EMID-700586

DEPARTMENT OF ENERGY
Environmental Management Los Alamos Field Office (EM-LA)
Los Alamos, New Mexico 87544

SEP 2 3 2019

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

Dear Mr. Kieling:

Subject: Monthly Notification of Groundwater Data Reviewed in September 2019

This letter is the U.S. Department of Energy (DOE) 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 September 12, 2019, to review groundwater data received in August 2019 in accordance with Section XXVI.C of the 2016 Consent Order. The enclosed 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.

The enclosed report was prepared using the May 2019 EPA regional screening levels for tap water; the NMWQCC groundwater standards, published December 21, 2018; and the June 2019 Table A-1 of "Risk Assessment Guidance for Site Investigations and Remediation" for NMED tap water screening levels.

This report also includes analytical data from samples collected at locations within the Pueblo de San Ildefonso, which are subject to reporting at this time. These data have been reviewed by the Pueblo. This review is required under the memorandum of agreement dated May 28, 2014, between the DOE National Nuclear Security Administration Los Alamos Field Office and San Ildefonso Pueblo.

1-Day Notification

There was one instance of a contaminant detected at a concentration that exceeded the NMWQCC groundwater standard or federal MCL at locations where contaminants have not previously been detected above the respective standard as defined in the Consent Order (based on samples collected since June 14, 2007).

In a filtered sample collected on July 11, 2019, from regional well R-11, fluoride was measured at 3.02 mg/L, above the 1.6-mg/L NMWQCC groundwater standard.

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) 257-7943 (hai.shen@em.doe.gov).

Sincerely,

Arturo Q. Duran
Compliance and Permitting Manager
Environmental Management
Los Alamos Field Office

Enclosure:

1. Two hard copies with electronic files - Summary of Groundwater Data Reviewed in September 2019 That Meet Notification Requirements (EM2019-0366)

cc (letter with CD/DVD enclosure[s]):
H. Burgess, Los Alamos County, Los Alamos, NM (2 copies)

cc (letter and enclosure[s] emailed):
L. King, EPA Region 6, Dallas, TX
R. Martinez, San Ildefonso Pueblo, NM
D. Chavarria, Santa Clara Pueblo, NM
D. Gomez, Los Alamos County, Los Alamos, NM
M. Hunter, NMED
S. Pullen, NMED
A.C. Romero, NMED
M. Sandoval, NMED
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J. Buckley, LANL
L. Dale, LANL
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W. Mairson, LANL
J. Meadows, LANL
E. Torres, LANL

W. Alexander, N3B
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M. Ding, N3B
M. Erwin, N3B
E. Evered, N3B
D. Holgerson, N3B
L. Huntoon, N3B
D. Katzman, N3B
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PRS Website

EM-LA-N3B-30AD-00509

SUMMARY OF GROUNDWATER DATA REVIEWED IN SEPTEMBER 2019 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 the annual "Interim Facility-Wide Groundwater Monitoring Plan" for the 2019 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 at Los Alamos National Laboratory as indicated in the tables.

The report includes two tables. Table 1, NMED 08-19 Groundwater Report, presents results since June 14, 2007, that met the five reporting criteria as specified in the 2016 Consent Order. Table 2, NMED 08-19 Groundwater Report Addendum, presents results that exceed the 95th percentile of those results in the data set defined in the "Groundwater Background Investigation Report, Revision 5." Only the contaminants and other chemical constituents that lack 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 that are 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 2019 EPA regional screening levels for tap water, the NMWQCC groundwater standards published December 21, 2018, and the NMED tap water screening levels specified in the June 2019 Table A-1 of "Risk Assessment Guidance for Site Investigations and Remediation."

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 EPA MCL if that contaminant has not previously exceeded such water quality standard or MCL in the well screen interval or spring. N3B, under the U.S. Department of Energy 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. In several cases, data met more than one of the notification criteria and therefore 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” (February 2019), 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 2 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 2 through 8 in both tables provide summary statistics for metals or organic/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 as follows:

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—date the sample was collected

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

Fld Prep Code—identifies whether samples are filtered (F) or unfiltered (UF)

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 Qualifier—analytical laboratory qualifiers indicating analytical quality of the sample data

Validation Qualifier—the qualifier that indicates the effects of all processes associated with the sample (i.e., sample collection, additional quality control samples such as field duplicates, etc.) on the quality of the sample data

Validation Reason Code—an explanation of the reason for validation of the qualifiers

Anyl Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—N3B comment regarding the analytical result

The tables may include the following acronyms, abbreviations, and analytical laboratory codes and qualifiers.

