

## **DEPARTMENT OF ENERGY**

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

EMLA-2022-BF042-02-001

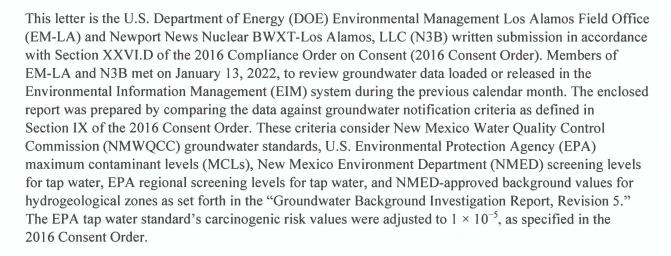
January 27, 2022

Mr. Rick Shean
Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6313

Subject:

Monthly Notification of Groundwater Data Reviewed in January 2022

Dear Mr. Shean:



The enclosed report was prepared using the May 2021 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.

#### 1-Day Notification

There were five instances of a constituent detected at a concentration that exceeded the NMWQCC groundwater standard or EPA MCL at a location where that constituent has not previously been detected above the respective standard as defined in the 2016 Consent Order (based on samples collected since June 14, 2007).

EM-LA notified NMED orally within one business day of the review of the analytical data, which showed detection of these contaminants, on January 13, 2022 (per Section XXVI.C of the Consent Order).

The five instances described below concern samples collected from regional aquifer piezometers in the Chromium Investigation monitoring group area (CrPZ wells). These results are reported under the "CA" category not because they are newly discovered concentrations, but because these wells (CrPZ wells) have been newly incorporated under the Interim Facility-Wide Groundwater Monitoring Plan for the 2022

Monitoring Year (MY 2022 IFGMP) as discussed in section 3.3 of the MY 2022 IFGMP. Sampling over the previous several years provided screening level results and, in each case, the reported results from the recent results reported in this notification generally conform to historical values and trends.

A filtered sample collected on November 4, 2021, from CrPZ-1 resulted in the measurement of a contaminant that exceeded its corresponding screening level. Chromium was measured at 72.5  $\mu$ g/L, exceeding the 50- $\mu$ g/L Table A-1 NMWQCC groundwater standard.

A filtered sample collected on November 10, 2021, from CrPZ-2a resulted in the measurement of a contaminant that exceeded its corresponding screening level. Chromium was measured at 239  $\mu$ g/L, exceeding the 50- $\mu$ g/L Table A-1 NMWQCC groundwater standard.

A filtered sample collected on November 9, 2021, from CrPZ-3 resulted in the measurement of a contaminant that exceeded its corresponding screening level. Chromium was measured at 300  $\mu$ g/L, exceeding the 50- $\mu$ g/L Table A-1 NMWQCC groundwater standard.

A filtered sample collected on November 10, 2021, from CrPZ-4 resulted in the measurement of a contaminant that exceeded its corresponding screening level. Chromium was measured at 92.5  $\mu$ g/L, exceeding the 50- $\mu$ g/L Table A-1 NMWQCC groundwater standard.

A filtered sample collected on November 22, 2021, from CrPZ-5 resulted in the measurement of a contaminant that exceeded its corresponding screening level. Chromium was measured at 411  $\mu$ g/L, exceeding the 50- $\mu$ g/L Table A-1 NMWQCC groundwater standard.

## **15-Day Notification**

The information required for constituents that meet the five reporting criteria requiring written notification within 15 days is provided in the enclosed 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) 709-7600 (hai.shen@em.doe.gov).

Sincerely,

ARTURO DURAN Digitally signed by ARTURO DURAN Date: 2022.01.24 12:57:53 -07'00'

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

## Enclosure(s):

1. Summary of Groundwater Data Reviewed in January 2022 that Meet Notification Requirements (EM2022-0051)

cc (letter with CD/DVD enclosure[s]):

Steven Lynne, Los Alamos County, Los Alamos, NM (2 copies)

cc (letter and enclosure[s] emailed):

Laurie King, EPA Region 6, Dallas, TX

Raymond Martinez, San Ildefonso Pueblo, NM

Dino Chavarria, Santa Clara Pueblo, NM

David Gomez, Los Alamos County, Los Alamos, NM

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# SUMMARY OF GROUNDWATER DATA REVIEWED IN JANUARY 2022 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 2022 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 12-21 Groundwater Report, presents categorical results since June 14, 2007, that met the five reporting criteria as specified in the 2016 Consent Order. Table 2, NMED 12-21 Groundwater Report Addendum, presents results that exceed the 95<sup>th</sup> 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 that identifies 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; and
- 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." The EPA tap water standard's carcinogenic risk values were adjusted to 1 × 10<sup>-5</sup>, as specified in the 2016 Consent Order. This report was prepared using the May 2021 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 criterion 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 95<sup>th</sup> 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 indicates 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 a water quality standard at that location. N3B, under the U.S. Department of Energy Environmental Management Los Alamos Field Office, 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" (June 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 95<sup>th</sup> percentile in a spring or screened interval of a well if that contaminant has not previously exceeded the 95<sup>th</sup> 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 95<sup>th</sup> 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)

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

Analyte Description—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 qualifier 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

Analy Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—N3B comment regarding the analytical result

## **Acronyms and Abbreviations**

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

DOECAP—Department of Energy Consolidated Audit Program

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

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

GENINORG—General inorganic

HEXP—high explosive

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

HRGC/HRMS—High-resolution gas chromatography/High-resolution mass spectrometry

ICP-AES—inductively coupled plasma atomic emission spectroscopy

ICP-MS—inductively coupled plasma mass spectrometry

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

LCS—laboratory control sample

MDL—method detection limit

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

MS-matrix spike

MSD—matrix spike duplicate

n/a—not applicable

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

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

NTU—nephelometric turbidity unit

PETN—pentaerythritol tetranitrate

PFAS—per- and polyfluoroalkyl substances

PQL—practical quantitation limit

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

SIM—selected ion monitoring

SVOC—semivolatile organic compound

TDS—total dissolved solids

TNX—2,4,6-trinitroxylene

UAL—upper acceptance limit

UOM—unit of measurement

VOC-volatile organic compound

## **Analytical Laboratory Codes and Qualifiers**

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

CFA—Cape Fear Analytical, LLC

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

F—filtered

FD—field duplicate

GELC—GEL Laboratories, LLC, Division of the GEL Group, Charleston, SC

GENINORG—general inorganic

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

HE1a (validation reason code)—The quantitating internal standard area count was below the lower acceptance limit.

HE12a (validation reason code)—The LCS %recovery was less than the lower acceptance limit but greater than 10%.

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

HR4g—The detected sample result is ≥5 times and <100 times the detected concentration of the same analyte in the associated blank.

HR12a—The laboratory control sample or ongoing precision and recovery sample percent recovery was < the lower acceptance limit and ≥ the rejection limit.

HR12e—The matrix spike percent recovery was < the lower control limit.

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.

I4g (validation reason code)—Result less than a multiple of some secondary higher value found in field, trip, or rinsate blank.

I6a (validation reason code)—MS/MSD recovery below lower limit.

I6b (validation reason code)—The associated matrix spike percent recovery is > the upper acceptance limit.

I7h—The initial or continuing calibration blank result is > method detection limit and the detected sample result is ≥5 times and <100 times the blank result.

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

I9c—The non-aqueous mercury, chromium(VI), or general chemistry sample temperature was greater than 10°C upon receipt at the laboratory.

I10a—The sample and the duplicate sample results are greater than or equal to 5 times the reporting limit and the duplicate sample relative percent difference is greater than 20% for water samples and greater than 35% for soil samples, or outside of the laboratory's limits.

**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.

PE9c—The sample temperature was >6°C, or the sample preservation criteria was not met, upon receipt at the laboratory.

PE12e (validation reason code)—The MS/MSD percent recovery was greater than 10% but less than 75%.

RE—reanalysis

RL—reporting limit

RPD—relative percent difference

REG—regular sample

SV7b—The initial or continuing calibration verification relative response factor < the laboratory's lower limit.

SV7c (validation reason code)—The percent drift was above acceptance limits in the initial calibration verification (ICV) or continuing calibration verification (CCV).

