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ENVIRONMENT DEPARTMENT

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Lieutenant Governor

RYAN FLYNN
Cabinet Secretary
BUTCH TONGATE
Deputy Secretary

May 26, 2016

Karen Agogino, P.E.
Point of Contact
U.S. Department of Energy
Sandia Site Office
P.O Box 5400 MS 0184
Albuquerque, New Mexico 87185-5400

Subject: **Groundwater Monitoring at Sandia National Laboratories/New Mexico Tijeras Arroyo Conducted by NMED/DOE OB for FFY 2009 Q-4**

Ms. Agogino:

This letter transmits the subject report as final.

The enclosed monitoring results were provided to DOE in draft form on October 26, 2009. The final monitoring results are provided to DOE, the State of New Mexico and 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 at (505)383-2070, by email at chris.armijo1@state.nm.us, or by mail to the address in the above letterhead.

Sincerely,

Chris Armijo
Geoscientist, Sandia Oversight Section
DOE Oversight Bureau

Enclosure:
(1) Groundwater Monitoring at Sandia National Laboratories/New Mexico Tijeras Arroyo Conducted by NMED/DOE OB for FFY 2009 Q-4
(2) Table-1 Total TAL Metals Results
(3) Table-2 Dissolved TAL Metals Results
(4) Table-3 Gamma Spectroscopy and Gross Alpha/Beta Results
(5) Table-4 Detected Volatile Organic Compounds Results
(6) Figure-1 Nitrate Plus Nitrite Concentrations, TA2-SW1-320
(7) Figure-2 Nitrate Plus Nitrite Concentrations, TA2-W-19
(8) Figure-3 Nitrate Plus Nitrite Concentrations, TJA-2
(9) Figure-4 Nitrate Plus Nitrite Concentrations, TJA-4
(10) Figure-5 Nitrate Plus Nitrite Concentrations, TJA-7
(11) Figure-6 TCE Concentrations, WYO-4

Distribution: David Rast, DOE/SSO
Tim Jackson, SNL/NM Groundwater
Michael Skelly, SNL/NM Groundwater
Susan Lucas Kamat, Bureau Chief, DOE OB

File: SGE42.Groundwater Monitoring.TAG. FFY 2009 Q-4

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Groundwater Monitoring at Sandia National Laboratories/New Mexico Tijeras Arroyo Conducted by NMED/DOE OB for FFY 2009 Q-4

The New Mexico Environment Department (NMED) DOE Oversight Bureau (Bureau) has compiled and assessed groundwater data collected in July/August 2009. The Bureau collected groundwater samples from Tijeras Arroyo Groundwater (TAG) monitoring wells TA2-NW1-595, TA2-SW1-320, TA2-W-19, TA2-W-27, TJA-2, TJA-3, TJA-4, TJA-6, TJA-7, and WYO-4. Split samples were collected using standard Sandia National Laboratories/New Mexico (SNL/NM) sampling procedures and equipment. Bureau samples were submitted to ALS Laboratory Group in Fort Collins, CO for analyses of metals, inorganics, radionuclides and organics. Nitrate plus nitrite (NPN) and trichloroethylene (TCE) were detected above the EPA Maximum Contaminant Levels (MCLs and Maximum Allowable Concentrations (MACs) in several monitoring wells.

Data Assessment

Data results are compared to applicable MACs from the New Mexico Water Quality Control Commission (WQCC) (20.6.2.3103A NMAC Human Health Standards) and MCLs from the EPA National Primary Drinking Water Regulations (40 CFR 141).

Results

Analytical results for total metals are listed in Table-1. Samples were analyzed for total (unfiltered) Target Analyte List (TAL) metals plus uranium. All metal concentrations were below established MCLs.

Analytical results for non-metallic inorganics constituents are listed in Table-2. Samples were analyzed for major anions (bromide, chloride, fluoride, and sulfate) and nitrate plus nitrite (NPN). All anion concentrations were below established MCLs. Nitrate plus nitrite was detected above the 10 mg/L EPA MCL at monitoring wells: TA2-SW1-320 (23 mg/L), TA2-W-19 (10 mg/L), TJA-2 (13 mg/L), TJA-4 (35 mg/L), and TJA-7 (30 mg/L).

Analytical results for radionuclides are listed in Table-3. Samples were analyzed for gamma emitting isotopes and gross alpha/beta. All gamma-emitting isotope activities were below established minimum detectable activities (MDAs), or the laboratory results were qualified. All gross alpha activities were below the 15 ρCi/L MCL.

Analytical results for volatile organic compounds (VOCs) detected above their associated method detection limit (MDL) are listed in Table-4. Only trichloroethylene (TCE) was detected above the EPA MCL of 5 µg/L. The trichloroethylene concentration at WYO-4 was 6.9 µg/L.

Conclusions

When analyte data are received from SNL/NM for this sampling event, Bureau staff will compare results for verification and validation.

Nitrate concentrations exceeded the MCL of 10 mg/L at five TAG monitoring wells from the FFY09 Q-4 monitoring events. The graphs in figures 1 through 5 include trend lines for Sandia data alone, for NMED data alone, and for combined data. The NMED results do not go back beyond April 2005 and the Sandia results do not go further than September 2008.

At monitoring well WYO-4, the 6.9 µg/L TCE concentration exceeded the MCL of 5 µg/L. Based on historical data, the NMED TCE data point compares well with the trend of TCE concentrations (see Figure 6).

Response

Questions or comments should be addressed to Chris Armijo by phone at (505)383-2070, by e-mail at chris.armijo1@state.nm.us, or to the address in the letterhead.

Enclosure:
(1) Table-1 Total TAL Metals Results
(2) Table-2 Dissolved TAL Metals Results
(3) Table-3 Gamma Spectroscopy and Gross Alpha/Beta Results
(4) Table-4 Detected Volatile Organic Compounds Results
(5) Figure-1 Nitrate Plus Nitrite Concentrations, TA2-SW1-320
(6) Figure-2 Nitrate Plus Nitrite Concentrations, TA2-W-19
(7) Figure-3 Nitrate Plus Nitrite Concentrations, TJA-2
(8) Figure-4 Nitrate Plus Nitrite Concentrations, TJA-4
(9) Figure-5 Nitrate Plus Nitrite Concentrations, TJA-7
(10) Figure-6 TCE Concentrations, WYO-4

Distribution:
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File: SGE42.Groundwater Monitoring.TAG. FFY 2009 Q-4

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

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-NW1-595 23-Jul-09	Aluminum	0.039	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000068	0.006	NE	0.000079	0.0003	B	SW-846:6020
	Arsenic	0.00099	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.044	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.00004	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	110	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.00071	0.1	0.05	0.00073	0.005	U	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.012	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.00012	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	17	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.0001	NE	NE	0.00013	0.002	U	SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.0012	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	2.7	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.007	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	28	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000024	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0021	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0024	NE	NE	0.0006	0.005	B	SW-846:6010
	Zinc	0.00075	NE	NE	0.0039	0.005	U	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-SW1-320 6-Aug-09	Aluminum	0.081	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00021	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.21	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000061	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	62	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0014	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.065	NE	NE	0.0036	0.05		SW-846:6010
	Lead	0.000014	0.015	0.05	0.000024	0.0005	U	SW-846:6020
	Magnesium	11	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.0032	NE	NE	0.00013	0.002		SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.001	NE	NE	0.0009	0.005	U	SW-846:6010
	Potassium	1.9	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0021	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000017	NE	0.05	0.0000085	0.0001	B	SW-846:6020
	Sodium	17	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000021	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0013	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0051	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0013	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-19 17-Aug-09	Aluminum	0.082	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.0007	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.045	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000022	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	86	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0017	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.0053	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.000074	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	12	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00039	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.000031	0.002	0.002	0.0000081	0.0001	B	SW-846:7470
	Nickel	0.0054	NE	NE	0.0009	0.005		SW-846:6010
	Potassium	2.2	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0044	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	20	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.0000095	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0011	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0049	NE	NE	0.0006	0.005	B	SW-846:6010
	Zinc	0.0043	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