Acronyms and Abbreviations

DNX—hexahydro-1,3-dinitro-5-nitro-1,3,5-triazine

EPA MCL—U.S. Environmental Protection Agency maximum contaminant level

GENINORG—General Inorganic

HMX—octahydro-1,3,5,7-tetranitro-1,3,5,7-tetrazocine

HEXP—high explosive

LANL Int BG LV—Los Alamos National Laboratory intermediate background level

LANL Reg BG LV—Los Alamos National Laboratory regional background level

LCMS/MS—liquid chromatography mass spectrometry/mass spectrometry

MDL—method detection limit

MNX—hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine

NM GW STD—New Mexico Water Quality Control Commission groundwater standard

NMED A1 TAP SCRN LVL—New Mexico Environment Department screen level for tap water

NTU—nephelometric turbidity unit

PQL—practical quantitation limit

RDX—Royal Demolition Explosive (hexahydro-1,3,5-trinitro-1,3,5-triazine)

SVOC—semivolatile organic compound

TDS—total dissolved solids

TNX—2,4,6-trinitroxylene

UOM—units of measurement

VOC—Volatile organic compound

Analytical Laboratory Codes and Qualifiers

∗ (lab qualifier) - (inorganic)—Duplicate analysis (relative percent difference) is not within control limits.

BJ (lab qualifier)—Analyte is present in the blank, and the associated numerical value is an estimated quantity.

F—filtered

FD—field duplicate

GELC—General Engineering Laboratories, Inc., Charleston, SC

GENINORG—general inorganic

H (lab qualifier)—The required extraction or analysis holding time for this result was exceeded.

HJ (lab qualifier)—The required extraction or analysis holding time for this result was exceeded. The associated numerical value is an estimated quantity.

I4a (validation reason code)—The affected analyte is considered estimated and biased high because this analyte was identified in the method blank but was greater than 5 times the concentration of the affected analyte in the sample.

I9b (validation reason code)—The affected analytes are regarded as rejected because the analytical holding time was exceeded.

INIT—primary sample

J (lab qualifier)—The associated numerical value is an estimated quantity.

J (validation qualifier)—The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual.

J- (validation qualifier)—The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential negative bias.

J+ (validation qualifier)—The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential positive bias.

J_LAB (validation reason code)—The analytical laboratory qualified the detected result as estimated (J) because the result was less than the PQL but greater than the MDL.

N (lab qualifier)—Spiked sample recovery is not within control limits.

NQ (validation qualifier)—No validation qualifier flag is associated with this result, and the analyte is classified as detected.

NQ (validation reason code)—The analytical laboratory did not qualify the analyte as not detected and/or with any other standard qualifier. The analyte is detected in the sample.

RE—reanalysis

REG—regular sample

UF—unfiltered

V9b (validation reason code)—The preserved sample was analyzed outside the 14-day holding time or the unpreserved sample was analyzed outside the 7-day holding time.

