



NEW MEXICO
ENVIRONMENT DEPARTMENT

DOE Oversight Bureau

MICHELLE LUJAN GRISHAM
Governor

HOWIE C. MORALES
Lt. Governor

121 Tijeras Ave., NE Suite 1000
Albuquerque, NM
Phone (505) 383-2073 Fax (505) 222-9510
www.env.nm.gov



JAMES C. KENNEY
Cabinet Secretary

JENNIFER PRUETT
Deputy Secretary

March 13, 2019

Victoria Branson
Point of Contact
Water Quality Program Manager
U.S. Department of Energy
Sandia Field Office
P.O Box 5400 MS 0184
Albuquerque, New Mexico 87185-5400

Subject: Data Submittal for Groundwater Monitoring at Sandia National Laboratories/New Mexico Tijeras Arroyo Groundwater Area of Concern Conducted by the New Mexico Environment Department DOE Oversight Bureau for FFY 2018 Q-4

Ms. Branson:

This letter transmits the subject report as final. The report shows groundwater data results from Sandia National Laboratories Tijeras Arroyo Groundwater Area of Concern collected by the New Mexico Environment Department DOE Oversight Bureau during the fourth quarter of Federal Fiscal Year 2018.

The enclosed monitoring results were provided to the U.S Department of Energy in draft form on February 1, 2019 for 30-day review and comment. The final monitoring results are provided to DOE, the State of New Mexico and other federal agencies, the NMED website and interested members of the public. If you have any questions, or if you would like copies of the complete data set, please contact me by phone at (505) 383-2070, by email at chris.armijo1@state.nm.us, or by mail to the address in the above letterhead.

Sincerely,

A handwritten signature in blue ink that reads "Chris Armijo".

Chris Armijo
Environmental Scientist
Sandia Oversight Section

Enclosure: (1) Groundwater Monitoring at Sandia National Laboratories/New Mexico
Tijeras Arroyo Groundwater Area of Concern Conducted by the New Mexico
Environment Department DOE Oversight Bureau for FFY 2018 Q-4
(2) Table-1 Total Target Analyte List Metals plus Uranium Results
(3) Table-2 Alkalinity, Anions and Nitrate-Nitrite as Nitrogen Results
(4) Table-3 Detected Volatile Organic Compounds Results
(5) Table-4 Method Detection Limit for Volatile Organic Compounds
(6) Table-5 Gross Alpha, Gross Beta, Gamma Spectroscopy and Tritium Results

Distribution: David Rast, DOE/SFO
Michael Skelly, SNL/NM
Tim Jackson, SNL/NM
Beau Masse, NMED DOE-OB
Susan Lucas Kamat, NMED DOE-OB

File: SGE42. Groundwater Monitoring. TAG AOC. FFY 2018 Q-4

DOE Oversight Bureau, New Mexico Environment Department

**Groundwater Monitoring at
Sandia National Laboratories/New Mexico
Tijeras Arroyo Groundwater Area of Concern**

**Conducted by the
New Mexico Environment Department DOE Oversight Bureau
for FFY 2018 Q-4**

**Prepared by Chris Armijo, Environmental Scientist
Sandia Oversight Section
121 Tijeras Ave., NE Suite 1000
Albuquerque, NM 87102
(505) 383-2070
chris.armijo1@state.nm.us**

Final Report

3/13/2019

The purpose of this communication is to transmit groundwater quality data collected by the New Mexico Environment Department DOE Oversight Bureau from Sandia National Laboratories Tijeras Arroyo Groundwater Area of Concern during fourth quarter of Federal Fiscal Year 2018.

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 August and September 2018. The Bureau collected groundwater samples from Sandia National Laboratories/New Mexico (SNL/NM) Tijeras Arroyo Groundwater (TAG) Area of Concern (AOC) monitoring wells TA1-W-01, TA1-W-02, TA1-W-04, TA1-W-05, TA1-W-06, TA1-W-08, TA2-NW1-595, TA2-W-01, TA2-W-19, TA2-W-24, TA2-W-25, TA2-W-26, TA2-W-27, TA2-W-28, TJA-2, TJA-3, TJA-4, TJA-6, TJA-7 and WYO-3.

All samples were collected using standard SNL/NM sampling procedures and equipment. Samples were analyzed for total target analyte list (TAL) metals plus uranium, alkalinity, anions, nitrate-nitrite as nitrogen, volatile organic compounds (VOCs), gross alpha, gross beta, gamma-emitting isotopes and tritium. The Bureau submitted samples for analysis to an independent analytical laboratory under contract with the NMED.

Nitrate levels exceeded the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) or drinking water standard of 10 milligrams per liter (mg/L) in samples collected from TAG monitoring wells TA2-W-19, TA2-W-28, TJA-2, TJA-4 and TJA-7.

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 TAL metals plus uranium are presented in Table-1. All metal concentrations were below established MCLs.

Analytical results for alkalinity, major anions (as bromide, chloride, fluoride, and sulfate) and nitrate-nitrite as nitrogen are listed in Table-2. No results exceeded MCLs, except for nitrate-nitrite. Nitrate-nitrite concentrations exceeded the EPA MCL of 10 mg/L at monitoring wells TA2-W-19 (12 mg/L), TA2-W-28 (18 mg/L), TJA-2 (12 mg/L), TJA-4 (35 mg/L) and TJA-7 (24 mg/L).

VOCs detected at concentrations above the method detection limits (MDLs) are presented in Table-3. The VOCs detected include: acetone, bromodichloromethane, chloroform, dichloroethane [1,1-], dichloroethene [1,1-], dichloroethene[cis-1,2-], tetrachloroethene (PCE), toluene, and trichloroethene

(TCE). No VOCs were detected above their associated drinking water standards. Table-4 summarizes the laboratory MDLs for the remaining VOCs analyzed from samples collected at TAG AOC.

Analytical results for radiochemistry samples are listed in Table-5. Samples were analyzed for gross alpha, gross beta, gamma emitting isotopes and tritium. No isotopes were detected above U.S. EPA drinking water standards.

Conclusion

The DOE-OB collected groundwater samples from a total of twenty (20) TAG AOC monitoring wells during FFY 2018 Q-4. No parameters were detected above EPA drinking water standards, except for nitrate-nitrite as nitrogen at monitoring wells TA2-W-19, TA2-W-28, TJA-2, TJA-4 and TJA-7. Nitrate has been identified as a contaminant of concern at TAG and results are comparable to historical nitrate concentrations.

The DOE-OB will continue to collect split samples with SNL/NM from TAG groundwater monitoring wells and continue to independently monitor TAG wells for contaminants of concern and make the data reports available to the public.

References

Sandia National Laboratories/New Mexico (SNL/NM) 2018. Annual Groundwater Monitoring Report, Calendar Year 2017. SAND2017-5876R.

U.S. Environmental Protection Agency (EPA). 2009. National Primary Drinking Water Regulations, EPA 816-F-09-0004. Washington, D.C.: EPA

This page intentionally left blank.

