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Date: **AUG 21 2018**
Refer To: N3B-18-0176

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 2018

Dear Mr. Kieling:

This letter is the U.S. Department of Energy (DOE) Office of Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT – Los Alamos, LLC (N3B) written submission in accordance with Section XXVI.D of the 2016 Compliance Order on Consent (Consent Order). Members of EM-LA and N3B met on August 9, 2018, to review groundwater data received in July 2018 in accordance with Section XXVI.C of the 2016 Consent Order. 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 May 2018 EPA regional screening levels for tap water.

1-Day Notification

There were two instances of a contaminant detected at a concentration that exceeded the NMWQCC groundwater standard or federal MCL 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 June 21, 2018, from regional well R-3, mercury was measured at 2.01 µg/L, above the 2 µg/L EPA MCL.

In a filtered sample collected on June 18, 2018, from regional well R-61 S1, perchlorate was measured at 15 µg/L, above the 13.8 µg/L NMWQCC groundwater standard.

One-day notification of the above two results by telephone and email to NMED occurred on August 10, 2018.


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 Steve Veenis at (505) 309-1362 (steve.veenis@em-la.doe.gov) or Hai Shen at (505) 665-5046 (hai.shen@em.doe.gov).

Sincerely,

Sincerely,


Joseph A. Legare
Program Manager
Environmental Remediation Program


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

JL/DR/SV/HS:md

Enclosure(s): Two hard copies with electronic files – Summary of Groundwater Data Reviewed in August 2018 That Meet Notification Requirements (EM2018-0036)

Cy: (letter and enclosure[s] emailed)
Wayne Witten, Los Alamos County Utility Department, Los Alamos, NM
Laurie King, EPA Region 6, Dallas, TX
Michelle Hunter, NMED-GWQB
Steve Yanicak, NMED-DOE-OB, LANL MS M894
Raymond Martinez, San Ildefonso Pueblo, NM
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SUMMARY OF GROUNDWATER DATA REVIEWED IN AUGUST 2018 THAT MEET NOTIFICATION REQUIREMENTS

INTRODUCTION

This report provides information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by Newport News Nuclear BWXT – Los Alamos, LLC (N3B) under Los Alamos National Laboratory's (the Laboratory's) annual "Interim Facility-Wide Groundwater Monitoring Plan" for the 2018 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 07-18 Groundwater Report, presents results since June 14, 2007, that met the five reporting criteria as specified in the 2016 Consent Order. Table 2, NMED 07-18 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 N3B 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 2016 Consent Order. This report was prepared using the May 2018 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

1-Day Notification Requirement

The CA value is used in the Criteria Code column of Table 1. The CA value represents the date that shows detection of a contaminant in a well screen interval or spring at a concentration that exceeds either the NMWQCC 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. N3B, under the DOE Office of Environmental Management, 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

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 codes (the “C” stands for criterion) and their definitions 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:

