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John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Monthly Notification of Groundwater Data Reviewed in February 2017

This letter is Los Alamos National Laboratory's (LANL's) written submission in accordance with Section XXVI of the June 2016 Compliance Order on Consent (Consent Order). LANL is working towards updating its data screening procedures to incorporate the screening requirements in Section IX of the 2016 Consent Order. Therefore, the screening levels used in this report are those specified in Section IV.A.3.g of the March 2005 Consent Order. Members of LANL's Associate Directorate for Environmental Management met on February 13, 2017, to review new groundwater data received in January 2017. This report was prepared by comparing the data against groundwater cleanup levels as defined in Section VIII.A.1 of the March 2005 Consent Order. For comparison with U.S. Environmental Protection Agency (EPA) tap water standards, the carcinogenic risk was adjusted to 1×10^{-5} , as specified in the Consent Order. This report was prepared using the May 2016 EPA regional screening levels.

This report also includes analytical data from samples collected in San Ildefonso Pueblo, which are subject to reporting at this time. These data have been reviewed by San Ildefonso Pueblo. This review is required under the Memorandum of Agreement dated May 28, 2014, between the U.S. Department of Energy; National Nuclear Security Administration, Los Alamos Field Office; and San Ildefonso Pueblo.

1-Day Notification

There were five instances of a contaminant detected at a concentration that exceeded the New Mexico Water Quality Control Commission standard or federal maximum contaminant level at locations where contaminants have not been previously detected above the respective standard (based on samples collected since June 14, 2007).

In a filtered sample collected on December 05, 2016, from alluvial spring 16-61439, barium was measured at 3340 $\mu\text{g/L}$, above the 1000- $\mu\text{g/L}$ New Mexico Groundwater Standard (NM GW STD).

In a filtered sample collected on December 13, 2016, from perched-intermediate well screen R-25 S1, chromium, cobalt, iron, and manganese were measured at 3080 µg/L, 89 µg/L, 29,300 µg/L, and 1380 µg/L, respectively, above their respective 50-µg/L, 50-µg/L, 1000-µg/L, and 200-µg/L NM GW STDs. The elevated concentrations of these constituents, along with elevated nickel and low pH, are indicative of corrosion of stainless steel.

One-day notification of these results by telephone occurred on February 13, 2017.

15-Day Notification

The required information for the contaminants and other chemical parameters that meet the six reporting criteria requiring written notification within 15 days is given in the accompanying report and table.

If you have questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Hai Shen at (505) 665-5046 (hai.shen@em.doe.gov).

Sincerely,



Bruce Robinson, Program Director
Environmental Remediation Program
Los Alamos National Laboratory

Sincerely,



David S. Rhodes, Director
Office of Quality and Regulatory Compliance
Environmental Management
Los Alamos Field Office

BR/DR/SP:sm

Enclosure: Two hard copies with electronic files – Summary of Groundwater Data Reviewed in February 2017 That Meet Notification Requirements (EP2017-0035)

Cy: (Letter and CD and/or DVD)
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SUMMARY OF GROUNDWATER DATA REVIEWED IN FEBRUARY 2017 THAT MEET NOTIFICATION REQUIREMENTS

INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by Los Alamos National Laboratory (the Laboratory) under its interim monitoring plan and contains results for chemical constituents that meet the six screening criteria laid out in the March 2005 Compliance Order on Consent (Consent Order). The report covers groundwater samples taken from wells or springs (listed in the accompanying table) that provide surveillance of the groundwater zones indicated in the table.

The report includes one table, *Table 1: NMED 01-17 Groundwater Report*. This table contains values which are detected for the first time since June 14, 2007, or detections of concentrations meeting other screening criteria since that time (as specified in the March 2005 Consent Order). These reported data may be similar to data gathered before June 14, 2007.

This table includes the following:

- Additional comments on results that appear to be exceptional based on consideration of monitoring data acquired before the current results (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current results
- Sampling date, name of the well or spring, location of the well or spring, depth of the screened interval, groundwater zone sampled, analytical result, detection limit, values for regulatory standards or screening levels, and analytical and secondary validation qualifiers. Additional information describing the locations and analytical data is also included. All data have been through secondary validation.