SV8 (validation reason code)—The affected analyte is considered not detected because mass spectrum did not meet specifications. The detect status is changed to N.

SV9—The holding time was greater 1× and less than 2× the applicable holding time requirement.

SwRI—Southwest Research Institute

UF-unfiltered

V7b (validation reason code)—The initial or CCV relative response factor was less than the laboratory's lower limit.

V7k (validation reason code)—Level 3 data validation identified calibration issues affecting data usability.

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 12-21 Groundwater Report

Table	: NME	ED 12-21 Groun	ndwater	Repor	t													,			,	
Criteria Code Vicite	Samples	First Event Min Detect	Max Detect	Median Detect	Num Detect Canyon Zone	Location	Screen Depth	Start Date Fld QC Type Code	Prep Co	Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor	Validation Qualifier	Validation Reason Code	Lab Code	Comment
C1 14		08/29/2007 1.84	1.84	1.84	1 Sandia Regional Canyon Top				UF IN	IT VOC	Acetone	67-64-1	1.84	1.0 NMED A1 TAP SCRN LVL	14100	0 1.74		.00 J		AB SW-846:8260D	GELC	
C1 12	14	08/29/2007 0.51	0.51	0.51	1 Sandia Regional Top	R-35b 8	825.4 11	1/22/2021 REG	UF IN	IT SVOC	Bis(2-ethylhexyl)phthalate	117-81-7	0.510	1.0 EPA MCL	6	0.1 0.300	μg/L ´	.00 J	U SV	8 SW-846:8270E	GELC	
C1 10	10	06/18/2009 0.37	0.37	0.37	1 Sandia Regional Canyon Deep	R-43 S2	969.1 11	1/02/2021 REG	UF IN	IT VOC	Trichloroethene	79-01-6	0.370	1.0 NM GW STD	5	0.1 0.333	μg/L ´	.00 J	J J_	AB SW-846:8260D	GELC	
C1 10	10	07/16/2009 0.85	0.85	0.85	1 Mortandad Regional Top	R-45 S1 8	880.0 11	1/18/2021 REG	UF IN	IT VOC	Dichloroethane[1,2-]	107-06-2	0.850	1.0 NM GW STD	5	0.2 0.333	µg/L ′	.00 J	J J_	_AB SW-846:8260D	GELC	
C1 2	2	11/19/2019 0.237	0.237	0.237	1 Mortandad Regional Top	R-45 S1 8	880.0 11	1/18/2021 REG	UF IN	IT Low-level 1,4-dioxane	Dioxane[1,4-]	123-91-1	0.237	1.0 NMED A1 TAP SCRN LVL	4.59	0.1 0.100	μg/L ′	.00 J	J S/	7b SW-846:8270E_SIM	GELC	
C1 11	12	05/27/2010 1.45	1.45	1.45	1 Mortandad Regional Top	R-50 S1	1077.0 11	1/12/2021 REG	UF IN	IT VOC	Dichloroethane[1,2-]	107-06-2	1.45	1.0 NM GW STD	5	0.3 0.333	μg/L ′	.00	NQ N	SW-846:8260D	GELC	
C1 11	12	01/11/2007 2.16	2.16	2.16	1 Sandia Intermediat Canyon Perched	e SCI-1	358.4 11	1/09/2021 REG	UF IN	IT VOC	Acetone	67-64-1	2.16	1.0 NMED A1 TAP SCRN LVL	14100	0 1.74	µg/L ′	.00 J	J J_	_AB SW-846:8260D	GELC	
C2 1	1	11/04/2021 6.02	6.02	6.02	1 Mortandad Regional Canyon Top	CRPZ-1	1122.9 11	1/04/2021 REG	F IN	IT Geninorg	Chloride	CI(-1)	6.02	1.0 LANL Reg BG LVL		2.2 0.0670	mg/L	.00	NQ N	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 72.5	72.5	72.5	1 Mortandad Regional Canyon Top	CRPZ-1	1122.9 11	1/04/2021 REG	F IN	IT Metals	Chromium	Cr	72.5	1.0 LANL Reg BG LVL	7.48	9.7 3.00	μg/L ′	.00	NQ N	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 0.473	0.473	0.473	1 Mortandad Regional Canyon Top	CRPZ-1	1122.9 11	1/04/2021 REG	F IN	IT Geninorg	Fluoride	F(-1)	0.473	1.0 LANL Reg BG LVL	0.377	1.3 0.0330	mg/L ′	.00	J- 16	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 5.2	5.2	5.2	1 Mortandad Regional Top	CRPZ-1	1122.9 11	1/04/2021 REG	F IN	IT Metals	Magnesium	Mg	5.2	1.0 LANL Reg BG LVL	4.18	1.2 0.11	mg/L	.00	NQ N	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 2.91	2.91	2.91	1 Mortandad Regional Canyon Top	CRPZ-1	1122.9 11	1/04/2021 REG		IT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.91	1.0 LANL Reg BG LVL	0.769	3.8 0.0850	mg/L 5	00.	NQ N	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 13.6	13.6	13.6	1 Mortandad Regional Canyon Top	CRPZ-1	1122.9 11	1/04/2021 REG		IT LCMS/MS	Perchlorate	CIO4	13.6	1.0 LANL Reg BG LVL		32.9 0.250			NQ N	SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 10.3	10.3	10.3	1 Mortandad Regional Canyon Top			1/04/2021 REG		IT Geninorg	Sulfate	SO4(-2)	10.3	1.0 LANL Reg BG LVL		2.2 0.133			NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/04/2021 166	166	166	1 Mortandad Regional Canyon Top			1/04/2021 REG		IT Geninorg	Total Dissolved Solids	TDS	166	1.0 LANL Reg BG LVL			mg/L 1		NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 97.1			1 Mortandad Regional Canyon Top	CrPZ-2a S		1/10/2021 REG		IT Geninorg	Alkalinity-CO3+HCO3	ALK-CO3+HCO3		1.0 LANL Reg BG LVL			mg/L ′		NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1		11/10/2021 76.5			1 Mortandad Regional Canyon Top	CrPZ-2a 9		1/10/2021 REG		IT Metals	Barium	Ва		1.0 LANL Reg BG LVL			μg/L ´		NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 60.2			1 Mortandad Regional Canyon Top	CrPZ-2a S		1/10/2021 REG		IT Metals	Calcium	Ca		1.0 LANL Reg BG LVL			mg/L ′		NQ N	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1		11/10/2021 46.1			1 Mortandad Regional Canyon Top	CrPZ-2a S		1/10/2021 REG		IT Geninorg		CI(-1)		1.0 LANL Reg BG LVL		17.1 0.670			J- 16		GELC	Result consistent with previous historical data (See Notes)
C2 1		11/10/2021 239		239	1 Mortandad Regional Canyon Top	CrPZ-2a S		1/10/2021 REG		IT Metals	Chromium	Cr		1.0 LANL Reg BG LVL			μg/L ′		NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 209		209	1 Mortandad Regional Canyon Top			1/10/2021 REG		IT Geninorg	Hardness	Hardness		1.0 LANL Reg BG LVL					NQ N		GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 14.2	14.2	14.2	1 Mortandad Regional Canyon Top	CrPZ-2a	909.8 11	1/10/2021 REG	F IN	IT Metals	Magnesium	Mg	14.2	1.0 LANL Reg BG LVL	4.18	3.4 0.11	mg/L 1	.00	NQ N	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)

