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

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Hazardous Waste
Bureau

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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 November 2017

This letter is Los Alamos National Laboratory's (LANL's) written submission in accordance with Section XXVI of the 2016 Compliance Order on Consent (Consent Order). Members of LANL's Associate Directorate for Environmental Management met on November 09, 2017, to review groundwater data received in October 2017. This report was prepared by comparing the data against groundwater notification criteria as defined in Section IX of the 2016 Consent Order. These criteria consider New Mexico Water Quality Control Commission (NMWQCC) groundwater standards, U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), New Mexico Environment Department (NMED) screening levels for tap water, EPA regional screening levels for tap water, and NMED-approved background values for hydrogeological zones as set forth in the "Groundwater Background Investigation Report, Revision 5." For comparison with EPA tap water standards, the standard's carcinogenic risk value was adjusted to 1×10^{-5}, as specified in the Consent Order. This report was prepared using the June 2017 EPA regional screening levels for tap water.

1-Day Notification

There were no instances of a contaminant detected at a concentration that exceeded the NMWQCC groundwater 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).

One-day 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 five reporting criteria requiring written notification within 15 days is given in the accompanying report and tables.

If you have questions, please contact Nita Patel at (505) 665-9273 (npatel@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/NP:sm

Enclosure: Two hard copies with electronic files – Summary of Groundwater Data Reviewed in November 2017 That Meet Notification Requirements (EP2017-0157)

Cy: (date-stamped letter and attachment emailed)
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
Nita Patel, ADEM ER Program
Brian Iacona, 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
Steve Goodrum, DOE-NA-LA
Karen Armijo, DOE-NA-LA
Hai Shen, DOE-EM-LA
Cheryl L. Rodriguez, DOE-EM-LA
David Rhodes, DOE-EM-LA
Mei Ding, EES-14
Bruce Robinson, ADEM ER Program
Jake Meadows, ADESH-EPC-CP
Jocelyn Buckley, ADESH-EPC-CP
Leslie Dale, ADESH-EPC-CP
John Bretzke, ADESH-EPC-DO
Michael Brandt, ADESH
William Mairson, PADOPS
Craig Leasure, PADOPS

SUMMARY OF GROUNDWATER DATA REVIEWED IN NOVEMBER 2017 THAT MEET NOTIFICATION REQUIREMENTS

INTRODUCTION

This report provides information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by Los Alamos National Laboratory (the Laboratory) under its annual "Interim Facility-Wide Groundwater Monitoring Plan" for the 2017 Monitoring Year and contains results for contaminants and other chemical constituents that meet the five screening criteria described in Section XXVI of the 2016 Compliance Order on Consent modified February 2017 (2016 Consent Order). The report covers groundwater samples collected from wells or springs (listed in the accompanying tables) that provide surveillance of the hydrogeological zones indicated in the tables.

The report includes two tables. Table 1, NMED 10-17 Groundwater Report, presents results since June 14, 2007, that met the five reporting criteria as specified in the 2016 Consent Order. Table 2, NMED 10-17 Groundwater Report Addendum, presents results that are exceeding the 95th percentile of those results in the data set defined in the "Groundwater Background Investigation Report, Revision 5." Only contaminants and other chemical constituents lacking a calculated groundwater background value (i.e., the frequency of detections was too low to calculate a background value at the 95% upper tolerance level) are listed in this table. Table 2 is a voluntary submission by the Laboratory to NMED to identify the potential risk resulting from contaminants and other chemical constituents without defined background values.

These tables include the following:

- Comments on results that appear to be exceptional based on consideration of monitoring data acquired from previous analyses (using statistics described below)
- Supplemental information summarizing monitoring results obtained from previous analyses
- 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.

This report was prepared by comparing the data against groundwater notification criteria as defined in Section IX of the 2016 Consent Order. These criteria consider New Mexico Water Quality Control Commission (NMWQCC) groundwater standards, U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), NMED screening levels for tap water, EPA regional screening levels for tap water, and NMED-approved background values for hydrogeological zones as set forth in the "Groundwater Background Investigation Report, Revision 5." For comparison with EPA tap water standards, the standard's carcinogenic risk value was adjusted to 1×10^{-5}, as specified in the Consent Order. This report was prepared using the June 2017 EPA regional screening levels for tap water.

Background values applied in Table 1 notification criteria C2 and C4 are the background values for hydrogeological zones as set forth in the NMED-approved "Groundwater Background Investigation Report, Revision 5."