In accordance with the March 2005 Consent Order, the screening levels used include the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), the New Mexico groundwater standards, and the EPA regional screening levels for tap water (for compounds having no other regulatory standard). The EPA regional screening levels for tap water are either for cancer (10^{-6} excess risk) or noncancer risk values. The data were screened using 10 times the EPA's 10^{-6} excess cancer risk values to achieve 10^{-5} excess cancer risk as indicated in Section VIII.A.1 of the March 2005 Consent Order. This report was prepared using the May 2016 EPA regional screening levels.

Background levels applied in Criteria 2 and 5 are the NMED-approved 95% upper tolerance limits for background for each groundwater zone as set forth in the "Groundwater Background Investigation Report," Rev 3, prepared under Section IV.A.3.d of the March 2005 Consent Order.

DESCRIPTION OF TABLE

1-Day Notification Requirement

The CA value is used in the Criteria Code column of the table. The CA value represents the data that show detection of a contaminant in a well screen interval or spring at a concentration that exceeds either the New Mexico Water Quality Control Commission water quality standard or the federal MCL if that contaminant has not previously exceeded such water quality standard or MCL in the well screen interval or spring. The Laboratory notifies NMED orally within 1 business day after review of such analytical data and also includes the data in the 15-day notification table.

15-Day Notification Requirement

The table is divided into separate categories that correspond to the six screening criteria in the March 2005 Consent Order. Some data meet more than one of the criteria and appear in the table multiple times. The table also presents only the instances where the results exceed criteria; therefore, all six criteria may not appear in the table.

The criteria are as follows:

- C1. Detection of a contaminant that is an organic compound in a spring or screened interval of a well if that contaminant has not previously been detected in the spring or screened interval.
- C2. Detection of a contaminant that is a metal or other inorganic compound at a concentration above the background level in a spring or screened interval of a well if that contaminant has not previously exceeded the background level in the spring or screened interval.
- C3. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the New Mexico water quality standard or one-half the federal maximum contaminant level, or if there is no such standard for the contaminant, one-half the EPA Region 6 human health medium-specific screening level for tap water (now the EPA regional screening levels for tap water), if that contaminant has not previously exceeded one-half such standard or screening level in the spring or screened interval.
- C4. Detection of perchlorate in a spring or screened interval of a well at a concentration of 2 µg/L or greater if perchlorate at such concentration has not previously been detected in the spring or screened interval.
- C5. Detection of a contaminant that is a metal or other inorganic compound in a spring or screened interval of a well at a concentration that exceeds 2 times the background level for the third consecutive sampling of the spring or screened interval.
- C6. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the New Mexico water quality standard or one-half the federal MCL and that has increased for the third consecutive sampling of that spring or screened interval.

The next seven columns of the table give information on monitoring results obtained before the current result. The columns provide summary statistics for the samples collected since January 1, 2000, for the same analyte and field preparation (for example, filtered samples). The information includes the date of the first sampling event included in the statistics; the numbers of sampling events and samples analyzed; the number of detections; and the minimum, maximum, and median concentration for detections. This information indicates whether the new result is consistent with the range of earlier data.

The subsequent columns contain location and sampling information:

Hdr 1—canyon where monitoring location is found

Zone—groundwater zone sampled by monitoring location (such as alluvial spring)

Location—monitoring location name

Screen Depth—depth of top of well screen in feet (0 for springs, -1 if unknown)

Start Date—sample date

Fld QC Type Code—identifies regular samples (REG) or field duplicates (FD)

Fld Prep Code—identifies whether samples are filtered or unfiltered

Lab Sample Type Code—indicates whether result is a primary sample (INIT) or reanalysis (RE)

Anyl Suite Code—analytical suite (such as volatile organic compounds) for analyzed compound

Analyte Desc—name of analyte

Analyte—chemical symbol for analyte or CAS (Chemical Abstracts Service) number for organic compounds

Std Result—analytical result in standard measurement units

Result/Median—ratio of the Std Result to the median of all detections since 2000

LVL Type/Risk Code—type of regulatory standard, screening level, or background value (indicating groundwater zone) used for comparison

Screen Level—value of the LVL Type/Risk Code

Exceedance Ratio—ratio of Std Result to LVL Type/Risk Code. In earlier versions of this report, the ratio was divided by the basis for comparison in the criterion, but that is no longer the case. For example, for a criterion (such as C3) that compares the value with one-half the standard, a value equal to a standard previously had an exceedance ratio of 2. The current report shows this ratio as 1.

