



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

EMLA-24-BF120-2-1

Received

January 26, 2024

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

JAN 26 2024
NMED Hazardous Waste Bureau

Subject: Monthly Notification of Groundwater Data Reviewed in January 2024

Dear Mr. Shean:

This letter is the written submission of the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) in accordance with Section XXVII.D of the 2016 Compliance Order on Consent modified February 2017 (Consent Order). Members of EM-LA and N3B met on January 11, 2024, to review groundwater data loaded or released in the EIM (Environmental Information Management) system during the previous calendar month. The enclosed report was prepared by comparing the data against groundwater notification criteria as defined in Section IX of the 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." The EPA's tap water standard for carcinogenic risk values was adjusted to 1×10^{-5} , as specified in the Consent Order.

The enclosed report was prepared using the November 2023 EPA regional screening levels for tap water; the NMWQCC groundwater standards published December 21, 2018; and the June 2022 Table A-1 of "Risk Assessment Guidance for Site Investigations and Remediation" for NMED tap water screening levels.

No groundwater results from samples collected from locations within the Pueblo de San Ildefonso required review by Pueblo de San Ildefonso.

1-Day Notification

One-day oral notification was not required during the calendar month because no contaminants were detected in a well-screen interval or spring at a concentration that exceeded either the NMWQCC groundwater standard or federal MCL at locations where such contaminants have not previously been detected above the respective standards as defined in the Consent Order (based on samples collected since June 14, 2007).

15-Day Notification

The information required for constituents that meet at least one of the five reporting criteria requiring written notification within 15 days is provided in the enclosed report and tables.

If you have questions, please contact Amanda White at (505) 309-1366 (amanda.white@em-la.doe.gov) or Hai Shen at (505) 709-7600 (hai.shen@em.doe.gov).

Sincerely,



Digitally signed by Brian G. Harcek
Date: 2024.01.25 16:44:15 -07'00'

Arturo Q. Duran For
 Compliance and Permitting Manager
 U.S. Department of Energy
 Environmental Management
 Los Alamos Field Office

Enclosure(s):

1. Two hard copies with electronic files:

Summary of Groundwater Data Reviewed in January 2024 that Meet Notification Requirements
 (EM2024-0048)

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
 Steve Yanicak, NMED-DOE-OB
 Justin Ball, NMED-GWQB
 Andrew Romero, NMED-GWQB
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SUMMARY OF GROUNDWATER DATA REVIEWED IN JANUARY 2024 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, Revision 1" (IFGMP) for the 2024 monitoring year (N3B 2023, 702924.11). The report contains results for contaminants and other chemical constituents that meet at least one of the five screening criteria described in Section XXVI.D of the 2016 Compliance Order on Consent, modified February 2017 (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 (LANL or the Laboratory), as indicated in the tables.

The report includes two tables. Table 1, NMED 12-23 Groundwater Report, presents categorical results since June 14, 2007, that meet one or more of the five reporting criteria as specified in the Consent Order. Table 2, NMED 12-23 Groundwater Report Addendum, presents results that exceed the 95th percentile of the results in the data set defined in the "Groundwater Background Investigation Report, Revision 5" (GBIR) (LANL 2016, 601920). 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 and 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 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 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 GBIR. The EPA's tap water standard carcinogenic risk values were adjusted to 1×10^{-5} , as specified in the Consent Order. This report uses the November 2023 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 2022 Table A-1 of "Risk Assessment Guidance for Site Investigations and Remediation" (Risk Assessment Guidance) (NMED 2022, 702141, Table A-1).

Background values applied in Table 1 notification criterion C4 are the background values for hydrogeological zones as set forth in the GBIR.

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 GBIR.

DESCRIPTION OF TABLES

1-Day Notification Requirement

One-day notification is required upon the 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 either of these standards at that location. N3B, under the direction of the U.S. Department of Energy Environmental Management Los Alamos Field Office, notifies NMED of any such data orally within 1 business day following the review of monthly analytical data. Data in the 1-day notification is also included in the 15-day notification table. Such exceedance data are identified under the Criterion Code A (CA) in notifications.

15-Day Notification Requirement

The data in Table 1 is sorted by the five screening criteria in Section XXVI.D of the Consent Order. In several cases, data met more than one of the notification criteria and, therefore, appear in the table multiple times. Some criteria may not appear in Table 1, if no samples in the current reporting period exceed the requirements of those criteria.

