DOE Oversight Bureau, New Mexico Environment Department

Groundwater Monitoring at Sandia National Laboratories/New Mexico Technical Area-V

Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2015 Q-2

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Final Report

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The purpose of this communication is to transmit groundwater data collected by the New Mexico Environment Deaprtment DOE Oversight Bureau from Technical Area-V groundwater monitoring wells during the second quarter of FFY 2015.

Acknowledgment:
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Introductory remarks

The New Mexico Environment Department (NMED) DOE Oversight Bureau (Bureau) has compiled and assessed groundwater data collected during February and March 2015. The Bureau collected groundwater samples from Technical Area-V (TAV) groundwater monitoring wells AVN-1, LWDS-MW2, TAV-MW6, TAV-MW10, and TAV-MW14. (See Figure 1.) A duplicate sample was collected at TAV-MW14. Split samples were collected using standard National Laboratories/New Mexico sampling procedures and equipment. The samples were submitted to an independent analytical laboratory for analysis of total and dissolved target analyte list (TAL) metals plus uranium, nitrate-nitrite, and volatile organic compounds (VOCs). Nitrate-nitrite exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) at monitoring well TAV-MW10. Trichloroethylene (TCE) also exceeded the EPA MCL at monitoring wells TAV-MW6, TAV-MW10, and TAV-MW14.

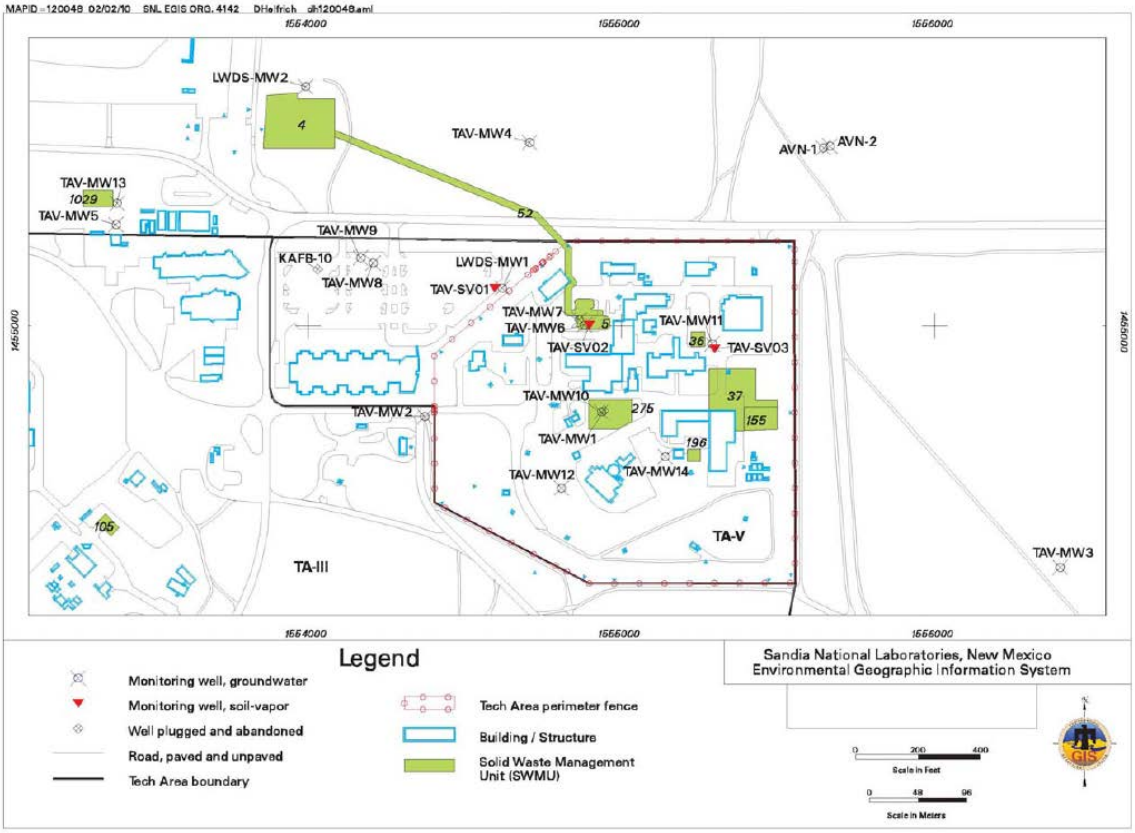

Figure 1. TA-V Monitoring Well Locations (16 Active Groundwater Monitoring Wells)
(Sandia National Laboratories, New Mexico Environmental Geographic Information System, Annual Groundwater Monitoring Report, Calendar Year 2012)

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.