Table 1: NMED 8-19 Groundwater Report

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 Qualifier	Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C2	53	55	2/17/2009	19.2	40.2	20.9	55	Mortandad Canyon	Regional Top	R-44 S1	895	7/15/2019	REG	F	INIT	METALS	Barium	Ba	40.2	1.9	LANL Reg BG LVL	38.1	1.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C3	19	24	3/19/2004	1.84	5.15	3.4	17	Mortandad Canyon	Regional Deep	R-16 S4	1237	7/25/2019	REG	F	INIT	METALS	Arsenic	As	5.15	1.5	NM GW STD	10	0.5	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C3	41	42	6/24/2005	1.59	5.67	2.035	12	Mortandad Canyon	Regional Deep	R-33 S2	1112.4	7/9/2019	FD	F	INIT	METALS	Arsenic	As	5.67	2.8	NM GW STD	10	0.6	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C3	41	42	6/24/2005	1.59	5.67	2.035	12	Mortandad Canyon	Regional Deep	R-33 S2	1112	7/9/2019	REG	F	INIT	METALS	Arsenic	As	5.56	2.7	NM GW STD	10	0.6	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C3	63	74	5/17/2005	0.24	3.02	0.3905	74	Sandia Canyon	Regional Top	R-11	855	7/11/2019	REG	F	INIT	GENINORG	Fluoride	F(-1)	3.02	7.7	NM GW STD	1.6	1.9	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C3	53	62	4/18/2002	1.80	6.2	2.48	15	Mortandad Canyon	Regional Top	R-13	958	7/9/2019	REG	F	INIT	METALS	Arsenic	As	6.20	2.5	NM GW STD	10	0.6	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C3	54	62	2/24/2000	1.78	7.2	2.32	11	Mortandad Canyon	Regional Top	R-15	959	7/9/2019	REG	F	INIT	METALS	Arsenic	As	5.73	2.5	NM GW STD	10	0.6	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C3	41	50	6/27/2005	1.70	5.8	2.17	17	Mortandad Canyon	Regional Top	R-33 S1	996	7/9/2019	REG	F	INIT	METALS	Arsenic	As	5.80	2.7	NM GW STD	10	0.6	2	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	50	55	6/9/2005	14.00	36.6	17.9	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	METALS	Barium	Ba	36.60	2	LANL Int BG LVL	13.5	2.7	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	50	55	6/9/2005	16.70	40.6	20.6	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Calcium	Ca	36.70	1.8	LANL Int BG LVL	10.7	3.4	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	50	55	6/9/2005	4.89	18.8	7.57	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	18.80	2.5	LANL Int BG LVL	3.11	6	0.335	mg/L	5		J-	I9b	EPA:300.0	GELC	
C4	50	55	6/9/2005	54.40	131	67.8	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Hardness	Hardness	120.00	1.8	LANL Int BG LVL	37.8	3.2	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	
C4	50	55	6/9/2005	2.99	7.61	3.96	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Magnesium	Mg	6.94	1.8	LANL Int BG LVL	3.14	2.2	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	50	55	6/9/2005	3.17	16.8	5.13	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	11.60	2.3	LANL Int BG LVL	0.459	25.3	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	50	55	6/9/2005	68.70	239	98.2	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	151.00	1.5	LANL Int BG LVL	0.27	559.3	10	µg/L	200		NQ	NQ	SW-846:6850	GELC	
C4	50	55	6/9/2005	68.60	189	94.4	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	METALS	Strontium	Sr	186.00	2	LANL Int BG LVL	59.6	3.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	50	55	6/9/2005	10.10	35.1	14.5	55	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	31.20	2.2	LANL Int BG LVL	7.1	4.4	0.665	mg/L	5		J-	I9b	EPA:300.0	GELC	
C4	56	76	6/15/2005	30.10	48.2	40.1	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	METALS	Barium	Ba	37.20	0.9	LANL Int BG LVL	13.5	2.8	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	56	76	6/15/2005	42.8	75.5	63.1	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Calcium	Ca	59.4	0.9	LANL Int BG LVL	10.7	5.6	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	