The criterion (C) codes 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, at a concentration above the background level, 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; 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

The data in Table 2 is sorted by two screening criteria that mirror 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 in a spring or screened interval of a well, 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 GBIR
- 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 GBIR

Columns 2 through 8 in both tables provide summary statistics for metals or organic/inorganic compounds by field preparation code (e.g., filtered [F] 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)

Analytical 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 (e.g., sample collection, additional quality control samples such as field duplicates) on the quality of the sample data

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

Analytical Method 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:

CA—Criterion Code A

CFA—Cape Fear Analytical, LLC

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

F—filtered

FD—field duplicate

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

GENINORG—General inorganic

HEXP—high explosive

IFGMP—Interim Facility-Wide Groundwater Monitoring Plan

INIT—primary sample

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

n/a—not applicable

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

NMED A1 TAP SCRN LVL—New Mexico Environment Department Table A-1 screening level for tap water

PCB—polychlorinated biphenyl

REG—regular sample

SVOC—semivolatile organic compound

UF—unfiltered

UOM—unit of measurement

VOC—volatile organic compound

Analytical Laboratory Codes and Qualifiers

I4a (validation reason code)—The detected sample result is ≥ 5 times and < 100 times the detected concentration of the same analyte in the method blank.

I6a (validation reason code)—The associated matrix spike percent recovery is less than the lower acceptance limit.

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

I10fa (validation reason code)—The sample or field duplicate result is < 5 times the reporting limit and the absolute difference between sample and duplicate result exceeds the limits.

I10er (validation reason code)—The sample and laboratory duplicate results are ≥ 5 times the reporting limit and the relative percent difference exceeds the limits.

SV4a (validation reason code)—The detected sample result is ≥ 5 times (≥ 10 times for common phthalates) and < 100 times the detected concentration of the same analyte in the method blank.

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 positive 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 negative bias.

J_LAB (validation reason code)—The analytical laboratory qualified the detected result as estimated (J) because the result was less the practical quantitation limit but greater than the method detection limit.

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 any other standard qualifier. The analyte is detected in the sample.

REFERENCES

The following reference list includes documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ERID, ESHID, or EMID. ERIDs were assigned by the Laboratory's Associate Directorate for Environmental Management (IDs through 599999); ESHIDs were assigned by the Laboratory's Associate Directorate for Environment, Safety, and Health (IDs 600000 through 699999); and EMIDs are assigned by N3B (IDs 700000 and above).

LANL (Los Alamos National Laboratory), October 27, 2016. “Groundwater Background Investigation Report, Revision 5,” Los Alamos National Laboratory document LA-UR-16-27907, Los Alamos, New Mexico. (LANL 2016, 601920)

N3B (Newport News Nuclear BWXT-Los Alamos, LLC), October 2023. “Interim Facility-Wide Groundwater Monitoring Plan for the 2024 Monitoring Year, October 2023–September 2024, Revision 1,” Newport News Nuclear BWXT-Los Alamos, LLC, document EM2023-0634, Los Alamos, New Mexico. (N3B 2023, 702924.11)

NMED (New Mexico Environment Department), June 2022. “Risk Assessment Guidance for Site Investigations and Remediation, Volume 1, Soil Screening Guidance for Human Health Risk Assessments,” Hazardous Waste Bureau and Ground Water Quality Bureau, Santa Fe, New Mexico. (NMED 2022, 702141)