Canyon—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 07-18 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fid OC 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	4	4	6/11/2002	1.68	1.68	1.68	1	Pueblo Canyon	Alluvial	PAO-5n	7.43	6/12/2018	REG	UF	INIT	VOC	Butanone[2-]	78-93-3	1.68	1	NMED A1 TAP SCRNLVL	5560	0	1.5	µg/L	1	J	J-	V9b	SW-846:8260B	GELC	J-flagged result. The compound is commonly used as an organic solvent in an analytical laboratory. The result is likely due to lab cross contamination.
C1	14	17	8/10/2006	1	1	1	1	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	UF	INIT	VOC	Methylene Chloride	75-09-2	1	1	EPA MCL	5	0.2	1	µg/L	1	J	J-	V9b	SW-846:8260B	GELC	Field duplicate (FD) sample was a nondetect. J-flagged result. The compound is commonly used as an organic solvent in an analytical laboratory. The result is likely due to lab cross contamination.
C1	9	13	10/13/2010	1.01	1.01	1.01	1	Pueblo Canyon	Regional	R-3	974.5	6/21/2018	FD	UF	INIT	VOC	Methylene Chloride	75-09-2	1.01	1	EPA MCL	5	0.2	1	µg/L	1	J	J-	V9b	SW-846:8260B	GELC	Regular sample (REG) was a nondetect. J-flagged result. The compound is commonly used as an organic solvent in an analytical laboratory. The result is likely due to lab cross contamination.
C3	9	10	6/19/2000	3.52	10	5.66	7	Pueblo Canyon	Alluvial	PAO-5n	7.43	6/12/2018	REG	F	INIT	Metals	Arsenic	As	5.66	1	EPA MCL	10	0.6	2	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C3	12	15	10/13/2010	2.01	2.01	2.01	1	Pueblo Canyon	Regional	R-3	974.5	6/21/2018	FD	F	INIT	Metals	Mercury	Hg	2.01	1	EPA MCL	2	1	0.067	µg/L	1	NQ	NQ	EPA:245.2	GELC	Mercury has not been detected at the location previously. Total of four samples [i.e., regular filtered (F) and regular unfiltered (UF) samples and their FDs, respectively] were collected and measured from the current sampling event. Mercury in two UF samples and regular F samples were nondetected. The detection of mercury in these F and FD samples is likely a false positive.	
C4	16	19	8/10/2006	150	164	157	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	159	1	LANL Int BG LVL	62	2.6	1.45	mg/L	1	NQ	NQ	EPA:310.1	GELC		
C4	16	19	8/10/2006	150	164	157	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	159	1	LANL Int BG LVL	62	2.6	1.45	mg/L	1	NQ	NQ	EPA:310.1	GELC		
C4	15	17	8/10/2006	94.5	107	98.3	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Metals	Barium	Ba	101	1	LANL Int BG LVL	13.5	7.5	1	µg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	94.5	107	98.3	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Metals	Barium	Ba	98.6	1	LANL Int BG LVL	13.5	7.3	1	µg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	54.8	60.1	58	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Calcium	Ca	60.1	1	LANL Int BG LVL	10.7	5.6	0.05	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	54.8	60.1	58	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Calcium	Ca	58.1	1	LANL Int BG LVL	10.7	5.4	0.05	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	16	19	8/10/2006	34.4	46.6	39.3	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Chloride	Cl(-1)	46.3	1.2	LANL Int BG LVL	3.11	14.9	0.67	mg/L	10	NQ	NQ	EPA:300.0	GELC		
C4	16	19	8/10/2006	34.4	46.6	39.3	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Chloride	Cl(-1)	46.6	1.2	LANL Int BG LVL	3.11	15	0.67	mg/L	10	NQ	NQ	EPA:300.0	GELC		
C4	15	17	8/10/2006	179	219	211	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Hardness	Hardness	219	1	LANL Int BG LVL	37.8	5.8	0.453	mg/L	1	NQ	NQ	SM:A2340B	GELC		

Table 1: NMED 07-18 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fid OC Type Code	Fid Prep Code	Lab Sample Type Code	AnyI 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	AnyI Meth Code	Lab Code	Comment
C4	15	17	8/10/2006	179	219	211	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Hardness	Hardness	212	1	LANL Int BG LVL	37.8	5.6	0.453	mg/L	1	NQ	NQ	SM:A2340B	GELC		
C4	15	17	8/10/2006	15.1	16.8	16.1	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Magnesium	Mg	16.8	1	LANL Int BG LVL	3.14	5.4	0.11	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	15.1	16.8	16.1	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Magnesium	Mg	16.2	1	LANL Int BG LVL	3.14	5.2	0.11	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	16	19	8/10/2006	2.15	7.65	4.35	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.52	0.8	LANL Int BG LVL	0.459	7.7	0.085	mg/L	5	NQ	NQ	EPA:353.2	GELC		
C4	16	19	8/10/2006	2.15	7.65	4.35	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.51	0.8	LANL Int BG LVL	0.459	7.6	0.085	mg/L	5	NQ	NQ	EPA:353.2	GELC		
C4	16	19	8/10/2006	0.104	3.45	2.3	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Perchlorate	ClO4	1.55	0.7	LANL Int BG LVL	0.27	5.7	0.05	µg/L	1	NQ	NQ	SW-846:6850	GELC		
C4	16	19	8/10/2006	0.104	3.45	2.3	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Perchlorate	ClO4	1.58	0.7	LANL Int BG LVL	0.27	5.9	0.05	µg/L	1	NQ	NQ	SW-846:6850	GELC		
C4	15	17	8/10/2006	5.32	6.17	5.91	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Potassium	K	6.17	1	LANL Int BG LVL	2.35	2.6	0.05	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	5.32	6.17	5.91	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Potassium	K	6.01	1	LANL Int BG LVL	2.35	2.6	0.05	mg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	255	317	277	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Metals	Strontium	Sr	286	1	LANL Int BG LVL	59.6	4.8	1	µg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	15	17	8/10/2006	255	317	277	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Metals	Strontium	Sr	277	1	LANL Int BG LVL	59.6	4.6	1	µg/L	1	NQ	NQ	SW-846:6010C	GELC		
C4	16	19	8/10/2006	20.1	30	25.5	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Sulfate	SO4(-2)	29.7	1.2	LANL Int BG LVL	7.1	4.2	1.33	mg/L	10	NQ	NQ	EPA:300.0	GELC		
C4	16	19	8/10/2006	20.1	30	25.5	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Sulfate	SO4(-2)	30	1.2	LANL Int BG LVL	7.1	4.2	1.33	mg/L	10	NQ	NQ	EPA:300.0	GELC		
C4	15	17	8/10/2006	7.72	10.2	8.95	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Uranium	U	8.03	0.9	LANL Int BG LVL	0.992	8.1	0.067	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C4	15	17	8/10/2006	7.72	10.2	8.95	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Uranium	U	7.89	0.9	LANL Int BG LVL	0.992	8	0.067	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C4	19	27	4/27/2005	4.67	7.33	5.37	27	Pueblo Canyon	Regional	R-4	792.9	6/26/2018	REG	F	INIT	Geninorg	Chloride	Cl(-1)	7.31	1.4	LANL Reg BG LVL	2.7	2.7	0.067	mg/L	1	NQ	NQ	EPA:300.0	GELC		
C4	19	27	4/27/2005	1.06	2.18	1.72	27	Pueblo Canyon	Regional	R-4	792.9	6/26/2018	REG	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.03	1.2	LANL Reg BG LVL	0.769	2.6	0.17	mg/L	10	NQ	NQ	EPA:353.2	GELC		
C4	15	22	7/25/2006	2	6.32	4.505	22	Pueblo Canyon	Regional	R-4	792.9	6/26/2018	REG	F	INIT	Geninorg	Perchlorate	ClO4	5.86	1.3	LANL Reg BG LVL	0.414	14.2	0.25	µg/L	5	NQ	NQ	SW-846:6850	GELC		

