Los Alamos
NATIONAL LABORATORY
EST. 1943

Associate Directorate for Environmental Management
P.O. Box 1663, MS M992
Los Alamos, New Mexico 87545
(505) 606-2337

Environmental Management
1900 Diamond Drive, MS M984
Los Alamos, New Mexico 87544
(505) 665-5658/FAX (505) 606-2132

Date: AUG 2 2 2016
Refer To: ADEM-16-5209
LAUR: 16-26361
Locates Action No.: n/a

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 August 2016

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). Los Alamos National Laboratory is currently updating its data screening procedures to incorporate the updated screening levels 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 August 11, 2016, to review new groundwater data received in July 2016. 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.

1-Day Notification

There were no 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).

Notification was not required because there were no cases of a contaminant detected in a well screen interval or spring at a concentration that exceeded a water quality standard for the first time.

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 August 2016 That Meet Notification Requirements (EP2016-0110)

Cy: (Letter and CD and/or DVD)
Laurie King, EPA Region 6, Dallas, TX
Michelle Hunter, NMED-GWQB
Steve Yanicak, NMED-DOE-OB, MS M894
Raymond Martinez, San Ildefonso Pueblo, NM
Dino Chavarria, Santa Clara Pueblo, NM
emla.docs@em.doe.gov
Steve Paris, ADEM ER Program
Jake Meadows, ADESH-EPC-CP
Public Reading Room (EPRR)
ADESH Records
PRS Database

Cy: (w/o enc./date-stamped letter emailed)
Wayne Witten, Los Alamos County Utility Department, Los Alamos, NM
lasomailbox@nnsa.doe.gov
Peter Maggiore, DOE-NA-LA
Kimberly Davis Lebak, DOE-NA-LA
Karen Armijo, DOE-NA-LA
Hai Shen, DOE-EM-LA
David Rhodes, DOE-EM-LA
Mei Ding, EES-14
Bruce Robinson, ADEM ER Program
Randy Erickson, ADEM
Jocelyn Buckley, ADESH-EPC-CP
Leslie Dale, ADESH-EPC-CP
Mike Saladen, ADESH-EPC-CP
John Bretzke, ADESH-EPC-DO
Michael Brandt, ADESH
William Mairson, PADOPS
Craig Leasure, PADOPS

SUMMARY OF GROUNDWATER DATA REVIEWED IN AUGUST 2016
THAT MEET NOTIFICATION REQUIREMENTS

INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by the 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 07-16 Groundwater Report*. This table contains some values that are reported when they are detected for the first time since June 14, 2007, or are greater than other data collected 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 or based on consideration of monitoring data acquired before the current result (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current result
- 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, Revision 3," prepared under Section IV.A.3.d of the March 2005 Consent Order.

DESCRIPTION OF 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 prior to 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 to 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 07-16 Groundwater Report