Table 1: NMED 12-23 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fid QC Type Code	Fid Prep Code	Lab Sample Type Code	Analyte 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	Analy Meth Code	Lab Code	Comment
C1	7	7	11/14/2019	0.0366	0.0366	0.0366	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	UF	INIT	PCBs	Aroclor-1254	11097-69-1	Y	1	NM GW STD	0.5	0.1	0.0333	µg/L	1.00	J	J	J_LAB	SW-846:8082A	GELC	
C1	43	60	6/15/2005	0.404	0.404	0.404	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	UF	INIT	SVOC	Di-n-octylphthalate	117-84-0	Y	1	EPA TAP SCRNLVL	200	0	0.327	µg/L	1.00	J	J	J_LAB	SW-846:8270E	GELC	
C1	3	3	11/7/2013	0.0563	0.0563	0.0563	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	UF	INIT	PESTPCB	Hexachlorobenzene	118-74-1	Y	1	EPA MCL	1	0.1	0.00625	µg/L	1.00	— ^a	NQ	NQ	SW-846:8081B	GELC	
C1	2	3	11/10/2015	0.00886	0.00886	0.00886	1	Mortandad Canyon	Regional	R-13	958.3	11/14/2023	FD	UF	INIT	PESTPCB	Hexachlorobenzene	118-74-1	Y	1	EPA MCL	1	0	0.00754	µg/L	1.00	JP	J	J_LAB	SW-846:8081B	GELC	
C1	53	67	8/15/2006	0.212	0.528	0.253	3	Pajarito Canyon	Regional	R-18	1358.0	11/28/2023	REG	UF	INIT	HEXP	2,6-Diamino-4-nitrotoluene	59229-75-3	Y	2.1	—	—	—	0.516	µg/L	2.00	J	J	J_LAB	SW-846:8330B	GELC	
C1	3	3	11/18/2019	0.127	0.127	0.127	1	Sandia Canyon	Regional	R-35a	1013.1	11/17/2023	REG	UF	INIT	Low-level 1,4-dioxane	Dioxane[1,4-]	123-91-1	Y	1	NMED A1 TAP SCRNLVL	4.59	0	0.0400	µg/L	1.00	J	J	J_LAB	SW-846:8270E_SIM	GELC	
C1	1	1	11/6/2023	2.01	2.01	2.01	1	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	UF	INIT	Low-level 1,4-dioxane	Dioxane[1,4-]	123-91-1	Y	1	NMED A1 TAP SCRNLVL	4.59	0.4	0.0400	µg/L	1.00	B	J+	SV4a	SW-846:8270E_SIM	GELC	
C1	11	12	7/14/2009	0.88	0.89	0.885	2	Mortandad Canyon	Regional	R-44 S1 ^b	895.0	11/7/2023	REG	UF	INIT	VOC	Dichloroethane[1,2-]	107-06-2	Y	1	NM GW STD	5	0.2	0.333	µg/L	1.00	J	J	J_LAB	SW-846:8260D	GELC	
C1	11	12	7/14/2009	0.88	0.89	0.885	2	Mortandad Canyon	Regional	R-44 S1	895.0	11/7/2023	FD	UF	INIT	VOC	Dichloroethane[1,2-]	107-06-2	Y	1	NM GW STD	5	0.2	0.333	µg/L	1.00	J	J	J_LAB	SW-846:8260D	GELC	
C1	10	10	7/16/2009	0.375	0.375	0.375	1	Mortandad Canyon	Regional	R-45 S2 ^c	974.9	11/13/2023	REG	UF	INIT	SVOC	Di-n-octylphthalate	117-84-0	Y	1	EPA TAP SCRNLVL	200	0	0.341	µg/L	1.00	J	J	J_LAB	SW-846:8270E	GELC	
C1	3	3	11/19/2019	0.152	0.152	0.152	1	Mortandad Canyon	Regional	R-45 S2	974.9	11/13/2023	REG	UF	INIT	Low-level 1,4-dioxane	Dioxane[1,4-]	123-91-1	Y	1	NMED A1 TAP SCRNLVL	4.59	0	0.0400	µg/L	1.00	J	J	J_LAB	SW-846:8270E_SIM	GELC	
C1	10	11	2/23/2011	19.6	19.6	19.6	1	Mortandad Canyon	Regional	R-50 S1	1077.0	11/7/2023	REG	UF	INIT	VOC	Acetonitrile	75-05-8	Y	1	EPA TAP SCRNLVL	130	0.2	8.33	µg/L	1.00	J	J	J_LAB	SW-846:8260D	GELC	
C1	3	4	11/15/2019	0.148	0.148	0.148	1	Mortandad Canyon	Regional	R-60	1330.0	11/2/2023	REG	UF	INIT	Low-level 1,4-dioxane	Dioxane[1,4-]	123-91-1	Y	1	NMED A1 TAP SCRNLVL	4.59	0	0.0400	µg/L	1.00	J	J	J_LAB	SW-846:8270E_SIM	GELC	
C1	23	28	1/31/2019	0.811	0.811	0.811	1	Water Canyon	Regional	R-69 S1	1310	11/28/2023	FD	UF	INIT	HEXP	2,6-Diamino-4-nitrotoluene	59229-75-3	Y	1	—	—	—	0.517	µg/L	2.00	J	J	J_LAB	SW-846:8330B	GELC	
C1	23	25	2/13/2019	0.983	0.983	0.983	1	Water Canyon	Regional	R-69 S2	1375.5	11/28/2023	REG	UF	INIT	HEXP	2,6-Diamino-4-nitrotoluene	59229-75-3	Y	1	—	—	—	0.529	µg/L	2.00	J	J	J_LAB	SW-846:8330B	GELC	
C1	4	5	12/14/2022	9.68	9.68	9.68	1	Sandia Canyon	Regional	R-71 S1 ^d	1285.0	11/9/2023	FD	UF	INIT	SVOC	Benzoic Acid	65-85-0	Y	1	EPA TAP SCRNLVL	75000	0	6.00	µg/L	1.00	J	J	J_LAB	SW-846:8270E	GELC	
C1	4	4	11/2/2022	20.2	20.2	20.2	1	Mortandad Canyon	Regional	R-72 S1	1220.0	11/8/2023	REG	UF	INIT	VOC	Acetonitrile	75-05-8	Y	1	EPA TAP SCRNLVL	130	0.2	8.33	µg/L	1.00	J	J	J_LAB	SW-846:8260D	GELC	
C2	2	2	10/19/2023	0.318	0.415	0.3665	2	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1.1	LANL Reg BG LVL	0.377	1.1	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	2	2	10/24/2023	0.374	0.385	0.3795	2	Mortandad Canyon	Regional	CRPZ-4	957	11/1/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1	LANL Reg BG LVL	0.377	1	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	10	10	11/22/2021	58.6	81.3	61.9	10	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	General Chemistry	Alkalinity-CO ₃ +HCO ₃	ALK-CO ₃ +HCO ₃	Y	1.3	LANL Reg BG LVL	72.9	1.1	0.725	mg/L	1.00	—	NQ	NQ	EPA:310.1	GELC	
C2	1	1	11/8/2023	45.4	45.4	45.4	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Int BG LVL	3.11	14.6	0.670	mg/L	10.0	—	J+	I4a	SW-846:9056A	GELC	
C2	1	1	11/8/2023	0.657	0.657	0.657	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1	LANL Int BG LVL	0.234	2.8	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/8/2023	42.5	42.5	42.5	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	General Chemistry	Sulfate	SO ₄ (-2)	Y	1	LANL Int BG LVL	7.1	6	1.33	mg/L	10.0	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/14/2023	0.441	0.441	0.441	1	Mortandad Canyon	Regional	R-1	1031.1	11/14/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1	LANL Reg BG LVL	0.377	1.2	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	2	11/14/2023	3.45	3.48	3.465	2	Mortandad Canyon	Regional	R-13	958.3	11/14/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Reg BG LVL	2.7	1.3	0.0670								