Std Mdl—method detection limit in standard measurement units

Std Uom—standard units of measurement

Dilution Factor—amount by which the sample was diluted to measure the concentration

Lab Qual Code—analytical laboratory qualifiers indicating analytical quality of the sample

Validation Flag—secondary validation qualifier

Validation Reason Code—concatenated secondary validation codes explaining assignment of qualifiers

Anyl Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—comment on the analytical result

Table 1: NMED 01-17 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fid QC Type Code	Fid Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C1	1	1	42709	1.58	1.58	1.58	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	Amino-2,6-dinitrotoluene[4-]	19406-51-0	1.58	1	EPA TAP SCRNLVL	39	0	0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	
C1	1	1	42709	1.48	1.48	1.48	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	Amino-4,6-dinitrotoluene[2-]	35572-78-2	1.48	1	EPA TAP SCRNLVL	39	0	0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	
C1	1	1	42709	0.193	0.193	0.193	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	LCMS/MS High Explosives	DNX	DNX	0.193	1				0.0879	µg/L	2	JQ	J	J_LAB	SW-846:8321A_MOD	GELC	
C1	1	1	42709	3.68	3.68	3.68	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	HMX	2691-41-0	3.68	1	EPA TAP SCRNLVL	1000	0	0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	
C1	1	1	42709	0.348	0.348	0.348	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	LCMS/MS High Explosives	MNX	MNX	0.348	1				0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	New location in FY17 IFGMP. The concentration is the first measured result.
C1	1	1	42709	7.24	7.24	7.24	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	RDX	121-82-4	7.24	1	EPA TAP SCRNLVL	7	1	0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	
C1	1	1	42709	0.422	0.422	0.422	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	LCMS/MS High Explosives	TNX	TNX	0.422	1				0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	
C1	1	1	42709	0.133	0.133	0.133	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	Trinitrotoluene[2,4,6-]	118-96-7	0.133	1	EPA TAP SCRNLVL	9.8	0	0.0879	µg/L	2	J	J	J_LAB	SW-846:8321A_MOD	GELC	
C1	5	8	42145	1.5	1.5	1.5	1	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/7/2016	REG	UF	INIT	VOC	Carbon Disulfide	75-15-0	1.5	1	EPA TAP SCRNLVL	810	0	1.5	µg/L	1	J	J-	V12a	SW-846:8260B	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C2	1	1	42711	0.316	0.316	0.316	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	12/7/2016	REG	F	INIT	GENINORG	Ammonia as Nitrogen	NH3-N	0.316	1	LANL Avl BG LVL	0.04	7.9	0.017	mg/L	1		NQ	NQ	EPA:350.1	GELC	
C2	1	1	42711	151	151	151	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	12/7/2016	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	151	1	LANL Avl BG LVL	139	1.1	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C2	1	1	42711	0.532	0.532	0.532	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	12/7/2016	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.532	1	LANL Avl BG LVL	0.05	10.6	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	1	1	42709	0.042	0.042	0.042	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	GENINORG	Ammonia as Nitrogen	NH3-N	0.042	1	LANL Avl BG LVL	0.04	1.1	0.017	mg/L	1	J	J	J_LAB	EPA:350.1	GELC	New location in FY17 IFGMP. The concentration is the first measured result.
C2	1	1	42709	3340	3340	3340	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	Metals	Barium	Ba	3340	1	LANL Avl BG LVL	68.57	48.7	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	1	1	42709	0.324	0.324	0.324	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.324	1	LANL Avl BG LVL	0.05	6.5	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C2	1	1	42709	134	134	134	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	Metals	Strontium	Sr	134	1	LANL Avl BG LVL	120	1.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	1	1	42709	164	164	164	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	164	1	LANL Avl BG LVL	139	1.2	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C2	1	1	42709	2.71	2.71	2.71	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	Metals	Vanadium	V	2.71	1	LANL Avl BG LVL	1	2.7	1	µg/L	1	J	J	J_LAB	SW-846:6010C	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C2	1	1	42709	5.82	5.82	5.82	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	Metals	Zinc	Zn	5.82	1	LANL Avl BG LVL	2	2.9	3.3	µg/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	14	18	40288	0.0203	0.117	0.0403	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	12/7/2016	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.117	2.9	LANL Int BG LVL	0.08	1.5	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	11	11	36844	116	116	116	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	Metals	Copper	Cu	116	1	LANL Int BG LVL	5.32	21.8	3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	11	11	36844	26.7	29300	34.9	9	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	Metals	Iron	Fe	29300	839.5	LANL Int BG LVL	840	34.9	30	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	10	10	37291	0.0426	0.121	0.08	3	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.121	1.5	LANL Int BG LVL	0.08	1.5	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	5	8	42145	0.0305	0.13	0.0576	7	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/7/2016	FD	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.13	2.3	LANL Int BG LVL	0.08	1.6	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	5	8	42145	0.0305	0.13	0.0576	7	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/7/2016	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.0992	1.7	LANL Int BG LVL	0.08	1.2	0.02	mg/L	1	J		I10b	EPA:365.4	GELC	
C3	1	1	42709	3340	3340	3340	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	F	INIT	Metals	Barium	Ba	3340	1	NM GW STD	1000	3.3	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	New location in FY17 IFGMP. Concentration was above 1000 µg/L of NM GW STD
C3	1	1	42709	7.24	7.24	7.24	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/5/2016	REG	UF	INIT	HEXP	RDX	121-82-4	7.24	1	EPA TAP SCRNLVL	7	1	0.0879	µg/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	New location. Concentration was above 7 µg/L of EPA TAP SCRNLVL