EM2022-0051 9 January 2022

Table 1: NMED 12-21 Groundwater Report

Table	I: NME	ED 12-21 Gro	undwater	Repor	t					T.										,
Criteria Code Visite	Samples	First Event	Min Detect Max Detect	Median Detect	Num Detect Canyon Zone	Location Screen Depth	At Dat	Fid Prep Code Lab Sample Type Code Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio Std MDL	Std UOM	Dilution Factor Lab Qualifier	Validation Qualifier	Code	Lab Code	Comment
C2 1	1	11/10/2021 8.2	4 8.24	8.24	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Metals	Nickel	Ni	8.24	1.0 LANL Reg BG LVL	2.9	2.8 0.600	μg/L 1.	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 4.8	4 4.84	4.84	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	4.84	1.0 LANL Reg BG LVL	0.769	6.3 0.0850	mg/L 5.	00	NQ NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 0.9	71 0.971	0.971	1 Mortandad Regional Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT LCMS/MS	Perchlorate	CIO4	0.971	1.0 LANL Reg BG LVL	0.414	2.3 0.0500	μg/L 1.	00	J- PE12	e SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 20.	9 20.9	20.9	1 Mortandad Regional Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Metals	Sodium	Na	20.9	1.0 LANL Reg BG LVL	16	1.3 0.1	mg/L 1.	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 240	240	240	1 Mortandad Regional Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Metals	Strontium	Sr	240	1.0 LANL Reg BG LVL	157	1.5 1.00	μg/L 1.	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 60.	1 60.1	60.1	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Geninorg	Sulfate	SO4(-2)	60.1	1.0 LANL Reg BG LVL	4.59	13.1 1.33	mg/L 10	0.0	J+  16b	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 329	329	329	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Geninorg	Total Dissolved Solids	TDS	329	1.0 LANL Reg BG LVL	161		mg/L 1.		NQ NQ	EPA:160.1	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 3.5	1 3.51	3.51	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8 11/10	0/2021 REG F	INIT Metals	Uranium	U	3.51	1.0 LANL Reg BG LVL	1.19	2.9 0.0670	μg/L 1.	00	J+ I4a,I	7h SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 44.	5 44.5	44.5	1 Mortandad Regional Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Metals	Barium	Ва	44.5	1.0 LANL Reg BG LVL	38.1	1.2 1.00	μg/L 1.	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 28.	5 28.5	28.5	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Metals	Calcium	Ca	28.5	1.0 LANL Reg BG LVL	17.03	1.7 0.05	mg/L 1.	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 17.	1 17.1	17.1	1 Mortandad Regional Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Geninorg	Chloride	CI(-1)	17.1	1.0 LANL Reg BG LVL	2.7	6.3 0.335	mg/L 5.	00	NQ NQ	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 300	300	300	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Metals	Chromium	Cr	300	1.0 LANL Reg BG LVL	7.48	40.1 3.00	μg/L 1.	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 10	101	101	1 Mortandad Regional Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Geninorg	Hardness	Hardness	101	1.0 LANL Reg BG LVL	67.1	1.5 0.453	mg/L 1.	00	NQ NQ	SM:A2340B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 7.2	7.24	7.24	1 Mortandad Regional Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Metals	Magnesium	Mg	7.24	1.0 LANL Reg BG LVL	4.18	1.7 0.11	mg/L 1.	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 5.5	4 5.54	5.54	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.54	1.0 LANL Reg BG LVL	0.769	7.2 0.170	mg/L 10	0.0	NQ NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 1.1	3 1.13	1.13	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT LCMS/MS	Perchlorate	CIO4	1.13	LVL		2.7 0.0500			NQ NQ	SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 28	28	28	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F	INIT Geninorg	Sulfate	SO4(-2)	28.0	1.0 LANL Reg BG LVL	4.59	6.1 0.665	mg/L 5.	00	NQ NQ	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/09/2021 239	239	239	1 Mortandad Regional Canyon Top	CRPZ-3 939.4 11/09	9/2021 REG F		Total Dissolved Solids	TDS	239	1.0 LANL Reg BG LVL	161	1.5 3.40	mg/L 1.	00	NQ NQ	EPA:160.1	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 73.	8 73.8	73.8	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0 11/10	0/2021 REG F	INIT Geninorg	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	73.8	1.0 LANL Reg BG LVL	72.9	1 1.45	mg/L 1.	00	NQ NQ	EPA:310.1	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 22.	3 22.3	22.3	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0 11/10	0/2021 REG F	INIT Metals	Calcium	Ca	22.3	1.0 LANL Reg BG LVL	17.03		mg/L 1.		NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 6.3		6.31	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0 11/10				CI(-1)	6.31	1.0 LANL Reg BG LVL	2.7	2.3 0.0670			J- I6a	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021 92.	5 92.5	92.5	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0 11/10	0/2021 REG F	INIT Metals	Chromium	Cr	92.5	1.0 LANL Reg BG LVL	7.48	12.4 3.00	μg/L 1.	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)

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Table 1: NMED 12-21 Groundwater Report

Table	I: NMI	ED 12-21 (	<b>3roundw</b>	ater F	Report																
Criteria Code Visite	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 Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor Lab Qualifier	Validation Qualifier	Code	Lab Code	Comment
C2 1	1	11/10/2021	87.4 8	37.4	37.4	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT Geninorg	Hardness	Hardness	87.4	1.0 LANL Reg BG LVL	67.1	1.3 0.453	mg/L 1	00	NQ NQ	SM:A2340B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021	7.66 7	7.66	7.66	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT Metals	Magnesium	Mg	7.66	1.0 LANL Reg BG LVL	4.18	1.8 0.11	mg/L 1	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021	5.2 5	5.2	5.2	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.20	1.0 LANL Reg BG LVL	0.769	6.8 0.0850	mg/L 5	00	NQ NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021	2.78 2	2.78 2	2.78	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT LCMS/MS	Perchlorate	CIO4	2.78	1.0 LANL Reg BG LVL	0.414	6.7 0.0500	μg/L 1	00	J- PE12	2e SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021	12.6	2.6 1	12.6	1 Mortandad Regional Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT Geninorg	Sulfate	SO4(-2)	12.6	1.0 LANL Reg BG LVL	4.59	2.7 0.133	mg/L 1	00	J+ 16b	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/10/2021	173 1	73 1	173	1 Mortandad Regional Canyon Deep	CRPZ-4 957.0	11/10/2021 REG	F INIT Geninorg	Total Dissolved Solids	TDS	173	1.0 LANL Reg BG LVL	161	1.1 3.40	mg/L 1	00	NQ NQ	EPA:160.1	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	54.3 5	64.3 5	54.3	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Metals	Barium	Ва	54.3	1.0 LANL Reg BG LVL	38.1	1.4 1.00	μg/L 1	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	24.5 2	4.5 2	24.5	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Metals	Calcium	Са	24.5	1.0 LANL Reg BG LVL			mg/L 1		NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	15 1	5 1	15	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Geninorg	Chloride	CI(-1)	15.0	1.0 LANL Reg BG LVL	2.7	5.6 0.134	mg/L 2	.00	J+ 16b	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	411 4	11 4	111	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Metals	Chromium	Cr	411	1.0 LANL Reg BG LVL	7.48	54.9 3.00	μg/L 1	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	92.3 9	2.3	92.3	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Geninorg	Hardness	Hardness	92.3	1.0 LANL Reg BG LVL	67.1	1.4 0.453	mg/L 1	00	NQ NQ	SM:A2340B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	7.57 7	7.57	7.57	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Metals	Magnesium	Mg	7.57	1.0 LANL Reg BG LVL	4.18	1.8 0.11	mg/L 1	00	NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	4.49 4	.49 4	1.49	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Metals	Nickel	Ni	4.49	1.0 LANL Reg BG LVL	2.9	1.5 0.600	μg/L 1	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	2.88 2	2.88 2	2.88	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.88	1.0 LANL Reg BG LVL	0.769	3.7 0.170	mg/L 1	0.0	NQ NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	0.827 0	0.827	0.827	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT LCMS/MS	Perchlorate	CIO4	0.827	1.0 LANL Reg BG LVL	0.414	2 0.0500	μg/L 1	00	NQ NQ	SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	2.47 2	2.47 2	2.47	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG		Potassium	К	2.47	LVL	2.39		mg/L 1		NQ NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	26.1 2	26.1 2	26.1	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Geninorg	Sulfate	SO4(-2)	26.1	1.0 LANL Reg BG LVL	4.59	5.7 0.266	mg/L 2	.00	J+ I4a	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
C2 1	1	11/22/2021	201 2	201 2	201	1 Mortandad Regional Canyon Deep	CRPZ-5 976.0	11/22/2021 REG	F INIT Geninorg	Total Dissolved Solids	TDS	201	1.0 LANL Reg BG LVL	161	1.2 3.40	mg/L 1	00	NQ NQ	EPA:160.1	GELC	Result consistent with previous historical data (See Notes)
C2 46	48	08/30/2007	0.317 0	0.427	0.3605	48 Mortandad Regional Canyon Deep	R-33 S2 1112.4	11/17/2021 REG	F INIT LCMS/MS	Perchlorate	CIO4	0.427	1.2 LANL Reg BG LVL	0.414	1 0.0500	μg/L 1	00	NQ NQ	SW-846:6850	GELC	
C3 1	1	11/04/2021	72.5 7	2.5 7	72.5	1 Mortandad Regional Canyon Top	CRPZ-1 1122.9	11/04/2021 REG	F INIT Metals	Chromium	Cr	72.5	1.0 NM GW STD	50	1.4 3.00	μg/L 1	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C3 1	1	11/04/2021	13.6 1	3.6 1	13.6	1 Mortandad Regional Canyon Top	CRPZ-1 1122.9	11/04/2021 REG	F INIT LCMS/MS	Perchlorate	CIO4	13.6	1.0 NMED A1 TAP SCRN LVL	13.8	1 0.250	μg/L 5	00	NQ NQ	SW-846:6850	GELC	Result consistent with previous historical data (See Notes)
C3 1	1	11/10/2021	239 2	239 2	239	1 Mortandad Regional Canyon Top	CrPZ-2a 909.8	11/10/2021 REG	F INIT Metals	Chromium	Cr	239	1.0 NM GW STD	50	4.8 3.00	μg/L 1	00	NQ NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)

