

DOE Oversight Bureau, New Mexico Environment Department

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

**Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2017 Q-3**

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Final Report

8/16/2017

The purpose of this communication is to transmit groundwater quality data collected by New Mexico Environment Department DOE Oversight Bureau from Technical Area-V Groundwater Area of Concern during the third quarter of Federal Fiscal Year 2017.

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Introduction

The New Mexico Environment Department (NMED) DOE Oversight Bureau (DOE-OB or Bureau) has compiled and assessed groundwater data collected during May and June 2017. The Bureau collected groundwater samples from Technical Area-V (TAV) Groundwater Area of Concern (AOC) monitoring wells AVN-1, LWDS-MW2, TAV-MW2 (plus duplicate), TAV-MW3, TAV-MW4, TAV-MW5, TAV-MW7, TAV-MW9, TAV-MW11 and TAV-MW13. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM) sampling procedures and equipment. Samples were analyzed for inorganics, organics and radionuclides. The Bureau used Test America Laboratories located in West Sacramento, California to analyze samples for nitrate-nitrite. All other analyses were conducted by ALS Environmental Laboratory located in Fort Collins, Colorado. Test America and ALS Environmental are both independent analytical laboratories under contract with the NMED.

No sample concentrations exceeded established U.S. Environmental Protection Agency (EPA) Maximum Contaminant Levels (MCLs).

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 (unfiltered) target analyte list (TAL) metals plus uranium are presented in Table-1. All metal concentrations were below established MCLs.

Analytical results for anions (bromide, chloride, fluoride and sulfate) and nitrate-nitrite as nitrogen are summarized in Table-2. All anions and nitrate-nitrite results were below EPA drinking water standards

Volatile organic compounds (VOCs) detected at concentrations above the method detection limits (MDLs) are listed in Table-3. Compounds detected above the laboratory MDLs include dichloroethene [cis-, 2-], chloroform and trichloroethene (TCE). No VOCs were detected above their associated MCL. Table-4 summarizes the laboratory MDLs for the remaining VOCs analyzed from samples collected at TAV.

Analytical results for radionuclides are presented in Table-5 and used to screen for potential radiological contamination. Samples were analyzed for gross

alpha, gross beta, gamma emitting isotopes and tritium. All radionuclide results were below established EPA MCLs.

Conclusion

The DOE-OB collected split samples from a total of ten (10) TAV groundwater monitoring wells during the third quarter of FFY 2017. Samples collected by the Bureau were analyzed by Test America and ALS Environmental. Data results were reported at concentrations below established EPA drinking water standards.

The DOE-OB will continue to monitor groundwater quality at SNL/NM TAVG AOC and make the data available to the public.