Screening values applied in Table 2 criteria XC2scr and XC4scr are the 95th percentile of the data set used to establish background as defined in the "Groundwater Background Investigation Report, Revision 5."

DESCRIPTION OF TABLES

15-Day Notification Requirement

Table 1 is divided into separate categories that correspond to the five screening criteria in Section XXVI of the 2016 Consent Order. Some data met more than one of the notification criteria and appear in the table multiple times.

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 (1) exceeds the lower of either one-half the NMWQCC water quality standard or one-half the federal MCL, or, if there is no such standard for the contaminant, (2) exceeds one-half the tap water screening levels in Table A-1 of NMED' s “Risk Assessment Guidance for Site Investigations and Remediation” (March 2017 or updates, as appropriate), or, if there is no NMED tap water screening level available for a contaminant, (3) exceeds one-half the EPA regional human health medium-specific screening level 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 a contaminant that is a metal or other inorganic compound in a spring or screened interval of a well at a concentration that exceeds two times the background level for the third consecutive sampling of the spring or screened interval.

C5. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the NMWQCC water quality standard or one-half the federal MCL, and which has increased for the third consecutive sampling of that spring or screened interval.

Table 2 is divided into two categories that correspond to two screening criteria. They mirror criteria C2 and C4 in Table 1, respectively.

The two criteria are as follows:

XC2scr. Detection of a contaminant that is a metal or other inorganic compound at a concentration above the 95th percentile in a spring or screened interval of a well if that contaminant has not previously exceeded the 95th percentile of the data set used to establish background in the spring or screened interval as defined in the “Groundwater Background Investigation Report, Revision 5.”

XC4scr. 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 for the third consecutive sampling exceeds 2 times the 95th percentile of the data set used to establish background as defined in the “Groundwater Background Investigation Report, Revision 5.”

Columns two through eight in both tables provide summary statistics for metals or inorganic compounds by field preparation code (e.g., filtered aluminum) for samples collected since January 1, 2000, including the currently reported data The statistics include the date of the first sampling event; the number 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—hydrogeological zone from which the groundwater sample was collected (e.g., 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 10-17 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	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	10	11	4/1/2010	1.6	5.26	2.635	8	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-611937	3	9/12/2017	REG	F	INIT	METALS	Arsenic	As	5.26	2	EPA MCL	10	0.5	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	In this sampling round, dissolved Fe and Mn concentrations (4690 µg/L and 1850 µg/L, respectively) were high and dissolved oxygen (DO) concentration (0.76 mg/L) was low, indicating a reducing environment of the well, which may cause a slightly higher As value.
C4	24	29	6/1/2005	5.78	8.34	6.77	29	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	9/15/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	8.04	1.2	LANL Int BG LVL	3.11	2.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	17	18	11/15/2005	36.7	49.3	42.7	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	METALS	Barium	Ba	38.2	0.9	LANL Int BG LVL	13.5	2.8	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	17	18	11/15/2005	17.8	27.4	22.75	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Calcium	Ca	25.6	1.1	LANL Int BG LVL	10.7	2.4	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	19	20	11/15/2005	5.15	31.8	18.6	20	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	28.2	1.5	LANL Int BG LVL	3.11	9.1	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C4	17	18	11/15/2005	64	95	79.85	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Hardness	Hardness	95	1.2	LANL Int BG LVL	37.8	2.5	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	
C4	17	18	11/15/2005	3.81	7.55	5.495	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Magnesium	Mg	7.55	1.4	LANL Int BG LVL	3.14	2.4	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	19	20	11/15/2005	1.42	4.48	2.285	20	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO_3+NO_2-N	2.15	0.9	LANL Int BG LVL	0.459	4.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	