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Table 1: NMED 12-21 Groundwater Report

Tab	e 1: NM	IED 12-21	Ground	dwater	Repor	t									T	T										1			
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	Analy Suite Code	Analyte Description	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	Analy Meth Code	Lab Code	Comment
C3		11/09/202		300	300		Mortandad Canyon	Regional Top	CRPZ-3	939.4	11/09/2021	REG F	INIT	Metals	Chromium	Cr	300	1.0	NM GW STD	50	6			1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C3	1	11/09/202	1 5.54	5.54	5.54	1	Mortandad Canyon	Regional Top	CRPZ-3	939.4	11/09/2021	REG F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.54	1.0	EPA MCL	10	0.6	0.170	mg/L	10.0	NQ	NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C3	1	11/10/202	1 92.5	92.5	92.5	1	Mortandad Canyon	Regional Deep	CRPZ-4	957.0	11/10/2021	REG F	INIT	Metals	Chromium	Cr	92.5	1.0	NM GW STD	50	1.9	3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C3	1	11/10/202	1 5.2	5.2	5.2	1	Mortandad Canyon	Regional Deep	CRPZ-4	957.0	11/10/2021	REG F	INIT	Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.20	1.0	EPA MCL	10	0.5	0.0850	mg/L	5.00	NQ	NQ	EPA:353.2	GELC	Result consistent with previous historical data (See Notes)
C3	1	11/22/202	1 411	411	411	1	Mortandad Canyon	Regional Deep	CRPZ-5	976.0	11/22/2021	REG F	INIT	Metals	Chromium	Cr	411	1.0	NM GW STD	50	8.2	3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
C4	85	06/15/200	5 30.1	48.2	39.6	85	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG F	INIT	Metals	Barium	Ва	38.0		LANL Int BG LVL	13.5	2.8	1.00	μg/L	1.00	NQ	NQ	SW-846:6010D	GELC	
C4	84	06/15/200	5 42.8	75.5	62.35	84	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG F	INIT	Metals	Calcium	Ca	58.3		LANL Int BG LVL	10.7	5.4 (	0.05	mg/L	1.00	NQ	NQ	SW-846:6010D	GELC	
C4	85	06/15/200	5 21.2	64.8	53.3	85	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021				Chloride	CI(-1)	46.8		LANL Int BG LVL	3.11	15 (	0.670	mg/L	10.0	NQ	NQ	EPA:300.0	GELC	
C4	85	06/15/200	5 0.412	0.668	0.525	82	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG F	INIT	Geninorg	Fluoride	F(-1)	0.511		LANL Int BG LVL	0.234	2.2	0.0330	mg/L	1.00	NQ	NQ	EPA:300.0	GELC	
C4	84	06/15/200	5 142	253	209	84	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG F	INIT	Geninorg	Hardness	Hardness	194		LANL Int BG LVL	37.8	5.1	0.453	mg/L	1.00	NQ	NQ	SM:A2340B	GELC	
C4	84	06/15/200	5 8.49	15.7	12.8	84	Mortandad Canyon	Intermediate Perched	MCOI-6		11/08/2021		INIT	Metals	Magnesium	Mg	11.7		LVL		3.7		mg/L		NQ	NQ	SW-846:6010D	GELC	
		06/15/200		41.8			Canyon	Intermediate Perched			11/08/2021				Nickel	Ni	21.1		LVL				µg/L		NQ		SW-846:6020B	GELC	
		06/15/200					Canyon	Intermediate Perched			11/08/2021				Nitrate-Nitrite as Nitrogen		13.5		LVL	0.459					NQ		EPA:353.2	GELC	
		02/26/200					Canyon	Intermediate Perched			11/08/2021				Perchlorate	CIO4	102		LVL		377. <sup>2</sup>		μg/L		NQ		SW-846:6850	GELC	
		06/15/200					Canyon	Intermediate Perched							Strontium	Sr	259		LVL		4.3		μg/L		NQ		SW-846:6010D	GELC	
		06/15/200					Canyon	Intermediate Perched								SO4(-2)			LVL	7.1					NQ		EPA:300.0	GELC	
		05/17/200		7.43			Sandia Canyon	Тор			11/02/2021				Nitrate-Nitrite as Nitrogen				LANL Reg BG LVL						NQ		EPA:353.2	GELC	
		02/24/200					Canyon	Тор			11/15/2021				Nitrate-Nitrite as Nitrogen				LANL Reg BG						NQ		EPA:353.2	GELC	
		02/24/200					Canyon	Тор			11/15/2021				Nitrate-Nitrite as Nitrogen				LANL Reg BG						NQ		EPA:353.2	GELC	
		02/28/200			8.42		Canyon	Тор			11/15/2021					CIO4			LANL Reg BG				. 0		NQ		SW-846:6850	GELC	
		02/28/200			8.42		Canyon	Тор			11/15/2021			LCMS/MS		CIO4			LANL Reg BG						NQ		SW-846:6850	GELC	
C4	7/  88	08/30/200	/  68	408	347		Sandia Canyon	Regional Deep	R-35a	1013.1	11/22/2021	REG F	INIT	Metals	Barium	Ва	359		LANL Reg BG LVL	38.1	9.4	1.00	µg/L	1.00	NQ	NQ	SW-846:6010D	GELC	

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Table 1: NMED 12-21 Groundwater Report