Table 1

Groundwater Quality Results: Total Target Analyte List Metals plus Uranium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
AVN-1 23-May-17	Aluminum	0.12	NE	0.1	0.014		SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.0013	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.084	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	46	NE	1	0.3		SW-846:6020
	Chromium	0.022	0.1	0.01	0.003		SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.21	NE	0.1	0.03		SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	9.9	NE	0.1	0.03		SW-846:6020
	Manganese	0.0033	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.5	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	42	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.002	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0067	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
LWDS-MW2 18-May-17	Aluminum	0.091	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.001	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.074	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	49	NE	1	0.3		SW-846:6020
	Chromium	0.0042	0.1	0.01	0.003	J	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.098	NE	0.1	0.03	JB	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	13	NE	0.1	0.03		SW-846:6020
	Manganese	0.0022	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00023	NE	0.0005	0.0002	J	SW-846:6020
	Sodium	44	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0028	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0073	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW2 25-May-17	Aluminum	0.056	NE	0.1	0.014	J	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.00087	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.06	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	75	NE	1	0.3		SW-846:6020
	Chromium	0.0042	0.1	0.01	0.003	J	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.079	NE	0.1	0.03	J	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	23	NE	0.1	0.03		SW-846:6020
	Manganese	0.0024	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.9	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	69	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0056	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0054	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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TAV-MW2 25-May-17 DUP	Aluminum	0.075	NE	0.1	0.014	J	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.00085	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.064	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	75	NE	1	0.3		SW-846:6020
	Chromium	0.005	0.1	0.01	0.003	J	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.083	NE	0.1	0.03	J	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	23	NE	0.1	0.03		SW-846:6020
	Manganese	0.0022	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.9	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	67	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0056	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0054	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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TAV-MW3 17-May-17	Aluminum	0.11	NE	0.1	0.014	B	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.0011	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.053	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	58	NE	1	0.3		SW-846:6020
	Chromium	0.003	0.1	0.01	0.003	U	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.097	NE	0.1	0.03	JB	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	15	NE	0.1	0.03		SW-846:6020
	Manganese	0.0072	NE	0.005	0.0015		SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	4.8	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	55	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0032	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0056	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW4 1-Jun-17	Aluminum	0.07	NE	0.1	0.014	J	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.0011	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.091	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	55	NE	1	0.3		SW-846:6020
	Chromium	0.025	0.1	0.01	0.003		SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.082	NE	0.1	0.03	J	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	15	NE	0.1	0.03		SW-846:6020
	Manganese	0.0016	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.4	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	49	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0028	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0065	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW5 11-May-17	Aluminum	0.027	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.001	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.071	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	51	NE	1	0.3		SW-846:6020
	Chromium	0.0031	0.1	0.01	0.003	J	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.03	NE	0.1	0.03	U	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	14	NE	0.1	0.03		SW-846:6020
	Manganese	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.1	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	48	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0032	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0072	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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TAV-MW7 16-May-17	Aluminum	0.09	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.00092	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.063	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	66	NE	1	0.3		SW-846:6020
	Chromium	0.003	0.1	0.01	0.003	U	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.11	NE	0.1	0.03	JB	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	19	NE	0.1	0.03		SW-846:6020
	Manganese	0.012	NE	0.005	0.0015		SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	4.5	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	60	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0046	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0073	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	U	SW-846:6020	

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May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW9 15-May-17	Aluminum	0.041	NE	0.1	0.014	JB	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.0009	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.072	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	69	NE	1	0.3		SW-846:6020
	Chromium	0.003	0.1	0.01	0.003	U	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.039	NE	0.1	0.03	J	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	21	NE	0.1	0.03		SW-846:6020
	Manganese	0.0061	NE	0.005	0.0015		SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	4.5	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	64	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0053	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0067	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	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

Groundwater Quality Results: Total Target Analyte List Metals plus Uranium

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW11 31-May-17	Aluminum	0.05	NE	0.1	0.014	J	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.00089	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.073	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	60	NE	1	0.3		SW-846:6020
	Chromium	0.0031	0.1	0.01	0.003	J	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.041	NE	0.1	0.03	J	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	16	NE	0.1	0.03		SW-846:6020
	Manganese	0.0025	NE	0.005	0.0015	J	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	4	NE	1	0.3		SW-846:6020
	Selenium	0.0038	0.05	0.01	0.0035	J	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	59	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0028	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0059	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	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

Groundwater Quality Results: Total Target Analyte List Metals plus Uranium

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW13 10-May-17	Aluminum	0.014	NE	0.1	0.014	U	SW-846:6020
	Antimony	0.0003	0.006	0.001	0.0003	U	SW-846:6020
	Arsenic	0.001	0.01	0.002	0.0006	J	SW-846:6020
	Barium	0.062	2	0.005	0.0018		SW-846:6020
	Beryllium	0.00015	0.004	0.0005	0.0002	U	SW-846:6020
	Cadmium	0.0006	0.005	0.002	0.0006	U	SW-846:6020
	Calcium	54	NE	1	0.3		SW-846:6020
	Chromium	0.003	0.1	0.01	0.003	U	SW-846:6020
	Cobalt	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Copper	0.006	NE	0.02	0.006	U	SW-846:6020
	Iron	0.03	NE	0.1	0.03	U	SW-846:6020
	Lead	0.00085	NE	0.002	0.0009	U	SW-846:6020
	Magnesium	15	NE	0.1	0.03		SW-846:6020
	Manganese	0.0015	NE	0.005	0.0015	U	SW-846:6020
	Mercury	0.00006	0.002	0.0001	6E-05	U	SW-846:7470A
	Nickel	0.011	NE	0.02	0.011	U	SW-846:6020
	Potassium	3.6	NE	1	0.3		SW-846:6020
	Selenium	0.0035	0.05	0.01	0.0035	U	SW-846:6020
	Silver	0.00015	NE	0.0005	0.0002	U	SW-846:6020
	Sodium	50	NE	1	0.3		SW-846:6020
Thallium	0.000084	0.002	0.0001	8E-05	U	SW-846:6020	
Uranium	0.0034	0.03	0.0001	3E-05		SW-846:6020	
Vanadium	0.0063	NE	0.005	0.0015		SW-846:6020	
Zinc	0.048	NE	0.1	0.048	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