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C3	11	11	36844	0.82	3080	6.2	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	Metals	Chromium	Cr	3080	496.8	NM GW STD	50	61.6	300	µg/L	100		NQ	NQ	SW-846:6020	GELC	Location has not been sampled for several years, and was added to the FY17 IFGMP. Low pH (5.75) and elevated concentrations for chromium, nickel, cobalt, iron, and manganese are indicative of corrosion of stainless steel.
C3	11	11	36844	1.7	89	6.55	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	Metals	Cobalt	Co	89	13.6	NM GW STD	50	1.8	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C3	11	11	36844	26.7	29300	34.9	9	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	Metals	Iron	Fe	29300	839.5	NM GW STD	1000	29.3	30	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C3	8	8	38566	0.512	2.05	0.566	8	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/2016	REG	F	INIT	GENINORG	Perchlorate	CIO4	2.05	3.6	Consent Order	4	0.5	0.1	µg/L	2		NQ	NQ	SW-846:6850	GELC	
C5	46	51	36608	1960	5150	3020	51	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	3	12/9/2016	REG	F	INIT	Metals	Barium	Ba	1960	0.6	LANL Avl BG LVL	68.57	28.6	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	16	18	39105	0.14	0.935	0.3965	18	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	3	12/9/2016	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.398	1	LANL Avl BG LVL	0.05	8	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	9	11	40933	0.0706	0.185	0.0981	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	12/7/2016	REG	F	INIT	GENINORG	Ammonia as Nitrogen	NH3-N	0.0859	0.9	LANL Avl BG LVL	0.04	2.1	0.017	mg/L	1		NQ	NQ	EPA:350.1	GELC	
C5	16	24	40270	7070	49400	12100	24	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	12/7/2016	REG	F	INIT	Metals	Barium	Ba	8170	0.7	LANL Avl BG LVL	68.57	119.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	