Table	I: NME	ED 12-21 Ground	dwater	Repor	t																		
Criteria Code Visite	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 Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor Lab Qualifier	Validation Qualifier	Validation Reason Code	Lab Code	Comment
C4 76	88	08/30/2007 5.97	7.31	6.56			Regional Deep	R-35a	1013.1	11/22/2021 REG	F INIT Geninorg	Chloride	CI(-1)	6.46	1.0 LANL Reg BG LVL	2.7	2.4 0.0670	mg/L 1.	00	J+ 16	EPA:300.0	GELC	
C4 77	88	08/30/2007 1.2	22.2	8.04		andia anyon	Regional Deep	R-35a	1013.1	11/22/2021 REG	F INIT Metals	Nickel	Ni	9.83	1.2 LANL Reg BG LVL	2.9	3.4 0.600	μg/L 1.	00	NQ NO	SW-846:6020B	GELC	
C4 50	57	03/12/2008 4.05	6.83	6.1		andia anyon	Regional Top	R-36	766.9	11/19/2021 REG	F INIT Geninorg	Chloride	CI(-1)	6.30	1.0 LANL Reg BG LVL	2.7	2.3 0.0670	mg/L 1.	00	J+ 14	EPA:300.0	GELC	
C4 50	58	03/12/2008 1.25	6.8	2.42		andia anyon	Regional Top	R-36	766.9	11/19/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.54	1.0 LANL Reg BG LVL	0.769	3.3 0.0850	mg/L 5.	00	NQ NO	EPA:353.2	GELC	
C4 49	56	03/12/2008 0.845	1.74	1.51		andia anyon	Regional Top	R-36	766.9	11/19/2021 REG	F INIT LCMS/M	Perchlorate	CIO4	1.32	0.9 LANL Reg BG LVL	0.414	3.2 0.0500	μg/L 1.	00	NQ NO	SW-846:6850	GELC	
C4 51	60	11/05/2008 3.6	9.39	7.975		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 FD	F INIT Geninorg	Chloride	CI(-1)	7.91	1.0 LANL Reg BG LVL	2.7	2.9 0.0670	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 51	60	11/05/2008 3.6	9.39	7.975		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 REG	F INIT Geninorg	Chloride	CI(-1)	7.97	1.0 LANL Reg BG LVL	2.7	3 0.0670	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 51	65	11/05/2008 2.35	223	130.5		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 FD	F INIT Metals	Chromium	Cr	196	1.5 LANL Reg BG LVL	7.48	26.2 3.00	μg/L 1.	00	NQ NO	SW-846:6020B	GELC	
C4 51	65	11/05/2008 2.35	223	130.5	_	andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 REG	F INIT Metals	Chromium	Cr	199	1.5 LANL Reg BG LVL	7.48	26.6 3.00	μg/L 1.	00	NQ NO	SW-846:6020B	GELC	
C4 51	59	11/05/2008 4.67	6.15	5.35		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 FD	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.15	1.0 LANL Reg BG LVL	0.769	6.7 0.170	mg/L 10	0.0	NQ NO	EPA:353.2	GELC	
C4 51	59	11/05/2008 4.67	6.15	5.35		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.18	1.0 LANL Reg BG LVL	0.769	6.7 0.170	mg/L 1	0.0	NQ NO	EPA:353.2	GELC	
C4 51	60	11/05/2008 8.77	21	16.35		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 FD	F INIT Geninorg	Sulfate	SO4(-2)	17.5	1.1 LANL Reg BG LVL	4.59	3.8 0.133	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 51	60	11/05/2008 8.77	21	16.35		andia anyon	Regional Top	R-43 S1	903.9	11/18/2021 REG	F INIT Geninorg	Sulfate	SO4(-2)	17.5	1.1 LANL Reg BG LVL	4.59	3.8 0.133	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 50	55	11/10/2008 3.37	8.66	4.95		andia anyon	Regional Deep	R-43 S2	969.1	11/02/2021 REG	F INIT Geninorg	Chloride	CI(-1)	6.80	1.4 LANL Reg BG LVL	2.7	2.5 0.0670	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 50	60	11/10/2008 1.8	49.1	9.495			Regional Deep	R-43 S2	969.1	11/02/2021 REG	F INIT Metals	Chromium	Cr	35.3	3.7 LANL Reg BG LVL	7.48	4.7 3.00	μg/L 1.	00	NQ NO	SW-846:6020B	GELC	
C4 50	54	11/10/2008 0.389	5.4	3.28		andia anyon	Regional Deep	R-43 S2	969.1	11/02/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	4.15	1.3 LANL Reg BG LVL	0.769	5.4 0.170	mg/L 10	0.0	NQ NO	EPA:353.2	GELC	
C4 50	55	11/10/2008 0.411	0.953	0.787			Regional Deep	R-43 S2	969.1	11/02/2021 REG	F INIT LCMS/M	S Perchlorate	CIO4	0.890	1.1 LANL Reg BG LVL	0.414	2.1 0.0500	μg/L 1.	00	NQ NO	SW-846:6850	GELC	
C4 50	55	11/10/2008 3.96	11.5	7.59			Regional Deep	R-43 S2	969.1	11/02/2021 REG	F INIT Geninorg	Sulfate	SO4(-2)	9.99	1.3 LANL Reg BG LVL	4.59	2.2 0.133	mg/L 1.	00	NQ NO	EPA:300.0	GELC	
C4 79	83	02/17/2009 1.99	21	2.7	_		Regional Top	R-44 S1	895.0	11/16/2021 REG	F INIT Geninorg	Chloride	CI(-1)	20.4	7.6 LANL Reg BG LVL	2.7	7.6 0.335	mg/L 5	00	J- 16	EPA:300.0	GELC	
C4 79	83	02/17/2009 0.536	109	28.5	_		Regional Top	R-44 S1	895.0	11/16/2021 REG		Nickel	Ni	43.8	1.5 LANL Reg BG LVL	2.9	15.1 0.600	μg/L 1.	00	NQ NO	SW-846:6020B	GELC	
C4 79	83	02/17/2009 0.123	3.86	1.285			Regional Top	R-44 S1	895.0	11/16/2021 REG	F INIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.88	2.2 LANL Reg BG LVL		3.7 0.0850	,		NQ NO	EPA:353.2	GELC	
C4 79	83	02/17/2009 2.76	21.1	4.52		lortandad anyon	Regional Top	R-44 S1	895.0	11/16/2021 REG	F INIT Geninorg	Sulfate	SO4(-2)	20.7	4.6 LANL Reg BG LVL	4.59	4.5 0.665	mg/L 5	00	J+ 16	EPA:300.0	GELC	

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Table 1: NMED 12-21 Groundwater Report