Table-1

Groundwater Quality Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-01 9-Aug-18	Aluminum	0.01	NE	0.1	0.01	U	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00046	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.058	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	68	NE	1	0.085		SW846: 6020
	Chromium	0.0016	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00032	NE	0.02	0.00032	U	SW846: 6020
	Iron	0.019	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.0016	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.1	NE	1	0.039		SW846: 6020
	Selenium	0.0011	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	23	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.003	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0044	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-02 8-Aug-18	Aluminum	0.11	NE	0.1	0.01		SW846: 6020
	Antimony	0.00023	0.006	0.001	0.00012	J	SW846: 6020
	Arsenic	0.0004	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.05	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	65	NE	1	0.085		SW846: 6020
	Chromium	0.0036	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00051	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.3	NE	0.1	0.0098		SW846: 6020
	Lead	0.00033	NE	0.002	0.000079	J	SW846: 6020
	Magnesium	11	NE	0.1	0.016		SW846: 6020
	Manganese	0.012	NE	0.005	0.00036		SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.0013	NE	0.02	0.00092	J	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0013	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	20	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0027	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0042	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.012	NE	0.1	0.0014	J	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-04 10-Aug-18	Aluminum	0.01	NE	0.1	0.01	U	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00039	0.01	0.002	0.00039	U	SW846: 6020
	Barium	0.06	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	69	NE	1	0.085		SW846: 6020
	Chromium	0.0017	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00032	NE	0.02	0.00032	U	SW846: 6020
	Iron	0.013	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	11	NE	0.1	0.016		SW846: 6020
	Manganese	0.002	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2	NE	1	0.039		SW846: 6020
	Selenium	0.0013	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	22	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.003	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0044	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-05 16-Aug-18	Aluminum	0.024	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00039	0.01	0.002	0.00039	U	SW846: 6020
	Barium	0.038	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	81	NE	1	0.085		SW846: 6020
	Chromium	0.0028	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00032	NE	0.02	0.00032	U	SW846: 6020
	Iron	0.048	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.0041	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.0011	NE	0.02	0.00092	J	SW846: 6020
	Potassium	2.2	NE	1	0.039		SW846: 6020
	Selenium	0.0016	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	31	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0032	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0031	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-06 21-Aug-18	Aluminum	0.058	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00019	0.006	0.001	0.00012	J	SW846: 6020
	Arsenic	0.00081	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.025	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	120	NE	1	0.085		SW846: 6020
	Chromium	0.0014	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00074	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.077	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	16	NE	0.1	0.016		SW846: 6020
	Manganese	0.0015	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.1	NE	1	0.039		SW846: 6020
	Selenium	0.0081	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	30	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0012	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0031	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0015	NE	0.1	0.0014	J	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-08 15-Aug-18	Aluminum	0.014	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00039	0.01	0.002	0.00039	U	SW846: 6020
	Barium	0.019	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	310	NE	1	0.085		SW846: 6020
	Chromium	0.0048	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00033	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.021	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	41	NE	0.1	0.016		SW846: 6020
	Manganese	0.0039	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	3.2	NE	1	0.039		SW846: 6020
	Selenium	0.027	0.05	0.01	0.00065		SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	83	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0016	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0024	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-NW1-595 14-Aug-18	Aluminum	0.01	NE	0.1	0.01	U	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.0004	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.041	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	95	NE	1	0.085		SW846: 6020
	Chromium	0.0036	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00056	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.16	NE	0.1	0.0098		SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	15	NE	0.1	0.016		SW846: 6020
	Manganese	0.0049	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.3	NE	1	0.039		SW846: 6020
	Selenium	0.007	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	28	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0021	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0032	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-01 22-Aug-18	Aluminum	0.031	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00016	0.006	0.001	0.00012	J	SW846: 6020
	Arsenic	0.00068	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.062	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	86	NE	1	0.085		SW846: 6020
	Chromium	0.00074	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00062	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.062	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.00061	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0072	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	21	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.0011	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0034	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-19 4-Sep-18	Aluminum	0.015	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00079	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.048	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	74	NE	1	0.085		SW846: 6020
	Chromium	0.00075	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00041	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.00036	NE	0.005	0.00036	U	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.8	NE	1	0.039		SW846: 6020
	Selenium	0.0042	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	21	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.0012	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.004	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-24 27-Aug-18	Aluminum	0.036	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00018	0.006	0.001	0.00012	J	SW846: 6020
	Arsenic	0.00065	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.092	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	56	NE	1	0.085		SW846: 6020
	Chromium	0.00085	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.002	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	10	NE	0.1	0.016		SW846: 6020
	Manganese	0.0016	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	3.5	NE	1	0.039		SW846: 6020
	Selenium	0.0009	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	22	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0028	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0039	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0023	NE	0.1	0.0014	J	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-25 28-Aug-18	Aluminum	0.019	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00047	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.038	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	67	NE	1	0.085		SW846: 6020
	Chromium	0.00051	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00047	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	9.5	NE	0.1	0.016		SW846: 6020
	Manganese	0.00091	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.6	NE	1	0.039		SW846: 6020
	Selenium	0.0018	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	23	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0023	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0025	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-26 29-Aug-18	Aluminum	0.032	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00013	0.006	0.001	0.00012	J	SW846: 6020
	Arsenic	0.00052	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.061	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	230	NE	1	0.085		SW846: 6020
	Chromium	0.0016	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00052	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.03	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	30	NE	0.1	0.016		SW846: 6020
	Manganese	0.0018	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.7	NE	1	0.039		SW846: 6020
	Selenium	0.021	0.05	0.01	0.00065		SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	42	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.0012	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0025	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-27 23-Aug-18	Aluminum	0.15	NE	0.1	0.01		SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00045	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.067	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	110	NE	1	0.085		SW846: 6020
	Chromium	0.0032	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00061	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.2	NE	0.1	0.0098		SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	16	NE	0.1	0.016		SW846: 6020
	Manganese	0.0021	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.1	NE	1	0.039		SW846: 6020
	Selenium	0.0081	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	26	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.001	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0036	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0036	NE	0.1	0.0014	J	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-28 4-Sep-18	Aluminum	0.032	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00049	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.19	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	63	NE	1	0.085		SW846: 6020
	Chromium	0.0011	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00056	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.03	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	11	NE	0.1	0.016		SW846: 6020
	Manganese	0.00097	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0034	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	17	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0014	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.004	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.029	NE	0.1	0.0014	J	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-2 5-Sep-18	Aluminum	0.59	NE	0.1	0.01		SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00061	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.046	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	82	NE	1	0.085		SW846: 6020
	Chromium	0.0011	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.001	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.00036	NE	0.005	0.00036	U	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0049	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	21	NE	1	0.022		SW846: 6020
	Thallium	0.00001	0.002	0.0001	0.0000041	J	SW846: 6020
Uranium	0.0012	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.004	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-3 24-Aug-18	Aluminum	0.019	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00044	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.045	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	70	NE	1	0.085		SW846: 6020
	Chromium	0.00061	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.002	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	11	NE	0.1	0.016		SW846: 6020
	Manganese	0.00046	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0014	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	23	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.0024	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0031	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-4 10-Sep-18	Aluminum	0.019	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00069	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.18	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	71	NE	1	0.085		SW846: 6020
	Chromium	0.0011	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00042	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.0098	NE	0.1	0.0098	U	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	13	NE	0.1	0.016		SW846: 6020
	Manganese	0.00043	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	3	NE	1	0.039		SW846: 6020
	Selenium	0.0034	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	23	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0028	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0044	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-6 29-Sep-18	Aluminum	0.048	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00057	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.064	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	62	NE	1	0.085		SW846: 6020
	Chromium	0.00057	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00052	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.04	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	11	NE	0.1	0.016		SW846: 6020
	Manganese	0.0016	NE	0.005	0.00036	J	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.1	NE	1	0.039		SW846: 6020
	Selenium	0.0014	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	21	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.003	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0047	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-7 9-Sep-18	Aluminum	0.02	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00064	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.22	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	66	NE	1	0.085		SW846: 6020
	Chromium	0.00081	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.0011	NE	0.005	0.00011	J	SW846: 6020
	Copper	0.00059	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.024	NE	0.1	0.0098	J	SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.00036	NE	0.005	0.00036	U	SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	UH	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	1.9	NE	1	0.039		SW846: 6020
	Selenium	0.0044	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	17	NE	1	0.022		SW846: 6020
Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020	
Uranium	0.0017	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.0042	NE	0.005	0.00012	J	SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Total Target Analyte List Metals plus Uranium
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
WYO-3 18-Aug-18	Aluminum	0.022	NE	0.1	0.01	J	SW846: 6020
	Antimony	0.00012	0.006	0.001	0.00012	U	SW846: 6020
	Arsenic	0.00075	0.01	0.002	0.00039	J	SW846: 6020
	Barium	0.052	2	0.005	0.00056		SW846: 6020
	Beryllium	0.000054	0.004	0.0005	0.000054	U	SW846: 6020
	Cadmium	0.000083	0.005	0.002	0.000083	U	SW846: 6020
	Calcium	63	NE	1	0.085		SW846: 6020
	Chromium	0.0035	0.10	0.01	0.00046	J	SW846: 6020
	Cobalt	0.00011	NE	0.005	0.00011	U	SW846: 6020
	Copper	0.00032	NE	0.02	0.00032	J	SW846: 6020
	Iron	0.37	NE	0.1	0.0098		SW846: 6020
	Lead	0.000079	NE	0.002	0.000079	U	SW846: 6020
	Magnesium	12	NE	0.1	0.016		SW846: 6020
	Manganese	0.0056	NE	0.005	0.00036		SW846: 6020
	Mercury	0.00006	0.002	0.0001	0.00006	U	SW846: 7470A
	Nickel	0.00092	NE	0.02	0.00092	U	SW846: 6020
	Potassium	2.4	NE	1	0.039		SW846: 6020
	Selenium	0.0015	0.05	0.01	0.00065	J	SW846: 6020
	Silver	0.000029	NE	0.0005	0.000029	U	SW846: 6020
	Sodium	26	NE	1	0.022		SW846: 6020
	Thallium	0.0000041	0.002	0.0001	0.0000041	U	SW846: 6020
Uranium	0.0032	0.03	0.0001	0.0000049		SW846: 6020	
Vanadium	0.005	NE	0.005	0.00012		SW846: 6020	
Zinc	0.0014	NE	0.1	0.0014	U	SW846: 6020	