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NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-W-27 3-Aug-09	Aluminum	0.069	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.000084	0.01	0.1	0.00016	0.002	U	SW-846:6020
	Barium	0.06	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000048	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	120	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0013	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.0035	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.000014	0.015	0.05	0.000024	0.0005	U	SW-846:6020
	Magnesium	15	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00081	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.001	NE	NE	0.0009	0.005	U	SW-846:6010
	Potassium	2.2	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0071	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	26	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000046	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0011	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0035	NE	NE	0.0006	0.005	B	SW-846:6010
	Zinc	0.002	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

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NE	Not Established
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Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-2 13-Aug-09	Aluminum	0.017	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00082	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.044	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000035	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	83	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0016	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.0017	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.00018	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	12	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00051	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.0016	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	2.1	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0045	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	20	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000026	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0012	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0053	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0046	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

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Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-3 4-Aug-09	Aluminum	0.042	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.000084	0.01	0.1	0.00016	0.002	U	SW-846:6020
	Barium	0.044	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000056	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	69	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0012	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.0016	NE	NE	0.0036	0.05	U	SW-846:6010
	Lead	0.000014	0.015	0.05	0.000024	0.0005	U	SW-846:6020
	Magnesium	11	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00068	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.00001	0.002	0.002	0.0000081	0.0001	B	SW-846:7470
	Nickel	0.0013	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	2	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.00067	0.05	0.05	0.00018	0.001	B	SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	22	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000016	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0025	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0043	NE	NE	0.0006	0.005	B	SW-846:6010
	Zinc	0.0024	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

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NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-4 18-Aug-09	Aluminum	0.087	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00063	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.17	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000029	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	73	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0015	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.0021	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.00017	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	14	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00047	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.000029	0.002	0.002	0.0000081	0.0001	B	SW-846:7470
	Nickel	0.0012	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	3.4	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0031	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	22	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.0000089	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0027	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0057	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0037	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-4 18-Aug-09 DUP	Aluminum	0.082	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00062	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.18	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.00003	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	74	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.00095	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.013	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.000017	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	14	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00033	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.000012	0.002	0.002	0.0000081	0.0001	B	SW-846:7470
	Nickel	0.001	NE	NE	0.0009	0.005	U	SW-846:6010
	Potassium	3.4	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0029	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	22	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000061	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0027	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0051	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0018	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-6 5-Aug-09	Aluminum	0.028	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00015	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.067	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000064	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	60	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0012	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00094	1.3	NE	0.00055	0.002	B	SW-846:6010
	Iron	0.012	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.000014	0.015	0.05	0.000024	0.0005	U	SW-846:6020
	Magnesium	11	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.0013	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.001	NE	NE	0.0009	0.005	U	SW-846:6010
	Potassium	2.2	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.00032	0.05	0.05	0.00018	0.001	U	SW-846:6020
	Silver	0.000018	NE	0.05	0.0000085	0.0001	B	SW-846:6020
	Sodium	20	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000048	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.003	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0053	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0015	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-7 19-Aug-09	Aluminum	0.1	NE	NE	0.0082	0.1		SW-846:6010
	Antimony	0.000021	0.006	NE	0.000079	0.0003	U	SW-846:6020
	Arsenic	0.00065	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.23	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000038	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	75	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0014	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00073	NE	NE	0.00068	0.002	B	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.039	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.000065	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	13	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.0014	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.00001	0.002	0.002	0.0000081	0.0001	B	SW-846:7470
	Nickel	0.0013	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	2.3	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0045	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	17	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.0000093	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0017	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.0057	NE	NE	0.0006	0.005		SW-846:6010
	Zinc	0.0022	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B	Result is an estimated value above MDL/IDL but less that reporting limit.
NE	Not Established
U	Analyte was analyzed for but was not detected

Table 1- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Total TAL Metals

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	WQCC MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
WYO-4 12-Aug-09	Aluminum	0.025	NE	NE	0.0082	0.1	B	SW-846:6010
	Antimony	0.000034	0.006	NE	0.000079	0.0003	B	SW-846:6020
	Arsenic	0.00086	0.01	0.1	0.00016	0.002	B	SW-846:6020
	Barium	0.16	2	1	0.00014	0.002		SW-846:6010
	Beryllium	0.00012	0.004	NE	0.0001	0.001	U	SW-846:6010
	Cadmium	0.000062	0.005	NE	0.00003	0.0003	B	SW-846:6020
	Calcium	87	NE	NE	0.014	0.5		SW-846:6010
	Chromium	0.0012	0.1	0.05	0.00073	0.005	B	SW-846:6010
	Cobalt	0.00064	NE	NE	0.00068	0.002	U	SW-846:6010
	Copper	0.00072	1.3	NE	0.00055	0.002	U	SW-846:6010
	Iron	0.013	NE	NE	0.0036	0.05	B	SW-846:6010
	Lead	0.00017	0.015	0.05	0.000024	0.0005	B	SW-846:6020
	Magnesium	14	NE	NE	0.0052	0.5		SW-846:6010
	Manganese	0.00082	NE	NE	0.00013	0.002	B	SW-846:6010
	Mercury	0.0000089	0.002	0.002	0.0000081	0.0001	U	SW-846:7470
	Nickel	0.0012	NE	NE	0.0009	0.005	B	SW-846:6010
	Potassium	2.2	NE	NE	0.03	0.5		SW-846:6010
	Selenium	0.0047	0.05	0.05	0.00018	0.001		SW-846:6020
	Silver	0.000012	NE	0.05	0.0000085	0.0001	U	SW-846:6020
	Sodium	18	NE	NE	0.006	0.5		SW-846:6010
	Thallium	0.000069	0.002	NE	0.000018	0.0002	B	SW-846:6020
	Uranium	0.0012	0.03	0.03	0.0000041	0.0001		SW-846:6020
	Vanadium	0.005	NE	NE	0.0006	0.005	B	SW-846:6010
	Zinc	0.0028	NE	NE	0.0039	0.005	B	SW-846:6010

Note:

B Result is an estimated value above MDL/IDL but less that reporting limit.

NE Not Established

U Analyte was analyzed for but was not detected

Table 2- NMED DOE OB FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Major Anions/ Nitrate plus Nitrite

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	NMED MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TA2-NW1-595 23-Jul-09	Bromide	1.1	NE	NE	0.095	0.2		SW-846:9056
	Chloride	99	NE	NE	0.91	2		SW-846:9056
	Fluoride	0.24	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	3.4	10	10	0.018	0.05		EPA:353.2
	Sulfate	110	NE	NE	2.3	10		SW-846:9056
TA2-SW1-320 6-Aug-09	Bromide	0.47	NE	NE	0.095	0.2		SW-846:9056
	Chloride	30	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.37	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**23**	10	10	0.073	0.2		EPA:353.2
	Sulfate	14	NE	NE	0.23	1		SW-846:9056
TA2-W-19 17-Aug-09	Bromide	0.8	NE	NE	0.095	0.2		SW-846:9056
	Chloride	76	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.32	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**10**	10	10	0.036	0.1		EPA:353.2
	Sulfate	60	NE	NE	0.23	1		SW-846:9056
TA2-W-27 3-Aug-09	Bromide	1.3	NE	NE	0.095	0.2		SW-846:9056
	Chloride	120	NE	NE	0.91	2		SW-846:9056
	Fluoride	0.19	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	4	10	10	0.0073	0.02		EPA:353.2
	Sulfate	180	NE	NE	2.3	10		SW-846:9056
TJA-2 13-Aug-09	Bromide	0.84	NE	NE	0.095	0.2		SW-846:9056
	Chloride	72	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.29	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**13**	10	10	0.036	0.1		EPA:353.2
	Sulfate	54	NE	NE	0.23	1		SW-846:9056
TJA-3 4-Aug-09	Bromide	0.2	NE	NE	0.095	0.2	U	SW-846:9056
	Chloride	13	NE	NE	0.091	0.2		SW-846:9056
	Fluoride	0.27	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	2.5	10	10	0.0073	0.02		EPA:353.2
	Sulfate	75	NE	NE	0.23	1		SW-846:9056