Results

Analytical results for total and dissolved TAL metals plus uranium are presented in Table 1 and Table 2, respectively. All metal concentrations were below established MCLs.

Analytical results for nitrate-nitrite are listed in Table 3. Nitrate-nitrite concentration at TAV-MW10 exceeded the MCL of 10 mg/L at a concentration of 11 mg/L. All other values were below the nitrate MCL. Nitrate-nitrite concentrations ranged from 6.9 mg/L at TAV-MW6 to 11 mg/L at TAV-MW10.

Volatile organic compounds detected at concentrations above the method detection limits (MDLs) are presented in Table 4. Dichloroethene [cis-1,2-] and trichloroethene were the only two (2) compounds detected above their associated MDL. Dichloroethene [cis-1,2-] ranged from 0.93 µg/L at TAV-MW14 to 2.9 µg/L at TAV-MW6. The EPA MCL for Dichloroethene [cis-1,2-] is 70 µg/L. Trichloroethene (TCE) was detected above the MDL at monitoring wells TAV-MW6 (13 µg/L), TAV-MW10 (13 µg/L), TAV-MW14 (6.2 µg/L), and the TAV-MW14 duplicate (6.1 µg/L). All TCE samples with detections above the MDL exceed the U.S EPA MCL of 5 µg/L. Table 5 summarizes the laboratory MDLs for the remaining VOCs analyzed from the samples collected at TAV monitoring wells.

Conclusion

Groundwater samples were collected from five (5) monitoring wells during this sampling event at TAV. All metal concentrations were below established MCLs. Nitrate-nitrite exceeded the EPA MCL at monitoring well TAV-MW10. Trichloroethylene also exceeded the EPA MCL at monitoring wells TAV-MW6, TAV-MW10, and TAV-MW14. Those nitrate and TCE samples exceeding their associated EPA MCL compare well to historical values.

References

Sandia National Laboratories, New Mexico Environmental Geographic Information System, Annual Groundwater Monitoring Report, Calendar Year 2012

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-2 Technical Area-V 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
AVN-1 23-Feb-15	Aluminum	0.051	NE	0.05	0.017		SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.0013	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.083	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00046	0.005	0.0003	0.00012		SW-846:6020
	Calcium	43	NE	1	0.09		SW-846:6020
	Chromium	0.019	0.1	0.01	0.0013		SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.1	NE	0.1	0.016	B	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	9.6	NE	0.1	0.039		SW-846:6020
	Manganese	0.00057	NE	0.002	0.00052	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0047	NE	0.005	0.0014	J	SW-846:6020
	Potassium	3.1	NE	1	0.16		SW-846:6020
	Selenium	0.002	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	38	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.002	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0079	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	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-2 Technical Area-V 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
LWDS-MW2 19-Feb-15	Aluminum	0.027	NE	0.05	0.017	J	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.0014	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.073	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00038	0.005	0.0003	0.00012		SW-846:6020
	Calcium	47	NE	1	0.09		SW-846:6020
	Chromium	0.0028	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	J	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	13	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0026	NE	0.005	0.0014	J	SW-846:6020
	Potassium	2.6	NE	1	0.16		SW-846:6020
	Selenium	0.0021	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00046	NE	0.0001	0.00004		SW-846:6020
	Sodium	45	NE	1	0.24		SW-846:6020
	Thallium	0.00006	0.002	0.0002	0.000042	J	SW-846:6020
	Uranium	0.0029	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0066	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW6 3-Mar-15	Aluminum	0.065	NE	0.05	0.017		SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00036	0.01	0.002	0.00025	JB	SW-846:6020
	Barium	0.067	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	63	NE	1	0.09		SW-846:6020
	Chromium	0.0016	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.03	NE	0.1	0.016	J	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	18	NE	0.1	0.039		SW-846:6020
	Manganese	0.00064	NE	0.002	0.00052	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0014	NE	0.005	0.0014	U	SW-846:6020
	Potassium	3.4	NE	1	0.16		SW-846:6020
	Selenium	0.0036	0.05	0.001	0.00054		SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	62	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0034	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0055	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW10 4-Mar-15	Aluminum	0.029	NE	0.05	0.017	J	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00049	0.01	0.002	0.00025	JB	SW-846:6020
	Barium	0.058	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	58	NE	1	0.09		SW-846:6020
	Chromium	0.0024	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	J	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	16	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0014	NE	0.005	0.0014	U	SW-846:6020
	Potassium	3.7	NE	1	0.16		SW-846:6020
	Selenium	0.0033	0.05	0.001	0.00054		SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	59	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0029	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0055	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW14 25-Feb-15	Aluminum	0.062	NE	0.05	0.017		SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00056	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.06	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	63	NE	1	0.09		SW-846:6020
	Chromium	0.0022	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.076	NE	0.1	0.016	JB	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	19	NE	0.1	0.039		SW-846:6020
	Manganese	0.0014	NE	0.002	0.00052	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0038	NE	0.005	0.0014	J	SW-846:6020
	Potassium	4.1	NE	1	0.16		SW-846:6020
	Selenium	0.0024	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	63	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.004	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0056	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Table-1 NMED DOE OB FFY 2015 Q-2 Technical Area-V 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
TAV-MW14 25-Feb-15 DUP	Aluminum	0.059	NE	0.05	0.017		SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00079	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.06	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	65	NE	1	0.09		SW-846:6020
	Chromium	0.0027	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.05	NE	0.1	0.016	JB	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	19	NE	0.1	0.039		SW-846:6020
	Manganese	0.0025	NE	0.002	0.00052		SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.011	NE	0.005	0.0014		SW-846:6020
	Potassium	4.3	NE	1	0.16		SW-846:6020
	Selenium	0.0028	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	64	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0039	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0058	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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U = the analyte was analyzed for but not detected