H = Analytical holding time exceeded.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen

New Mexico Environment Department DOE Oversight Bureau

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-01 9-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	15	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.44	4	0.1	0.03		EPA: 300.0
	Sulfate	77	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	3	10	0.02	0.006		EPA: 353.2
	Bicarbonate	170	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA1-W-02 8-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	15	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.39	4	0.1	0.03		EPA: 300.0
	Sulfate	76	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	1.1	10	0.01	0.003		EPA: 353.2
	Bicarbonate	160	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA1-W-04 10-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	15	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.39	4	0.1	0.03		EPA: 300.0
	Sulfate	73	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	2.1	10	0.02	0.006		EPA: 353.2
	Bicarbonate	170	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA1-W-05 16-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	12	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.28	4	0.1	0.03		EPA: 300.0
	Sulfate	100	NE	5	1.5		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	1.3	10	0.01	0.003		EPA: 353.2
	Bicarbonate	200	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen

New Mexico Environment Department DOE Oversight Bureau

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA1-W-06 21-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	110	NE	2	0.6		EPA: 300.0
	Fluoride	0.29	4	0.1	0.03		EPA: 300.0
	Sulfate	220	NE	10	3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	3.7	10	0.05	0.015		EPA: 353.2
	Bicarbonate	86	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA1-W-08 15-Aug-18	Bromide	1	NE	1	0.3		EPA: 300.0
	Chloride	230	NE	4	1.2		EPA: 300.0
	Fluoride	0.25	4	0.5	0.15	J	EPA: 300.0
	Sulfate	750	NE	20	6		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	9.8	10	0.1	0.03		EPA: 353.2
	Bicarbonate	79	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-NW1-595 14-Aug-18	Bromide	0.71	NE	0.2	0.06		EPA: 300.0
	Chloride	91	NE	2	0.6		EPA: 300.0
	Fluoride	0.31	4	0.1	0.03		EPA: 300.0
	Sulfate	99	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	4.7	10	0.05	0.015		EPA: 353.2
	Bicarbonate	130	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-W-01 22-Aug-18	Bromide	1	NE	0.2	0.06		EPA: 300.0
	Chloride	110	NE	2	0.6		EPA: 300.0
	Fluoride	0.33	4	0.1	0.03		EPA: 300.0
	Sulfate	63	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	4.7	10	0.05	0.015		EPA: 353.2
	Bicarbonate	97	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen

New Mexico Environment Department DOE Oversight Bureau

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-19 4-Sep-18	Bromide	0.47	NE	0.2	0.06		EPA: 300.0
	Chloride	56	NE	2	0.6		EPA: 300.0
	Fluoride	0.37	4	0.1	0.03		EPA: 300.0
	Sulfate	61	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	12	10	0.1	0.03		EPA: 353.2
	Bicarbonate	120	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-W-19 4-Sep-18 (Duplicate)	Nitrate-Nitrite as Nitrogen	12	10	0.1	0.03		EPA: 353.2
TA2-W-24 7-Aug-18	Bromide	0.068	NE	0.2	0.06	J	EPA: 300.0
	Chloride	15	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.44	4	0.1	0.03		EPA: 300.0
	Sulfate	48	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	2.4	10	0.05	0.015		EPA: 353.2
	Bicarbonate	160	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-W-24 27-Aug-18 (Duplicate)	Nitrate-Nitrite as Nitrogen	2.4	10	0.1	0.03		EPA: 353.2
TA2-W-25 28-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	14	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.32	4	0.1	0.03		EPA: 300.0
	Sulfate	75	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	3.7	10	0.05	0.015		EPA: 353.2
	Bicarbonate	180	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen

New Mexico Environment Department DOE Oversight Bureau

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-26 29-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	220	NE	4	1.2		EPA: 300.0
	Fluoride	0.24	4	0.1	0.03		EPA: 300.0
	Sulfate	440	NE	10	3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	6.5	10	0.05	0.015		EPA: 353.2
	Bicarbonate	81	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-W-27 23-Aug-18	Bromide	0.84	NE	0.2	0.06		EPA: 300.0
	Chloride	120	NE	2	0.6		EPA: 300.0
	Fluoride	0.29	4	0.1	0.03		EPA: 300.0
	Sulfate	160	NE	10	3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	4.5	10	0.05	0.015		EPA: 353.2
	Bicarbonate	96	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TA2-W-28 4-Sep-18	Bromide	0.42	NE	0.2	0.06		EPA: 300.0
	Chloride	37	NE	1	0.3		EPA: 300.0
	Fluoride	0.42	4	0.1	0.03		EPA: 300.0
	Sulfate	16	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	18	10	0.1	0.03		EPA: 353.2
	Bicarbonate	120	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TJA-2 5-Sep-18	Bromide	0.62	NE	0.2	0.06		EPA: 300.0
	Chloride	69	NE	2	0.6		EPA: 300.0
	Fluoride	0.34	4	0.1	0.03		EPA: 300.0
	Sulfate	54	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	12	10	0.1	0.03		EPA: 353.2
	Bicarbonate	110	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen

New Mexico Environment Department DOE Oversight Bureau

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-3 24-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	14	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.33	4	0.1	0.03		EPA: 300.0
	Sulfate	79	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	3	10	0.05	0.015		EPA: 353.2
	Bicarbonate	170	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TJA-4 10-Sep-18	Bromide	0.25	NE	0.2	0.06		EPA: 300.0
	Chloride	23	NE	1	0.3		EPA: 300.0
	Fluoride	0.37	4	0.1	0.03		EPA: 300.0
	Sulfate	17	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	35	10	0.5	0.15		EPA: 353.2
	Bicarbonate	140	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TJA-6 26-Sep-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	15	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.38	4	0.1	0.03		EPA: 300.0
	Sulfate	63	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	2.5	10	0.1	0.03		EPA: 353.2
	Bicarbonate	160	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B
TJA-7 5-Sep-18	Bromide	0.31	NE	0.2	0.06		EPA: 300.0
	Chloride	26	NE	1	0.3		EPA: 300.0
	Fluoride	0.37	4	0.1	0.03		EPA: 300.0
	Sulfate	23	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	24	10	0.2	0.06		EPA: 353.2
	Bicarbonate	130	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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 Monitoring Results: Alkalinity, Anions and Nitrate-Nitrite as Nitrogen
 New Mexico Environment Department DOE Oversight Bureau
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	Laboratory Detection Limit (mg/L)	Method Detection Limit (mg/L)	Laboratory Qualifier	Analytical Method
WYO-3 17-Aug-18	Bromide	0.06	NE	0.2	0.06	U	EPA: 300.0
	Chloride	17	NE	0.2	0.06		EPA: 300.0
	Fluoride	0.5	4	0.1	0.03		EPA: 300.0
	Sulfate	89	NE	1	0.3		EPA: 300.0
	Nitrate-Nitrite as Nitrogen	2.4	10	0.02	0.006		EPA: 353.2
	Bicarbonate	160	NE	5	5		SM2320B
	Carbonate	5	NE	5	5	U	SM2320B

Bold = Data results exceed the established EPA MCL.