Notes:

Values in Bold have exceed the EPA MCL and/or NMED MAC

NE = Not established

Table 2- NMED DOE OB FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Major Anions/ Nitrate plus Nitrite

Monitoring Well/ Sample Date	Analyte	Result (mg/L)	EPA MCL (mg/L)	NMED MAC (mg/L)	MDL (mg/L)	Quantitation Limit (mg/L)	Laboratory Qualifier	Analytical Method
TJA-4 18-Aug-09	Bromide	0.29	NE	NE	0.095	0.2		SW-846:9056
	Chloride	23	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.29	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**35**	10	10	0.18	0.5		EPA:353.2
	Sulfate	17	NE	NE	0.23	1		SW-846:9056
TJA-4 18-Aug-09 DUP	Bromide	0.27	NE	NE	0.095	0.2		SW-846:9056
	Chloride	23	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.36	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**33**	10	10	0.18	0.5		EPA:353.2
	Sulfate	17	NE	NE	0.23	1		SW-846:9056
TJA-6 5-Aug-09	Bromide	0.26	NE	NE	0.095	0.2		SW-846:9056
	Chloride	15	NE	NE	0.091	0.2		SW-846:9056
	Fluoride	0.27	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	2.5	10	10	0.0073	0.02		EPA:353.2
	Sulfate	62	NE	NE	0.23	1		SW-846:9056
TJA-7 19-Aug-09	Bromide	0.36	NE	NE	0.095	0.2		SW-846:9056
	Chloride	25	NE	NE	0.46	1		SW-846:9056
	Fluoride	0.28	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	**30**	10	10	0.18	0.5		EPA:353.2
	Sulfate	20	NE	NE	0.23	1		SW-846:9056
WYO-4 12-Aug-09	Bromide	1.2	NE	NE	0.095	0.2		SW-846:9056
	Chloride	120	NE	NE	0.91	2		SW-846:9056
	Fluoride	0.32	4	1.6	0.022	0.1		SW-846:9056
	Nitrate-Nitrite as N	2.9	10	10	0.0073	0.02		EPA:353.2
	Sulfate	48	NE	NE	0.23	1		SW-846:9056

Notes:

Values in Bold have exceed the EPA MCL and/or NMED MAC

NE Not established

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TA2-NW1-595 23-Jul-09	Actinium-228	17	±	11	17	U	713R10	
	Aluminum-26	-2.6	±	4.1	7.2	U	713R10	
	Americium-241	-12	±	16	28	U	713R10	
	Antimony-124	8.8	±	3	4.3	TI	713R10	
	Antimony-125	2.6	±	6.3	11	U	713R10	
	Beryllium-7	3	±	21	35	U	713R10	
	Bismuth-212	2.1	±	39	66	U	713R10	
	Bismuth-214	18	±	14	23	U,J	713R10	
	Cadmium-109	41	±	50	82	U	713R10	
	Cerium-139	-0.25	±	1.7	2.8	U	713R10	
	Cerium-144	3.7	±	12	20	U	713R10	
	Cesium-134	3.1	±	4	6.4	U	713R10	
	Cesium-137	-2.6	±	2.8	4.8	U	713R10	
	Chromium-51	7.2	±	23	38	U	713R10	
	Cobalt-56	1.6	±	5.3	8.9	U	713R10	
	Cobalt-57	-1.3	±	1.5	2.6	U	713R10	
	Cobalt-58	2.7	±	2.7	4.3	U	713R10	
	Cobalt-60	0.49	±	3.5	5.9	U	713R10	
	Europium-152	1.8	±	17	29	U	713R10	
	Europium-154	-4.6	±	17	28	U	713R10	
	Europium-155	-6.2	±	7	12	U	713R10	
	Gross Alpha	2.6	±	0.77	0.79		724R10	
	Gross Beta	2.9	±	1.3	1.9	M3	724R10	
	Iodine-131	1.3	±	4.9	8.2	U	713R10	
	Iron-59	2.9	±	6.4	11	U	713R10	
	Lead-212	4	±	7.7	13	U	713R10	
	Lead-214	21	±	12	19	J,TI	713R10	
	Manganese-54	-2.1	±	2.9	5	U	713R10	
	Niobium-94	0.44	±	2.8	4.7	U	713R10	
	Niobium-95	-1.3	±	2.9	5	U	713R10	
	Potassium-40	58	±	72	120	U	713R10	
	Protactinium-234m	530	±	500	810	U	713R10	
	Ruthenium-106	-8.9	±	27	45	U	713R10	
	Scandium-46	-0.8	±	2.9	5	U	713R10	
	Silver-110m	0.19	±	2.5	4.2	U	713R10	
	Sodium-22	2	±	3.3	5.5	U	713R10	
	Strontium-85	0.89	±	3.5	5.8	U	713R10	
	Thallium-208	5.5	±	2.9	4.4	TI	713R10	
	Thorium-227	13	±	20	33	U	713R10	
	Thorium-234	-1.2	±	78	130	U	713R10	
	Uranium-235	8.1	±	7.5	12	U	713R10	
	Zinc-65	-9.6	±	7	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TA2-SW1-320 6-Aug-09	Actinium-228	16	±	12	19	U	713R10	
	Aluminum-26	1.1	±	3.9	6.7	U	713R10	
	Americium-241	0.039	±	2.8	4.7	U	713R10	
	Antimony-124	0.87	±	3.3	5.5	U	713R10	
	Antimony-125	4.1	±	6.1	12	U	713R10	
	Beryllium-7	2.8	±	22	38	U	713R10	
	Bismuth-212	8.1	±	42	71	U	713R10	
	Bismuth-214	6.5	±	12	20	U,J	713R10	
	Cadmium-109	10	±	28	47	U	713R10	
	Cerium-139	-0.98	±	1.5	2.6	U	713R10	
	Cerium-144	1.5	±	9.8	16	U	713R10	
	Cesium-134	-1.6	±	2.9	4.9	U	713R10	
	Cesium-137	-0.063	±	2.9	4.9	U	713R10	
	Chromium-51	3.4	±	23	39	U	713R10	
	Cobalt-56	3	±	5.6	9.3	U	713R10	
	Cobalt-57	1.3	±	1.2	2	U	713R10	
	Cobalt-58	-1.8	±	3.3	5.7	U	713R10	
	Cobalt-60	-0.31	±	3.5	6	U	713R10	
	Europium-152	-7.8	±	17	30	U	713R10	
	Europium-154	-5.3	±	17	30	U	713R10	
	Europium-155	-3.2	±	4.6	7.9	U	713R10	
	Gross Alpha	1.7	±	0.51	0.54		724R10	
	Gross Beta	2.3	±	0.9	1.3		724R10	
	Iodine-131	-3	±	7.7	13	U	713R10	
	Iron-59	-3.2	±	7.2	13	U	713R10	
	Lead-212	-1.9	±	7.2	12	U	713R10	
	Lead-214	2.4	±	10	17	U,J	713R10	
	Manganese-54	-0.94	±	2.8	4.9	U	713R10	
	Niobium-94	1	±	3.1	5.2	U	713R10	
	Niobium-95	-1.3	±	3.2	5.6	U	713R10	
	Potassium-40	31	±	70	120	U	713R10	
	Protactinium-234m	370	±	520	850	U	713R10	
	Ruthenium-106	-15	±	25	44	U	713R10	
	Scandium-46	-0.47	±	3	5.2	U	713R10	
	Silver-110m	0.29	±	2.7	4.5	U	713R10	
	Sodium-22	-0.083	±	3.2	5.5	U	713R10	
	Strontium-85	6.7	±	4	5.9	TI	713R10	
	Thallium-208	4.8	±	2.8	4.4	TI	713R10	
	Thorium-227	-2.1	±	12	21	U	713R10	
	Thorium-234	-7	±	43	71	U	713R10	
	Uranium-235	5.1	±	10	17	U	713R10	
	Zinc-65	-6.7	±	7.2	13	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	±		MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TA2-W-19 17-Aug-09	Actinium-228	18	±	12	18	U	713R10	
	Aluminum-26	-0.024	±	4	6.8	U	713R10	
	Americium-241	-5.9	±	28	57	U	713R10	
	Antimony-124	7.6	±	3	4.4	TI	713R10	
	Antimony-125	4.8	±	6.6	12	U	713R10	
	Beryllium-7	-0.97	±	21	36	U	713R10	
	Bismuth-212	-65	±	90	150	U	713R10	
	Bismuth-214	8.5	±	14	23	U,J	713R10	
	Cadmium-109	35	±	35	57	U	713R10	
	Cerium-139	-1.5	±	1.7	2.9	U	713R10	
	Cerium-144	-9	±	12	20	U	713R10	
	Cesium-134	-2.9	±	4	6.9	U	713R10	
	Cesium-137	-3	±	3	5.3	U,M	713R10	
	Chromium-51	2.9	±	24	40	U	713R10	
	Cobalt-56	3.3	±	5.5	9.1	U	713R10	
	Cobalt-57	-1.2	±	1.6	2.7	U	713R10	
	Cobalt-58	1.4	±	3.9	6.4	U	713R10	
	Cobalt-60	1.2	±	3.4	5.7	U	713R10	
	Europium-152	-5.3	±	18	30	U	713R10	
	Europium-154	6.2	±	16	28	U	713R10	
	Europium-155	-6.3	±	6.9	12	U	713R10	
	Gross Alpha	1.9	±	0.54	0.52		724R10	
	Gross Beta	2	±	0.86	1.3		724R10	
	Iodine-131	-2.4	±	5.6	9.5	U	713R10	
	Iron-59	7.2	±	6.7	11	U	713R10	
	Lead-212	-1.7	±	7.2	12	U	713R10	
	Lead-214	11	±	12	20	U,J	713R10	
	Manganese-54	0.032	±	3	5	U	713R10	
	Niobium-94	-0.82	±	2.9	4.9	U	713R10	
	Niobium-95	2.4	±	2.9	4.7	U	713R10	
	Potassium-40	58	±	76	120	U	713R10	
	Protactinium-234m	140	±	500	840	U	713R10	
	Ruthenium-106	-3.2	±	27	46	U	713R10	
	Scandium-46	-1.1	±	3.1	5.3	U	713R10	
	Silver-110m	0.86	±	2.8	4.7	U	713R10	
	Sodium-22	-1	±	3.4	5.8	U	713R10	
	Strontium-85	1.6	±	3.6	5.9	U	713R10	
	Thallium-208	1.5	±	5.4	9	U	713R10	
	Thorium-227	5.4	±	13	22	U	713R10	
	Thorium-234	16	±	74	120	U	713R10	
	Uranium-235	10	±	24	39	U	713R10	
	Zinc-65	-8.2	±	7.1	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	±		MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TA2-W-27 3-Aug-09	Actinium-228	-6	±	19	33	U	713R10	
	Aluminum-26	0.024	±	3.8	6.6	U	713R10	
	Americium-241	-5.4	±	16	26	U	713R10	
	Antimony-124	7.3	±	3.2	4.9	TI	713R10	
	Antimony-125	-0.67	±	6.4	11	U	713R10	
	Beryllium-7	-15	±	23	39	U	713R10	
	Bismuth-212	36	±	40	66	U	713R10	
	Bismuth-214	3.8	±	12	20	U,J	713R10	
	Cadmium-109	68	±	49	78	U	713R10	
	Cerium-139	0.38	±	1.7	2.8	U	713R10	
	Cerium-144	-2.4	±	21	35	U	713R10	
	Cesium-134	-2.1	±	2.8	4.8	U	713R10	
	Cesium-137	0.89	±	2.8	4.6	U	713R10	
	Chromium-51	-2.2	±	27	46	U	713R10	
	Cobalt-56	5.7	±	5.5	9	U	713R10	
	Cobalt-57	-0.22	±	1.5	2.6	U	713R10	
	Cobalt-58	0.54	±	2.9	5	U	713R10	
	Cobalt-60	1.1	±	3.4	5.7	U	713R10	
	Europium-152	0.74	±	17	29	U	713R10	
	Europium-154	-7.3	±	16	27	U	713R10	
	Europium-155	-0.081	±	6.7	11	U	713R10	
	Gross Alpha	0.7	±	0.69	1.1	U	724R10	
	Gross Beta	3.6	±	1.3	1.8	M3	724R10	
	Iodine-131	-2.7	±	9.1	15	U	713R10	
	Iron-59	4.2	±	7.6	13	U	713R10	
	Lead-212	-0.44	±	7.2	12	U	713R10	
	Lead-214	1.6	±	9.8	16	U,J	713R10	
	Manganese-54	0.013	±	2.9	5	U	713R10	
	Niobium-94	1.6	±	2.9	4.7	U	713R10	
	Niobium-95	-0.69	±	2.9	5	U	713R10	
	Potassium-40	8.8	±	74	120	U	713R10	
	Protactinium-234m	410	±	470	770	U	713R10	
	Ruthenium-106	1.1	±	26	44	U	713R10	
	Scandium-46	-0.65	±	3	5.2	U	713R10	
	Silver-110m	0.63	±	2.7	4.5	U	713R10	
	Sodium-22	2.2	±	3.3	5.4	U	713R10	
	Strontium-85	1.9	±	3.9	6.3	U	713R10	
	Thallium-208	4.9	±	2.9	4.5	TI	713R10	
	Thorium-227	-12	±	20	34	U	713R10	
	Thorium-234	33	±	76	120	U	713R10	
	Uranium-235	6.2	±	17	37	U	713R10	
	Zinc-65	-8	±	6.9	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-2 13-Aug-09	Actinium-228	5.4	±	11	19	U	713R10	
	Aluminum-26	-1.4	±	3.5	6.2	U	713R10	
	Americium-241	-3.2	±	26	44	U	713R10	
	Antimony-124	-5	±	3.7	6.4	U	713R10	
	Antimony-125	1.3	±	6.8	13	U	713R10	
	Beryllium-7	-11	±	25	43	U	713R10	
	Bismuth-212	-5.2	±	42	71	U	713R10	
	Bismuth-214	23	±	11	23	J	713R10	
	Cadmium-109	26	±	77	130	U	713R10	
	Cerium-139	0.6	±	2.1	3.4	U	713R10	
	Cerium-144	4.5	±	14	24	U	713R10	
	Cesium-134	-1.3	±	16	26	U	713R10	
	Cesium-137	0.54	±	2.9	4.9	U	713R10	
	Chromium-51	9.7	±	28	47	U	713R10	
	Cobalt-56	7.4	±	5.2	8.1	U	713R10	
	Cobalt-57	0.51	±	2	3.3	U	713R10	
	Cobalt-58	2.5	±	3.1	5.2	U	713R10	
	Cobalt-60	-2.9	±	3	5.4	U	713R10	
	Europium-152	19	±	15	24	U	713R10	
	Europium-154	-0.32	±	16	28	U	713R10	
	Europium-155	4.5	±	9.1	15	U	713R10	
	Gross Alpha	1.4	±	0.6	0.79	LT	724R10	
	Gross Beta	1.5	±	1	1.6	U,M	724R10	
	Iodine-131	-3.1	±	6.9	12	U	713R10	
	Iron-59	-4	±	10	17	U	713R10	
	Lead-212	6.9	±	4.7	7.4	U	713R10	
	Lead-214	10	±	10	17	U,J	713R10	
	Manganese-54	-2	±	2.8	5	U	713R10	
	Niobium-94	0.18	±	3	5	U	713R10	
	Niobium-95	-1	±	2.9	5	U	713R10	
	Potassium-40	-5.7	±	89	150	U	713R10	
	Protactinium-234m	75	±	510	860	U	713R10	
	Ruthenium-106	0.69	±	28	48	U	713R10	
	Scandium-46	1.6	±	3	5.1	U	713R10	
	Silver-110m	0.94	±	2.8	4.7	U	713R10	
	Sodium-22	0.61	±	3.2	5.4	U	713R10	
	Strontium-85	3.6	±	4	6.4	U	713R10	
	Thallium-208	3.8	±	2.9	4.7	U	713R10	
	Thorium-227	-15	±	14	25	U	713R10	
	Thorium-234	27	±	75	120	U	713R10	
	Uranium-235	3.6	±	14	23	U	713R10	
	Zinc-65	2.3	±	6.3	11	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)	±		MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-3 4-Aug-09	Actinium-228	14	±	12	19	U	713R10	