Table 1: NMED 07-18 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fid OC Type Code	Fid Prep Code	Lab Sample Type Code	AnyI 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	AnyI Meth Code	Lab Code	Comment
C4	37	44	3/5/2009	6.1	47.4	16.2	43	Mortandad Canyon	Regional Deep	R-45 S2	974.9	6/13/2018	REG	F	INIT	Metals	Chromium	Cr	28	1.7	LANL Reg BG LVL	7.48	3.7	3	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C4	18	22	11/15/2005	6.96	8.31	7.53	22	Lower Los Alamos Canyon	Regional Top	R-24	825	6/25/2018	REG	F	INIT	Geninorg	Chloride	Cl(-1)	8.04	1.1	LANL Reg BG LVL	2.7	3	0.067	mg/L	1	NQ	NQ	EPA:300.0	GELC		
C4	38	40	2/28/2009	3	6.7	4.825	40	Mortandad Canyon	Regional Top	R-45 S1	880	6/13/2018	REG	F	INIT	Geninorg	Chloride	Cl(-1)	5.89	1.2	LANL Reg BG LVL	2.7	2.2	0.067	mg/L	1	NQ	NQ	EPA:300.0	GELC		
C4	38	44	2/28/2009	8.4	50.7	31.45	44	Mortandad Canyon	Regional Top	R-45 S1	880	6/13/2018	REG	F	INIT	Metals	Chromium	Cr	46.4	1.5	LANL Reg BG LVL	7.48	6.2	3	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C4	38	40	2/28/2009	0.256	3.47	2.87	40	Mortandad Canyon	Regional Top	R-45 S1	880	6/13/2018	REG	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.93	1	LANL Reg BG LVL	0.769	3.8	0.17	mg/L	10	NQ	NQ	EPA:353.2	GELC		
C4	40	46	3/6/2010	4.68	10.1	8.235	46	Mortandad Canyon	Regional Top	R-50 S1	1077	6/12/2018	REG	F	INIT	Geninorg	Chloride	Cl(-1)	9.82	1.2	LANL Reg BG LVL	2.7	3.6	0.134	mg/L	2	NQ	NQ	EPA:300.0	GELC		
C4	40	48	3/6/2010	49.8	150	103	48	Mortandad Canyon	Regional Top	R-50 S1	1077	6/12/2018	REG	F	INIT	Metals	Chromium	Cr	150	1.5	LANL Reg BG LVL	7.48	20.1	3	µg/L	1	NQ	NQ	SW-846:6020	GELC	Highest to date	
C4	40	47	3/6/2010	0.398	2.72	1.81	47	Mortandad Canyon	Regional Top	R-50 S1	1077	6/12/2018	REG	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.08	1.1	LANL Reg BG LVL	0.769	2.7	0.085	mg/L	5	NQ	NQ	EPA:353.2	GELC		
C4	40	46	3/6/2010	7.22	14.9	12	46	Mortandad Canyon	Regional Top	R-50 S1	1077	6/12/2018	REG	F	INIT	Geninorg	Sulfate	SO4(-2)	14.5	1.2	LANL Reg BG LVL	4.59	3.2	0.133	mg/L	1	NQ	NQ	EPA:300.0	GELC		
C4	24	28	5/20/2011	2.03	23.3	19.7	27	Mortandad Canyon	Regional Top	R-61 S1	1125	6/18/2018	REG	F	INIT	Metals	Chromium	Cr	18.4	0.9	LANL Reg BG LVL	7.48	2.5	3	µg/L	1	NQ	NQ	SW-846:6020	GELC		
C4	24	28	5/20/2011	0.427	2.31	1.885	28	Mortandad Canyon	Regional Top	R-61 S1	1125	6/18/2018	REG	F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.14	1.1	LANL Reg BG LVL	0.769	2.8	0.085	mg/L	5	NQ	NQ	EPA:353.2	GELC		
C4	23	27	5/20/2011	2.96	15	8.53	27	Mortandad Canyon	Regional Top	R-61 S1	1125	6/18/2018	REG	F	INIT	Geninorg	Perchlorate	ClO4	15	1.8	LANL Reg BG LVL	0.414	36.2	1	µg/L	20	NQ	NQ	SW-846:6850	GELC	Highest to date, 1st time above STD	
C5	37	44	3/5/2009	6.1	47.4	16.2	43	Mortandad Canyon	Regional Deep	R-45 S2	974.9	6/13/2018	REG	F	INIT	Metals	Chromium	Cr	28	1.7	NM GW STD	50	0.6	3	µg/L	1	NQ	NQ	SW-846:6020	GELC		
CA	12	15	10/13/2010	2.01	2.01	2.01	1	Pueblo Canyon	Regional	R-3	974.5	6/21/2018	FD	F	INIT	Metals	Mercury	Hg	2.01	1	EPA MCL	2	1	0.067	µg/L	1	NQ	NQ	EPA:245.2	GELC	Mercury has not been detected at the location previously. Total of four samples (i.e., regular F and regular UF samples and their FDs, respectively) were collected and measured from the current sampling event. Mercury in two UF samples and regular F samples were nondetected. The detection of mercury in these F and FD samples is likely a false positive.	
CA	23	27	5/20/2011	2.96	15	8.53	27	Mortandad Canyon	Regional Top	R-61 S1	1125	6/18/2018	REG	F	INIT	Geninorg	Perchlorate	ClO4	15	1.8	NMED A1 TAP SCRNLVL	13.8	1.1	1	µg/L	20	NQ	NQ	SW-846:6850	GELC	Highest to date, 1st time above STD	