Groundwater Quality Results: Major Anions and Nitrate-Nitrite as Nitrogen

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
AVN-1 23-May-17	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	10	NE	0.2	0.06		EPA:300.0
	Fluoride	1.3	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	8.7	10	0.25	0.016		EPA:353.2
	Sulfate	30	NE	1	0.15		EPA:300.0
LWDS-MW2 18-May-17	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	14	NE	0.2	0.06		EPA:300.0
	Fluoride	1.4	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	6.9	10	0.25	0.016		EPA:353.2
	Sulfate	41	NE	1	0.15		EPA:300.0
TAV-MW2 25-May-17	Bromide	0.25	NE	0.2	0.06		EPA:300.0
	Chloride	60	NE	1	0.3		EPA:300.0
	Fluoride	1.1	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	4.2	10	0.25	0.016		EPA:353.2
	Sulfate	59	NE	1	0.15		EPA:300.0
TAV-MW2 25-May-17 DUP	Bromide	0.26	NE	0.2	0.06		EPA:300.0
	Chloride	61	NE	1	0.3		EPA:300.0
	Fluoride	1.1	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	4.2	10	0.25	0.016		EPA:353.2
	Sulfate	58	NE	1	0.15		EPA:300.0
TAV-MW3 17-May-17	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	29	NE	2	0.6		EPA:300.0
	Fluoride	1.7	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	4.5	10	0.25	0.016		EPA:353.2
	Sulfate	70	NE	1	0.15		EPA:300.0
TAV-MW4 1-Jun-17	Bromide	0.32	NE	0.2	0.06		EPA:300.0
	Chloride	43	NE	1	0.3		EPA:300.0
	Fluoride	1.3	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	4.4	10	0.25	0.016		EPA:353.2
	Sulfate	36	NE	1	0.15		EPA:300.0
TAV-MW5 11-May-17	Bromide	0.2	NE	0.2	0.2	U	EPA:300.0
	Chloride	20	NE	1	1		EPA:300.0
	Fluoride	1.5	4	0.1	0.1		EPA:300.0
	Nitrate-Nitrite as Nitrogen	6.4	10	0.25	0.016		EPA:353.2
	Sulfate	48	NE	1	1		EPA:300.0

NE = Not Established

U = the analyte was analyzed for but not detected

Table-2

Groundwater Quality Results: Major Anions and Nitrate-Nitrite as Nitrogen

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	MDL (mg/L)	Laboratory Qualifier	Analytical Method
TAV-MW7 16-May-17	Bromide	0.06	NE	0.2	0.06	U	EPA:300.0
	Chloride	30	NE	2	0.6		EPA:300.0
	Fluoride	1.2	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	3.6	10	0.25	0.016		EPA:353.2
	Sulfate	68	NE	1	0.15		EPA:300.0
TAV-MW9 15-May-17	Bromide	0.24	NE	0.2	0.2		EPA:300.0
	Chloride	39	NE	1	1		EPA:300.0
	Fluoride	1.2	4	0.1	0.1		EPA:300.0
	Nitrate-Nitrite as Nitrogen	3.7	10	0.25	0.016		EPA:353.2
	Sulfate	72	NE	1	1		EPA:300.0
TAV-MW11 31-May-17	Bromide	0.57	NE	0.2	0.06		EPA:300.0
	Chloride	60	NE	1	0.3		EPA:300.0
	Fluoride	1.5	4	0.1	0.03		EPA:300.0
	Nitrate-Nitrite as Nitrogen	6.2	10	0.25	0.016		EPA:353.2
	Sulfate	42	NE	1	0.15		EPA:300.0
TAV-MW13 10-May-17	Bromide	0.2	NE	0.2	0.2	U	EPA:300.0
	Chloride	23	NE	1	1		EPA:300.0
	Fluoride	1.4	4	0.1	0.1		EPA:300.0
	Nitrate-Nitrite as Nitrogen	5.4	10	0.5	0.031		EPA:353.2
	Sulfate	57	NE	1	1		EPA:300.0