Table-2 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
AVN-1 23-Feb-15	Aluminum	0.019	NE	0.05	0.017	J	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00079	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.082	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00054	0.005	0.0003	0.00012		SW-846:6020
	Calcium	45	NE	1	0.09		SW-846:6020
	Chromium	0.0022	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	9.4	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0038	NE	0.005	0.0014	J	SW-846:6020
	Potassium	3.2	NE	1	0.16		SW-846:6020
	Selenium	0.0039	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	38	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.002	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0066	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Table-2 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
LWDS-MW2 19-Feb-15	Aluminum	0.017	NE	0.05	0.017	U	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.001	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.071	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00042	0.005	0.0003	0.00012		SW-846:6020
	Calcium	45	NE	1	0.09		SW-846:6020
	Chromium	0.0027	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	13	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.002	NE	0.005	0.0014	J	SW-846:6020
	Potassium	2.5	NE	1	0.16		SW-846:6020
	Selenium	0.002	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00024	NE	0.0001	0.00004		SW-846:6020
	Sodium	44	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0028	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0067	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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Table-2 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
TAV-MW6 3-Mar-15	Aluminum	0.017	NE	0.05	0.017	U	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00042	0.01	0.002	0.00025	JB	SW-846:6020
	Barium	0.067	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	64	NE	1	0.09		SW-846:6020
	Chromium	0.002	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	19	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0014	NE	0.005	0.0014	U	SW-846:6020
	Potassium	3.3	NE	1	0.16		SW-846:6020
	Selenium	0.0072	0.05	0.001	0.00054		SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	63	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0034	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0056	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	U	SW-846:6020

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NE = Not Established

U = the analyte was analyzed for but not detected

Table-2 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
TAV-MW10 4-Mar-15	Aluminum	0.02	NE	0.05	0.017	J	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00051	0.01	0.002	0.00025	JB	SW-846:6020
	Barium	0.06	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	60	NE	1	0.09		SW-846:6020
	Chromium	0.0019	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	16	NE	0.1	0.039		SW-846:6020
	Manganese	0.00067	NE	0.002	0.00052	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0016	NE	0.005	0.0014	J	SW-846:6020
	Potassium	4.1	NE	1	0.16		SW-846:6020
	Selenium	0.0024	0.05	0.001	0.00054		SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	60	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.003	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0053	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0082	NE	0.02	0.0068	J	SW-846:6020