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
C1	13	13	12/19/02	0.259	0.259	0.259	1	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	UF	INIT	LCMS/MS HIGH EXPLOSIVES	TNX	TNX	0.259	1				0.0914	ug/L	2	J	J	J_LAB	SW-846:8321A_MOD	GELC	
C1	3	3	06/11/02	0.33	0.33	0.33	1	Pueblo Canyon (includes Acid Canyon)	Alluvial	PAO-5n	7.43	06/08/16	REG	UF	INIT	VOC	Toluene	108-88-3	0.33	1	NM GW STD	750	0	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	
C1	9	14	04/29/10	3.94	3.94	3.94	1	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	UF	INIT	VOC	Acetone	67-64-1	3.94	1	EPA TAP SCRN LVL	14000	0	3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	Result for field duplicate (FD) was nondetect.
C1	4	6	05/21/15	4.35	4.35	4.35	1	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	06/07/16	REG	UF	INIT	VOC	Butanone[2-]	78-93-3	4.35	1	EPA TAP SCRN LVL	5600	0	1.5	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	
C1	4	6	05/21/15	0.85	0.85	0.85	1	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	06/07/16	REG	UF	INIT	VOC	Toluene	108-88-3	0.85	1	NM GW STD	750	0	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	
C1	3	4	01/19/16	0.34	0.34	0.34	1	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	REG	UF	INIT	VOC	Benzene	71-43-2	0.34	1	EPA MCL	5	0.1	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	Result for field duplicate (FD) was nondetect.
C1	3	4	01/19/16	0.31	0.36	0.335	2	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	FD	UF	INIT	VOC	Chloroform	67-66-3	0.31	0.9	EPA MCL	80	0	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	
C1	3	4	01/19/16	0.31	0.36	0.335	2	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	REG	UF	INIT	VOC	Chloroform	67-66-3	0.36	1.1	EPA MCL	80	0	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	
C1	3	4	01/19/16	0.37	0.37	0.37	1	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	REG	UF	INIT	VOC	Toluene	108-88-3	0.37	1	NM GW STD	750	0	0.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC	Result for field duplicate (FD) was nondetect.
C1	1	2	06/15/16	97.3	97.3	97.3	1	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	FD	UF	INIT	DRO	Total Petroleum Hydrocarbons Diesel Range Organics	TPH-DRO	97.3	1				57.5	ug/L	1	J	J	J_LAB	SW-846:8015M_EXTRACTABLE	GELC	Result for original sample (REG) was nondetect.
C2	7	8	06/19/00	2.22	4000	2970	7	Pueblo Canyon (includes Acid Canyon)	Alluvial	PAO-5n	7.43	06/08/16	REG	F	INIT	METALS	Manganese	Mn	2.22	0	LANL Avl BG LVL	2	1.1	2	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	13	14	08/10/06	18.1	18.1	18.1	1	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	METALS	Tin	Sn	18.1	1	LANL Int BG LVL	3.26	5.6	2.5	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	11	16	04/29/10	15.2	16.8	16	2	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	METALS	Tin	Sn	16.8	1.1	LANL Int BG LVL	3.26	5.2	2.5	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	11	16	04/29/10	15.2	16.8	16	2	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	METALS	Tin	Sn	15.2	1	LANL Int BG LVL	3.26	4.7	2.5	ug/L	1		NQ	NQ	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	15	19	11/15/05	3	12.8	7.9	2	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Regional	R-24	825	06/06/16	REG	F	INIT	METALS	Tin	Sn	12.8	1.6	LANL Reg BG LVL	3.26	3.9	2.5	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C2	10	12	10/13/10	9.48	9.48	9.48	1	Pueblo Canyon (includes Acid Canyon)	Regional	R-3	974.5	06/06/16	REG	F	INIT	METALS	Tin	Sn	9.48	1	LANL Reg BG LVL	3.26	2.9	2.5	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	3	4	01/19/16	1.09	1.09	1.09	1	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	FD	F	INIT	METALS	Cobalt	Co	1.09	1	LANL Reg BG LVL	0.5	2.2	1	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	3	4	01/19/16	5.73	6.57	6.15	2	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	FD	F	INIT	METALS	Tin	Sn	5.73	0.9	LANL Reg BG LVL	3.26	1.8	2.5	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	3	4	01/19/16	5.73	6.57	6.15	2	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	REG	F	INIT	METALS	Tin	Sn	6.57	1.1	LANL Reg BG LVL	3.26	2	2.5	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C3	30	46	08/15/06	0.134	3.73	0.58	45	Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-18	1358	06/08/16	REG	UF	INIT	HEXP	RDX	121-82-4	3.73	6.4	EPA TAP SCRN LVL	7	0.5	0.0842	ug/L	2		NQ	NQ	SW-846:8321A_MOD	GELC	Highest so far, concentration increases steadily.
C5	44	49	03/23/00	2030	5150	3180	49	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	3	06/17/16	REG	F	INIT	METALS	Barium	Ba	2430	0.8	LANL Avl BG LVL	68.57	35.4	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	45	50	03/23/00	0.595	5.74	2.22	14	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	3	06/17/16	REG	F	INIT	METALS	Chromium	Cr	5.74	2.6	LANL Avl BG LVL	1	5.7	2	ug/L	1	J	J	J_LAB	SW-846:6020	GELC	
C5	14	16	01/23/07	0.158	0.935	0.401	16	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	3	06/17/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.297	0.7	LANL Avl BG LVL	0.05	5.9	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	47	56	03/28/00	4580	13600	6365	56	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	06/23/16	REG	F	INIT	METALS	Barium	Ba	4950	0.8	LANL Avl BG LVL	68.57	72.2	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	22	04/02/10	7070	49400	12950	22	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	06/13/16	REG	F	INIT	METALS	Barium	Ba	7580	0.6	LANL Avl BG LVL	68.57	110.5	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	22	04/02/10	111	7510	681.5	22	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	06/13/16	REG	F	INIT	METALS	Manganese	Mn	224	0.3	LANL Avl BG LVL	2	112	2	ug/L	1		NQ	NQ	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