J = the reported value was obtained from a reading that was less than the Laboratory Detection 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

Groundwater Quality Monitoring Results: Detected Volatile Organic Compounds
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	Laboratory Detection Limit (µg/L)	Method Detection Limit (µg/L)	Laboratory Qualifier	Analytical Method
TA1-W-02 8-Aug-18	Acetone	3.2	NE	10	2.1	J	SW846: 8260B
TA1-W-04 10-Aug-18	Acetone	2.8	NE	10	2.1	J	SW846: 8260B
TA1-W-06 21-Aug-18	Chloroform	0.26	NE	1	0.12	J	SW846: 8260B
	Dichloroethene[1,1-]	1.1	7	1	0.14		SW846: 8260B
	Trichloroethene	0.42	5	1	0.13	J	SW846: 8260B
TA1-W-08 15-Aug-18	Bromodichloromethane	0.14	NE	1	0.14	J	SW846: 8260B
	Chloroform	0.26	NE	1	0.12	J	SW846: 8260B
TA2-NW1-595 14-Aug-18	Acetone	2.7	NE	10	2.1	J	SW846: 8260B
	Chloroform	0.16	NE	1	0.12	J	SW846: 8260B
TA2-W-01 22-Aug-18	Tetrachloroethene	0.34	5	1	0.1	J	SW846: 8260B
	Trichloroethene	1.2	5	1	0.13		SW846: 8260B
TA2-W-19 4-Sep-18	Dichloroethane[1,1-]	0.24	NE	1	0.1	J	SW846: 8260B
	Tetrachloroethene	0.14	5	1	0.1	J	SW846: 8260B
	Toluene	0.26	10	1	0.25	J	SW846: 8260B
	Trichloroethene	1.6	5	1	0.13		SW846: 8260B
TA2-W-19 4-Sep-18 (Duplicate)	Dichloroethane[1,1-]	0.23	NE	1	0.1	J	SW846: 8260B
	Tetrachloroethene	0.13	5	1	0.1	J	SW846: 8260B
	Toluene	0.29	10	1	0.25	J	SW846: 8260B
	Trichloroethene	1.8	5	1	0.13		SW846: 8260B
TA2-W-26 29-Aug-18	Chloroform	0.34	NE	1	0.12	J	SW846: 8260B
	Dichloroethane[1,1-]	0.27	NE	1	0.1	J	SW846: 8260B
	Dichloroethene[1,1-]	0.16	7	1	0.14	J	SW846: 8260B
	Dichloroethene[cis-1,2-]	0.55	70	1	0.1	J	SW846: 8260B
	Tetrachloroethene	1.1	5	1	0.1		SW846: 8260B
	Trichloroethene	1.2	5	1	0.13		SW846: 8260B
TA2-W-27 23-Aug-18	Chloroform	0.25	NE	1	0.12	J	SW846: 8260B
	Dichloroethene[1,1-]	0.27	7	1	0.14	J	SW846: 8260B
	Tetrachloroethene	1.8	5	1	0.1		SW846: 8260B
	Trichloroethene	1.2	5	1	0.13		SW846: 8260B
TJA-2 5-Aug-18	Dichloroethane[1,1-]	0.46	NE	1	0.1	J	SW846: 8260B
	Dichloroethene[cis-1,2-]	0.43	70	1	0.1	J	SW846: 8260B
	Trichloroethene	4.4	5	1	0.13		SW846: 8260B

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).

NE = Not Established

Table-3

Groundwater Quality Monitoring Results: Detected Volatile Organic Compounds
Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
New Mexico Environment Department DOE Oversight Bureau
August and September 2018

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	Laboratory Detection Limit (µg/L)	Method Detection Limit (µg/L)	Laboratory Qualifier	Analytical Method
TJA-3 24-Aug-18	Trichloroethene	1.1	5	1	0.13		SW846: 8260B
TJA-7 5-Aug-18	Trichloroethene	2.7	5	1	0.13		SW846: 8260B
WYO-3 17-Aug-18	Trichloroethene	0.13	5	1	0.13	J	SW846: 8260B

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).

NE = Not Established

Table-4

Groundwater Quality Monitoring Results: Method Detection Limits for Volatile Organic Compounds by Method SW846:8260B

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Analyte	MDL (µg/L)
Acetone	2.1 - 3.0
Benzene	0.13 - 0.3
Bromobenzene	0.3
Bromochloromethane	0.3
Bromodichloromethane	0.14 - 0.3
Bromoform	0.1 - 0.3
Bromomethane	0.29 - 0.33
Butanone[2-]	0.35 - 3.0
Butylbenzene[n-]	0.3
Butylbenzene[sec-]	0.3
Butylbenzene[tert-]	0.3
Carbon Disulfide	0.16 - 0.3
Carbon Tetrachloride	0.15
Chlorobenzene	0.12 - 0.3
Chlorodibromomethane	0.13 - 0.3
Chloroethane	0.3 - 0.34
Chloroform	0.12 - 0.3
Chlorohexane[1-]	0.3
Chloromethane	0.25 - 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-]	0.1 - 0.3
Dichloroethane[1,2-]	0.15 - 0.22
Dichloroethene[1,1-]	0.14 - 0.3
Dichloroethene[cis-1,2-]	0.1 - 0.3
Dichloroethene[trans-1,2-]	0.11 - 0.3
Dichloropropane[1,2-]	0.15 - 0.3
Dichloropropane[1,3-]	0.15

Analyte	MDL (µg/L)
Dichloropropane[2,2-]	0.3
Dichloropropene[1,1-]	0.3
Dichloropropene[cis-1,3-]	0.22 - 0.3
Dichloropropene[trans-1,3-]	0.08 - 0.3
Ethylbenzene	0.1 - 0.3
Hexachlorobutadiene	0.3
Hexanone[2-]	0.17 - 3.0
Iodomethane	0.3
Isopropylbenzene	0.3
Isopropyltoluene[4-]	0.3
Methyl tert-Butyl Ether	0.3
Methyl-2-pentanone[4-]	0.18 - 3.0
Methylene Chloride	0.34 - 0.35
Naphthalene	0.3
Propylbenzene[1-]	0.3
Styrene	0.15 - 0.3
Tetrachloroethane[1,1,1,2-]	0.3
Tetrachloroethane[1,1,2,2-]	0.09 - 0.3
Tetrachloroethene	0.1 - 0.3
Toluene	0.25 - 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-]	0.19 - 0.3
Trichloroethane[1,1,2-]	0.3 - 0.31
Trichloroethene	0.13 - 0.5
Trichlorofluoromethane	0.3 - 0.3
Trichloropropane[1,2,3-]	0.3
Trimethylbenzene[1,2,4-]	0.3
Trimethylbenzene[1,3,5-]	0.3
Vinyl acetate	0.21 - 0.73
Vinyl Chloride	0.15 - 0.22
Xylene (Total)	0.18
Xylene[1,2-]	0.3
Xylene[1,3-]+Xylene[1,4-]	0.3