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NE = Not Established

U = the analyte was analyzed for but not detected

Table-2 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
TAV-MW14 25-Feb-15	Aluminum	0.021	NE	0.05	0.017	J	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00069	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.059	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	62	NE	1	0.09		SW-846:6020
	Chromium	0.0019	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.016	NE	0.1	0.016	U	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	18	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.003	NE	0.005	0.0014	J	SW-846:6020
	Potassium	4	NE	1	0.16		SW-846:6020
	Selenium	0.002	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	62	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0038	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0054	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	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 2015 Q-2 Technical Area-V Groundwater Quality Results: Dissolved 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
TAV-MW14 25-Feb-15 DUP	Aluminum	0.017	NE	0.05	0.017	U	SW-846:6020
	Antimony	0.00017	0.006	0.0003	0.00017	U	SW-846:6020
	Arsenic	0.00093	0.01	0.002	0.00025	J	SW-846:6020
	Barium	0.061	2	0.001	0.00041		SW-846:6020
	Beryllium	0.00013	0.004	0.0005	0.00013	U	SW-846:6020
	Cadmium	0.00012	0.005	0.0003	0.00012	U	SW-846:6020
	Calcium	63	NE	1	0.09		SW-846:6020
	Chromium	0.0018	0.1	0.01	0.0013	J	SW-846:6020
	Cobalt	0.00017	NE	0.001	0.00017	U	SW-846:6020
	Copper	0.0028	NE	0.01	0.0028	U	SW-846:6020
	Iron	0.038	NE	0.1	0.016	JB	SW-846:6020
	Lead	0.00025	NE	0.0005	0.00025	U	SW-846:6020
	Magnesium	19	NE	0.1	0.039		SW-846:6020
	Manganese	0.00052	NE	0.002	0.00052	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW-846:7470A
	Nickel	0.0043	NE	0.005	0.0014	J	SW-846:6020
	Potassium	4.2	NE	1	0.16		SW-846:6020
	Selenium	0.0025	0.05	0.001	0.00054	B	SW-846:6020
	Silver	0.00004	NE	0.0001	0.00004	U	SW-846:6020
	Sodium	65	NE	1	0.24		SW-846:6020
	Thallium	0.000042	0.002	0.0002	0.000042	U	SW-846:6020
	Uranium	0.0039	0.03	0.0001	0.000088		SW-846:6020
	Vanadium	0.0054	NE	0.001	0.00052		SW-846:6020
	Zinc	0.0068	NE	0.02	0.0068	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-3 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Nitrate-Nitrite

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Quantitation Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
AVN-1 23-Feb-15	Nitrate-Nitrite as Nitrogen	7.9	10	0.05	0.015		EPA:353.2
LWDS-MW2 19-Feb-15	Nitrate-Nitrite as Nitrogen	7.1	10	0.1	0.03		EPA:353.2
TAV-MW6 3-Mar-15	Nitrate-Nitrite as Nitrogen	6.9	10	0.1	0.03		EPA:353.2
TAV-MW10 4-Mar-15	Nitrate-Nitrite as Nitrogen	**11**	10	0.1	0.03		EPA:353.2
TAV-MW14 25-Feb-15	Nitrate-Nitrite as Nitrogen	8.3	10	0.1	0.03		EPA:353.2

Table-4 NMED DOE OB FFY 2015 Q-2 Technical Area-V Groundwater Quality Results: Detected Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	Quantitation Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
TAV-MW6 3-Mar-15	Dichloroethene[cis-1,2-]	2.9	70	1	0.3		SW-846:8260B_25
	Trichloroethene	**13**	5	1	0.3		SW-846:8260B_25
TAV-MW10 4-Mar-15	Dichloroethene[cis-1,2-]	2.8	70	1	0.3		SW-846:8260B_25
	Trichloroethene	**13**	5	1	0.3		SW-846:8260B_25
TAV-MW14 25-Feb-15	Dichloroethene[cis-1,2-]	0.93	70	1	0.3	J	SW-846:8260B_25
	Trichloroethene	**6.2**	5	1	0.3		SW-846:8260B_25
TAV-MW14 25-Feb-15 DUP	Dichloroethene[cis-1,2-]	0.95	70	1	0.3	J	SW-846:8260B_25
	Trichloroethene	**6.1**	5	1	0.3		SW-846:8260B_25

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

Table-5 NMED DOE OB FFY 2015 Q-2 Technical Area-V 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-]	0.6
Dibromoethane[1,2-]	0.3
Dibromomethane	0.3
Dichlorobenzene[1,2-]	0.3
Dichlorobenzene[1,3-]	0.3
Dichlorobenzene[1,4-]	0.3
Dichlorodifluoromethane	0.3
Dichloroethane[1,1-]	0.3
Dichloroethane[1,2-]	0.3
Dichloroethene[1,1-]	0.3
Dichloroethene[cis-1,2-]	0.3
Dichloroethene[trans-1,2-]	0.3
Dichloropropane[1,2-]	0.3
Dichloropropane[1,3-]	0.3
Dichloropropane[2,2-]	0.3
Dichloropropene[1,1-]	0.3
Dichloropropene[cis-1,3-]	0.3
Dichloropropene[trans-1,3-]	0.3
Ethylbenzene	0.3

Analyte	MDL (µg/L)
Hexachlorobutadiene	0.3
Hexanone[2-]	3
Iodomethane	0.3
Isopropylbenzene	0.3
Isopropyltoluene[4-]	0.3
Methyl tert-Butyl Ether	0.3
Methyl-2-pentanone[4-]	3
Methylene Chloride	0.43
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	0.68
Vinyl Chloride	0.3
Xylene[1,2-]	0.3
Xylene[1,3-]+Xylene[1,4-]	0.3