Table 1: NMED 8-19 Groundwater Report

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 Qualifier	Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C4	56	76	6/15/2005	21.2	64.8	54.6	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	49.9	0.9	LANL Int BG LVL	3.11	16	0.67	mg/L	10	H	NQ	NQ	EPA:300.0	GELC	
C4	56	76	6/15/2005	0.412	0.668	0.528	73	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.668	1.3	LANL Int BG LVL	0.234	2.9	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	56	76	6/15/2005	142	253	211	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Hardness	Hardness	199	0.9	LANL Int BG LVL	37.8	5.3	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	
C4	56	76	6/15/2005	8.49	15.7	12.9	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Magnesium	Mg	12.2	0.9	LANL Int BG LVL	3.14	3.9	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	56	76	6/15/2005	2.9	41.8	21.6	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	METALS	Nickel	Ni	17.4	0.8	LANL Int BG LVL	3.65	4.8	0.6	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	56	76	6/15/2005	7.62	20.4	10.05	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	12.40	1.2	LANL Int BG LVL	0.459	27	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	56	76	6/15/2005	56.30	246	81.65	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	86.10	1.1	LANL Int BG LVL	0.27	318.9	5	µg/L	100		NQ	NQ	SW-846:6850	GELC	
C4	56	76	6/15/2005	196.00	339	277	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	METALS	Strontium	Sr	261.00	0.9	LANL Int BG LVL	59.6	4.4	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	56	76	6/15/2005	34.70	77.6	59.55	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	50.10	0.8	LANL Int BG LVL	7.1	7.1	1.33	mg/L	10	H	NQ	NQ	EPA:300.0	GELC	
C4	23	28	9/19/2000	2.23	7.64	6.39	28	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	FD	F	INIT	GENINORG	Chloride	Cl(-1)	7.62	1.2	LANL Int BG LVL	3.11	2.5	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	23	28	9/19/2000	2.23	7.64	6.39	28	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.64	1.2	LANL Int BG LVL	3.11	2.5	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	22	25	9/19/2000	0.05	1.55	1.17	24	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	1.15	1	LANL Int BG LVL	0.459	2.5	0.017	mg/L	1		NQ	NQ	EPA:353.2	GELC	
C4	22	25	9/19/2000	0.05	1.55	1.17	24	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	1.48	1.3	LANL Int BG LVL	0.459	3.2	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	19	22	2/1/2006	0.82	1.16	0.939	21	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	FD	F	INIT	GENINORG	Perchlorate	ClO4	0.85	0.9	LANL Int BG LVL	0.27	3.1	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	19	22	2/1/2006	0.82	1.16	0.939	21	Sandia Canyon	Intermediate Perched	R-12 S2	505	7/25/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.88	0.9	LANL Int BG LVL	0.27	3.2	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	43	57	10/21/2008	56.10	76.7	68.5	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	METALS	Barium	Ba	73.10	1.1	LANL Int BG LVL	13.5	5.4	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	43	57	10/21/2008	59.5	76.3	68	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Calcium	Ca	70.8	1	LANL Int BG LVL	10.7	6.6	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	43	55	10/21/2008	53.4	93	66.7	55	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	78.1	1.2	LANL Int BG LVL	3.11	25.1	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C4	43	57	10/21/2008	204.00	263	235	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Hardness	Hardness	244.00	1	LANL Int BG LVL	37.8	6.5	0.453	mg/L	1		NQ	NQ	SM:A2340B	GELC	

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C4	42	55	10/21/2008	13.10	17.5	15.8	55	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Magnesium	Mg	16.20	1	LANL Int BG LVL	3.14	5.2	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	43	57	10/21/2008	14.00	19.6	16.8	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	METALS	Nickel	Ni	15.30	0.9	LANL Int BG LVL	3.65	4.2	0.6	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	43	55	10/21/2008	2.89	5.1	4.14	55	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.39	0.8	LANL Int BG LVL	0.459	7.4	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	43	55	10/21/2008	0.83	1.12	0.961	55	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.907	0.9	LANL Int BG LVL	0.27	3.4	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	43	57	10/21/2008	264.00	360	326	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	METALS	Strontium	Sr	337.00	1	LANL Int BG LVL	59.6	5.7	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	43	55	10/21/2008	77.90	103	88.7	55	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	92.90	1	LANL Int BG LVL	7.1	13.1	1.33	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C4	43	57	10/21/2008	1.20	2.27	1.83	57	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Uranium	U	2.01	1.1	LANL Int BG LVL	0.992	2	0.067	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	51	55	8/30/2007	68.00	389	346	55	Sandia Canyon	Regional Deep	R-35a	1013	8/13/2019	REG	F	INIT	METALS	Barium	Ba	343.00	1	LANL Reg BG LVL	38.1	9	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	51	55	8/30/2007	68.00	389	346	55	Sandia Canyon	Regional Deep	R-35a	1013	7/19/2019	REG	F	INIT	METALS	Barium	Ba	348.00	1	LANL Reg BG LVL	38.1	9.1	1	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
C4	50	54	8/30/2007	5.97	7.31	6.42	54	Sandia Canyon	Regional Deep	R-35a	1013	8/13/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	6.76	1.1	LANL Reg BG LVL	2.7	2.5	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	50	54	8/30/2007	5.97	7.31	6.42	54	Sandia Canyon	Regional Deep	R-35a	1013	7/19/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.18	1.1	LANL Reg BG LVL	2.7	2.7	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	42	46	11/10/2008	3.37	6.99	4.635	46	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	FD	F	INIT	GENINORG	Chloride	Cl(-1)	6.99	1.5	LANL Reg BG LVL	2.7	2.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	42	46	11/10/2008	3.37	6.99	4.635	46	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	6.97	1.5	LANL Reg BG LVL	2.7	2.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	42	51	11/10/2008	1.80	32.4	6.32	41	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	FD	F	INIT	METALS	Chromium	Cr	32.40	5.1	LANL Reg BG LVL	7.48	4.3	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	42	51	11/10/2008	1.80	32.4	6.32	41	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	REG	F	INIT	METALS	Chromium	Cr	31.60	5	LANL Reg BG LVL	7.48	4.2	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	42	45	11/10/2008	0.39	5.4	2.35	45	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.66	1.6	LANL Reg BG LVL	0.769	4.8	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	42	45	11/10/2008	0.39	5.4	2.35	45	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.79	1.6	LANL Reg BG LVL	0.769	4.9	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	42	46	11/10/2008	0.41	0.953	0.688	46	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	FD	F	INIT	GENINORG	Perchlorate	ClO4	0.90	1.3	LANL Reg BG LVL	0.414	2.2	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	42	46	11/10/2008	0.41	0.953	0.688	46	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.92	1.3	LANL Reg BG LVL	0.414	2.2	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	