Table	I. INIVIE	ED 12-21 Groui	iuwatei	Kepoi																					
Criteria Code Visits	Samples	First Event Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Location	Screen Depth	Start Date	Fld Prep Code	Lab Sample Type Code Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor Lab Qualifier	Validation Qualifier	Validation Reason Code	Analy Meth Code	Lab Code	Comment
C4 77		02/28/2009 3	19.6	5.3		Mortandad Regional Canyon Top	R-45 S1	880.0	11/18/2021 REG	F II	NIT Geninorg	Chloride	CI(-1)	19.0	3.6 LANL	Reg BG	2.7	7 0.335	mg/L	5.00		I4g EPA:300.	0	GELC	
C4 77	83	02/28/2009 0.535	5 8.31	1.145		Mortandad Regional Canyon Top	R-45 S1	880.0	11/18/2021 REG	F IN	NIT Metals	Nickel	Ni	7.53	6.6 LANL	Reg BG	2.9	2.6 0.600	µg/L	1.00	NQ	NQ SW-846:6	6020B	GELC	
C4 77	83	02/28/2009 0.256	3.47	2.81		Mortandad Regional Top	R-45 S1	880.0	11/18/2021 REG	F II	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.02	1.1 LANL	Reg BG	0.769	3.9 0.0850	mg/L	5.00	NQ	NQ EPA:353.	2	GELC	
C4 77	83	02/28/2009 4.1	20	8.15		Mortandad Regional Canyon Top	R-45 S1	880.0	11/18/2021 REG	F IN	NIT Geninorg	Sulfate	SO4(-2)	19.7	2.4 LANL	Reg BG	4.59	4.3 0.665	mg/L	5.00	NQ	NQ EPA:300.	0	GELC	
C4 76	81	03/05/2009 2.74	7.11	4.68		Mortandad Regional Canyon Deep	R-45 S2	974.9	11/18/2021 REG	F IN	NIT Geninorg	Chloride	CI(-1)	7.02	1.5 LANL	Reg BG	2.7	2.6 0.0670	mg/L	1.00	NQ	NQ EPA:300.	0	GELC	
C4 76	86	03/05/2009 6.1	62	27.8		Mortandad Regional Canyon Deep	R-45 S2	974.9	11/18/2021 REG	F II	NIT Metals	Chromium	Cr	57.4	2.1 LANL	Reg BG	7.48	7.7 3.00	µg/L	1.00	NQ	NQ SW-846:0	6020B	GELC	
C4 78	86	03/06/2010 4.68	21.9	9.8		Mortandad Regional Canyon Top	R-50 S1	1077.0	11/12/2021 REG	F II	NIT Geninorg	Chloride	CI(-1)	21.7	2.2 LANL LVL	Reg BG	2.7	8 0.335	mg/L	5.00	J-	l6a EPA:300.	0	GELC	
C4 79	87	03/06/2010 1.51	14.6	5.52		Mortandad Regional Canyon	R-50 S1	1077.0	11/12/2021 REG	F II	NIT Metals	Nickel	Ni	8.93	1.6 LANL	Reg BG	2.9	3.1 0.600	µg/L	1.00	NQ	NQ SW-846:6	6020B	GELC	
C4 79	88	03/06/2010 0.398	3.01	2.1		Mortandad Regional Canyon Top	R-50 S1	1077.0	11/12/2021 REG	F II	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.99	1.4 LANL	Reg BG	0.769	3.9 0.0850	mg/L	5.00	NQ	NQ EPA:353.	2	GELC	
C4 78	86	03/06/2010 7.22	21.1	14.5		Mortandad Regional Canyon Top	R-50 S1	1077.0	11/12/2021 REG	F II	NIT Geninorg	Sulfate	SO4(-2)	21.1	1.5 LANL	Reg BG	4.59	4.6 0.665	mg/L	5.00	J+	l6b EPA:300.	0	GELC	
C4 63	72	05/20/2011 2.03	43.9	21.8		Mortandad Regional Canyon Top	R-61 S1	1125.0	11/03/2021 REG	F II	NIT Metals	Chromium	Cr	35.8	1.6 LANL	Reg BG	7.48	4.8 3.00	µg/L	1.00	NQ	NQ SW-846:6	6020B	GELC	
C4 63	72	05/20/2011 0.427	7 2.95	2.225		Mortandad Regional Canyon Top	R-61 S1	1125.0	11/03/2021 REG	F II	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.68	1.2 LANL LVL	Reg BG	0.769	3.5 0.0850	mg/L	5.00	NQ	NQ EPA:353.	2	GELC	
C4 62	71	05/20/2011 2.96	16.2	12		Mortandad Regional Top	R-61 S1	1125.0	11/03/2021 REG	F II	NIT LCMS/MS	Perchlorate	CIO4	12.0	1.0 LANL	Reg BG	0.414	29 0.250	μg/L t	5.00	NQ	NQ SW-846:6	850	GELC	
		03/26/2012 1.64			(	Canyon Top			11/19/2021 REG			Chloride	CI(-1)		1.8 LANL LVL	-		6.8 0.335			J+			GELC	
C4 35	42	03/26/2012 104	346	197.5		Sandia Regional Top	R-62	1158.4	11/19/2021 REG	F II	NIT Metals	Chromium	Cr	288	1.5 LANL LVL	Reg BG	7.48	38.5 3.00	µg/L	1.00	NQ	NQ SW-846:6	6020B	GELC	
C4 35	42	03/26/2012 0.068	35 2.37	1.39		Sandia Regional Top	R-62	1158.4	11/19/2021 REG	F II	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.23	1.6 LANL	Reg BG	0.769	2.9 0.0850	mg/L	5.00	NQ	NQ EPA:353.	2	GELC	
C4 35	42	03/26/2012 0.719	0.937	0.8195		Sandia Regional Top	R-62	1158.4	11/19/2021 REG	F II	NIT LCMS/MS	Perchlorate	CIO4	0.931	1.1 LANL	Reg BG	0.414	2.2 0.0500	µg/L	1.00	NQ	NQ SW-846:6	850	GELC	
C4 35	42	03/26/2012 2.56	37.4	19.1		Sandia Regional Top	R-62	1158.4	11/19/2021 REG	F II	NIT Geninorg	Sulfate	SO4(-2)	33.2	1.7 LANL	Reg BG	4.59	7.2 0.665	mg/L	5.00	NQ	NQ EPA:300.	0	GELC	
C4 16	17	08/04/2020 2.39	2.92	2.55		Mortandad Regional Canyon	R-70 S1	963.0	11/08/2021 REG	F IN	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.53	1.0 LANL	Reg BG	0.769	3.3 0.0850	mg/L	5.00	NQ	NQ EPA:353.	2	GELC	
C4 16	17	08/04/2020 14	19.3	16.8		Mortandad Regional Canyon Deep	R-70 S2	1048.0	11/08/2021 REG	F IN	NIT Geninorg	Chloride	CI(-1)	14.0	0.8 LANL LVL	Reg BG	2.7	5.2 0.134	mg/L 2	2.00	NQ	NQ EPA:300.	0	GELC	
C4 16	17	08/04/2020 178	272	219		Mortandad Regional Canyon Deep	R-70 S2	1048.0	11/08/2021 REG	F II	NIT Metals	Chromium	Cr	190	0.9 LANL	Reg BG	7.48	25.4 3.00	μg/L	1.00	NQ	NQ SW-846:6		GELC	
C4 16	17	08/04/2020 3.49	4.06	3.75		Mortandad Regional Canyon Deep	R-70 S2	1048.0	11/08/2021 REG	F II	NIT Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.49	0.9 LANL LVL	Reg BG	0.769	4.5 0.170	mg/L	10.0	NQ	NQ EPA:353.	2	GELC	

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Table 1: NMED 12-21 Groundwater Report

Table '	: NME	ED 12-21 Groun	dwater	Repor	t										ı									
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	y Suite Code	Analyte Description	Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor Lab Qualifier	Qualifie	Analy Meth Code	Lab Code	Comment
		08/04/2020 22.8	32.6			Mortandad Canyon	Regional Deep	R-70 S2		11/08/2021 REG	F IN	T Geninorg	Sulfate	SO4(-2)	22.8	0.8 LANL Reg BG LVL			mg/L 2		NQ NC	EPA:300.0	GELC	
C4 38	39	01/11/2007 47.1	87.6	68		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Metals	Calcium	Ca	51	0.8 LANL Int BG LVL	10.7	4.8 0.05	mg/L 1	.00	NQ NC	SW-846:6010D	GELC	
C4 40	43	01/11/2007 2.62	124	93.9		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Geninorg	Chloride	CI(-1)	97.0	1.0 LANL Int BG LVL	3.11	31.2 1.34	mg/L 2	0.0	NQ NG	EPA:300.0	GELC	
C4 38	39	01/11/2007 148	270	212		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Geninorg	Hardness	Hardness	159	0.8 LANL Int BG LVL	37.8	4.2 0.453	mg/L 1	.00	NQ NG	SM:A2340B	GELC	
C4 38	39	01/11/2007 7.47	13	10.1		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Metals	Magnesium	Mg	7.74	0.8 LANL Int BG LVL	3.14	2.5 0.11	mg/L 1	.00	NQ NG	SW-846:6010D	GELC	
C4 38	39	01/11/2007 44.9	97	72		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Metals	Molybdenum	Мо	57.2	0.8 LANL Int BG LVL	2.9	19.7 0.200	μg/L 1	.00	NQ NC	SW-846:6020B	GELC	
C4 40	43	01/11/2007 0.247	4.99	2.1		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	1.60	0.8 LANL Int BG LVL	0.459	3.5 0.0850	mg/L 5	.00	NQ NC	EPA:353.2	GELC	
C4 39	41	04/11/2007 0.595	1.58	0.89		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T LCMS/MS	Perchlorate	CIO4	0.605	0.7 LANL Int BG LVL	0.27	2.2 0.0500	μg/L 1	.00	NQ NG	SW-846:6850	GELC	
C4 38	39	01/11/2007 50.7	68.6	57.8		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Metals	Sodium	Na	68.6	1.2 LANL Int BG LVL	18.2	3.8 0.1	mg/L 1	.00	NQ NG	SW-846:6010D	GELC	
C4 38	39	01/11/2007 211	383	303		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Metals	Strontium	Sr	229	0.8 LANL Int BG LVL	59.6	3.8 1.00	μg/L 1	.00	NQ NO	SW-846:6010D	GELC	
C4 40	42	01/11/2007 13.8	112	79		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 REG	F IN	T Geninorg	Sulfate	SO4(-2)	51.6	0.7 LANL Int BG LVL	7.1	7.3 2.66	mg/L 2	0.0	NQ NO	EPA:300.0	GELC	
C4 51	65	10/21/2008 56.1	84.1	69.2		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Barium	Ва	80.0	1.2 LANL Int BG LVL	13.5	5.9 1.00	μg/L 1	.00	NQ NG	SW-846:6010D	GELC	
C4 51	65	10/21/2008 59.5	76.3	68.3		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Calcium	Ca	73.7	1.1 LANL Int BG LVL	10.7	6.9 0.05	mg/L 1	.00	NQ NG	SW-846:6010D	GELC	
C4 51	63	10/21/2008 53.4	93	68.3		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Geninorg	Chloride	CI(-1)	74.8	1.1 LANL Int BG LVL	3.11	24.1 1.34	mg/L 2	0.0	NQ NG	EPA:300.0	GELC	
C4 51	65	10/21/2008 204	263	236	_	Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Geninorg	Hardness	Hardness	256	1.1 LANL Int BG LVL	37.8	6.8 0.453	mg/L 1	.00	NQ NG	SM:A2340B	GELC	
C4 50	63	10/21/2008 13.1	17.5	15.9		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Magnesium	Mg	17.5	1.1 LANL Int BG LVL	3.14	5.6 0.11	mg/L 1	.00	NQ NC	SW-846:6010D	GELC	
C4 51	65	10/21/2008 13.6	19.6	16.5		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Nickel	Ni	14.9	0.9 LANL Int BG LVL	3.65	4.1 0.600	μg/L 1	.00	NQ NC	SW-846:6020B	GELC	
C4 51	63	10/21/2008 2.89				Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Geninorg	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.54	0.9 LANL Int BG LVL	0.459	7.7 0.0850	mg/L 5	.00	NQ NC	EPA:353.2	GELC	
C4 51	63	10/21/2008 0.83	1.12	0.944		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T LCMS/MS	Perchlorate	CIO4		0.9 LANL Int BG LVL		3.1 0.0500			NQ NG	SW-846:6850	GELC	
C4 51	65	10/21/2008 264	369	329		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Strontium	Sr	359	1.1 LANL Int BG LVL		6 1.00			NQ NC		GELC	
		10/21/2008 77.9	103	88.7		Sandia Canyon	Intermediate Perched			11/03/2021 REG		T Geninorg	Sulfate	SO4(-2)	81.4	0.9 LANL Int BG LVL		11.5 2.66			NQ NC		GELC	
C4 51	65	10/21/2008 1.2	2.77	1.86		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 REG	F IN	T Metals	Uranium	U	2.77	1.5 LANL Int BG LVL	0.992	2.8 0.0670	μg/L 1	.00	J+  14a	SW-846:6020B	GELC	

