
	Tritium	-140 ± 96	330	U	EPA:906.0
	Uranium-234	14 ± 1.3	0.1		HASL-300:ISOU
Uranium-235	0.23 ± 0.064	0.087		HASL-300:ISOU	
Uranium-238	3.1 ± 0.34	0.1		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW13 15-Jun-15	Actinium-228	17 ± 5.4	17		EPA:901.1
	Americium-241	19 ± 11	37	U	EPA:901.1
	Beryllium-7	3.3 ± 11	36	U	EPA:901.1
	Bismuth-212	28 ± 18	60	U	EPA:901.1
	Bismuth-214	36 ± 5.2	17	J	EPA:901.1
	Cesium-134	5.7 ± 9.7	32	U	EPA:901.1
	Cesium-137	-0.82 ± 1.3	4.6	U	EPA:901.1
	Cobalt-60	3.4 ± 1.5	4.7	U	EPA:901.1
	Gross alpha	8.8 ± 0.92	1.3		EPA:900
	Gross beta	5 ± 0.63	1.5		EPA:900
	Iodine-131	0.65 ± 2.3	7.6	U	EPA:901.1
	Lead-212	3.4 ± 3.9	13	U	EPA:901.1
	Lead-214	36 ± 5.3	18	J	EPA:901.1
	Potassium-40	-11 ± 38	130	U	EPA:901.1
	Protactinium-234m	22 ± 210	710	U	EPA:901.1
	Sodium-22	1.2 ± 1.4	4.9	U	EPA:901.1
	Thallium-208	4.6 ± 1.4	4.2		EPA:901.1
	Thorium-234	-42 ± 47	160	U	EPA:901.1
	Tritium	-60 ± 97	330	U	EPA:906.0
	Uranium-234	8.8 ± 0.8	0.063		HASL-300:ISOU
Uranium-235	0.14 ± 0.049	0.12		HASL-300:ISOU	
Uranium-238	1.9 ± 0.21	0.086		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 9-Jun-15	Actinium-228	20 ± 4.9	17		EPA:901.1
	Americium-241	3.5 ± 12	42	U	EPA:901.1
	Beryllium-7	-4.9 ± 11	37	U	EPA:901.1
	Bismuth-212	34 ± 17	53	U	EPA:901.1
	Bismuth-214	98 ± 19	63	J	EPA:901.1
	Cesium-134	-0.53 ± 1.4	4.8	U	EPA:901.1
	Cesium-137	-2.7 ± 1.5	5.1	U	EPA:901.1
	Cobalt-60	-2.1 ± 1.4	5.1	U	EPA:901.1
	Gross alpha	20 ± 1.9	1.9		EPA:900
	Gross beta	6.7 ± 0.87	2.1		EPA:900
	Iodine-131	0.2 ± 3.7	13	U	EPA:901.1
	Lead-212	0.38 ± 3.9	13	U	EPA:901.1
	Lead-214	120 ± 9.2	20	J	EPA:901.1
	Potassium-40	-18 ± 48	160	U	EPA:901.1
	Protactinium-234m	-470 ± 240	850	U	EPA:901.1
	Sodium-22	-0.23 ± 1.5	5.3	U	EPA:901.1
	Thallium-208	-2.4 ± 3.5	12	U	EPA:901.1
	Thorium-234	-3.5 ± 49	160	U	EPA:901.1
	Tritium	-140 ± 96	330	U	EPA:906.0
	Uranium-234	14 ± 1.2	0.037		HASL-300:ISOU
Uranium-235	0.21 ± 0.063	0.11		HASL-300:ISOU	
Uranium-238	3 ± 0.33	0.037		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW14A 9-Jun-15 DUP	Actinium-228	14 ± 5.2	17	U	EPA:901.1
	Americium-241	43 ± 36	120	U	EPA:901.1
	Beryllium-7	-8.6 ± 11	39	U	EPA:901.1
	Bismuth-212	40 ± 17	56	U	EPA:901.1
	Bismuth-214	140 ± 18	54	J	EPA:901.1
	Cesium-134	-2 ± 1.5	5	U	EPA:901.1
	Cesium-137	-1.1 ± 1.5	5	U	EPA:901.1
	Cobalt-60	-1.3 ± 1.3	4.7	U	EPA:901.1
	Gross alpha	21 ± 2	1.9		EPA:900
	Gross beta	4.3 ± 0.82	2.4		EPA:900
	Iodine-131	0.033 ± 3.1	10	U	EPA:901.1
	Lead-212	2.6 ± 4.2	14	U	EPA:901.1
	Lead-214	150 ± 10	18	J	EPA:901.1
	Potassium-40	-23 ± 37	120	U	EPA:901.1
	Protactinium-234m	530 ± 240	760	U	EPA:901.1
	Sodium-22	0.74 ± 1.3	4.5	U	EPA:901.1
	Thallium-208	1.4 ± 2.8	9.3	U	EPA:901.1
	Thorium-234	37 ± 30	100	U	EPA:901.1
	Tritium	-40 ± 97	330	U	EPA:906.0
	Uranium-234	13 ± 1.1	0.076		HASL-300:ISOU
Uranium-235	0.19 ± 0.048	0.029		HASL-300:ISOU	
Uranium-238	2.9 ± 0.28	0.05		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 2015 Q-3 Burn Site Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy, Tritium and Isotopic Uranium

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
CYN-MW15 11-Jun-15	Actinium-228	6.1 ± 12	40	U	EPA:901.1
	Americium-241	-3.1 ± 11	38	U	EPA:901.1
	Beryllium-7	7.2 ± 11	36	U	EPA:901.1
	Bismuth-212	32 ± 19	62	U	EPA:901.1
	Bismuth-214	36 ± 6.7	20	J	EPA:901.1
	Cesium-134	0.44 ± 1.3	4.4	U	EPA:901.1
	Cesium-137	-0.24 ± 1.3	4.5	U	EPA:901.1
	Cobalt-60	-0.54 ± 1.4	5	U	EPA:901.1
	Gross alpha	20 ± 1.8	1.6		EPA:900
	Gross beta	5.9 ± 0.88	2.3		EPA:900
	Iodine-131	-0.1 ± 3.3	11	U	EPA:901.1
	Lead-212	1.3 ± 3.7	12	U	EPA:901.1
	Lead-214	31 ± 5.5	20	J	EPA:901.1
	Potassium-40	-41 ± 47	160	U	EPA:901.1
	Protactinium-234m	36 ± 220	770	U	EPA:901.1
	Sodium-22	-0.5 ± 1.4	4.7	U	EPA:901.1
	Thallium-208	3.5 ± 1.4	4.4	U	EPA:901.1
	Thorium-234	67 ± 24	75	U	EPA:901.1
	Tritium	-82 ± 97	330	U	EPA:906.0
	Uranium-234	13 ± 1.2	0.077		HASL-300:ISOU
Uranium-235	0.16 ± 0.045	0.032		HASL-300:ISOU	
Uranium-238	3.2 ± 0.32	0.056		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.