Table 1: NMED 12-23 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Analyte 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	Analy Meth Code	Lab Code	Comment
C2	1	2	11/14/2023	0.53	0.531	0.5305	2	Mortandad Canyon	Regional	R-13	958.3	11/14/2023	FD	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1	LANL Reg BG LVL	0.377	1.4	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	2	10/31/2023	6.04	6.07	6.055	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Reg BG LVL	2.7	2.2	0.0670	mg/L	1.00	—	J+	I6b	SW-846:9056A	GELC	
C2	1	2	10/31/2023	6.04	6.07	6.055	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	FD	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Reg BG LVL	2.7	2.2	0.0670	mg/L	1.00	—	J+	I6b	SW-846:9056A	GELC	
C2	1	2	10/31/2023	0.457	0.612	0.5345	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1.1	LANL Reg BG LVL	0.377	1.6	0.0330	mg/L	1.00	—	J	I10fa	SW-846:9056A	GELC	
C2	1	2	10/31/2023	0.457	0.612	0.5345	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	FD	F	INIT	General Chemistry	Fluoride	F(-1)	Y	0.9	LANL Reg BG LVL	0.377	1.2	0.0330	mg/L	1.00	—	J	I10fa	SW-846:9056A	GELC	
C2	1	2	10/31/2023	8.92	8.93	8.925	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	FD	F	INIT	General Chemistry	Sulfate	SO4(-2)	Y	1	LANL Reg BG LVL	4.59	1.9	0.133	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	2	10/31/2023	8.92	8.93	8.925	2	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	REG	F	INIT	General Chemistry	Sulfate	SO4(-2)	Y	1	LANL Reg BG LVL	4.59	1.9	0.133	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	2	3	10/12/2023	2.6	2.73	2.62	3	Mortandad Canyon	Regional	R-44 S2	985.3	11/7/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Reg BG LVL	2.7	1	0.0670	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	2	2	10/11/2023	0.347	0.389	0.368	2	Mortandad Canyon	Regional	R-45 S1	880.0	11/13/2023	REG	F	INIT	General Chemistry	Fluoride	F(-1)	Y	1.1	LANL Reg BG LVL	0.377	1	0.0330	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/2/2023	89.2	89.2	89.2	1	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Int BG LVL	3.11	28.7	1.34	mg/L	20.0	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/2/2023	49	49	49	1	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	General Chemistry	Sulfate	SO4(-2)	Y	1	LANL Int BG LVL	7.1	6.9	2.66	mg/L	20.0	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/2/2023	81.8	81.8	81.8	1	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	General Chemistry	Chloride	Cl(-1)	Y	1	LANL Int BG LVL	3.11	26.3	1.34	mg/L	20.0	—	NQ	NQ	SW-846:9056A	GELC	
C2	1	1	11/2/2023	78.7	78.7	78.7	1	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	General Chemistry	Sulfate	SO4(-2)	Y	1	LANL Int BG LVL	7.1	11.1	2.66	mg/L	20.0	—	NQ	NQ	SW-846:9056A	GELC	
C4	10	10	11/4/2021	68.8	129	92.15	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.4	LANL Reg BG LVL	7.48	17.2	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	10	10	11/4/2021	2.49	3.15	2.78	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	3.6	0.0850	mg/L	5.00	—	NQ	NQ	EPA:353.2	GELC	
C4	10	10	11/4/2021	10.5	24.6	14.5	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.7	LANL Reg BG LVL	0.414	59.4	0.500	µg/L	10.0	—	NQ	NQ	SW-846:6850	GELC	
C4	10	10	11/9/2021	297	499	396.5	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.3	LANL Reg BG LVL	7.48	66.7	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	10	10	11/9/2021	7.24	9.63	8.495	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	Metals	Magnesium	Mg	Y	1.1	LANL Reg BG LVL	4.18	2.2	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	10	10	11/9/2021	5.2	5.85	5.5	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	7.2	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	10	10	11/9/2021	0.958	1.18	1.14	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1	LANL Reg BG LVL	0.414	2.8	0.0500	µg/L	1.00	—	NQ	NQ	SW-846:6850	GELC	
C4	10	11	11/10/2021	88.4	171	92.8	11	Mortandad Canyon	Regional	CRPZ-4	957	11/1/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.6	LANL Reg BG LVL	7.48	19.3	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	10	10	11/10/2021	4.77	5.3	5.025	10	Mortandad Canyon	Regional	CRPZ-4	957	11/1/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	6.7	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	10	11	11/10/2021	2.78	40.3	3.3	11	Mortandad Canyon	Regional	CRPZ-4	957	11/1/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	4.2	LANL Reg BG LVL	0.414	33.1	0.100	µg/L	2.00	—	NQ	NQ	SW-846:6850	GELC	
C4	10	10	11/22/2021	411	482	469.5	10	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1	LANL Reg BG LVL	7.48	64.4	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	10	10	11/22/2021	3.19	10.4	7.75	10	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	Metals	Nickel	Ni	Y	1.1	LANL Reg BG LVL	2.9	2.9	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	