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-01 9-Aug-18	Actinium-228	9.5 ± 5.3	NE	19	U	EPA: 901.1
	Americium-241	-42 ± 17	NE	59	U	EPA: 901.1
	Beryllium-7	33 ± 16	NE	52	U	EPA: 901.1
	Bismuth-212	28 ± 22	NE	73	U	EPA: 901.1
	Bismuth-214	2 ± 7	NE	23	U	EPA: 901.1
	Cesium-134	-1.4 ± 2.1	NE	7.3	U	EPA: 901.1
	Cesium-137	-1.8 ± 1.6	NE	5.4	U,M	EPA: 901.1
	Cobalt-60	-0.37 ± 1.9	NE	6.5	U	EPA: 901.1
	Gross alpha	3.7 ± 0.57	15 pCi/L	1.4		EPA: 900.0
	Gross beta	3.1 ± 0.47	4 mrem/yr	1.2		EPA: 900.0
	Iodine-131	18 ± 23	NE	78	U	EPA: 901.1
	Lead-212	5.2 ± 4.4	NE	15	U	EPA: 901.1
	Lead-214	10 ± 2.9	NE	8.9	NQ	EPA: 901.1
	Potassium-40	80 ± 40	NE	130	U	EPA: 901.1
	Protactinium-234m	120 ± 270	NE	910	U	EPA: 901.1
	Sodium-22	-2.8 ± 1.9	NE	6.6	U	EPA: 901.1
	Thallium-208	4.3 ± 1.6	NE	5	U	EPA: 901.1
	Thorium-234	19 ± 41	NE	130	U	EPA: 901.1
Tritium	41 ± 96	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-02 8-Aug-18	Actinium-228	16 ± 3.8	NE	17	U	EPA: 901.1
	Americium-241	-39 ± 36	NE	120	U	EPA: 901.1
	Beryllium-7	-7.4 ± 16	NE	54	U	EPA: 901.1
	Bismuth-212	26 ± 19	NE	63	U	EPA: 901.1
	Bismuth-214	2.4 ± 7.1	NE	24	U	EPA: 901.1
	Cesium-134	0.91 ± 0.91	NE	3.3	U	EPA: 901.1
	Cesium-137	-3 ± 1.4	NE	4.7	U	EPA: 901.1
	Cobalt-60	0.97 ± 1.5	NE	5	U	EPA: 901.1
	Gross alpha	2.9 ± 0.48	15 pCi/L	1.1		EPA: 900.0
	Gross beta	3.2 ± 0.45	4 mrem/yr	1.2		EPA: 900.0
	Iodine-131	-26 ± 24	NE	83	U	EPA: 901.1
	Lead-212	-4.2 ± 4.4	NE	15	U	EPA: 901.1
	Lead-214	-1.7 ± 5.3	NE	18	U	EPA: 901.1
	Potassium-40	-0.42 ± 38	NE	130	U	EPA: 901.1
	Protactinium-234m	-250 ± 360	NE	1200	U	EPA: 901.1
	Sodium-22	-2.9 ± 1.6	NE	5.5	U	EPA: 901.1
	Thallium-208	3.5 ± 1.5	NE	4.8	U	EPA: 901.1
	Thorium-234	-4.2 ± 66	NE	230	U	EPA: 901.1
Tritium	-190 ± 93	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-04 10-Aug-18	Actinium-228	-0.83 ± 8.8	NE	30	U	EPA: 901.1
	Americium-241	-86 ± 47	NE	160	U	EPA: 901.1
	Beryllium-7	12 ± 15	NE	51	U	EPA: 901.1
	Bismuth-212	13 ± 17	NE	58	U	EPA: 901.1
	Bismuth-214	-2.5 ± 5.8	NE	20	U	EPA: 901.1
	Cesium-134	-1.4 ± 1.4	NE	4.9	U	EPA: 901.1
	Cesium-137	-0.78 ± 1.3	NE	4.4	U	EPA: 901.1
	Cobalt-60	0.37 ± 1.5	NE	5	U	EPA: 901.1
	Gross alpha	3.8 ± 0.54	15 pCi/L	1.2		EPA: 900.0
	Gross beta	3.5 ± 0.47	4 mrem/yr	1.2		EPA: 900.0
	Iodine-131	17 ± 20	NE	68	U	EPA: 901.1
	Lead-212	-0.18 ± 3.9	NE	13	U	EPA: 901.1
	Lead-214	-7.5 ± 6.4	NE	21	U	EPA: 901.1
	Potassium-40	39 ± 39	NE	130	U	EPA: 901.1
	Protactinium-234m	550 ± 210	NE	670	U	EPA: 901.1
	Sodium-22	-0.57 ± 1.4	NE	4.9	U	EPA: 901.1
	Thallium-208	5.7 ± 1.4	NE	4.2	NQ	EPA: 901.1
	Thorium-234	-21 ± 71	NE	240	U	EPA: 901.1
Tritium	51 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-05 16-Aug-18	Actinium-228	3.7 ± 5.5	NE	18	U	EPA: 901.1
	Americium-241	15 ± 6.5	NE	21	U	EPA: 901.1
	Beryllium-7	6.4 ± 6.9	NE	23	U	EPA: 901.1
	Bismuth-212	45 ± 9.6	NE	29	NQ	EPA: 901.1
	Bismuth-214	5.9 ± 4.3	NE	14	U	EPA: 901.1
	Cesium-134	-1 ± 0.78	NE	2.6	U	EPA: 901.1
	Cesium-137	-1.3 ± 0.66	NE	2.2	U	EPA: 901.1
	Cobalt-60	-0.82 ± 0.69	NE	2.4	U	EPA: 901.1
	Gross alpha	2.6 ± 0.72	15 pCi/L	2.1	M3	EPA: 900.0
	Gross beta	2.8 ± 0.5	4 mrem/yr	1.4		EPA: 900.0
	Iodine-131	-4.9 ± 6	NE	20	U	EPA: 901.1
	Lead-212	2.1 ± 2.6	NE	8.5	U	EPA: 901.1
	Lead-214	2.8 ± 3.8	NE	12	U	EPA: 901.1
	Potassium-40	37 ± 19	NE	61	U	EPA: 901.1
	Protactinium-234m	72 ± 190	NE	630	U	EPA: 901.1
	Sodium-22	0.24 ± 0.65	NE	2.2	U	EPA: 901.1
	Thallium-208	1.1 ± 1.5	NE	5.1	U	EPA: 901.1
	Thorium-234	22 ± 26	NE	88	U	EPA: 901.1
Tritium	-210 ± 92	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-06 21-Aug-18	Actinium-228	18 ± 5.7	NE	18	NQ	EPA: 901.1
	Americium-241	-44 ± 37	NE	120	U	EPA: 901.1
	Beryllium-7	51 ± 26	NE	85	U	EPA: 901.1
	Bismuth-212	31 ± 20	NE	65	U	EPA: 901.1
	Bismuth-214	-5.6 ± 6.8	NE	23	U	EPA: 901.1
	Cesium-134	-2.6 ± 1.5	NE	5.3	U	EPA: 901.1
	Cesium-137	1.1 ± 1.4	NE	4.6	U	EPA: 901.1
	Cobalt-60	2.4 ± 1.5	NE	5.1	U	EPA: 901.1
	Gross alpha	3 ± 0.82	15 pCi/L	2.4	M3	EPA: 900.0
	Gross beta	3.9 ± 0.89	4 mrem/yr	2.7	M3	EPA: 900.0
	Iodine-131	-330 ± 650	NE	2200	U,R	EPA: 901.1
	Lead-212	2.3 ± 4.8	NE	16	U	EPA: 901.1
	Lead-214	-3.5 ± 5.2	NE	17	U	EPA: 901.1
	Potassium-40	-3.4 ± 37	NE	120	U	EPA: 901.1
	Protactinium-234m	75 ± 230	NE	770	U	EPA: 901.1
	Sodium-22	-2.5 ± 1.6	NE	5.5	U	EPA: 901.1
	Thallium-208	0.4 ± 3.3	NE	11	U	EPA: 901.1
	Thorium-234	35 ± 61	NE	200	U	EPA: 901.1
Tritium	-32 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA1-W-08 15-Aug-18	Actinium-228	17 ± 4.7	NE	20	U	EPA: 901.1
	Americium-241	-83 ± 36	NE	120	U	EPA: 901.1
	Beryllium-7	-21 ± 15	NE	50	U	EPA: 901.1
	Bismuth-212	15 ± 19	NE	62	U	EPA: 901.1
	Bismuth-214	-3.8 ± 6.9	NE	23	U	EPA: 901.1
	Cesium-134	-0.45 ± 1.9	NE	6.6	U	EPA: 901.1