NE = Not Established

U = the analyte was analyzed for but not detected

Table-3
 Groundwater Quality Results: Detected Volatile Organic Compounds
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	Laboratory Detection Limit (µg/L)	MDL (µg/L)	Laboratory Qualifier	Analytical Method
TAV-MW2 25-May-17	Trichloroethene	2.6	5	1	0.31		SW-846:8260B_25
TAV-MW2 25-May-17 DUP	Trichloroethene	2.6	5	1	0.31		SW-846:8260B_25
TAV-MW4 1-Jun-17	Chloroform	0.96	NE	1	0.3	J	SW-846:8260B_25
	Dichloroethene[cis-1,2-]	0.5	70	1	0.33	J	SW-846:8260B_25
	Trichloroethene	4.6	5	1	0.31		SW-846:8260B_25
TAV-MW11 31-May-17	Dichloroethene[cis-1,2-]	0.54	70	1	0.33	J	SW-846:8260B_25
	Trichloroethene	3.5	5	1	0.31		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-4

Groundwater Quality Results: Method Detection Limits for VOCs (EPA Method 8260B)

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Analyte	MDL (µg/L)
Acetone	3
Benzene	0.32
Bromobenzene	0.3
Bromochloromethane	0.32
Bromodichloromethane	0.35
Bromoform	0.34
Bromomethane	0.3
Butanone[2-]	3
Butylbenzene[n-]	0.3
Butylbenzene[sec-]	0.3
Butylbenzene[tert-]	0.3
Carbon Disulfide	0.3
Carbon Tetrachloride	0.32
Chlorobenzene	0.3
Chlorodibromomethane	0.35
Chloroethane	0.32
Chloroform	0.3
Chlorohexane[1-]	0.3
Chloromethane	0.3
Chlorotoluene[2-]	0.3
Chlorotoluene[4-]	0.3
Dibromo-3-Chloropropane[1,2-]	0.66
Dibromoethane[1,2-]	0.3
Dibromomethane	0.31
Dichlorobenzene[1,2-]	0.3
Dichlorobenzene[1,3-]	0.3
Dichlorobenzene[1,4-]	0.3
Dichlorodifluoromethane	0.32
Dichloroethane[1,1-]	0.3
Dichloroethane[1,2-]	0.3
Dichloroethene[1,1-]	0.3
Dichloroethene[cis-1,2-]	0.33
Dichloroethene[trans-1,2-]	0.33
Dichloropropane[1,2-]	0.3
Dichloropropane[1,3-]	0.3

Analyte	MDL (µg/L)
Dichloropropane[2,2-]	0.33
Dichloropropene[1,1-]	0.3
Dichloropropene[cis-1,3-]	0.33
Dichloropropene[trans-1,3-]	0.33
Ethylbenzene	0.31
Hexachlorobutadiene	0.3
Hexanone[2-]	3
Iodomethane	0.3
Isopropylbenzene	0.3
Isopropyltoluene[4-]	0.3
Methyl tert-Butyl Ether	0.31
Methyl-2-pentanone[4-]	3
Methylene Chloride	0.3
Naphthalene	0.3
Propylbenzene[1-]	0.3
Styrene	0.32
Tetrachloroethane[1,1,1,2-]	0.3
Tetrachloroethane[1,1,2,2-]	0.3
Tetrachloroethene	0.3
Toluene	0.31
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	0.31
Trichlorofluoromethane	0.31
Trichloropropane[1,2,3-]	0.3
Trimethylbenzene[1,2,4-]	0.3
Trimethylbenzene[1,3,5-]	0.3
Vinyl acetate	0.78
Vinyl Chloride	0.31
Xylene[1,2-]	0.31
Xylene[1,3-]+Xylene[1,4-]	0.31

Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
AVN-1 23-May-17	Actinium-228	2.9 ± 5.7	19	U	EPA:901.1
	Americium-241	-12 ± 12	40	U	EPA:901.1
	Beryllium-7	25 ± 13	43	U	EPA:901.1
	Bismuth-212	-5.5 ± 21	72	U	EPA:901.1
	Bismuth-214	8.7 ± 6.5	21	U	EPA:901.1
	Cesium-134	-1.8 ± 2	6.8	U	EPA:901.1
	Cesium-137	0 ± 1.4	4.8	U	EPA:901.1
	Cobalt-60	1.9 ± 1.7	5.6	U	EPA:901.1
	Gross alpha	2.7 ± 0.39	0.82		EPA:900
	Gross beta	4.2 ± 0.52	1.2		EPA:900
	Iodine-131	3.3 ± 5.5	19	U	EPA:901.1
	Lead-212	-2.1 ± 3.7	12	U	EPA:901.1
	Lead-214	11 ± 2.7	8.4		EPA:901.1
	Potassium-40	-45 ± 41	140	U	EPA:901.1
	Protactinium-234m	260 ± 260	870	U	EPA:901.1
	Sodium-22	-2.9 ± 1.7	6.2	U	EPA:901.1
	Thallium-208	5 ± 1.5	4.6		EPA:901.1
	Thorium-234	-7 ± 41	140	U	EPA:901.1
Tritium	24 ± 100	340	U	EPA:906.0	

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

^a = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
LWDS-MW2 18-May-17	Actinium-228	0.06 ± 12	40	U	EPA:901.1
	Americium-241	2 ± 1.4	4.7	U	EPA:901.1
	Beryllium-7	-2.9 ± 9.1	31	U	EPA:901.1
	Bismuth-212	-3.9 ± 29	98	U	EPA:901.1
	Bismuth-214	3.3 ± 5.8	19	U	EPA:901.1
	Cesium-134	-1.5 ± 1.1	3.9	U	EPA:901.1
	Cesium-137	-2.4 ± 1.1	3.8	U	EPA:901.1
	Cobalt-60	-0.9 ± 1.2	4.3	U	EPA:901.1
	Gross alpha	2.5 ± 0.42	1		EPA:900
	Gross beta	2.5 ± 0.49	1.4		EPA:900
	Iodine-131	1.2 ± 4.9	17	U	EPA:901.1
	Lead-212	1.5 ± 3.1	10	U	EPA:901.1
	Lead-214	5.8 ± 2.5	10	U	EPA:901.1
	Potassium-40	-45 ± 34	120	U	EPA:901.1
	Protactinium-234m	46 ± 190	660	U	EPA:901.1
	Sodium-22	1.6 ± 1.3	4.3	U	EPA:901.1
	Thallium-208	-0.22 ± 2.7	9.1	U	EPA:901.1
	Thorium-234	12 ± 21	69	U	EPA:901.1
Tritium	29 ± 110	380	U	EPA:906.0	

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

^a = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW2 25-May-17	Actinium-228	0.048 ± 12	40	U	EPA:901.1
	Americium-241	-4.7 ± 9.1	31	U	EPA:901.1
	Beryllium-7	-8.2 ± 12	41	U	EPA:901.1
	Bismuth-212	15 ± 20	68	U	EPA:901.1
	Bismuth-214	5.3 ± 7.4	24	U	EPA:901.1
	Cesium-134	-5.7 ± 1.6	5.6	U	EPA:901.1
	Cesium-137	0.5 ± 1.4	4.7	U	EPA:901.1
	Cobalt-60	0.38 ± 1.9	6.5	U	EPA:901.1
	Gross alpha	6.7 ± 0.77	1.3		EPA:900
	Gross beta	4.8 ± 0.6	1.4		EPA:900
	Iodine-131	4.2 ± 4.8	16	U	EPA:901.1
	Lead-212	2.1 ± 4	13	U	EPA:901.1
	Lead-214	-3.2 ± 4.9	16	U	EPA:901.1
	Potassium-40	-4.6 ± 46	160	U	EPA:901.1
	Protactinium-234m	490 ± 260	850	U	EPA:901.1
	Sodium-22	-1.2 ± 1.8	6.2	U	EPA:901.1
	Thallium-208	4.7 ± 1.5	4.8	U	EPA:901.1
	Thorium-234	35 ± 38	130	U	EPA:901.1
Tritium	34 ± 99	330	U	EPA:906.0	