Table 2: NMED 07-18 Groundwater Report Addendum

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	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	15	17	8/10/2006	1.5	3.54	2.37	6	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Metals	Arsenic	As	3.45	1.5	Int-Scr_95	2.82	1.2	2	µg/L	1	J	J	J_LAB	SW-846:6020	GELC	
XC2scr	15	17	8/10/2006	1.5	3.54	2.37	6	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Metals	Arsenic	As	3.54	1.5	Int-Scr_95	2.82	1.3	2	µg/L	1	J	J	J_LAB	SW-846:6020	GELC	
XC2scr	12	15	10/13/2010	2.01	2.01	2.01	1	Pueblo Canyon	Regional	R-3	974.5	6/21/2018	FD	F	INIT	Metals	Mercury	Hg	2.01	1	Reg-Scr_95	0.067	30	0.067	µg/L	1		NQ	NQ	EPA:245.2	GELC	
XC2scr	18	25	4/27/2005	1.75	2.72	2.17	6	Pueblo Canyon	Regional	R-4	792.9	6/26/2018	REG	F	INIT	Metals	Arsenic	As	2.72	1.3	Reg-Scr_95	2.7	1	2	µg/L	1	J	J	J_LAB	SW-846:6020	GELC	
XC4scr	15	17	8/10/2006	84.6	135	101	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Metals	Boron	B	135	1.3	Int-Scr_95	16.2	8.3	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	15	17	8/10/2006	84.6	135	101	17	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Metals	Boron	B	131	1.3	Int-Scr_95	16.2	8.1	15	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	16	19	8/10/2006	251	437	324	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	FD	F	INIT	Geninorg	Total Dissolved Solids	TDS	340	1	Int-Scr_95	135	2.5	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
XC4scr	16	19	8/10/2006	251	437	324	19	Pueblo Canyon	Intermediate	R-3i	215.2	6/21/2018	REG	F	INIT	Geninorg	Total Dissolved Solids	TDS	331	1	Int-Scr_95	135	2.5	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
XC4scr	17	21	11/15/2005	41.8	64	51.15	20	Lower Los Alamos Canyon	Regional Top	R-24	825	6/25/2018	REG	F	INIT	Metals	Boron	B	47.6	0.9	Reg-Scr_95	18.7	2.5	15	µg/L	1	J	J	J_LAB	SW-846:6010C	GELC	
XC4scr	24	28	5/20/2011	0.0531	11.8	1.2	25	Mortandad Canyon	Regional Top	R-61 S1	1125	6/18/2018	REG	F	INIT	Geninorg	Total Phosphate as Phosphorus	PO4-P	0.959	0.8	Reg-Scr_95	0.0822	12	0.02	mg/L	1		J+	I4a	EPA:365.4	GELC	