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C4	42	46	11/10/2008	3.96	10.1	6.715	46	Sandia Canyon	Regional Deep	R-43 S2	969	7/11/2019	FD	F	INIT	GENINORG	Sulfate	SO4(-2)	10.10	1.5	LANL Reg BG LVL	4.59	2.2	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	42	46	11/10/2008	3.96	10.1	6.715	46	Sandia Canyon	Regional Deep	R-43 S2	969.1	7/11/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	10.1	1.5	LANL Reg BG LVL	4.59	2.2	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	50	57	3/5/2009	6.1	47.4	18.7	56	Mortandad Canyon	Regional Deep	R-45 S2	974.9	7/16/2019	REG	F	INIT	METALS	Chromium	Cr	31.5	1.7	LANL Reg BG LVL	7.48	4.2	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	35	42	11/30/2005	5.62	7.09	6.075	42	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	FD	F	INIT	GENINORG	Chloride	Cl(-1)	6.45	1.1	LANL Reg BG LVL	2.7	2.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	35	42	11/30/2005	5.62	7.09	6.075	42	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	6.44	1.1	LANL Reg BG LVL	2.7	2.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	35	42	11/30/2005	0.528	14.2	1.45	40	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	FD	F	INIT	METALS	Nickel	Ni	7.06	4.9	LANL Reg BG LVL	2.9	2.4	0.6	µg/L	1		J+	I4a	SW-846:6020	GELC	
C4	35	42	11/30/2005	0.528	14.2	1.45	40	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	REG	F	INIT	METALS	Nickel	Ni	7.5	5.2	LANL Reg BG LVL	2.9	2.6	0.6	µg/L	1		J+	I4a	SW-846:6020	GELC	
C4	35	42	11/30/2005	9.36	12.9	10.3	42	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	FD	F	INIT	GENINORG	Sulfate	SO4(-2)	10.3	1	LANL Reg BG LVL	4.59	2.2	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	35	42	11/30/2005	9.36	12.9	10.3	42	Sandia Canyon	Regional Top	R-10a	690	5/21/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	10.3	1	LANL Reg BG LVL	4.59	2.2	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	63	74	5/17/2005	2.27	7.43	5.35	74	Sandia Canyon	Regional Top	R-11	855	7/11/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.51	1	LANL Reg BG LVL	0.769	7.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	63	74	5/17/2005	5.95	20.2	10.2	74	Sandia Canyon	Regional Top	R-11	855	7/11/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	20.2	2	LANL Reg BG LVL	4.59	4.4	0.532	mg/L	4		NQ	NQ	EPA:300.0	GELC	
C4	54	63	2/24/2000	1.35	3.31	2.19	63	Mortandad Canyon	Regional Top	R-15	958.6	7/9/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.02	0.9	LANL Reg BG LVL	0.769	2.6	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	50	58	5/25/2005	5.34	12.3	7.61	58	Mortandad Canyon	Regional Top	R-15	958.6	7/9/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	10.9	1.4	LANL Reg BG LVL	0.414	26.3	0.5	µg/L	10		NQ	NQ	SW-846:6850	GELC	
C4	42	48	3/12/2008	4.05	6.83	6.04	48	Sandia Canyon	Regional Top	R-36	766.9	7/11/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	6.42	1.1	LANL Reg BG LVL	2.7	2.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	42	49	3/12/2008	1.25	6.8	2.4	49	Sandia Canyon	Regional Top	R-36	766.9	7/11/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.45	1	LANL Reg BG LVL	0.769	3.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C4	41	47	3/12/2008	0.845	1.74	1.54	47	Sandia Canyon	Regional Top	R-36	766.9	7/11/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	1.32	0.9	LANL Reg BG LVL	0.414	3.2	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	43	49	11/5/2008	3.6	9.39	7.3	49	Sandia Canyon	Regional Top	R-43 S1	903.9	7/11/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	9.11	1.2	LANL Reg BG LVL	2.7	3.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	43	54	11/5/2008	2.35	205	74	51	Sandia Canyon	Regional Top	R-43 S1	903.9	7/11/2019	REG	F	INIT	METALS	Chromium	Cr	205	2.8	LANL Reg BG LVL	7.48	27.4	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	43	48	11/5/2008	4.9	6.15	5.4	47	Sandia Canyon	Regional Top	R-43 S1	903.9	7/11/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	4.9	0.9	LANL Reg BG LVL	0.769	6.4	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	