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

^a = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW2 25-May-17 DUP	Actinium-228	10 ± 4.3	17	U	EPA:901.1
	Americium-241	68 ± 47	150	U	EPA:901.1
	Beryllium-7	5.2 ± 11	38	U	EPA:901.1
	Bismuth-212	36 ± 18	59	U	EPA:901.1
	Bismuth-214	4.7 ± 5.7	19	U	EPA:901.1
	Cesium-134	-1.1 ± 1.4	4.8	U	EPA:901.1
	Cesium-137	-0.85 ± 1.2	4.2	U	EPA:901.1
	Cobalt-60	-0.77 ± 1.5	5.1	U	EPA:901.1
	Gross alpha	5 ± 0.7	1.5		EPA:900
	Gross beta	4.7 ± 0.68	1.8		EPA:900
	Iodine-131	0.35 ± 4.7	16	U	EPA:901.1
	Lead-212	2.1 ± 4.3	14	U	EPA:901.1
	Lead-214	-1.5 ± 5.6	19	U	EPA:901.1
	Potassium-40	-23 ± 41	140	U	EPA:901.1
	Protactinium-234m	400 ± 220	710	U	EPA:901.1
	Sodium-22	-1.2 ± 1.3	4.6	U	EPA:901.1
	Thallium-208	5.6 ± 1.4	4.4		EPA:901.1
	Thorium-234	23 ± 54	180	U	EPA:901.1
Tritium	53 ± 100	350	U	EPA:906.0	

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

^a = A negative value indicates that the sample count rate was below that of the instrument background; result is below the Minimum Detectable Activity (MDA).

Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW3 17-May-17	Actinium-228	25 ± 7.1	22		EPA:901.1
	Americium-241	-25 ± 14	48	U	EPA:901.1
	Beryllium-7	-2.9 ± 14	48	U	EPA:901.1
	Bismuth-212	19 ± 23	77	U	EPA:901.1
	Bismuth-214	18 ± 3.7	11		EPA:901.1
	Cesium-134	-4.5 ± 1.8	6.2	U	EPA:901.1
	Cesium-137	-0.83 ± 1.7	6	U	EPA:901.1
	Cobalt-60	0.95 ± 2.3	7.7	U	EPA:901.1
	Gross alpha	3.3 ± 0.5	1.2		EPA:900
	Gross beta	7 ± 0.72	1.3		EPA:900
	Iodine-131	-6 ± 7.4	25	U	EPA:901.1
	Lead-212	4.2 ± 4.2	14	U	EPA:901.1
	Lead-214	9.8 ± 3	9.5		EPA:901.1
	Potassium-40	-12 ± 55	190	U	EPA:901.1
	Protactinium-234m	-260 ± 590	2000	U	EPA:901.1
	Sodium-22	-2.6 ± 2.2	7.8	U	EPA:901.1
	Thallium-208	-1.3 ± 3.9	13	U	EPA:901.1
	Thorium-234	-61 ± 50	160	U	EPA:901.1
Tritium	59 ± 110	380	U	EPA:906.0	

U = Result is less than the sample specific Minimum Detectable Activity (MDA).