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C5	16	24	40270	111	7510	662	24	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	12/7/2016	REG	F	INIT	Metals	Manganese	Mn	263	0.4	LANL Avl BG LVL	2	131.5	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	7	7	40269	3250	13500	6180	7	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	12/7/2016	REG	F	INIT	Metals	Barium	Ba	3250	0.5	LANL Avl BG LVL	68.57	47.4	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	7	7	40269	2620	3880	3580	7	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	12/7/2016	REG	F	INIT	Metals	Manganese	Mn	2620	0.7	LANL Avl BG LVL	2	1310	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	18	40288	15.2	30.1	19.8	18	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	12/7/2016	REG	F	INIT	GENINORG	Chloride	Cl(-1)	22.5	1.1	LANL Int BG LVL	7.78	2.9	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	13	17	40288	0.401	0.762	0.46	17	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	12/7/2016	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.452	1	LANL Int BG LVL	0.05	9	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	24	29	38504	51	78.9	60.5	29	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	12/5/2016	REG	F	INIT	Metals	Boron	B	78.9	1.3	LANL Int BG LVL	15.12	5.2	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	21	26	38504	0.075	0.117	0.0944	16	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	12/5/2016	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.0884	0.9	LANL Int BG LVL	0.03	2.9	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	
C5	24	29	38504	3.4	24.8	8.88	27	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	12/5/2016	REG	F	INIT	Metals	Copper	Cu	17.8	2	LANL Int BG LVL	5.32	3.3	3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	21	39223	0.449	0.589	0.526	21	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	12/5/2016	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.544	1	LANL Int BG LVL	0.05	10.9	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	

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C5	24	29	38504	4.9	70.7	13	25	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	12/5/2016	REG	F	INIT	Metals	Zinc	Zn	37.5	2.9	LANL Int BG LVL	2	18.8	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	25	39118	0.242	0.346	0.295	25	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-2(i)r	850	12/8/2016	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.346	1.2	LANL Int BG LVL	0.05	6.9	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	23	31	38701	5.6	29.8	13.65	28	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-2(i)r	850	12/8/2016	REG	F	INIT	Metals	Zinc	Zn	15.2	1.1	LANL Int BG LVL	2	7.6	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	18	22	40421	60.3	115	66.9	22	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-16-4ip S1	815.6	12/5/2016	REG	F	INIT	Metals	Boron	B	67.8	1	LANL Int BG LVL	15.12	4.5	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	21	40421	0.331	0.397	0.363	21	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-16-4ip S1	815.6	12/5/2016	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.391	1.1	LANL Int BG LVL	0.05	7.8	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	11	11	11/14/00	91	270	109	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Boron	B	104	1	LANL Int BG LVL	15.12	6.9	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	13	13	11/14/00	0.072	0.272	0.096	7	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.272	2.8	LANL Int BG LVL	0.03	9.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	11	11	11/14/00	0.82	3080	6.2	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Chromium	Cr	3080	496.8	LANL Int BG LVL	1	3080	300	µg/L	100		NQ	NQ	SW-846:6020	GELC	
C5	11	11	11/14/00	1.7	89	6.55	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Cobalt	Co	89	13.6	LANL Int BG LVL	0.5	178	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	

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C5	11	11	11/14/00	6.9	1380	86	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Manganese	Mn	1380	16	LANL Int BG LVL	2	690	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	Location has not been sampled for several years, and was added to the FY17 IFGMP. Low
C5	11	11	11/14/00	9.5	7520	460	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Nickel	Ni	7520	16.3	LANL Int BG LVL	1	7520	50	µg/L	100		NQ	NQ	SW-846:6020	GELC	pH (5.75) and elevated concentrations for chromium, nickel, cobalt, iron, and manganese are indicative of corrosion of stainless steel.
C5	8	8	08/02/05	0.512	2.05	0.566	8	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	GENINORG	Perchlorate	CIO4	2.05	3.6	LANL Int BG LVL	0.05	41	0.1	µg/L	2		NQ	NQ	SW-846:6850	GELC	
C5	15	16	01/05/09	0.208	0.313	0.289	16	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25b	750	12/08/16	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.299	1	LANL Int BG LVL	0.05	6	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	18	19	01/05/09	3.1	1420	24.2	18	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25b	750	12/08/16	REG	F	INIT	Metals	Zinc	Zn	33.7	1.4	LANL Int BG LVL	2	16.9	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	12	15	12/21/09	0.222	0.286	0.248	15	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-47i	840	12/06/16	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.286	1.2	LANL Int BG LVL	0.05	5.7	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	5	8	05/21/15	0.0745	2.75	0.44	8	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/07/16	FD	F	INIT	GENINORG	Bromide	Br(-1)	0.416	0.9	LANL Int BG LVL	0.03	13.9	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	5	8	05/21/15	0.0745	2.75	0.44	8	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/07/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.464	1.1	LANL Int BG LVL	0.03	15.5	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	5	8	05/21/15	0.389	0.532	0.4355	8	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/07/16	FD	F	INIT	GENINORG	Perchlorate	CIO4	0.456	1	LANL Int BG LVL	0.05	9.1	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	5	8	05/21/15	0.389	0.532	0.4355	8	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	12/07/16	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.463	1.1	LANL Int BG LVL	0.05	9.3	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	68	83	01/10/00	145	266	182	77	Water Canyon (includes Canon de Valle,	Intermediate Spring	Burning Ground Spring	0	12/09/16	REG	F	INIT	Metals	Barium	Ba	183	1	LANL Int BG LVL	71.83	2.5	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	