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**Table 1: NMED 12-21 Groundwater Report** 

Criteria Code	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	rt Date	Fid QC Type Code	Lab Sample Type Code Analy Suite Code	Analyte Description		Analyte	Std Result	Result/Median LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor	Lab Qualifier Validation Qualifier		Analy Meth Code	Lab Code	Comment
C5 60	76	02/26/2007	56.3	190	80.3	76		Intermediate Perched	MCOI-6	686.0	11/08/2021 R	EG F	INIT LCMS/MS	Perchlorate	CIO4		102	1.3 NMED A1 TAP SCRN LVL	13.8	7.4 1.00	μg/L	20.0	NQ	NQ	SW-846:6850	GELC	
CA 1	1	11/04/2021	72.5	72.5	72.5	1	Mortandad I Canyon	Regional Top	CRPZ-1	1122.9	11/04/2021 R	EG F	INIT Metals	Chromium	Cr		72.5	1.0 NM GW STD	50	1.4 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
CA 1	1	11/10/2021	239	239	239	1	Mortandad I Canyon	Regional Top	CrPZ-2a	909.8	11/10/2021 R	EG F	INIT Metals	Chromium	Cr		239	1.0 NM GW STD	50	4.8 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
CA 1	1	11/09/2021	300	300	300	1	Mortandad I Canyon	Regional Top	CRPZ-3	939.4	11/09/2021 R	EG F	INIT Metals	Chromium	Cr		300	1.0 NM GW STD	50	6 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
CA 1	1	11/10/2021	92.5	92.5	92.5	1	Mortandad I Canyon I	Regional Deep	CRPZ-4	957.0	11/10/2021 R	EG F	INIT Metals	Chromium	Cr		92.5	1.0 NM GW STD	50	1.9 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)
CA 1	1	11/22/2021	411	411	411	1	Mortandad I Canyon I	Regional Deep	CRPZ-5	976.0	11/22/2021 R	EG F	INIT Metals	Chromium	Cr		411	1.0 NM GW STD	50	8.2 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	Result consistent with previous historical data (See Notes)

Notes: Regional aquifer piezometers in the Chromium Investigation monitoring group area were recently incorporated to be sampled as part of the Interim Facility-Wide Groundwater Monitoring Plan for the 2022 Monitoring Year (See section 3.3 of the MY 2022 IFGMP). This result was from the first sampling under this plan and therefore now qualifies for reporting under the Monthly Notification of Groundwater Data mechanism. Previous sampling of the piezometers provided screening level results and those values or trends generally conform with this reported result.

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Table 2: NMED 12-21 Groundwater Report Addendum

T able	Z. INIV	ובט	12-21 Gro	unawat	er Repo	rt Adden	aum																						
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	Analy Suite Code	Analyte Description	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std MDL	Std UOM	Dilution Factor		Validation Rescon Code	Analy Met	Lab Code	Comment
XC2scr	1	1	11/04/2021	15.4	15.4	15.4	1 Mortandad Canyon	Regional Top	CRPZ-1	1122.9	11/04/2021	REG	F INIT	Metals	Calcium	Ca	15.4	1	Reg-Scr_95	14.5	1.1	0.05	mg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/04/2021	59.8	59.8	59.8	1 Mortandad Canyon	Regional Top	CRPZ-1	1122.9	11/04/2021	REG	F INIT	Geninorg	Hardness	Hardness	59.8	1	Reg-Scr_95	51	1.2	0.453	mg/L	1.00	N	QNQ	SM:A2340B	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/10/2021	28.4	28.4	28.4	1 Mortandad Canyon	Regional Top	CrPZ-2a	909.8	11/10/2021	REG	F INIT	Metals	Boron	В	28.4	1	Reg-Scr_95	18.7	1.5	15.0	μg/L	1.00	J	J_L#	AB SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/10/2021	0.392	0.392	0.392	1 Mortandad Canyon	Regional Top	CrPZ-2a	909.8	11/10/2021	REG	F INIT	Geninorg	Bromide	Br(-1)	0.392	1	Reg-Scr_95	0.067	5.9	0.0670	mg/L	1.00	J+	· I6b	EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/10/2021	0.00387	0.00387	0.00387	1 Mortandad Canyon	Regional Top	CrPZ-2a	909.8	11/10/2021	REG	UF INIT	Inorganic	Cyanide (Total)	CN(TOTAL)	0.00387	1	Reg-Scr_95	0.0017	2.3	0.00167	mg/L	1.00	J J	J_L	AB EPA:335.4	GELC	First-time analysis
XC2scr	1	1	11/10/2021	12.6	12.6	12.6	1 Mortandad Canyon	Regional Top	CrPZ-2a	909.8	11/10/2021	REG	F INIT	Metals	Manganese	Mn	12.6	1	Reg-Scr_95	12.1	1	2.00	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/09/2021	19.2	19.2	19.2	1 Mortandad Canyon	Regional Top	CRPZ-3	939.4	11/09/2021	REG	F INIT	Metals	Boron	В	19.2	1	Reg-Scr_95	18.7	1	15.0	μg/L	1.00	J J	J_L	AB SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/09/2021	0.0998	0.0998	0.0998	1 Mortandad Canyon	Regional Top	CRPZ-3	939.4	11/09/2021	REG	F INIT	Geninorg	Bromide	Br(-1)	0.0998	1	Reg-Scr_95	0.067	1.5	0.0670	mg/L	1.00	J J	J_LA	AB EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/09/2021	112	112	112	1 Mortandad Canyon	Regional Top	CRPZ-3	939.4	11/09/2021	REG	F INIT	Metals	Strontium	Sr	112	1	Reg-Scr_95	74.4	1.5	1.00	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/10/2021	101	101	101	1 Mortandad Canyon	Regional Deep	CRPZ-4	957.0	11/10/2021	REG	F INIT	Metals	Strontium	Sr	101	1	Reg-Scr_95	74.4	1.4	1.00	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/22/2021	0.122	0.122	0.122	1 Mortandad Canyon	Regional Deep	CRPZ-5	976.0	11/22/2021	REG	F INIT	Geninorg	Bromide	Br(-1)	0.122	1	Reg-Scr_95	0.067	1.8	0.0670	mg/L	1.00	J J	J_L#	AB EPA:300.0	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/22/2021	104	104	104	1 Mortandad Canyon	Regional Deep	CRPZ-5	976.0	11/22/2021	REG	F INIT	Metals	Strontium	Sr	104	1	Reg-Scr_95	74.4	1.4	1.00	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	1	1	11/22/2021	61.6	61.6	61.6	1 Mortandad Canyon	Regional Deep	CRPZ-5	976.0	11/22/2021	REG	F INIT	Metals	Zinc	Zn	61.6	1	Reg-Scr_95	14.4	4.3	3.30	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	Result consistent with previous historical data (See Notes)
XC2scr	51	61	11/05/2008	1.01	1.01	1.01	1 Sandia Canyon	Regional Top	R-43 S1	903.9	11/18/2021	REG	F INIT	Metals	Cobalt	Со	1.01	1	Reg-Scr_95	1	1	1.00	μg/L	1.00	J J	J_L#	AB SW-846:6010D	GELC	
XC4scr	64	85	06/15/2005	25.4	64.6	47.85	84 Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG	F INIT	Metals	Boron	В	50.5	1.1	Int-Scr_95	16.2	3.1	15.0	μg/L	1.00	N	Q NQ	SW-846:6010D	GELC	
XC4scr	64	84	06/15/2005	0.212	0.703	0.56	81 Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG	F INIT	Geninorg	Bromide	Br(-1)	0.375	0.7	Int-Scr_95	0.0716	5.2	0.0670	mg/L	1.00	N	QNQ	EPA:300.0	GELC	
XC4scr	64	88	06/15/2005	29.4	86.6	60.35	88 Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021	REG	F INIT	Metals	Chromium	Cr	56.4	0.9	Int-Scr_95	2.72	21	3.00	μg/L	1.00	N	Q NQ	SW-846:6020B	GELC	