	Aluminum-26	0.3	±	4	6.9	U	713R10	
	Americium-241	7.5	±	16	26	U	713R10	
	Antimony-124	-0.21	±	3.6	6.2	U	713R10	
	Antimony-125	5.3	±	7	12	U	713R10	
	Beryllium-7	-3.5	±	26	44	U	713R10	
	Bismuth-212	21	±	41	68	U	713R10	
	Bismuth-214	-1.3	±	15	26	U,J	713R10	
	Cadmium-109	8.7	±	53	89	U	713R10	
	Cerium-139	0.1	±	2	3.3	U	713R10	
	Cerium-144	3.6	±	11	19	U	713R10	
	Cesium-134	-2.7	±	3.1	5.4	U	713R10	
	Cesium-137	-0.45	±	3.2	5.4	U,M	713R10	
	Chromium-51	0.6	±	29	49	U	713R10	
	Cobalt-56	5.6	±	5.8	9.4	U	713R10	
	Cobalt-57	0.21	±	1.5	2.5	U	713R10	
	Cobalt-58	-2.4	±	3.3	5.9	U	713R10	
	Cobalt-60	-0.58	±	3.6	6.2	U	713R10	
	Europium-152	4.4	±	16	28	U	713R10	
	Europium-154	4.4	±	18	30	U	713R10	
	Europium-155	2.5	±	6.4	11	U	713R10	
	Gross Alpha	2.2	±	0.62	0.6		724R10	Duplicate
	Gross Alpha	2.5	±	0.64	0.59		724R10	
	Gross Beta	1.8	±	0.85	1.3		724R10	
	Gross Beta	2.8	±	0.97	1.4		724R10	Duplicate
	Iodine-131	-2.1	±	9.4	16	U	713R10	
	Iron-59	4.8	±	6.9	11	U	713R10	
	Lead-212	0.98	±	8.3	14	U	713R10	
	Lead-214	7.9	±	6.9	14	U,J	713R10	
	Manganese-54	-1.8	±	3.1	5.5	U	713R10	
	Niobium-94	2.4	±	3.2	5.2	U	713R10	
	Niobium-95	-0.45	±	3.3	5.6	U	713R10	
	Potassium-40	5.5	±	81	140	U	713R10	
	Protactinium-234m	40	±	560	950	U	713R10	
	Ruthenium-106	-14	±	26	44	U	713R10	
	Scandium-46	0.27	±	3.3	5.6	U	713R10	
	Silver-110m	0.37	±	3	5	U	713R10	
	Sodium-22	0.52	±	3.3	5.6	U	713R10	
	Strontium-85	0.89	±	3.8	6.3	U	713R10	
	Thallium-208	3.3	±	3.1	5.1	U	713R10	
	Thorium-227	4.6	±	19	31	U	713R10	
	Thorium-234	-80	±	86	140	U	713R10	
	Uranium-235	17	±	11	18	U	713R10	
	Zinc-65	-0.88	±	6.7	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-4 18-Aug-09	Actinium-228	14	±	8.7	19	U	713R10	
	Aluminum-26	-1.5	±	3.9	6.9	U	713R10	
	Americium-241	-8.2	±	16	26	U	713R10	
	Antimony-124	-2.7	±	3.5	6	U	713R10	
	Antimony-125	4.7	±	6.9	12	U	713R10	
	Beryllium-7	-9.9	±	23	39	U	713R10	
	Bismuth-212	28	±	42	69	U	713R10	
	Bismuth-214	12	±	14	23	U,J	713R10	
	Cadmium-109	9.1	±	53	88	U	713R10	
	Cerium-139	-1.9	±	1.9	3.2	U	713R10	
	Cerium-144	-7.3	±	11	19	U	713R10	
	Cesium-134	-4.4	±	4.7	8.1	U	713R10	
	Cesium-137	-2	±	3.1	5.4	U,M	713R10	
	Chromium-51	-0.25	±	25	42	U	713R10	
	Cobalt-56	-0.25	±	5.3	9.2	U	713R10	
	Cobalt-57	-0.49	±	1.5	2.5	U	713R10	
	Cobalt-58	-2.3	±	3.2	5.7	U	713R10	
	Cobalt-60	0.4	±	3.5	6	U	713R10	
	Europium-152	-6.5	±	17	29	U	713R10	
	Europium-154	-14	±	17	30	U	713R10	
	Europium-155	-2.1	±	6.4	11	U	713R10	
	Gross Alpha	3.4	±	0.78	0.55		724R10	
	Gross Beta	4.1	±	0.92	0.96		724R10	
	Iodine-131	-3.8	±	5.1	8.8	U	713R10	
	Iron-59	1.9	±	6.5	11	U	713R10	
	Lead-212	0.94	±	8	13	U	713R10	
	Lead-214	6.5	±	12	20	U,J	713R10	
	Manganese-54	-0.048	±	3.1	5.3	U	713R10	
	Niobium-94	2.4	±	3.2	5.2	U	713R10	
	Niobium-95	-0.9	±	3	5.1	U	713R10	
	Potassium-40	4.2	±	78	130	U	713R10	
	Protactinium-234m	-320	±	860	1500	U	713R10	
	Ruthenium-106	8.1	±	26	43	U	713R10	
	Scandium-46	-1	±	3.1	5.3	U	713R10	
	Silver-110m	-1.4	±	2.8	4.9	U	713R10	
	Sodium-22	-2	±	3.1	5.5	U	713R10	
	Strontium-85	0.4	±	3.7	6.2	U	713R10	
	Thallium-208	2.6	±	6.7	11	U	713R10	
	Thorium-227	0.58	±	13	22	U	713R10	
	Thorium-234	58	±	78	130	U	713R10	
	Uranium-235	9.8	±	11	19	U	713R10	
	Zinc-65	-5.7	±	6.8	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-4 18-Aug-09 DUP	Actinium-228	23	±	11	17	TI	713R10	
	Aluminum-26	0.76	±	4.1	7	U	713R10	
	Americium-241	-1.4	±	16	27	U	713R10	
	Antimony-124	-7.6	±	3.3	5.8	U	713R10	
	Antimony-125	-2.3	±	6.3	12	U	713R10	
	Beryllium-7	0.21	±	21	35	U	713R10	
	Bismuth-212	-38	±	86	140	U	713R10	
	Bismuth-214	15	±	14	23	U,J	713R10	
	Cadmium-109	-4.1	±	48	80	U	713R10	
	Cerium-139	-2.6	±	1.7	2.8	U	713R10	
	Cerium-144	1.1	±	12	19	U	713R10	
	Cesium-134	-2.4	±	3.9	6.7	U	713R10	
	Cesium-137	-0.3	±	2.8	4.7	U	713R10	
	Chromium-51	2.1	±	22	37	U	713R10	
	Cobalt-56	3.2	±	5.4	8.9	U	713R10	
	Cobalt-57	-0.86	±	1.5	2.6	U	713R10	
	Cobalt-58	-0.66	±	2.7	4.7	U	713R10	
	Cobalt-60	3.4	±	3.5	5.6	U	713R10	
	Europium-152	3.5	±	17	28	U	713R10	
	Europium-154	7.3	±	16	27	U	713R10	
	Europium-155	0.73	±	6.5	11	U	713R10	
	Gross Alpha	3.3	±	0.77	0.59		724R10	
	Gross Beta	3.6	±	0.85	0.95		724R10	
	Iodine-131	-1.7	±	4.4	7.6	U	713R10	
	Iron-59	7.3	±	6.3	10	U	713R10	
	Lead-212	2.8	±	7.3	12	U	713R10	
	Lead-214	17	±	12	19	U,J	713R10	
	Manganese-54	-1.8	±	2.8	4.9	U	713R10	
	Niobium-94	1.9	±	2.8	4.6	U	713R10	
	Niobium-95	2.3	±	2.8	4.5	U	713R10	
	Potassium-40	24	±	72	120	U	713R10	
	Protactinium-234m	120	±	500	840	U	713R10	
	Ruthenium-106	-2.4	±	26	44	U	713R10	
	Scandium-46	0.16	±	2.8	4.8	U	713R10	
	Silver-110m	0.44	±	2.5	4.3	U	713R10	
	Sodium-22	-0.82	±	3.4	5.8	U	713R10	
	Strontium-85	3.3	±	3.7	5.9	U	713R10	
	Thallium-208	1.7	±	4.8	8	U	713R10	
	Thorium-227	-8.8	±	20	34	U	713R10	
	Thorium-234	-6.3	±	72	120	U	713R10	
	Uranium-235	13	±	12	19	U	713R10	
	Zinc-65	-5.8	±	7	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-6 5-Aug-09	Actinium-228	11	±	11	18	U	713R10	
	Aluminum-26	2.2	±	2.8	4.6	U	713R10	
	Americium-241	3.4	±	2.7	4.3	U	713R10	
	Antimony-124	5.3	±	2.8	4.3	TI	713R10	
	Antimony-125	-3	±	6	10	U	713R10	
	Beryllium-7	-0.61	±	22	38	U	713R10	
	Bismuth-212	9.6	±	37	62	U	713R10	
	Bismuth-214	7.4	±	12	19	U,J	713R10	
	Cadmium-109	-2.9	±	32	53	U	713R10	
	Cerium-139	-0.52	±	2.3	3.9	U	713R10	
	Cerium-144	-0.66	±	11	19	U	713R10	
	Cesium-134	-0.2	±	2.5	4.2	U	713R10	
	Cesium-137	2.2	±	2.6	4.3	U	713R10	
	Chromium-51	-12	±	24	41	U	713R10	
	Cobalt-56	3	±	4.7	7.9	U	713R10	
	Cobalt-57	0.017	±	1.4	2.4	U	713R10	
	Cobalt-58	-1.2	±	2.7	4.7	U	713R10	
	Cobalt-60	0.81	±	3	5.1	U	713R10	
	Europium-152	0.66	±	14	24	U	713R10	
	Europium-154	-6.7	±	14	25	U	713R10	
	Europium-155	5.7	±	5.8	9.4	U	713R10	
	Gross Alpha	3.3	±	0.74	0.5		724R10	
	Gross Beta	2.8	±	0.89	1.2		724R10	
	Iodine-131	4.9	±	7.3	12	U	713R10	
	Iron-59	0.57	±	6.5	11	U	713R10	
	Lead-212	1.9	±	7.5	12	U	713R10	
	Lead-214	3.6	±	9.7	16	U,J	713R10	
	Manganese-54	-0.052	±	2.6	4.4	U	713R10	
	Niobium-94	0.22	±	2.7	4.5	U	713R10	
	Niobium-95	-0.16	±	2.8	4.8	U	713R10	
	Potassium-40	34	±	64	110	U	713R10	
	Protactinium-234m	-30	±	460	790	U	713R10	
	Ruthenium-106	-13	±	23	39	U	713R10	
	Scandium-46	3.6	±	2.9	4.6	U	713R10	
	Silver-110m	0.45	±	2.5	4.2	U	713R10	
	Sodium-22	0.073	±	2.9	4.9	U	713R10	
	Strontium-85	6.4	±	4.1	6.3	TI	713R10	
	Thallium-208	0.62	±	4.7	7.9	U	713R10	
	Thorium-227	4.6	±	19	32	U	713R10	
	Thorium-234	35	±	48	98	U	713R10	
	Uranium-235	17	±	11	18	U	713R10	
	Zinc-65	0.94	±	6.1	10	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
TJA-7 19-Aug-09	Actinium-228	9.5	±	24	39	U	713R10	
	Aluminum-26	-4	±	3.9	7.2	U	713R10	
	Americium-241	-2.6	±	4.3	7.2	U	713R10	
	Antimony-124	1.9	±	3.1	5	U	713R10	
	Antimony-125	5.2	±	6.5	12	U	713R10	
	Beryllium-7	8.7	±	21	35	U	713R10	
	Bismuth-212	44	±	43	70	U	713R10	
	Bismuth-214	21	±	12	18	J	713R10	
	Cadmium-109	-2.1	±	29	48	U	713R10	
	Cerium-139	-1.9	±	1.5	2.6	U	713R10	
	Cerium-144	1.7	±	9.8	16	U	713R10	
	Cesium-134	-1.3	±	2.8	4.8	U	713R10	
	Cesium-137	-2	±	3.1	5.4	U,M	713R10	
	Chromium-51	-0.69	±	21	35	U	713R10	
	Cobalt-56	3.2	±	5.6	9.3	U	713R10	
	Cobalt-57	0.41	±	1.3	2.1	U	713R10	
	Cobalt-58	1	±	3.1	5.1	U	713R10	
	Cobalt-60	-0.84	±	3.3	5.8	U	713R10	
	Europium-152	13	±	16	26	U	713R10	
	Europium-154	-5.4	±	16	28	U	713R10	
	Europium-155	-0.14	±	4.6	7.8	U	713R10	
	Gross Alpha	2.6	±	0.64	0.54		724R10	
	Gross Beta	2.9	±	0.79	0.99		724R10	
	Iodine-131	1.4	±	4.9	8.2	U	713R10	
	Iron-59	6.5	±	6.5	11	U	713R10	
	Lead-212	0.88	±	7.5	12	U	713R10	
	Lead-214	10	±	11	18	U,J	713R10	
	Manganese-54	-1.1	±	2.8	4.9	U	713R10	
	Niobium-94	-4.1	±	3.3	5.7	U	713R10	
	Niobium-95	0.33	±	3.1	5.3	U	713R10	
	Potassium-40	35	±	71	120	U	713R10	
	Protactinium-234m	-200	±	510	900	U	713R10	
	Ruthenium-106	10	±	26	44	U	713R10	
	Scandium-46	1.1	±	3	5.1	U	713R10	
	Silver-110m	1	±	2.8	4.7	U	713R10	
	Sodium-22	0	±	3.4	5.8	U	713R10	
	Strontium-85	3.9	±	3.8	5.9	U	713R10	
	Thallium-208	2.5	±	3.1	5.1	U	713R10	
	Thorium-227	4.7	±	17	29	U	713R10	
	Thorium-234	-17	±	44	74	U	713R10	
	Uranium-235	14	±	9.9	19	U	713R10	
	Zinc-65	0.22	±	7.1	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 3- NMED DOE Oversight Bureau FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Gamma Spectrscopy & Gross Alpha/Beta