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C4	43	49	11/5/2008	8.77	21	15	49	Sandia Canyon	Regional Top	R-43 S1	903.9	7/11/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	18.6	1.2	LANL Reg BG LVL	4.59	4.1	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	53	55	2/17/2009	1.99	18.2	2.38	55	Mortandad Canyon	Regional Top	R-44 S1	895	7/15/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	17.1	7.2	LANL Reg BG LVL	2.7	6.3	0.335	mg/L	5	H	NQ	NQ	EPA:300.0	GELC	
C4	53	55	2/17/2009	0.536	32.4	1.855	28	Mortandad Canyon	Regional Top	R-44 S1	895	7/15/2019	REG	F	INIT	METALS	Nickel	Ni	32.4	17.5	LANL Reg BG LVL	2.9	11.2	0.6	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	53	55	2/17/2009	0.123	2.57	1.155	54	Mortandad Canyon	Regional Top	R-44 S1	895	7/15/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.33	2	LANL Reg BG LVL	0.769	3	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	53	55	2/17/2009	2.76	18.9	3.45	55	Mortandad Canyon	Regional Top	R-44 S1	895	7/15/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	17.7	5.1	LANL Reg BG LVL	4.59	3.9	0.133	mg/L	1		J-	I9b	EPA:300.0	GELC	
C4	51	58	2/28/2009	8.4	50.7	35.2	58	Mortandad Canyon	Regional Top	R-45 S1	880	7/16/2019	REG	F	INIT	METALS	Chromium	Cr	31.4	0.9	LANL Reg BG LVL	7.48	4.2	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	51	54	2/28/2009	0.256	3.47	2.84	54	Mortandad Canyon	Regional Top	R-45 S1	880	7/16/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.69	0.9	LANL Reg BG LVL	0.769	3.5	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	53	59	3/6/2010	4.68	18.3	8.71	59	Mortandad Canyon	Regional Top	R-50 S1	1077	7/17/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	15.7	1.8	LANL Reg BG LVL	2.7	5.8	0.335	mg/L	5	H	J-	I9b	EPA:300.0	GELC	
C4	53	61	3/6/2010	44.9	150	98.1	61	Mortandad Canyon	Regional Top	R-50 S1	1077	7/17/2019	REG	F	INIT	METALS	Chromium	Cr	54.9	0.6	LANL Reg BG LVL	7.48	7.3	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	53	60	3/6/2010	0.398	2.77	1.895	60	Mortandad Canyon	Regional Top	R-50 S1	1077	7/17/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.52	1.3	LANL Reg BG LVL	0.769	3.3	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	53	59	3/6/2010	7.22	19.6	13.2	59	Mortandad Canyon	Regional Top	R-50 S1	1077	7/17/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	18.2	1.4	LANL Reg BG LVL	4.59	4	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C4	37	43	5/20/2011	2.03	39.1	20	42	Mortandad Canyon	Regional Top	R-61 S1	1125	8/15/2019	REG	F	INIT	METALS	Chromium	Cr	26	1.3	LANL Reg BG LVL	7.48	3.5	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	37	43	5/20/2011	2.03	39.1	20	42	Mortandad Canyon	Regional Top	R-61 S1	1125	7/17/2019	REG	F	INIT	METALS	Chromium	Cr	28.6	1.4	LANL Reg BG LVL	7.48	3.8	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C4	37	43	5/20/2011	0.427	2.64	1.98	43	Mortandad Canyon	Regional Top	R-61 S1	1125	8/15/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.34	1.2	LANL Reg BG LVL	0.769	3	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	37	43	5/20/2011	0.427	2.64	1.98	43	Mortandad Canyon	Regional Top	R-61 S1	1125	7/17/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.06	1	LANL Reg BG LVL	0.769	2.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	36	42	5/20/2011	2.96	16.2	10.85	42	Mortandad Canyon	Regional Top	R-61 S1	1125	8/15/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	13.30	1.2	LANL Reg BG LVL	0.414	32.1	0.5	µg/L	10		NQ	NQ	SW-846:6850	GELC	
C4	36	42	5/20/2011	2.96	16.2	10.85	42	Mortandad Canyon	Regional Top	R-61 S1	1125	7/17/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	9.61	0.9	LANL Reg BG LVL	0.414	23.2	0.5	µg/L	10		NQ	NQ	SW-846:6850	GELC	
C4	28	34	3/26/2012	1.64	18.8	9.195	34	Sandia Canyon	Regional Top	R-62	1158	7/26/2019	REG	F	INIT	GENINORG	Chloride	Cl(-1)	16.60	1.8	LANL Reg BG LVL	2.7	6.1	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C4	28	34	3/26/2012	104.00	311	168	34	Sandia Canyon	Regional Top	R-62	1158	7/26/2019	REG	F	INIT	METALS	Chromium	Cr	270.00	1.6	LANL Reg BG LVL	7.48	36.1	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	