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Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fid QC Type Code	Fid Prep Code	Lab Sample Type Code	Analyte 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	Analy Meth Code	Lab Code	Comment
C4	10	10	11/22/2021	2.88	3.62	3.2	10	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.1	LANL Reg BG LVL	0.769	4.5	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	71	94	6/15/2005	30.1	48.2	39.15	94	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Barium	Ba	Y	1	LANL Int BG LVL	13.5	2.8	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	71	92	6/15/2005	42.8	75.5	60.95	92	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Calcium	Ca	Y	1	LANL Int BG LVL	10.7	5.5	0.0500	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	71	92	6/15/2005	142	253	203.5	92	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	GENINORG	Hardness	HARDNESS	Y	1	LANL Int BG LVL	37.8	5.2	0.453	mg/L	1.00	—	NQ	NQ	SM:A2340B	GELC	
C4	71	92	6/15/2005	8.49	15.7	12.55	92	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Magnesium	Mg	Y	1	LANL Int BG LVL	3.14	3.8	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	71	94	6/15/2005	2.9	41.8	21.25	94	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Nickel	Ni	Y	0.7	LANL Int BG LVL	3.65	4	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	73	94	6/15/2005	7.62	27.7	11.3	94	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.3	LANL Int BG LVL	0.459	32.9	0.425	mg/L	25.0	—	NQ	NQ	EPA:353.2	GELC	
C4	67	84	2/26/2007	56.3	190	82.9	84	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.4	LANL Int BG LVL	0.27	419	5.00	µg/L	100	—	NQ	NQ	SW-846:6850	GELC	
C4	71	92	6/15/2005	196	339	272.5	92	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Strontium	Sr	Y	1	LANL Int BG LVL	59.6	4.8	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	113	137	5/17/2005	2.27	9.25	5.65	137	Sandia Canyon	Regional	R-11	855.0	11/1/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.4	LANL Reg BG LVL	0.769	10.6	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	106	125	6/13/2007	0.664	1.55	0.789	125	Sandia Canyon	Regional	R-11	855.0	11/1/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.1	LANL Reg BG LVL	0.414	2	0.0500	µg/L	1.00	—	NQ	NQ	SW-846:6850	GELC	
C4	101	118	8/30/2007	68	408	348	118	Sandia Canyon	Regional	R-35a	1013.1	11/17/2023	REG	F	INIT	Metals	Barium	Ba	Y	0.9	LANL Reg BG LVL	38.1	8.7	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	34	36	10/9/2008	44.2	106	93.5	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Barium	Ba	Y	1.1	LANL Reg BG LVL	38.1	2.8	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	34	36	10/9/2008	22.2	59.9	51.35	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Calcium	Ca	Y	1.2	LANL Reg BG LVL	17.03	3.5	0.0500	mg/L	1.00	N	J-	I6a	SW-846:6010D	GELC	
C4	34	45	10/9/2008	622	1240	886	45	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Chromium	Cr	Y	0.8	LANL Reg BG LVL	7.48	93.7	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	34	36	10/9/2008	94.3	221	187.5	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	GENINORG	Hardness	HARDNESS	Y	1.2	LANL Reg BG LVL	67.1	3.3	0.453	mg/L	1.00	—	NQ	NQ	SM:A2340B	GELC	
C4	34	36	10/9/2008	9.45	17.3	14.35	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Magnesium	Mg	Y	1.2	LANL Reg BG LVL	4.18	4.1	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	34	36	10/9/2008	8.8	34	23.4	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Nickel	Ni	Y	1	LANL Reg BG LVL	2.9	8	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	34	36	10/9/2008	0.057	7.03	5.75	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.8	LANL Reg BG LVL	0.769	6.2	0.0850	mg/L	5.00	—	NQ	NQ	EPA:353.2	GELC	
C4	34	36	10/9/2008	0.873	1.46	1.245	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	0.8	LANL Reg BG LVL	0.414	2.4	0.0500	µg/L	1.00	—	NQ	NQ	SW-846:6850	GELC	
C4	34	36	10/9/2008	180	394	340.5	36	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	Y	1	LANL Reg BG LVL	161	2.1	2.38	mg/L	1.00	J	I10er	EPA:160.1	GELC		
C4	58	70	11/10/2008	1.8	49.1	14.6	60	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	FD	F	INIT	Metals	Chromium	Cr	Y	1.7	LANL Reg BG LVL	7.48	3.3	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	58	70	11/10/2008	1.8	49.1	14.6	60	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.8	LANL Reg BG LVL	7.48	3.5	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	58	64	11/10/2008	0.389	5.4	3.525	64	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	4.8	0.0850	mg/L	5.00	—	NQ	NQ	EPA:353.2	GELC	
C4	58	64	11/10/2008	0.389	5.4	3.525	64	Sandia Canyon	Regional	R-43 S2	969.1	10/31/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	4.7	0.0850	mg/L	5.00	—	NQ	NQ	EPA:353.2	GELC	
C4	98	104	2/17/2009	0.536	109	32.4	77	Mortandad Canyon	Regional	R-44 S1	895.0	11/7/2023	FD	F	INIT	Metals	Nickel	Ni	Y	1.1	LANL Reg											