Monitoring Well/ Sample Date	Analyte	Activity (pCi/L)			MDA (pCi/L)	Laboratory Qualifier	Analytical Method	Comments
WYO-4 12-Aug-09	Actinium-228	14	±	8.5	18	U	713R10	
	Aluminum-26	2.4	±	3.7	6.1	U	713R10	
	Americium-241	-4.7	±	26	43	U	713R10	
	Antimony-124	8.4	±	3.1	4.5	TI	713R10	
	Antimony-125	2.1	±	6.8	11	U	713R10	
	Beryllium-7	1.3	±	22	36	U	713R10	
	Bismuth-212	12	±	87	150	U	713R10	
	Bismuth-214	-1.4	±	13	22	U,J	713R10	
	Cadmium-109	57	±	48	78	U	713R10	
	Cerium-139	-0.56	±	1.7	2.9	U	713R10	
	Cerium-144	12	±	11	19	U	713R10	
	Cesium-134	-4.2	±	2.9	4.9	U	713R10	
	Cesium-137	-0.66	±	2.8	4.8	U	713R10	
	Chromium-51	-13	±	25	43	U	713R10	
	Cobalt-56	7	±	5.5	8.7	U	713R10	
	Cobalt-57	-0.092	±	1.5	2.5	U	713R10	
	Cobalt-58	-0.29	±	2.7	4.6	U	713R10	
	Cobalt-60	-1.2	±	3.4	6	U	713R10	
	Europium-152	0.93	±	16	27	U	713R10	
	Europium-154	-1.5	±	16	27	U	713R10	
	Europium-155	-3.1	±	6.5	11	U	713R10	
	Gross Alpha	1.8	±	0.56	0.61		724R10	
	Gross Beta	2.4	±	0.91	1.3		724R10	
	Iodine-131	0.31	±	7	12	U	713R10	
	Iron-59	7.1	±	6.8	11	U	713R10	
	Lead-212	0.91	±	6.9	12	U	713R10	
	Lead-214	-1.2	±	11	18	U,J	713R10	
	Manganese-54	2.3	±	2.8	4.6	U	713R10	
	Niobium-94	-1.7	±	2.8	4.8	U	713R10	
	Niobium-95	-1.9	±	2.9	5	U	713R10	
	Potassium-40	23	±	74	120	U	713R10	
	Protactinium-234m	-17	±	490	830	U	713R10	
	Ruthenium-106	-6.2	±	26	45	U	713R10	
	Scandium-46	2.1	±	3	5	U	713R10	
	Silver-110m	-0.66	±	2.6	4.5	U	713R10	
	Sodium-22	2.4	±	3.3	5.4	U	713R10	
	Strontium-85	0.29	±	3.8	6.4	U	713R10	
	Thallium-208	2.4	±	4.9	8	U	713R10	
	Thorium-227	6.4	±	20	33	U	713R10	
	Thorium-234	28	±	69	120	U	713R10	
	Uranium-235	14	±	11	18	U	713R10	
	Zinc-65	-7	±	6.7	12	U	713R10	