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Table 2: NMED 12-21 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	ly Suite Code	Analyte Description	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	Analy Meth Code	Lab Code	Comment
XC4scr	64	85 0	06/15/2005 3.81	26.1	8.7	75 8	83	Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021 I	REG	F INIT	Metals	Copper	Cu	9.70	1.1	Int-Scr_95	3	3.2	3.00	μg/L	1.00	l J	J_LAB	SW-846:6010D	GELC	
XC4scr	65	85 0	06/15/2005 298	527	401	1 8		Mortandad Canyon	Intermediate Perched	MCOI-6	686.0	11/08/2021 I	REG	F INIT	Geninorg	Total Dissolved Solids	TDS	420	1	Int-Scr_95	135	3.1	3.40	mg/L	1.00	NG	NQ	EPA:160.1	GELC	
XC4scr	77	88 0	08/30/2007 20.6	54.5	39.	.75		Sandia Canyon	Regional Deep	R-35a	1013.1	11/22/2021 I	REG	F INIT	Metals	Boron	В	41.0	1	Reg-Scr_95	18.7	2.2	15.0	μg/L	1.00 J	l J	J_LAB	SW-846:6010D	GELC	
			08/30/2007 137	199	167			Sandia Canyon	Regional Deep	R-35a			REG	F INIT	Metals	Strontium	Sr	181		Reg-Scr_95			1.00	μg/L	1.00		NQ	SW-846:6010D		
XC4scr	77	83 0	02/28/2009 0.066	7 0.637	7 0.0	0866		Mortandad Canyon	Regional Top	R-45 S1		11/18/2021 I		F INIT	Geninorg	Bromide	Br(-1)	0.224	2.6	Reg-Scr_95	0.067	3.3	0.0670	mg/L	1.00	NG	NQ	EPA:300.0	GELC	
			05/20/2011 0.053		0.4	295	86	Mortandad Canyon	Regional Top	R-61 S1	1125.0	11/03/2021 I	REG	F INIT	Geninorg	Total Phosphate as Phosphorus	PO4-P	0.204	0.5	Reg-Scr_95	0.0822	2.5	0.0200	mg/L	1.00	J+		EPA:365.4	GELC	
			03/26/2012 0.070	0.248	3 0.1	21 3		Sandia Canyon	Regional Top	R-62	1158.4	11/19/2021 I	REG	F INIT	Geninorg	Bromide	Br(-1)	0.248	2	Reg-Scr_95	0.067	3.7	0.0670	mg/L	1.00		NQ	EPA:300.0	GELC	
			01/11/2007 26.9	51.3	36.	.5		Sandia Canyon	Intermediate Perched	SCI-1			REG	F INIT	Metals	Barium	Ва	26.9	0.7	Int-Scr_95	11.96	2.2	1.00	μg/L	1.00		NQ	SW-846:6010D	GELC	
			01/11/2007 40.8	99.4	82.	.6		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 I	REG	F INIT	Metals	Boron	В	82.0	1	Int-Scr_95	16.2		15.0	μg/L	1.00	NG	NQ	SW-846:6010D	GELC	
XC4scr	38	39 0	01/11/2007 0.514	1.53	0.9	)26		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 I	REG	F INIT	Geninorg	Bromide	Br(-1)	0.514		Int-Scr_95	0.0716	7.2	0.0670	mg/L	1.00	NG	NQ	EPA:300.0	GELC	
			01/11/2007 6.99	22.1	11.	.65		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 I	REG	F INIT	Metals	Chromium	Cr	8.21		Int-Scr_95	2.72	3	3.00	μg/L	1.00 J			SW-846:6020B	GELC	
			01/11/2007 2.96	8.1	5.3	34 (		Sandia Canyon	Intermediate Perched		358.4		REG		Metals	Nickel	Ni	6.90	1.3	Int-Scr_95	2.93	2.4	0.600	μg/L	1.00		NQ	SW-846:6020B	GELC	
			01/11/2007 357	536	477	7.5		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 I	REG		Geninorg	Total Dissolved Solids	TDS	399		Int-Scr_95	135	3	3.40	mg/L	1.00	NG	NQ	EPA:160.1	GELC	
XC4scr	38	39 0	01/11/2007 0.404	1.57	0.9	)1 (		Sandia Canyon	Intermediate Perched	SCI-1	358.4	11/09/2021 I	REG	F INIT	Geninorg	Total Phosphate as Phosphorus	PO4-P	1.57		Int-Scr_95	0.178	8.8	0.0200	mg/L	1.00	J+		EPA:365.4	GELC	
			10/21/2008 0.194					Sandia Canyon	Intermediate Perched		548.0	11/03/2021 I	REG	F INIT	Geninorg	Bromide	Br(-1)	0.748		Int-Scr_95	0.0716	10	0.0670		1.00		NQ	EPA:300.0	GELC	
			10/21/2008 234	658	433			Sandia Canyon	Intermediate Perched			11/03/2021 I			Metals	Chromium	Cr	235		Int-Scr_95			3.00		1.00		NQ	SW-846:6020B		
			08/04/2009 0.003					Sandia Canyon	Intermediate Perched			11/03/2021 I		UF INIT	Inorganic	, , ,	CN(TOTAL)			Int-Scr_95			0.00167					EPA:335.4	GELC	
XC4scr	51	64 1	10/21/2008 354	796	429	9.5		Sandia Canyon	Intermediate Perched	SCI-2	548.0	11/03/2021 I	REG	F INIT	Geninorg	Total Dissolved Solids	TDS	459	1.1	Int-Scr_95	135	3.4	3.40	mg/L	1.00	NG	NQ	EPA:160.1	GELC	

Notes: Regional aquifer piezometers in the Chromium Investigation monitoring group area were recently incorporated to be sampled as part of the Interim Facility-Wide Groundwater Monitoring Plan for the 2022 Monitoring Year (See section 3.3 of the MY 2022 IFGMP). This result was from the first sampling under this plan and therefore now qualifies for reporting under the Monthly Notification of Groundwater Data mechanism. Previous sampling of the piezometers provided screening level results and those values or trends generally conform with this reported result.

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