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C4	98	104	2/17/2009	0.123	3.86	2.32	103	Mortandad Canyon	Regional	R-44 S1	895.0	11/7/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.3	LANL Reg BG LVL	0.769	3.8	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	101	108	2/28/2009	0.535	13.8	1.63	93	Mortandad Canyon	Regional	R-45 S1	880.0	11/13/2023	REG	F	INIT	Metals	Nickel	Ni	Y	7.7	LANL Reg BG LVL	2.9	4.3	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	101	108	2/28/2009	0.256	4.1	2.9	108	Mortandad Canyon	Regional	R-45 S1	880.0	11/13/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.1	LANL Reg BG LVL	0.769	4.1	0.0850	mg/L	5.00	—	NQ	NQ	EPA:353.2	GELC	
C4	100	113	3/5/2009	6.1	69.1	35	112	Mortandad Canyon	Regional	R-45 S2	974.9	11/13/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.7	LANL Reg BG LVL	7.48	8.2	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	103	112	3/6/2010	1.51	39.3	6.79	112	Mortandad Canyon	Regional	R-50 S1	1077.0	11/7/2023	REG	F	INIT	Metals	Nickel	Ni	Y	5.7	LANL Reg BG LVL	2.9	13.3	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	103	113	3/6/2010	0.398	3.21	2.44	113	Mortandad Canyon	Regional	R-50 S1	1077.0	11/7/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.2	LANL Reg BG LVL	0.769	3.9	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	87	99	5/20/2011	2.03	69.4	32	98	Mortandad Canyon	Regional	R-61 S1	1125.0	11/3/2023	REG	F	INIT	Metals	Chromium	Cr	Y	2.1	LANL Reg BG LVL	7.48	9.2	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	87	99	5/20/2011	0.427	3.3	2.36	99	Mortandad Canyon	Regional	R-61 S1	1125.0	11/3/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.1	LANL Reg BG LVL	0.769	3.3	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	86	98	5/20/2011	2.96	17	12.15	98	Mortandad Canyon	Regional	R-61 S1	1125.0	11/3/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.1	LANL Reg BG LVL	0.414	30.9	0.100	µg/L	2.00	—	NQ	NQ	SW-846:6850	GELC	
C4	41	45	8/4/2020	10	137	15.6	45	Mortandad Canyon	Regional	R-70 S1 ^d	963.0	12/6/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1	LANL Reg BG LVL	7.48	2.1	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	40	44	8/4/2020	0.208	3.19	2.42	44	Mortandad Canyon	Regional	R-70 S1 ^d	963.0	11/15/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.1	LANL Reg BG LVL	0.769	3.3	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	38	41	8/4/2020	8.37	19.3	14.2	41	Mortandad Canyon	Regional	R-70 S2 ^d	1048.0	12/6/2023	REG	F	INIT	GENINORG	Chloride	Cl(-1)	Y	1.3	LANL Reg BG LVL	2.7	6.9	0.335	mg/L	5.00	—	NQ	NQ	EPA:300.0	GELC	
C4	40	43	8/4/2020	74.7	272	183	43	Mortandad Canyon	Regional	R-70 S2 ^d	1048.0	12/6/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.3	LANL Reg BG LVL	7.48	30.9	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	39	42	8/4/2020	2.59	4.44	3.53	42	Mortandad Canyon	Regional	R-70 S2 ^d	1048.0	11/15/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1.2	LANL Reg BG LVL	0.769	5.4	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	38	41	8/4/2020	0.607	0.986	0.8	41	Mortandad Canyon	Regional	R-70 S2 ^d	1048.0	11/15/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.2	LANL Reg BG LVL	0.414	2.3	0.0500	µg/L	1.00	—	NQ	NQ	SW-846:6850	GELC	
C4	38	41	8/4/2020	12.1	32.6	22.4	41	Mortandad Canyon	Regional	R-70 S2 ^d	1048.0	12/6/2023	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	Y	0.9	LANL Reg BG LVL	4.59	4.2	0.665	mg/L	5.00	—	NQ	NQ	EPA:300.0	GELC	
C4	10	13	1/30/2022	5.24	5.76	5.5	13	Sandia Canyon	Regional	R-71 S1 ^d	1285.0	11/9/2023	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	7.3	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	10	13	1/30/2022	5.24	5.76	5.5	13	Sandia Canyon	Regional	R-71 S1 ^d	1285.0	11/9/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	7.4	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	11	13	1/23/2022	3.87	5.13	4.79	13	Sandia Canyon	Regional	R-71 S2 ^d	1349.7	11/9/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	LANL Reg BG LVL	0.769	6.5	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	42	43	1/11/2007	42.5	87.6	67.6	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Calcium	Ca	Y	0.6	LANL Int BG LVL	10.7	4	0.0500	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	42	43	1/11/2007	134	270	211	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	GENINORG	Hardness	HARDNESS	Y	0.6	LANL Int BG LVL	37.8	3.5	0.453	mg/L	1.00	—	NQ	NQ	SM:A2340B	GELC	
C4	42	43	1/11/2007	6.66	13	10	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Magnesium	Mg	Y	0.7	LANL Int BG LVL	3.14	2.1	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	42	43	1/11/2007	44.9	97	69.8	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Molybdenum	Mo	Y	0.7	LANL Int BG LVL	2.9	17.9	0.200	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	44	47	1/11/2007	0.247	4.99	2.03	47	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.7	LANL Int BG LVL	0.459	3.3	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	42	43	1/11/2007	50.7	71.1	58.1	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Sodium	Na	Y	1	LANL Int BG LVL	18.2	3.3	0.1	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	42	43	1/11/2007	196	383	301	43</td																									