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW4 1-Jun-17	Actinium-228	21 ± 6	18		EPA:901.1
	Americium-241	40 ± 9.4	29		EPA:901.1
	Beryllium-7	-7 ± 12	40	U	EPA:901.1
	Bismuth-212	-5.7 ± 21	72	U	EPA:901.1
	Bismuth-214	11 ± 5.8	24	U	EPA:901.1
	Cesium-134	1.9 ± 2.3	7.5	U	EPA:901.1
	Cesium-137	-1.6 ± 1.4	4.8	U	EPA:901.1
	Cobalt-60	1.6 ± 1.7	5.8	U	EPA:901.1
	Gross alpha	3.7 ± 0.49	0.97		EPA:900
	Gross beta	3.1 ± 0.43	1.1		EPA:900
	Iodine-131	0.64 ± 3.1	10	U	EPA:901.1
	Lead-212	0.52 ± 4	13	U	EPA:901.1
	Lead-214	5 ± 4.9	16	U	EPA:901.1
	Potassium-40	4 ± 46	150	U	EPA:901.1
	Protactinium-234m	-64 ± 260	890	U	EPA:901.1
	Sodium-22	-3.8 ± 1.7	6.2	U	EPA:901.1
	Thallium-208	9.1 ± 1.6	4.7		EPA:901.1
	Thorium-234	45 ± 37	120	U	EPA:901.1
Tritium	-130 ± 100	340	U	EPA:906.0	

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW5 11-May-17	Actinium-228	12 ± 5.9	19	U	EPA:901.1
	Americium-241	-20 ± 14	49	U	EPA:901.1
	Beryllium-7	1 ± 14	47	U	EPA:901.1
	Bismuth-212	51 ± 21	67	U	EPA:901.1
	Bismuth-214	4.3 ± 3.1	10	U	EPA:901.1
	Cesium-134	-1.2 ± 1.4	4.9	U	EPA:901.1
	Cesium-137	-1.8 ± 1.4	5	U	EPA:901.1
	Cobalt-60	1.3 ± 1.5	5.1	U	EPA:901.1
	Gross alpha	3.1 ± 0.45	0.96		EPA:900
	Gross beta	3.5 ± 0.51	1.3		EPA:900
	Iodine-131	-3.4 ± 15	49	U	EPA:901.1
	Lead-212	8.1 ± 2.1	6.6		EPA:901.1
	Lead-214	3.2 ± 2.8	9.3	U	EPA:901.1
	Potassium-40	40 ± 50	170	U	EPA:901.1
	Protactinium-234m	210 ± 540	1800	U	EPA:901.1
	Sodium-22	0.13 ± 1.5	5	U	EPA:901.1
	Thallium-208	3.4 ± 1.5	4.9	U	EPA:901.1
	Thorium-234	60 ± 20	62	U	EPA:901.1
Tritium	75 ± 110	380	U	EPA:906.0	

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
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Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW7 16-May-17	Actinium-228	3.3 ± 11	38	U	EPA:901.1
	Americium-241	-4.8 ± 31	100	U	EPA:901.1
	Beryllium-7	12 ± 11	37	U	EPA:901.1
	Bismuth-212	18 ± 18	60	U	EPA:901.1
	Bismuth-214	12 ± 3	9.3		EPA:901.1
	Cesium-134	-0.86 ± 1.4	4.8	U	EPA:901.1
	Cesium-137	0.54 ± 1.3	4.2	U	EPA:901.1
	Cobalt-60	-1.6 ± 1.4	4.9	U	EPA:901.1
	Gross alpha	5 ± 0.66	1.3		EPA:900
	Gross beta	5.7 ± 0.68	1.5		EPA:900
	Iodine-131	-3.4 ± 7.2	24	U	EPA:901.1
	Lead-212	-1.4 ± 4.5	15	U	EPA:901.1
	Lead-214	0.79 ± 5	17	U	EPA:901.1
	Potassium-40	22 ± 35	120	U	EPA:901.1
	Protactinium-234m	180 ± 200	680	U	EPA:901.1
	Sodium-22	1.2 ± 1.4	4.6	U	EPA:901.1
	Thallium-208	5.4 ± 1.4	4.3		EPA:901.1
	Thorium-234	-7.8 ± 63	210	U	EPA:901.1
Tritium	61 ± 110	380	U	EPA:906.0	