Table 1: NMED 8-19 Groundwater Report

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 Qualifier	Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C4	28	34	3/26/2012	0.07	2.25	1.335	34	Sandia Canyon	Regional Top	R-62	1158	7/26/2019	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.02	1.5	LANL Reg BG LVL	0.769	2.6	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C4	28	34	3/26/2012	0.72	0.89	0.802	34	Sandia Canyon	Regional Top	R-62	1158	7/26/2019	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.87	1.1	LANL Reg BG LVL	0.414	2.1	0.05	µg/L	1		NQ	NQ	SW-846:6850	GELC	
C4	28	34	3/26/2012	2.56	33	16.05	34	Sandia Canyon	Regional Top	R-62	1158	7/26/2019	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	28.70	1.8	LANL Reg BG LVL	4.59	6.3	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	50	57	3/5/2009	6.10	47.4	18.7	56	Mortandad Canyon	Regional Deep	R-45 S2	975	7/16/2019	REG	F	INIT	METALS	Chromium	Cr	31.50	1.7	NM GW STD	50	0.6	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
C5	63	74	5/17/2005	0.24	3.02	0.3905	74	Sandia Canyon	Regional Top	R-11	855	7/11/2019	REG	F	INIT	GENINORG	Fluoride	F(-1)	3.02	7.7	NM GW STD	1.6	1.9	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
CA	63	74	5/17/2005	0.24	3.02	0.3905	74	Sandia Canyon	Regional Top	R-11	855	7/11/2019	REG	F	INIT	GENINORG	Fluoride	F(-1)	3.02	7.7	NM GW STD	1.6	1.9	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	