Table 1: NMED 12-23 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Analy 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	Analy Meth Code	Lab Code	Comment
C4	58	72	10/21/2008	13.1	17.9	15.95	72	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	Metals	Magnesium	Mg	Y	1	LANL Int BG LVL	3.14	5	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	59	74	10/21/2008	11.9	19.6	16.15	74	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	Metals	Nickel	Ni	Y	0.7	LANL Int BG LVL	3.65	3.3	0.600	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C4	59	72	10/21/2008	2.89	5.1	4.045	72	Sandia Canyon	Intermediate	SCI-2	548.0	11/02/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.8	LANL Int BG LVL	0.459	6.6	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C4	59	72	10/21/2008	0.725	1.12	0.9415	72	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	0.9	LANL Int BG LVL	0.27	3.1	0.0500	µg/L	1.00	—	NQ	NQ	SW-846:6850	GELC	
C4	59	74	10/21/2008	264	378	331	74	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	Metals	Strontium	Sr	Y	1	LANL Int BG LVL	59.6	5.7	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
C4	59	74	10/21/2008	1.2	2.77	1.94	74	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	Metals	Uranium	U	Y	1.4	LANL Int BG LVL	0.992	2.7	0.0670	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C5	10	10	11/4/2021	68.8	129	92.15	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.4	NM GW STD	50	2.6	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C5	10	10	11/4/2021	10.5	24.6	14.5	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	LCMS/MS	Perchlorate	ClO4	Y	1.7	NMED A1 TAP SCRN LVL	13.8	1.8	0.500	µg/L	10.0	—	NQ	NQ	SW-846:6850	GELC	
C5	10	10	11/10/2021	4.77	5.3	5.025	10	Mortandad Canyon	Regional	CRPZ-4	957	11/1/2023	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	1	EPA MCL	10	0.5	0.170	mg/L	10.0	—	NQ	NQ	EPA:353.2	GELC	
C5	10	10	11/22/2021	411	482	469.5	10	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1	NM GW STD	50	9.6	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
C5	100	113	3/5/2009	6.1	69.1	35	112	Mortandad Canyon	Regional	R-45 S2	974.9	11/13/2023	REG	F	INIT	Metals	Chromium	Cr	Y	1.7	NM GW STD	50	1.2	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	