Table 1: NMED 10-17 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	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
C4	17	18	7/25/2006	3.01	7.63	4.765	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	4.63	1	LANL Int BG LVL	0.27	17.1	0.25	µg/L	5		NQ	NQ	SW-846:6850	GELC	
C4	17	18	11/15/2005	5.36	8.15	7.15	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Potassium	K	7.7	1.1	LANL Int BG LVL	2.35	3.3	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	17	17	7/26/2006	21.2	25.6	23.9	17	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Calcium	Ca	24.3	1	LANL Int BG LVL	10.7	2.3	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	18	18	7/26/2006	19.1	23.4	21.05	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	23.4	1.1	LANL Int BG LVL	3.11	7.5	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C4	17	17	7/26/2006	72.5	86	80.2	17	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Hardness	Hardness	81.6	1	LANL Int BG LVL	37.8	2.2	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	
C4	18	18	7/26/2006	1.56	3.03	1.865	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO_3+NO_2-N	1.69	0.9	LANL Int BG LVL	0.459	3.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	18	18	7/26/2006	2	4.65	2.905	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	2	0.7	LANL Int BG LVL	0.27	7.4	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	17	17	7/26/2006	9.09	10.6	9.94	17	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Potassium	K	9.65	1	LANL Int BG LVL	2.35	4.1	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	17	17	7/26/2006	127	159	151	17	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	METALS	Strontium	Sr	142	0.9	LANL Int BG LVL	59.6	2.4	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	18	23	5/9/2006	3.56	38.3	19.5	23	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-7	240	9/26/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	24.3	1.2	LANL Int BG LVL	3.11	7.8	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C4	18	22	5/9/2006	0.522	0.877	0.7595	22	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-7	240	9/26/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	0.664	0.9	LANL Int BG LVL	0.27	2.5	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	

Table 1: NMED 10-17 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	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
C4	17	22	5/9/2006	4.55	5.68	4.985	22	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-7	240	9/26/2017	REG	F	INIT	GENINORG	Potassium	K	5.02	1	LANL Int BG LVL	2.35	2.1	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	20	26	8/24/2005	15.3	18	16.7	26	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	602	9/25/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	15.3	0.9	LANL Int BG LVL	3.11	4.9	0.134	mg/L	2		NQ	NQ	EPA:300.0	GELC	
C4	20	26	8/24/2005	0.575	0.899	0.685	26	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	602	9/25/2017	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.805	1.2	LANL Int BG LVL	0.234	3.4	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	20	26	8/24/2005	3.21	5.06	3.845	26	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	602	9/25/2017	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO_3+NO_2-N	3.58	0.9	LANL Int BG LVL	0.459	7.8	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	16	22	7/26/2006	5.63	8.32	6.435	22	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	602	9/25/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	5.63	0.9	LANL Int BG LVL	0.27	20.9	0.25	µg/L	5		NQ	NQ	SW-846:6850	GELC	
C4	11	14	5/21/2009	37.8	45	40.9	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	METALS	Barium	Ba	42	1	LANL Int BG LVL	13.5	3.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	11	14	5/21/2009	32.5	42.5	35.8	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Calcium	Ca	40	1.1	LANL Int BG LVL	10.7	3.7	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	12	15	5/21/2009	25.3	38.1	30.7	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	38	1.2	LANL Int BG LVL	3.11	12.2	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C4	11	14	5/21/2009	109	141	120	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Hardness	Hardness	134	1.1	LANL Int BG LVL	37.8	3.5	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	
C4	11	14	5/21/2009	6.74	8.45	7.41	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Magnesium	Mg	8.3	1.1	LANL Int BG LVL	3.14	2.6	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	11	14	5/21/2009	76.9	175	101.1	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	METALS	Molybdenum	Mo	161	1.6	LANL Int BG LVL	2.9	55.5	2	µg/L	10		NQ	NQ	SW-846:6020	GELC	

Table 1: NMED 10-17 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	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
C4	12	15	5/21/2009	0.96	1.45	1.08	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO_3+NO_2-N	1.45	1.3	LANL Int BG LVL	0.459	3.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	Highest result to date
C4	12	15	5/21/2009	0.579	0.68	0.632	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	0.658	1	LANL Int BG LVL	0.27	2.4	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	11	14	5/21/2009	4.56	5.7	5.195	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Potassium	K	5.34	1	LANL Int BG LVL	2.35	2.3	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	11	14	5/21/2009	168	228	192.5	14	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	METALS	Strontium	Sr	222	1.2	LANL Int BG LVL	59.6	3.7	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	12	15	5/21/2009	15.4	24.5	17.9	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Sulfate	SO_4(-2)	24.5	1.4	LANL Int BG LVL	7.1	3.5	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	Highest result to date
C4	71	86	1/10/2000	145	266	182.5	80	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	9/1/2017	REG	F	INIT	METALS	Barium	Ba	236	1.3	LANL Int BG LVL	13.5	17.5	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	23	28	1/29/2007	13.8	42	19.4	28	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	9/1/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	14.2	0.7	LANL Int BG LVL	3.11	4.6	0.134	mg/L	2		NQ	NQ	EPA:300.0	GELC	
C4	18	25	2/28/2000	5.59	7.4	6.04	25	Upper Los Alamos Canyon (includes DP Canyon)	Regional	R-9	683	9/26/2017	REG	F	INIT	GENINORG	Chloride	Cl(-1)	5.97	1	LANL Reg BG LVL	2.7	2.2	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	14	19	7/31/2006	0.884	1.34	0.976	19	Upper Los Alamos Canyon (includes DP Canyon)	Regional	R-9	683	9/26/2017	REG	F	INIT	GENINORG	Perchlorate	ClO_4	0.919	0.9	LANL Reg BG LVL	0.414	2.2	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	