Table 2: NMED 8-19 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 Qualifier	Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
XC2scr	42	47	11/10/2008	0.139	0.139	0.139	1	Sandia Canyon	Regional Deep	R-43 S2	969.1	7/11/2019	REG	F	INIT	METALS	Mercury	Hg	0.139	1	Reg-Scr_95	0.067	2.1	0.067	µg/L	1	J	J	J_LAB	EPA:245.2	GELC	Mercury was not detected in either the unfiltered sample or the filtered and unfiltered field duplicates of the same sampling event.
XC2scr	35	42	11/30/2005	3	22	6.3	6	Sandia Canyon	Regional Top	R-10a	690.000	5/21/2019	FD	F	INIT	METALS	Tin	Sn	15	2.4	Reg-Scr_95	13.0	1.2	2.50	µg/L	1.00		NQ	NQ	SW-846:6010C	GELC	
XC2scr	35	42	11/30/2005	2.7	21.8	6.28	6	Sandia Canyon	Regional Top	R-10a	690.000	5/21/2019	REG	F	INIT	METALS	Tin	Sn	21.8	3.5	Reg-Scr_95	13.00	1.7	2.50	µg/L	1.0		NQ	NQ	SW-846:6010C	GELC	
XC2scr	51	61	8/29/2007	0	0	0	1	Sandia Canyon	Regional Top	R-35b	825.400	7/12/2019	REG	F	INIT	METALS	Mercury	Hg	0.092	1.0	Reg-Scr_95	0.0670	1.4	0.07	µg/L	1.00	J	J	J_LAB	EPA:245.2	GELC	J flagged result
XC4scr	50	55	6/9/2005	0.083	0.256	0.14	49	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.256	1.8	Int-Scr_95	0.0716	3.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	50	60	6/9/2005	1.1	13	4.79	53	Mortandad Canyon	Intermediate Perched	MCOI-5	689	7/24/2019	REG	F	INIT	METALS	Chromium	Cr	13	2.7	Int-Scr_95	2.72	4.8	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
XC4scr	56	76	6/15/2005	25.4	56	46.9	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	METALS	Boron	B	47.8	1	Int-Scr_95	16.2	3	15	µg/L	1	J	J	J_LAB	SW-846:6010C	GELC	
XC4scr	56	76	6/15/2005	0.212	0.703	0.571	73	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.502	0.9	Int-Scr_95	0.0716	7	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	56	79	6/15/2005	29.4	86.6	60.9	79	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	METALS	Chromium	Cr	63.7	1	Int-Scr_95	2.72	23	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
XC4scr	56	76	6/15/2005	298	527	404	76	Mortandad Canyon	Intermediate Perched	MCOI-6	686	7/23/2019	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	374	0.9	Int-Scr_95	135	2.8	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
XC4scr	23	26	9/19/2000	23.6	180	36.7	26	Sandia Canyon	Intermediate Perched	R-12 S2	504.5	7/25/2019	FD	F	INIT	METALS	Manganese	Mn	31	0.8	Int-Scr_95	8.39	3.7	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	23	26	9/19/2000	23.6	180	36.7	26	Sandia Canyon	Intermediate Perched	R-12 S2	504.5	7/25/2019	REG	F	INIT	METALS	Manganese	Mn	30.5	0.8	Int-Scr_95	8.39	3.6	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	43	55	10/21/2008	0.194	0.846	0.6095	54	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.77	1.3	Int-Scr_95	0.0716	11	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
XC4scr	43	62	10/21/2008	265	658	440.5	62	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	METALS	Chromium	Cr	276	0.6	Int-Scr_95	2.72	102	3	µg/L	1		NQ	NQ	SW-846:6020	GELC	
XC4scr	28	34	8/4/2009	0.0041	0.00983	0.00669	34	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	UF	INIT	INORGANIC	Cyanide (Total)	CN (Total)	0.0044	0.7	Int-Scr_95	0.0017	2.6	0.002	mg/L	1	J	J	J_LAB	EPA:335.4	GELC	
XC4scr	43	56	10/21/2008	354	796	425.5	56	Sandia Canyon	Intermediate Perched	SCI-2	548	7/12/2019	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	450	1.1	Int-Scr_95	135	3.3	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
XC4scr	19	24	3/19/2004	3.74	68	44.6	24	Mortandad Canyon	Regional Deep	R-16 S4	1237	7/25/2019	FD	F	INIT	METALS	Manganese	Mn	44	1	Reg-Scr_95	12.1	3.6	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	
XC4scr	19	24	3/19/2004	3.74	68	44.6	24	Mortandad Canyon	Regional Deep	R-16 S4	1237	7/25/2019	REG	F	INIT	METALS	Manganese	Mn	45.2	1	Reg-Scr_95	12.1	3.7	2	µg/L	1		NQ	NQ	SW-846:6010C	GELC	

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XC4scr	37	43	5/20/2011	0.0531	11.8	0.6705	40	Mortandad Canyon	Regional Top	R-61 S1	1125	8/15/2019	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.396	0.6	Reg-Scr_95	0.0822	4.8	0.02	mg/L	1		J+	I4a	EPA:365.4	GELC	
XC4scr	37	43	5/20/2011	0.0531	11.8	0.6705	40	Mortandad Canyon	Regional Top	R-61 S1	1125	7/17/2019	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.454	0.7	Reg-Scr_95	0.0822	5.5	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
XC4scr	28	34	3/26/2012	0.0706	0.202	0.106	29	Sandia Canyon	Regional Top	R-62	1158.4	7/26/2019	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.154	1.5	Reg-Scr_95	0.067	2.3	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	