C5	14	22	04/02/10	2.34	4.88	2.905	10	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611923	3.2	06/13/16	REG	F	INIT	METALS	Vanadium	V	2.52	0.9	LANL Avl BG LVL	1	2.5	1	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C5	12	17	08/01/06	0.215	2.57	0.818	17	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	1.09	1.3	LANL Avl BG LVL	0.07	15.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	17	25	03/28/01	0.227	0.961	0.631	25	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.619	1	LANL Avl BG LVL	0.27	2.3	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	14	20	03/28/01	129	2470	237.5	20	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	METALS	Molybdenum	Mo	129	0.5	LANL Avl BG LVL	2	64.5	3.3	ug/L	20		NQ	NQ	SW-846:6020	GELC	
C5	12	17	08/01/06	0.229	0.614	0.434	17	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.475	1.1	LANL Avl BG LVL	0.05	9.5	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	15	21	03/28/01	32.8	75.4	46.8	21	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	GENINORG	Sodium	Na	52.3	1.1	LANL Avl BG LVL	15.54	3.4	0.1	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	24	03/28/01	0.108	0.296	0.161	17	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.108	0.7	LANL Avl BG LVL	0.05	2.2	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C5	14	20	03/28/01	2.06	4.14	2.935	18	Upper Los Alamos Canyon (includes DP Canyon)	Alluvial	LAO-3a	4.7	06/07/16	REG	F	INIT	METALS	Vanadium	V	2.62	0.9	LANL Avl BG LVL	1	2.6	1	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C5	24	24	11/14/00	123	283	194.5	22	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Barium	Ba	190	1	LANL Avl BG LVL	68.57	2.8	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	20	20	11/14/00	149	502	303	20	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Boron	B	360	1.2	LANL Avl BG LVL	51.89	6.9	15	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	24	24	11/14/00	11.2	1300	221.5	24	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Manganese	Mn	291	1.3	LANL Avl BG LVL	2	145.5	2	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	24	24	11/14/00	2.17	7.5	3.53	19	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Nickel	Ni	2.4	0.7	LANL Avl BG LVL	1	2.4	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	24	24	11/14/00	1.6	14.8	4.29	18	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Vanadium	V	3.64	0.8	LANL Avl BG LVL	1	3.6	1	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C5	24	24	11/14/00	5.04	36.8	15.2	20	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	06/10/16	REG	F	INIT	METALS	Zinc	Zn	6.44	0.4	LANL Avl BG LVL	2	3.2	3.3	ug/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
C5	12	16	04/20/10	15.2	22.9	19.6	16	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	06/13/16	FD	F	INIT	GENINORG	Chloride	Cl(-1)	17.6	0.9	LANL Int BG LVL	7.78	2.3	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	12	16	04/20/10	15.2	22.9	19.6	16	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	06/13/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	17.3	0.9	LANL Int BG LVL	7.78	2.2	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	11	15	04/20/10	0.429	0.762	0.472	15	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	06/13/16	FD	F	INIT	GENINORG	Perchlorate	ClO4	0.442	0.9	LANL Int BG LVL	0.05	8.8	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	11	15	04/20/10	0.429	0.762	0.472	15	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	06/13/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.429	0.9	LANL Int BG LVL	0.05	8.6	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	14	16	08/10/06	150	162	156	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	152	1	LANL Int BG LVL	52	2.9	0.725	mg/L	1		NQ	NQ	EPA:310.1	GELC	
C5	13	14	08/10/06	84.6	122	101	14	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	METALS	Boron	B	122	1.2	LANL Int BG LVL	15.12	8.1	15	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	16	08/10/06	0.148	0.279	0.16	13	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.149	0.9	LANL Int BG LVL	0.03	5	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	
C5	13	14	08/10/06	54.8	60	57.9	14	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Calcium	Ca	59	1	LANL Int BG LVL	17.31	3.4	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	14	16	08/10/06	34.4	44.9	37.85	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	43.9	1.2	LANL Int BG LVL	7.78	5.6	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	13	14	08/10/06	15.1	16.8	15.95	14	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Magnesium	Mg	16.1	1	LANL Int BG LVL	6.12	2.6	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	13	14	08/10/06	6.69	9.7	8.63	14	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	METALS	Nickel	Ni	7.5	0.9	LANL Int BG LVL	1	7.5	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	14	16	08/10/06	0.104	3.45	2.355	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	1.67	0.7	LANL Int BG LVL	0.05	33.4	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	14	16	08/10/06	251	437	321	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	349	1.1	LANL Int BG LVL	127	2.7	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	13	14	08/10/06	7.72	10.2	9.315	14	Pueblo Canyon (includes Acid Canyon)	Intermediate	R-3i	215.2	06/02/16	REG	F	INIT	GENINORG	Uranium	U	8.85	1	LANL Int BG LVL	0.72	12.3	0.067	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	11	16	04/29/10	154	195	173.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	METALS	Boron	B	159	0.9	LANL Int BG LVL	15.12	10.5	15	ug/L	1		NQ	NQ	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