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium
 SNL/NM Technical Area-V Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW9 15-May-17	Actinium-228	3.9 ± 9	30	U	EPA:901.1
	Americium-241	4.8 ± 7.8	26	U	EPA:901.1
	Beryllium-7	6.5 ± 13	43	U	EPA:901.1
	Bismuth-212	49 ± 19	60	U	EPA:901.1
	Bismuth-214	-0.02 ± 6	20	U	EPA:901.1
	Cesium-134	-0.76 ± 1.8	6.3	U	EPA:901.1
	Cesium-137	-2.7 ± 1.3	4.4	U	EPA:901.1
	Cobalt-60	-0.59 ± 1.6	5.5	U	EPA:901.1
	Gross alpha	6.2 ± 0.72	1.2		EPA:900
	Gross beta	6.3 ± 0.71	1.5		EPA:900
	Iodine-131	-0.92 ± 7.4	25	U	EPA:901.1
	Lead-212	-0.33 ± 3.9	13	U	EPA:901.1
	Lead-214	-5.3 ± 4.8	16	U	EPA:901.1
	Potassium-40	17 ± 37	120	U	EPA:901.1
	Protactinium-234m	59 ± 220	760	U	EPA:901.1
	Sodium-22	-1.7 ± 1.6	5.7	U	EPA:901.1
	Thallium-208	1.8 ± 3	10	U	EPA:901.1
	Thorium-234	13 ± 38	130	U	EPA:901.1
Tritium	43 ± 110	380	U	EPA:906.0	

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium

SNL/NM Technical Area-V Groundwater Area of Concern

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Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW11 31-May-17	Actinium-228	3.9 ± 7.1	24	U	EPA:901.1
	Americium-241	23 ± 10	34	U	EPA:901.1
	Beryllium-7	-44 ± 13	47	U	EPA:901.1
	Bismuth-212	1.1 ± 24	82	U	EPA:901.1
	Bismuth-214	9.4 ± 8.5	28	U	EPA:901.1
	Cesium-134	0.28 ± 2.5	8.3	U	EPA:901.1
	Cesium-137	3.2 ± 1.8	6	U	EPA:901.1
	Cobalt-60	-0.038 ± 2.3	7.8	U	EPA:901.1
	Gross alpha	3 ± 0.5	1.2		EPA:900
	Gross beta	3.9 ± 0.52	1.3		EPA:900
	Iodine-131	-4.2 ± 4	14	U	EPA:901.1
	Lead-212	6.3 ± 3.6	12	U	EPA:901.1
	Lead-214	6.9 ± 6.4	21	U	EPA:901.1
	Potassium-40	-16 ± 61	200	U	EPA:901.1
	Protactinium-234m	33 ± 320	1100	U	EPA:901.1
	Sodium-22	-2.9 ± 2.3	8.1	U	EPA:901.1
	Thallium-208	4.7 ± 1.8	5.6	U	EPA:901.1
	Thorium-234	-58 ± 50	160	U	EPA:901.1
Tritium	45 ± 98	330	U	EPA:906.0	

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Table-5

Groundwater Quality Results: Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium

SNL/NM Technical Area-V Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

May-June 2017

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	MDA (pCi/L)	Laboratory Qualifier	Analytical Method
TAV-MW13 10-May-17	Actinium-228	9.1 ± 3.4	11	U	EPA:901.1
	Americium-241	-35 ± 45	150	U	EPA:901.1
	Beryllium-7	28 ± 13	43	U	EPA:901.1
	Bismuth-212	2 ± 17	57	U	EPA:901.1
	Bismuth-214	10 ± 3	9.3		EPA:901.1
	Cesium-134	-1.5 ± 1.4	4.8	U	EPA:901.1
	Cesium-137	0.9 ± 1.2	4.1	U	EPA:901.1
	Cobalt-60	-1.5 ± 1.4	4.9	U	EPA:901.1
	Gross alpha	4.7 ± 0.58	1		EPA:900
	Gross beta	3.6 ± 0.57	1.6		EPA:900
	Iodine-131	9.9 ± 11	36	U	EPA:901.1
	Lead-212	10 ± 2.2	6.7		EPA:901.1
	Lead-214	5.6 ± 2.5	8.2	U	EPA:901.1
	Potassium-40	270 ± 24	44		EPA:901.1
	Protactinium-234m	150 ± 210	690	U	EPA:901.1
	Sodium-22	-1.9 ± 1.3	4.8	U	EPA:901.1
	Thallium-208	3.6 ± 0.97	3		EPA:901.1
	Thorium-234	160 ± 33	100		EPA:901.1
Tritium	69 ± 110	380	U	EPA:906.0	

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