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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
XC2scr	12	12	4/26/2007	0.036	0.47	0.05515	6	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LADP-3	317.56	9/27/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.47	8.5	Int-Scr_95	0.178	2.6	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC2scr	15	15	8/4/2006	0.029	0.0936	0.06325	4	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI(a)-1.1	295.2	9/21/2017	REG	F	INIT	GENINORG	Ammonia as Nitrogen	NH_3-N	0.0936	1.5	Int-Scr_95	0.0606	1.5	0.017	mg/L	1		NQ	NQ	EPA:350.1	GELC	
XC2scr	18	18	7/26/2006	0.0248	0.0915	0.05815	2	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Ammonia as Nitrogen	NH_3-N	0.0915	1.6	Int-Scr_95	0.0606	1.5	0.017	mg/L	1		NQ	NQ	EPA:350.1	GELC	
XC2scr	18	23	5/9/2006	0.0226	0.474	0.03775	10	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-7	240	9/26/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.474	12.6	Int-Scr_95	0.178	2.7	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC2scr	17	21	8/24/2005	4.35	45.7	12.5	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	602	9/25/2017	REG	F	INIT	METALS	Zinc	Zn	22	1.8	Int-Scr_95	17.4	1.3	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC2scr	12	15	5/21/2009	0.0409	0.47	0.0683	5	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.47	6.9	Int-Scr_95	0.178	2.6	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC2scr	16	20	5/10/2010	0.0263	0.513	0.044	12	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-29	1170	9/22/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.513	11.7	Reg-Scr_95	0.0822	6.2	0.02	mg/L	1		J+	I6b	EPA:365.4	GELC	
XC2scr	8	10	1/19/2016	2.02	2.88	2.41	9	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-58	1257	9/5/2017	REG	F	INIT	METALS	Arsenic	As	2.88	1.2	Reg-Scr_95	2.7	1.1	2	µg/L	1	J	J	J_LAB	SW-846:6020	GELC	
XC2scr	4	4	3/20/2017	0.0225	0.143	0.057	3	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-68	1340	9/6/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.143	2.5	Reg-Scr_95	0.0822	1.7	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC2scr	15	21	4/28/2005	0.039	0.424	0.049	7	Upper Los Alamos Canyon (includes DP Canyon)	Regional	R-9	683	9/26/2017	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO_4-P	0.424	8.7	Reg-Scr_95	0.0822	5.2	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC4scr	27	32	6/1/2005	51	78.9	61.1	32	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	9/15/2017	REG	F	INIT	METALS	Boron	B	75.9	1.2	Int-Scr_95	16.2	4.7	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	

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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
XC4scr	27	32	6/1/2005	3.4	24.8	9.1	30	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	9/15/2017	REG	F	INIT	METALS	Copper	Cu	18.4	2	Int-Scr_95	3	6.1	3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	27	32	6/1/2005	4.9	70.7	19.2	28	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	9/15/2017	REG	F	INIT	METALS	Zinc	Zn	40.6	2.1	Int-Scr_95	17.4	2.3	3.3	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	19	20	11/15/2005	0.069	1.33	0.463	11	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	153.3	9/20/2017	REG	F	INIT	GENINORG	Bromide	Br(-1)	1.33	2.9	Int-Scr_95	0.0716	18.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	18	18	7/26/2006	0.162	0.89	0.3305	18	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2a	181.4	9/21/2017	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.89	2.7	Int-Scr_95	0.0716	12.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	12	15	5/21/2009	0.894	1.9	1.73	15	Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	TA-53i	600	9/25/2017	REG	F	INIT	GENINORG	Bromide	Br(-1)	1.84	1.1	Int-Scr_95	0.0716	25.7	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	71	86	1/10/2000	16.2	2590	332	61	Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	9/1/2017	REG	F	INIT	METALS	Aluminum	Al	194	0.6	Int-Scr_95	68	2.9	68	µg/L	1	J	J	J_LAB	SW-846:6010C	GELC	