	Cesium-137	-3.2 ± 1.3	NE	4.7	U	EPA: 901.1
	Cobalt-60	0.41 ± 1.5	NE	5.2	U	EPA: 901.1
	Gross alpha	3.2 ± 2.3	15 pCi/L	7.5	U,M	EPA: 900.0
	Gross beta	10 ± 3.6	4 mrem/yr	11	U,M	EPA: 900.0
	Iodine-131	-14 ± 16	NE	54	U	EPA: 901.1
	Lead-212	1.6 ± 4.5	NE	15	U	EPA: 901.1
	Lead-214	-4 ± 5.4	NE	18	U	EPA: 901.1
	Potassium-40	-25 ± 38	NE	130	U	EPA: 901.1
	Protactinium-234m	53 ± 360	NE	1200	U	EPA: 901.1
	Sodium-22	-0.95 ± 1.5	NE	5.1	U	EPA: 901.1
	Thallium-208	0.17 ± 2.9	NE	9.6	U	EPA: 901.1
	Thorium-234	-45 ± 69	NE	230	U	EPA: 901.1
Tritium	31 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-NW1-595 14-Aug-18	Actinium-228	8.6 ± 14	NE	47	U	EPA: 901.1
	Americium-241	-28 ± 24	NE	79	U	EPA: 901.1
	Beryllium-7	-2.7 ± 15	NE	52	U	EPA: 901.1
	Bismuth-212	-2.9 ± 21	NE	72	U	EPA: 901.1
	Bismuth-214	7.9 ± 3	NE	9.6	U	EPA: 901.1
	Cesium-134	-1.3 ± 1.4	NE	4.9	U	EPA: 901.1
	Cesium-137	-1 ± 1.5	NE	5.1	U,M	EPA: 901.1
	Cobalt-60	-2.2 ± 1.5	NE	5.5	U	EPA: 901.1
	Gross alpha	1.8 ± 0.55	15 pCi/L	1.7	M3	EPA: 900.0
	Gross beta	2.5 ± 0.53	4 mrem/yr	1.6	M3	EPA: 900.0
	Iodine-131	2.6 ± 18	NE	62	U	EPA: 901.1
	Lead-212	5.4 ± 2.1	NE	6.7	U	EPA: 901.1
	Lead-214	6.7 ± 2.8	NE	9.2	U	EPA: 901.1
	Potassium-40	-12 ± 47	NE	160	U	EPA: 901.1
	Protactinium-234m	680 ± 230	NE	720	U	EPA: 901.1
	Sodium-22	1.8 ± 1.5	NE	5.1	U	EPA: 901.1
	Thallium-208	3 ± 1.5	NE	4.7	U	EPA: 901.1
	Thorium-234	56 ± 19	NE	62	U	EPA: 901.1
Tritium	6.7 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-01 22-Aug-18	Actinium-228	21 ± 6.2	NE	19	NQ	EPA: 901.1
	Americium-241	-6.3 ± 12	NE	42	U	EPA: 901.1
	Beryllium-7	23 ± 25	NE	82	U	EPA: 901.1
	Bismuth-212	61 ± 22	NE	69	U	EPA: 901.1
	Bismuth-214	7.6 ± 3.4	NE	11	U	EPA: 901.1
	Cesium-134	-2.4 ± 1.7	NE	6	U	EPA: 901.1
	Cesium-137	-0.71 ± 1.6	NE	5.4	U,M	EPA: 901.1
	Cobalt-60	2.2 ± 2	NE	6.5	U	EPA: 901.1
	Gross alpha	1.7 ± 0.6	15 pCi/L	1.8	U,M	EPA: 900.0
	Gross beta	3.9 ± 0.71	4 mrem/yr	2	M3	EPA: 900.0
	Iodine-131	-240 ± 660	NE	2200	U,R	EPA: 901.1
	Lead-212	-3.9 ± 4.7	NE	16	U	EPA: 901.1
	Lead-214	-2.4 ± 5.8	NE	19	U	EPA: 901.1
	Potassium-40	-35 ± 46	NE	160	U	EPA: 901.1
	Protactinium-234m	0 ± 270	NE	920	U	EPA: 901.1
	Sodium-22	-0.93 ± 2	NE	6.9	U	EPA: 901.1
	Thallium-208	4.5 ± 3.7	NE	13	U	EPA: 901.1
	Thorium-234	7.6 ± 49	NE	160	U	EPA: 901.1
Tritium	-47 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-19 4-sep-18	Actinium-228	14 ± 5.4	NE	17	U	EPA: 901.1
	Americium-241	54 ± 50	NE	170	U	EPA: 901.1
	Beryllium-7	-7.3 ± 21	NE	72	U	EPA: 901.1
	Bismuth-212	52 ± 19	NE	60	U	EPA: 901.1
	Bismuth-214	2.1 ± 7.2	NE	24	U	EPA: 901.1
	Cesium-134	-1.5 ± 2	NE	6.9	U	EPA: 901.1
	Cesium-137	1.8 ± 1.3	NE	4.4	U	EPA: 901.1
	Cobalt-60	-1.5 ± 1.5	NE	5.2	U	EPA: 901.1
	Gross alpha	0.49 ± 0.43	15 pCi/L	1.4	U	EPA: 900.0
	Gross beta	2.2 ± 0.59	4 mrem/yr	1.8	M3	EPA: 900.0
	Iodine-131	140 ± 210	NE	700	U	EPA: 901.1
	Lead-212	2.5 ± 4.3	NE	14	U	EPA: 901.1
	Lead-214	-7.8 ± 5.5	NE	18	U	EPA: 901.1
	Potassium-40	-30 ± 42	NE	140	U	EPA: 901.1
	Protactinium-234m	200 ± 220	NE	730	U	EPA: 901.1
	Sodium-22	0.45 ± 1.5	NE	5.2	U	EPA: 901.1
	Thallium-208	5.2 ± 1.4	NE	4.2	NQ	EPA: 901.1
Thorium-234	29 ± 71	NE	240	U	EPA: 901.1	
Tritium	-84 ± 94	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-24 27-Aug-18	Actinium-228	20 ± 5.6	NE	17	NQ	EPA: 901.1
	Americium-241	14 ± 36	NE	120	U	EPA: 901.1
	Beryllium-7	6.6 ± 24	NE	81	U	EPA: 901.1
	Bismuth-212	27 ± 20	NE	66	U	EPA: 901.1
	Bismuth-214	-0.31 ± 7.3	NE	24	U	EPA: 901.1
	Cesium-134	0.61 ± 2.1	NE	7.1	U	EPA: 901.1
	Cesium-137	-0.33 ± 1.3	NE	4.5	U	EPA: 901.1
	Cobalt-60	1.3 ± 1.5	NE	5.1	U	EPA: 901.1
	Gross alpha	3.3 ± 0.5	15 pCi/L	1.2		EPA: 900.0
	Gross beta	5.6 ± 0.62	4 mrem/yr	1.3		EPA: 900.0
	Iodine-131	-230 ± 420	NE	1400	U,R	EPA: 901.1
	Lead-212	0.2 ± 4.9	NE	16	U	EPA: 901.1
	Lead-214	-1.6 ± 5.2	NE	17	U	EPA: 901.1
	Potassium-40	10 ± 38	NE	130	U	EPA: 901.1
	Protactinium-234m	200 ± 230	NE	750	U	EPA: 901.1
	Sodium-22	-1.1 ± 1.5	NE	5.2	U	EPA: 901.1
	Thallium-208	-0.63 ± 3.2	NE	11	U	EPA: 901.1
	Thorium-234	89 ± 62	NE	200	U	EPA: 901.1
Tritium	-39 ± 96	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-25 28-Aug-18	Actinium-228	9.9 ± 11	NE	35	U	EPA: 901.1
	Americium-241	-19 ± 13	NE	43	U	EPA: 901.1
	Beryllium-7	34 ± 23	NE	75	U	EPA: 901.1
	Bismuth-212	-16 ± 21	NE	73	U	EPA: 901.1
	Bismuth-214	-2.2 ± 8.1	NE	27	U	EPA: 901.1
	Cesium-134	2.1 ± 2.3	NE	8.2	U	EPA: 901.1
	Cesium-137	0.66 ± 1.5	NE	4.9	U	EPA: 901.1
	Cobalt-60	-0.58 ± 1.8	NE	6.2	U	EPA: 901.1
	Gross alpha	1.9 ± 0.56	15 pCi/L	1.7	M3	EPA: 900.0
	Gross beta	3.1 ± 0.61	4 mrem/yr	1.8	M3	EPA: 900.0
	Iodine-131	44 ± 420	NE	1400	U,R	EPA: 901.1
	Lead-212	0.75 ± 4.7	NE	16	U	EPA: 901.1
	Lead-214	0.6 ± 6	NE	20	U	EPA: 901.1