Notes:

J	Activity is an estimated value
LT	Result is less than requested MDC but greater than sample specific MDC.
M	The requested MDC not met.
M3	The requested MDC was not met, but the reported activity is greater than the reported MDC.
TI	Gamma: Nuclide identification is tentative.
U	Result is less than the sample specific MDC.

Table 4- NMED DOE OB FFY 2009 Q-4 Tijeras Arroyo Groundwater Quality Results: Detected Volatile Organic Compounds

Monitoring Well/ Sample Date	Analyte	Result (µg/L)	EPA MCL (µg/L)	NMED MAC (µg/L)	MDL (µg/L)	Quantitation Limit (µg/L)	Laboratory Qualifier	Analytical Method
TA2-NW1-595 23-Jul-09	Carbon Disulfide	0.31	NE	NE	0.17	1	J	SW8260_25
	Toluene	0.2	1000	750	0.17	1	J	SW8260_25
TA2-W-19 17-Aug-09	Dichloroethane[1,1-]	0.58	NE	NE	0.17	1	J	SW8260_25
	Dichloroethene[cis-1,2-]	0.69	70	NE	0.17	1	J	SW8260_25
	Toluene	0.34	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	4.8	5	100	0.17	1		SW8260_25
TA2-W-27 3-Aug-09	Chloroform	0.2	NE	100	0.17	1	J	SW8260_25
	Dichloroethylene[1,1-]	0.21	7	25	0.17	1	J	SW8260_25
	Tetrachloroethylene	0.84	5	NE	0.17	1	J	SW8260_25
	Toluene	0.29	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	0.85	5	100	0.17	1	J	SW8260_25
TJA-2 13-Aug-09	Carbon Disulfide	0.35	NE	NE	0.17	1	J	SW8260_25
	Dichloroethane[1,1-]	0.48	NE	NE	0.17	1	J	SW8260_25
	Dichloroethene[cis-1,2-]	0.52	70	NE	0.17	1	J	SW8260_25
	Toluene	0.34	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	3.1	5	100	0.17	1		SW8260_25
TJA-3 4-Aug-09	Toluene	0.28	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	0.26	5	100	0.17	1	J	SW8260_25
TJA-4 18-Aug-09	Toluene	0.18	1000	750	0.17	1	J	SW8260_25
TJA-4 18-Aug-10 DUP	Toluene	0.18	1000	750	0.17	1	J	SW8260_25
TJA-7 19-Aug-09	Toluene	0.26	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	0.46	5	100	0.17	1	J	SW8260_25
WYO-4 12-Aug-09	Dichloroethane[1,1-]	0.86	NE	NE	0.17	1	J	SW8260_25
	Dichloroethene[cis-1,2-]	1.7	70	NE	0.17	1		SW8260_25
	Toluene	0.63	1000	750	0.17	1	J	SW8260_25
	Trichloroethylene	**6.9**	5	100	0.17	1		SW8260_25

Note:

NE Not established

J Result is an estimated value

Values in bold exceed the established MCL

Figure 1
Nitrate Plus Nitrite Concentrations, TA2-SW1-320

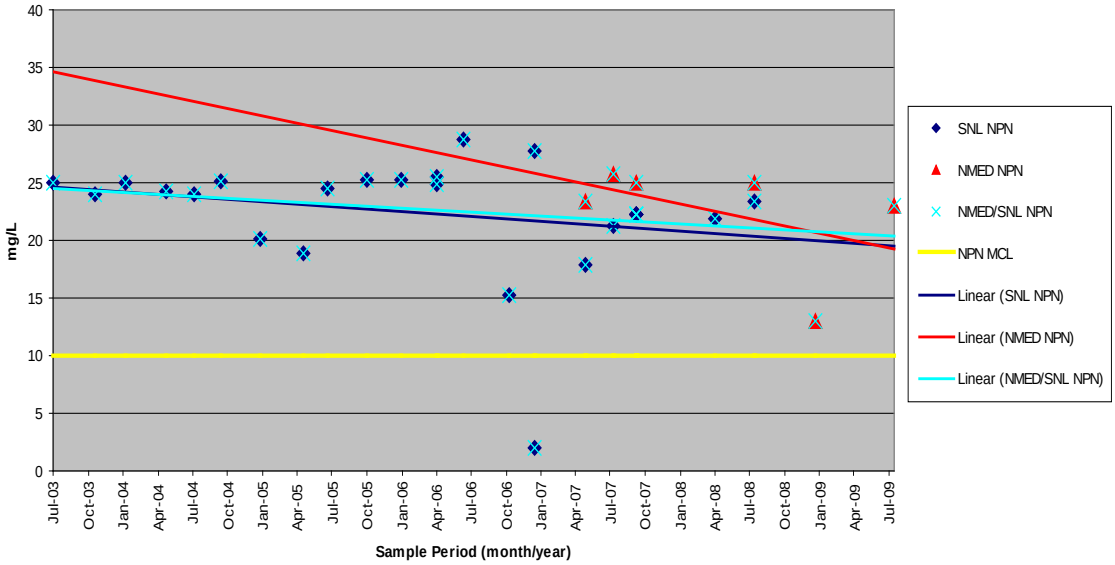

Figure 2
Nitrate Plus Nitrite Concentrations, TA2-W-19

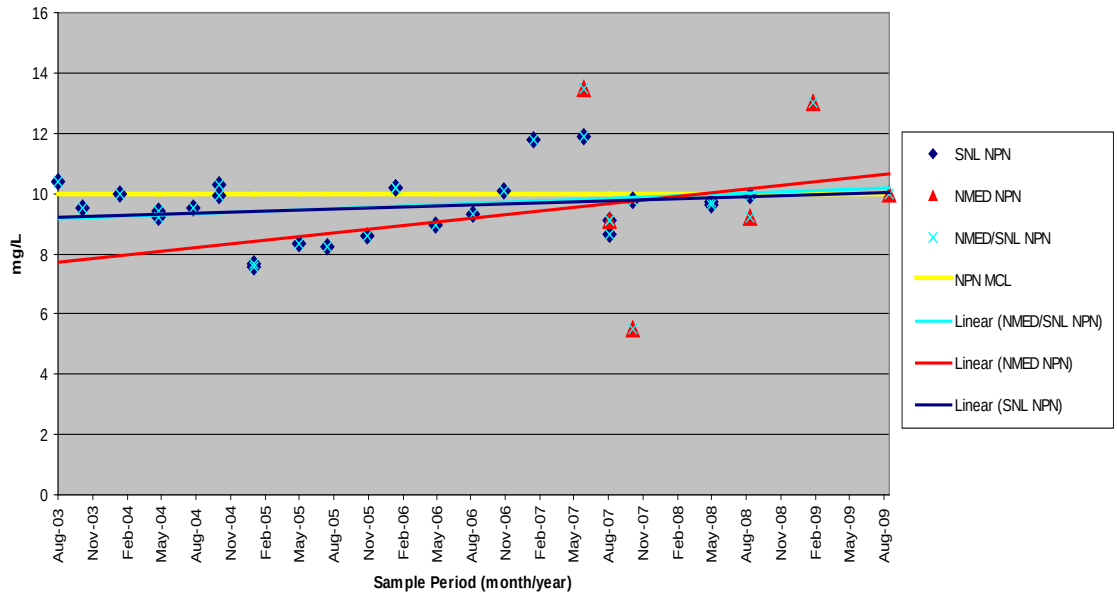

Figure 3
Nitrate Plus Nitrite Concentrations, TJA-2

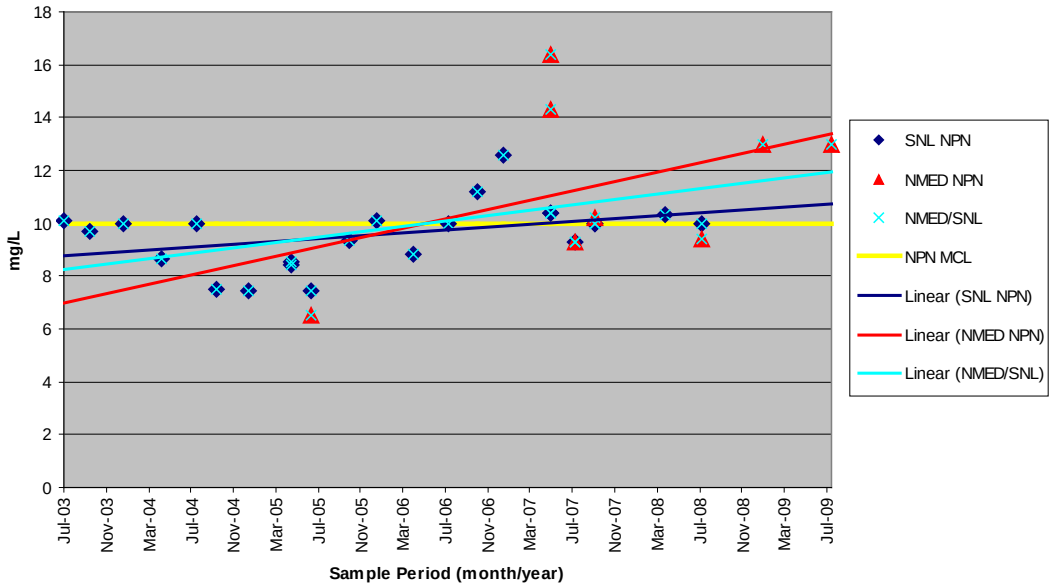

Figure 4
Nitrate Plus Nitrite Concentrations, TJA-4

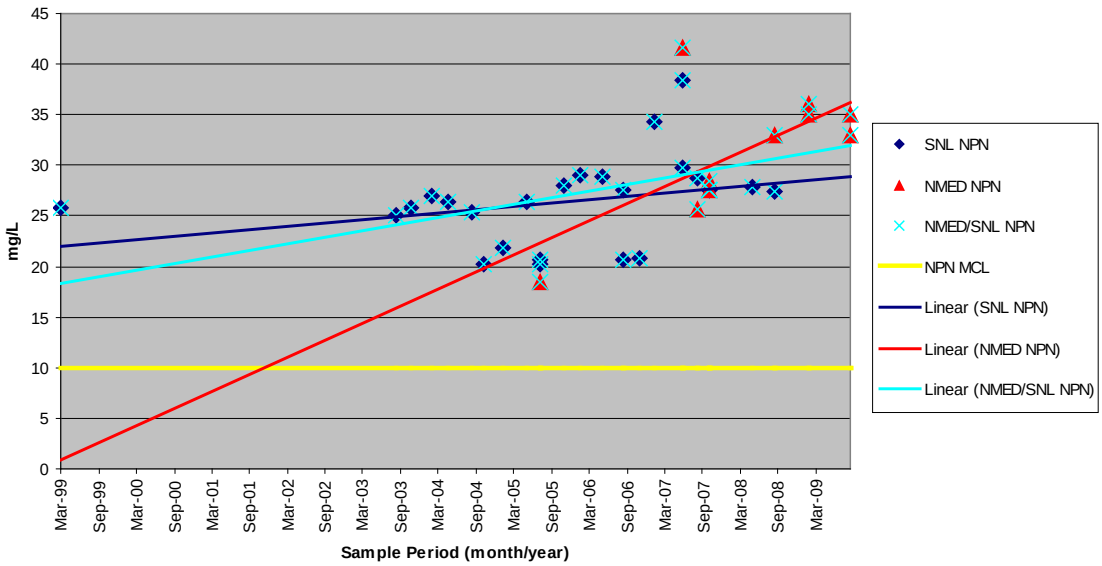

Figure 5
Nitrate Plus Nitrite Concentrations, TJA-7

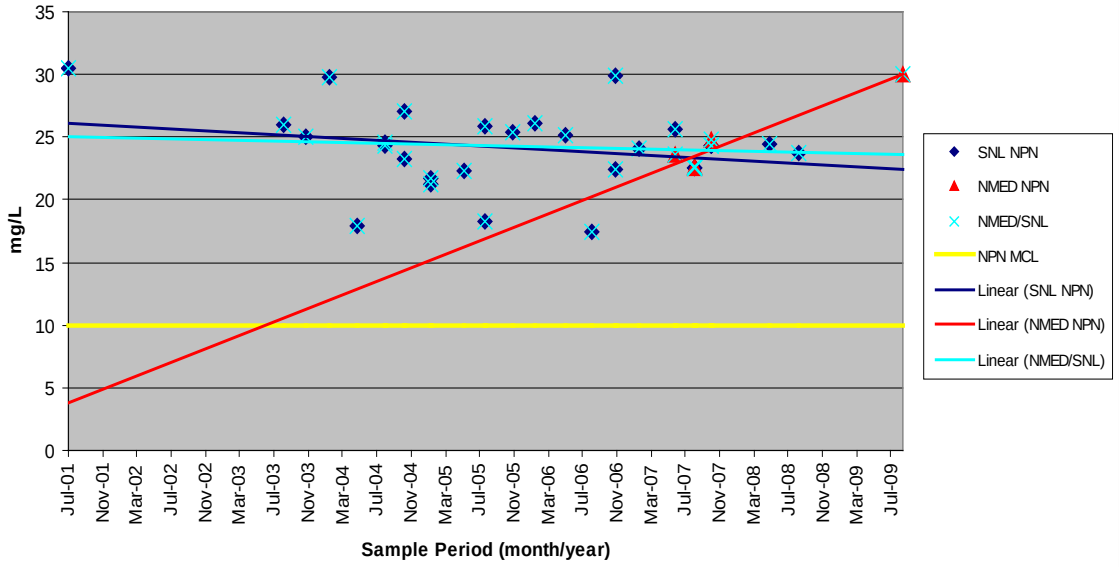

Figure 6
TCE Concentrations, WYO-4