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								Potrillo, and Fence Canyons)																								
C5	19	24	01/29/07	0.518	0.717	0.5955	24	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	12/09/16	REG	F	INIT	GENINORG	Perchlorate	CIO4	0.648	1.1	LANL Int BG LVL	0.05	13	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C5	9	10	11/25/14	8.7	30.1	18.05	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Regional	R-47	1322	12/06/16	REG	F	INIT	Metals	Zinc	Zn	13.1	0.7	LANL Reg BG LVL	3.89	3.4	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	15	10/23/01	103	118	115	15	White Rock Canyon and Rio Grande	Regional Spring	La Mesita Spring	0	10/19/16	REG	F	INIT	Metals	Barium	Ba	114	1	LANL Reg BG LVL	56.83	2	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	18	10/19/00	6.44	8.43	7.055	18	White Rock Canyon and Rio Grande	Regional Spring	La Mesita Spring	0	10/19/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.29	1	LANL Reg BG LVL	3.57	2	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	13	14	08/24/04	8.47	12.7	11	14	White Rock Canyon and Rio Grande	Regional Spring	La Mesita Spring	0	10/19/16	REG	F	INIT	GENINORG	Uranium	U	9.96	0.9	LANL Reg BG LVL	1.9	5.2	0.067	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C5	14	21	10/23/01	36.3	831	118	19	White Rock Canyon and Rio Grande	Regional Spring	Sacred Spring	0	10/19/16	REG	F	INIT	Metals	Iron	Fe	831	7	LANL Reg BG LVL	21	39.6	30	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	21	10/23/01	32.8	994	197	19	White Rock Canyon and Rio Grande	Regional Spring	Sacred Spring	0	10/19/16	REG	F	INIT	Metals	Manganese	Mn	250	1.3	LANL Reg BG LVL	2.94	85	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	11	17	09/14/06	0.755	4.37	1.95	13	White Rock Canyon and Rio Grande	Regional Spring	Sacred Spring	0	10/19/16	REG	UF	INIT	GENINORG	Total Organic Carbon	TOC	0.755	0.4	LANL Reg BG LVL	0.33	2.3	0.33	mg/L	1	J	J	J_LAB	SW-846:9060	GELC	
C6	14	21	10/23/01	36.3	831	118	19	White Rock Canyon and Rio Grande	Regional Spring	Sacred Spring	0	10/19/16	REG	F	INIT	Metals	Iron	Fe	831	7	NM GW STD	1000	0.8	30	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
CA	1	1	12/05/16	3340	3340	3340	1	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Alluvial Spring	16-61439	0	12/05/16	REG	F	INIT	Metals	Barium	Ba	3340	1	NM GW STD	1000	3.3	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	New location in FY17 IFGMP. The concentration is the first measured result.

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CA	11	11	11/14/00	0.82	3080	6.2	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Chromium	Cr	3080	496.8	NM GW STD	50	61.6	300	µg/L	100		NQ	NQ	SW-846:6020	GELC	Location has not been sampled for several years, and was added to the FY17 IFGMP. Low pH (5.75) and elevated concentrations for chromium, nickel, cobalt, iron, and manganese are indicative of corrosion of stainless steel.
CA	11	11	11/14/00	1.7	89	6.55	10	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Cobalt	Co	89	13.6	NM GW STD	50	1.8	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
CA	11	11	11/14/00	26.7	29300	34.9	9	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Iron	Fe	29300	839.5	NM GW STD	1000	29.3	30	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
CA	11	11	11/14/00	6.9	1380	86	11	Water Canyon (includes Canon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25 S1	737.6	12/13/16	REG	F	INIT	Metals	Manganese	Mn	1380	16	NM GW STD	200	6.9	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	