	Potassium-40	-34 ± 46	NE	150	U	EPA: 901.1
	Protactinium-234m	800 ± 280	NE	880	U	EPA: 901.1
	Sodium-22	3.2 ± 1.9	NE	6.2	U	EPA: 901.1
	Thallium-208	3 ± 1.6	NE	5.1	U	EPA: 901.1
	Thorium-234	-12 ± 46	NE	150	U	EPA: 901.1
Tritium	11 ± 96	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-26 29-Aug-18	Actinium-228	16 ± 4.7	NE	14	TI	EPA: 901.1
	Americium-241	-1.8 ± 9.3	NE	31	U	EPA: 901.1
	Beryllium-7	33 ± 26	NE	85	U	EPA: 901.1
	Bismuth-212	5.6 ± 23	NE	79	U	EPA: 901.1
	Bismuth-214	16 ± 3.8	NE	12	NQ	EPA: 901.1
	Cesium-134	-8.1 ± 2	NE	6.8	U	EPA: 901.1
	Cesium-137	-1.3 ± 1.7	NE	5.8	U,M	EPA: 901.1
	Cobalt-60	-4.2 ± 2.2	NE	7.8	U	EPA: 901.1
	Gross alpha	3.6 ± 1.1	15 pCi/L	3.4	M3	EPA: 900.0
	Gross beta	5.1 ± 1.4	4 mrem/yr	4.2	M3	EPA: 900.0
	Iodine-131	940 ± 440	NE	1400	U,R	EPA: 901.1
	Lead-212	2.5 ± 3.8	NE	13	U	EPA: 901.1
	Lead-214	-8.8 ± 6.8	NE	23	U	EPA: 901.1
	Potassium-40	-42 ± 51	NE	170	U	EPA: 901.1
	Protactinium-234m	230 ± 300	NE	1000	U	EPA: 901.1
	Sodium-22	-4.5 ± 2.3	NE	8.1	U	EPA: 901.1
	Thallium-208	3.8 ± 1.7	NE	5.3	U	EPA: 901.1
	Thorium-234	29 ± 43	NE	140	U	EPA: 901.1
Tritium	33 ± 96	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-27 23-Aug-18	Actinium-228	8.6 ± 4.3	NE	14	U	EPA: 901.1
	Americium-241	-14 ± 9.6	NE	33	U	EPA: 901.1
	Beryllium-7	-29 ± 29	NE	99	U	EPA: 901.1
	Bismuth-212	39 ± 24	NE	78	U	EPA: 901.1
	Bismuth-214	3.9 ± 8.6	NE	28	U	EPA: 901.1
	Cesium-134	-0.62 ± 2.8	NE	9.4	U	EPA: 901.1
	Cesium-137	-2.7 ± 1.7	NE	6	U,M	EPA: 901.1
	Cobalt-60	0.98 ± 2.2	NE	7.5	U	EPA: 901.1
	Gross alpha	2.2 ± 0.64	15 pCi/L	1.9	M3	EPA: 900.0
	Gross beta	3.7 ± 0.79	4 mrem/yr	2.3	M3	EPA: 900.0
	Iodine-131	-500 ± 660	NE	2300	U,R	EPA: 901.1
	Lead-212	1 ± 3.9	NE	13	U	EPA: 901.1
	Lead-214	11 ± 3.3	NE	10	NQ	EPA: 901.1
	Potassium-40	-66 ± 49	NE	170	U	EPA: 901.1
	Protactinium-234m	160 ± 300	NE	1000	U	EPA: 901.1
	Sodium-22	0.48 ± 2.1	NE	7.3	U	EPA: 901.1
	Thallium-208	4 ± 1.7	NE	5.5	U	EPA: 901.1
	Thorium-234	59 ± 46	NE	150	U	EPA: 901.1
Tritium	7.8 ± 97	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TA2-W-28 4-Sep-18	Actinium-228	19 ± 6.1	NE	25	U	EPA: 901.1
	Americium-241	9.5 ± 17	NE	57	U	EPA: 901.1
	Beryllium-7	16 ± 19	NE	62	U	EPA: 901.1
	Bismuth-212	17 ± 18	NE	61	U	EPA: 901.1
	Bismuth-214	6.6 ± 6	NE	20	U	EPA: 901.1
	Cesium-134	-0.21 ± 1.3	NE	4.4	U	EPA: 901.1
	Cesium-137	1.8 ± 1.3	NE	4.2	U	EPA: 901.1
	Cobalt-60	-0.59 ± 1.3	NE	4.4	U	EPA: 901.1
	Gross alpha	2.1 ± 0.48	15 pCi/L	1.4		EPA: 900.0
	Gross beta	3.6 ± 0.5	4 mrem/yr	1.2		EPA: 900.0
	Iodine-131	-10 ± 190	NE	640	U	EPA: 901.1
	Lead-212	-0.9 ± 4.1	NE	14	U	EPA: 901.1
	Lead-214	-4 ± 5.8	NE	19	U	EPA: 901.1
	Potassium-40	-15 ± 36	NE	120	U	EPA: 901.1
	Protactinium-234m	290 ± 220	NE	710	U	EPA: 901.1
	Sodium-22	1.7 ± 1.3	NE	4.2	U	EPA: 901.1
	Thallium-208	5.3 ± 1.3	NE	4.1	NQ	EPA: 901.1
	Thorium-234	32 ± 45	NE	150	U	EPA: 901.1
Tritium	-130 ± 94	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TJA-2 5-Sep-18	Actinium-228	23 ± 5.2	NE	15	NQ	EPA: 901.1
	Americium-241	-0.14 ± 1.4	NE	4.7	U	EPA: 901.1
	Beryllium-7	-2.8 ± 17	NE	59	U	EPA: 901.1
	Bismuth-212	15 ± 20	NE	66	U	EPA: 901.1
	Bismuth-214	4.4 ± 6.3	NE	21	U	EPA: 901.1
	Cesium-134	0.14 ± 1.4	NE	4.6	U	EPA: 901.1
	Cesium-137	-5.2 ± 2.2	NE	7.6	U,M	EPA: 901.1
	Cobalt-60	-2.8 ± 1.4	NE	5.1	U	EPA: 901.1
	Gross alpha	2.1 ± 0.59	15 pCi/L	1.7	M3	EPA: 900.0
	Gross beta	3.4 ± 0.68	4 mrem/yr	2	M3	EPA: 900.0
	Iodine-131	79 ± 180	NE	610	U	EPA: 901.1
	Lead-212	2.5 ± 3.8	NE	13	U	EPA: 901.1
	Lead-214	-0.11 ± 5.4	NE	18	U	EPA: 901.1
	Potassium-40	-32 ± 36	NE	120	U	EPA: 901.1
	Protactinium-234m	360 ± 230	NE	750	U	EPA: 901.1
	Sodium-22	0.45 ± 1.5	NE	5	U	EPA: 901.1
	Thallium-208	-0.35 ± 3.3	NE	11	U	EPA: 901.1
	Thorium-234	-17 ± 25	NE	82	U	EPA: 901.1
Tritium	35 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TJA-3 24-Aug-18	Actinium-228	13 ± 5.1	NE	19	U	EPA: 901.1
	Americium-241	17 ± 8.4	NE	27	U	EPA: 901.1
	Beryllium-7	-0.92 ± 27	NE	91	U	EPA: 901.1
	Bismuth-212	0 ± 22	NE	75	U	EPA: 901.1
	Bismuth-214	-1.2 ± 7.5	NE	25	U	EPA: 901.1
	Cesium-134	-2.9 ± 2	NE	7.1	U	EPA: 901.1
	Cesium-137	-1.3 ± 1.5	NE	5.2	U,M	EPA: 901.1
	Cobalt-60	1.8 ± 1.5	NE	4.9	U	EPA: 901.1
	Gross alpha	2.9 ± 0.58	15 pCi/L	1.6	M3	EPA: 900.0
	Gross beta	3 ± 0.59	4 mrem/yr	1.7	M3	EPA: 900.0
	Iodine-131	-280 ± 600	NE	2000	U,R	EPA: 901.1
	Lead-212	7.6 ± 2.3	NE	7.2	NQ	EPA: 901.1
	Lead-214	12 ± 2.9	NE	9.4	NQ	EPA: 901.1
	Potassium-40	-19 ± 50	NE	170	U	EPA: 901.1
	Protactinium-234m	120 ± 230	NE	780	U	EPA: 901.1
	Sodium-22	0.47 ± 1.6	NE	5.6	U	EPA: 901.1
	Thallium-208	2.7 ± 1.5	NE	5	U	EPA: 901.1
	Thorium-234	82 ± 20	NE	63	NQ	EPA: 901.1
Tritium	-80 ± 94	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium

Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern

New Mexico Environment Department DOE Oversight Bureau

August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TJA-4 10-Sep-18	Actinium-228	13 ± 5.5	NE	18	U	EPA: 901.1
	Americium-241	64 ± 52	NE	170	U	EPA: 901.1
	Beryllium-7	-50 ± 21	NE	72	U	EPA: 901.1
	Bismuth-212	26 ± 19	NE	63	U	EPA: 901.1
	Bismuth-214	0.52 ± 7.1	NE	24	U	EPA: 901.1
	Cesium-134	-0.55 ± 2.1	NE	7	U	EPA: 901.1
	Cesium-137	-0.41 ± 1.3	NE	4.6	U	EPA: 901.1
	Cobalt-60	-0.11 ± 1.5	NE	5.2	U	EPA: 901.1
	Gross alpha	4.1 ± 0.5	15 pCi/L	0.86		EPA: 900.0
	Gross beta	4 ± 0.54	4 mrem/yr	1.3		EPA: 900.0
	Iodine-131	70 ± 140	NE	470	U	EPA: 901.1
	Lead-212	0.35 ± 4.4	NE	15	U	EPA: 901.1
	Lead-214	-5.1 ± 5.6	NE	19	U	EPA: 901.1
	Potassium-40	-46 ± 42	NE	140	U	EPA: 901.1
	Protactinium-234m	570 ± 230	NE	750	U	EPA: 901.1
	Sodium-22	-0.35 ± 1.6	NE	5.3	U	EPA: 901.1
	Thallium-208	-1.9 ± 2.8	NE	9.5	U	EPA: 901.1
	Thorium-234	-27 ± 69	NE	230	U	EPA: 901.1
Tritium	-110 ± 94	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TJA-6 27-Sep-18	Actinium-228	5.7 ± 8.7	NE	29	U	EPA: 901.1
	Americium-241	18 ± 17	NE	56	U	EPA: 901.1
	Beryllium-7	11 ± 15	NE	49	U	EPA: 901.1
	Bismuth-212	20 ± 18	NE	60	U	EPA: 901.1
	Bismuth-214	5.6 ± 5.9	NE	19	U	EPA: 901.1
	Cesium-134	-2.2 ± 1.3	NE	4.6	U	EPA: 901.1
	Cesium-137	-1.1 ± 1.3	NE	4.4	U	EPA: 901.1
	Cobalt-60	-1 ± 1.3	NE	4.6	U	EPA: 901.1
	Gross alpha	4.2 ± 0.51	15 pCi/L	0.88		EPA: 900.0
	Gross beta	3.1 ± 0.49	4 mrem/yr	1.3		EPA: 900.0
	Iodine-131	2.7 ± 28	NE	95	U	EPA: 901.1
	Lead-212	1.3 ± 4.1	NE	13	U	EPA: 901.1
	Lead-214	-5.4 ± 5.9	NE	20	U	EPA: 901.1
	Potassium-40	-5 ± 36	NE	120	U	EPA: 901.1
	Protactinium-234m	70 ± 220	NE	740	U	EPA: 901.1
	Sodium-22	-0.29 ± 1.3	NE	4.5	U	EPA: 901.1
	Thallium-208	-0.24 ± 3.4	NE	11	U	EPA: 901.1
	Thorium-234	15 ± 46	NE	150	U	EPA: 901.1
Tritium	-13 ± 94	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
TJA-7 5-Sep-18	Actinium-228	14 ± 5.8	NE	24	U	EPA: 901.1
	Americium-241	0.75 ± 1.4	NE	4.6	U	EPA: 901.1
	Beryllium-7	-0.22 ± 15	NE	52	U	EPA: 901.1
	Bismuth-212	47 ± 18	NE	57	U	EPA: 901.1
	Bismuth-214	-1.9 ± 5.2	NE	17	U	EPA: 901.1
	Cesium-134	-0.71 ± 1.1	NE	3.9	U	EPA: 901.1
	Cesium-137	1.8 ± 1.2	NE	4	U	EPA: 901.1
	Cobalt-60	-0.56 ± 1.3	NE	4.6	U	EPA: 901.1
	Gross alpha	2.2 ± 0.45	15 pCi/L	1.2		EPA: 900.0
	Gross beta	3.7 ± 0.46	4 mrem/yr	1.1		EPA: 900.0
	Iodine-131	-56 ± 160	NE	530	U	EPA: 901.1
	Lead-212	-0.34 ± 3.2	NE	11	U	EPA: 901.1
	Lead-214	-2.7 ± 3.7	NE	12	U	EPA: 901.1
	Potassium-40	-3.7 ± 34	NE	110	U	EPA: 901.1
	Protactinium-234m	410 ± 190	NE	620	U	EPA: 901.1
	Sodium-22	-0.76 ± 1.3	NE	4.6	U	EPA: 901.1
	Thallium-208	-1.5 ± 2.7	NE	9.2	U	EPA: 901.1
	Thorium-234	2.5 ± 17	NE	69	U	EPA: 901.1
Tritium	40 ± 95	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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

Table-5

Groundwater Quality Monitoring Results: Gross Alpha, Gross Beta, Gamma Emitting Isotopes and Tritium
 Sandia National Laboratories/New Mexico: Tijeras Arroyo Groundwater Area of Concern
 New Mexico Environment Department DOE Oversight Bureau
 August and September 2018

Monitoring Well/ Sample Date	Analyte	Activity ^a (pCi/L)	EPA MCL	Minimum Detectable Activity (pCi/L)	Laboratory Qualifier	Analytical Method
WYO-3 17-Aug-18	Actinium-228	-2.2 ± 5.2	NE	17	U	EPA: 901.1
	Americium-241	6.6 ± 6.3	NE	21	U	EPA: 901.1
	Beryllium-7	1.6 ± 6.7	NE	23	U	EPA: 901.1
	Bismuth-212	20 ± 9.1	NE	29	U	EPA: 901.1
	Bismuth-214	3.2 ± 4.3	NE	14	U	EPA: 901.1
	Cesium-134	-1.3 ± 0.75	NE	2.5	U	EPA: 901.1
	Cesium-137	-0.2 ± 0.65	NE	2.2	U	EPA: 901.1
	Cobalt-60	-0.49 ± 0.66	NE	2.2	U	EPA: 901.1
	Gross alpha	2.3 ± 0.54	15 pCi/L	1.5	M3	EPA: 900.0
	Gross beta	2.6 ± 0.43	4 mrem/yr	1.2		EPA: 900.0
	Iodine-131	8.5 ± 5.9	NE	19	U	EPA: 901.1
	Lead-212	1.1 ± 2.5	NE	8.2	U	EPA: 901.1
	Lead-214	2.8 ± 3.8	NE	12	U	EPA: 901.1
	Potassium-40	42 ± 19	NE	61	U	EPA: 901.1
	Protactinium-234m	200 ± 100	NE	340	U	EPA: 901.1
	Sodium-22	0.092 ± 0.64	NE	2.2	U	EPA: 901.1
	Thallium-208	0.95 ± 1.5	NE	5	U	EPA: 901.1
	Thorium-234	43 ± 27	NE	88	U	EPA: 901.1
Tritium	37 ± 96	NE	320	U	EPA: 906.0	

M = The requested MDC was not met.

M3 = The requested MDC was not met, but the reported activity is greater than the reported MDC.

NE = Not Established

NQ = In cases where there are no peaks found in the peak search routine, the software performs a net quantification. This indicates that nuclides are not detected or supported at any level above the reported MDC.

R = Nuclide has exceeded 8 half-lives.

TI = Nuclide identification is tentative.

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

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