C5	11	16	04/29/10	154	195	173.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	METALS	Boron	B	154	0.9	LANL Int BG LVL	15.12	10.2	15	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	11	16	04/29/10	35.5	43.3	37.4	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	GENINORG	Calcium	Ca	35.8	1	LANL Int BG LVL	17.31	2.1	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	11	16	04/29/10	35.5	43.3	37.4	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	GENINORG	Calcium	Ca	35.5	0.9	LANL Int BG LVL	17.31	2.1	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	11	16	04/29/10	40.2	50.8	45.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	GENINORG	Chloride	Cl(-1)	45.1	1	LANL Int BG LVL	7.78	5.8	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	11	16	04/29/10	40.2	50.8	45.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	44.5	1	LANL Int BG LVL	7.78	5.7	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	11	16	04/29/10	2.17	20.1	3.53	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	METALS	Nickel	Ni	2.35	0.7	LANL Int BG LVL	1	2.4	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	11	16	04/29/10	2.17	20.1	3.53	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	METALS	Nickel	Ni	2.17	0.6	LANL Int BG LVL	1	2.2	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	11	16	04/29/10	0.42	0.565	0.49	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	GENINORG	Perchlorate	ClO4	0.42	0.9	LANL Int BG LVL	0.05	8.4	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	11	16	04/29/10	0.42	0.565	0.49	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.486	1	LANL Int BG LVL	0.05	9.7	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	11	16	04/29/10	249	326	288.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	FD	F	INIT	GENINORG	Total Dissolved Solids	TDS	304	1.1	LANL Int BG LVL	127	2.4	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	11	16	04/29/10	249	326	288.5	16	Pueblo Canyon (includes Acid Canyon)	Intermediate	TW-2Ar	102	06/01/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	326	1.1	LANL Int BG LVL	127	2.6	3.4	mg/L	1		J	i10b	EPA:160.1	GELC	
C5	4	6	05/21/15	0.0745	2.75	0.74775	6	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	06/07/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	1.41	1.9	LANL Int BG LVL	0.03	47	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	4	6	05/21/15	0.389	0.532	0.4295	6	Acid Canyon	Intermediate Perched	CDV-9-1(i) S1	937.4	06/07/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.532	1.2	LANL Int BG LVL	0.05	10.6	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	66	81	01/10/00	145	266	182	75	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	06/17/16	REG	F	INIT	METALS	Barium	Ba	145	0.8	LANL Int BG LVL	71.83	2	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	17	22	01/29/07	0.518	0.717	0.5955	22	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	06/17/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.556	0.9	LANL Int BG LVL	0.05	11.1	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	58	65	01/10/00	570	2840	1440	65	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	0	06/22/16	REG	F	INIT	METALS	Boron	B	902	0.6	LANL Int BG LVL	15.12	59.7	15	ug/L	1		NQ	NQ	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
C5	18	23	01/30/07	0.0773	0.234	0.116	18	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	0	06/22/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.107	0.9	LANL Int BG LVL	0.03	3.6	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	
C5	18	23	01/30/07	18	44.2	22.2	23	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	0	06/22/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	21.4	1	LANL Int BG LVL	7.78	2.8	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	16	20	01/30/07	0.459	0.707	0.558	20	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	0	06/22/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.502	0.9	LANL Int BG LVL	0.05	10	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	62	69	01/10/00	17	50.2	34	69	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	0	06/22/16	REG	F	INIT	GENINORG	Sodium	Na	34.6	1	LANL Int BG LVL	12.19	2.8	0.1	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	16	20	11/15/05	6.96	8.31	7.52	20	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Regional	R-24	825	06/06/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.81	1	LANL Reg BG LVL	3.57	2.2	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	15	19	11/15/05	10.1	33.1	14.4	18	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Regional	R-24	825	06/06/16	REG	F	INIT	METALS	Zinc	Zn	19	1.3	LANL Reg BG LVL	3.89	4.9	3.3	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	7	8	11/25/14	14.5	30.1	20.55	8	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-47	1322	06/09/16	REG	F	INIT	METALS	Zinc	Zn	15.8	0.8	LANL Reg BG LVL	3.89	4.1	3.3	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	3	4	01/19/16	53.1	112	67.45	4	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	FD	F	INIT	METALS	Iron	Fe	64.3	1	LANL Reg BG LVL	21	3.1	30	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C5	3	4	01/19/16	53.1	112	67.45	4	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	06/15/16	REG	F	INIT	METALS	Iron	Fe	53.1	0.8	LANL Reg BG LVL	21	2.5	30	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	