^a — = Lab qualifier not applicable.

^b S1 = Screen 1.

^c S2 = Screen 2.

^d Data pertaining to a well drilled at a target angle from the vertical. Depth value represents linear feet along (down) the borehole.

Table 2: NMED 12-23 Groundwater Report Addendum

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Analyte 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	Analy Meth Code	Lab Code	Comment
XC2scr	10	10	11/4/2021	0.833	2.77	1.385	10	Mortandad Canyon	Regional	CRPZ-1	1122.9	11/14/2023	REG	F	INIT	Metals	Nickel	Ni	2.77	2	Reg-Scr_95	2.75	1	0.600	µg/L	1.00	— ^a	NQ	NQ	SW-846:6020B	GELC	
XC2scr	2	2	10/17/2023	0.104	0.104	0.104	1	Mortandad Canyon	Regional	CRPZ-5	976	11/13/2023	REG	F	INIT	General Chemistry	Bromide	Br(-1)	0.104	1	Reg-Scr_95	0.067	1.6	0.0670	mg/L	1.00	J	J	J_LAB	SW-846:9056A	GELC	
XC2scr	14	15	1/9/2022	3.27	4.12	3.69	15	Mortandad Canyon	Regional	R-72 S1	1220.0	11/8/2023	REG	F	INIT	Metals	Magnesium	Mg	4.12	1.1	Reg-Scr_95	4.11	1	0.11	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC2scr	1	1	11/2/2023	0.977	0.977	0.977	1	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	General Chemistry	Bromide	Br(-1)	0.977	1	Int-Scr_95	0.0716	13.6	0.0670	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
XC2scr	1	1	11/2/2023	0.759	0.759	0.759	1	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	General Chemistry	Bromide	Br(-1)	0.759	1	Int-Scr_95	0.0716	10.6	0.0670	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
XC2scr	1	1	11/8/2023	0.464	0.464	0.464	1	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	General Chemistry	Bromide	Br(-1)	0.464	1	Int-Scr_95	0.0716	6.5	0.0670	mg/L	1.00	—	NQ	NQ	SW-846:9056A	GELC	
XC2scr	57	67	6/27/2005	11.1	24.8	16.4	17	Mortandad Canyon	Regional	R-33 S1 ^b	995.5	11/6/2023	REG	F	INIT	Metals	Boron	B	24.8	1.5	Reg-Scr_95	18.7	1.3	15.0	µg/L	1.00	J	J	J_LAB	SW-846:6010D	GELC	
XC2scr	22	24	11/17/2020	183	183	183	1	Mortandad Canyon	Regional	R-44 S1	895.0	11/7/2023	FD	F	INIT	Inorganic	Tin	Sn	183	1	Reg-Scr_95	13	14.1	1.00	µg/L	1.00	—	J	I10fa	SW-846:6020B	GELC	
XC4scr	40	43	8/4/2020	75.4	128	100	43	Mortandad Canyon	Regional	R-70 S2 ^{c,d}	1048.0	12/6/2023	REG	F	INIT	GENINORG	Hardness	HARDNESS	103	1	Reg-Scr_95	51	2	0.453	mg/L	1.00	—	NQ	NQ	SM:A2340B	GELC	
XC4scr	10	10	11/9/2021	28.5	35.6	32.5	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	Metals	Calcium	Ca	33.8	1	Reg-Scr_95	14.5	2.3	0.0500	mg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC4scr	10	10	11/9/2021	101	128	116	10	Mortandad Canyon	Regional	CRPZ-3	939.4	11/1/2023	REG	F	INIT	GENINORG	Hardness	HARDNESS	122	1.1	Reg-Scr_95	51	2.4	0.453	mg/L	1.00	—	NQ	NQ	SM:A2340B	GELC	
XC4scr	42	43	1/11/2007	25.5	51.3	36.2	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Barium	Ba	25.5	0.7	Int-Scr_95	11.96	2.1	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC4scr	42	43	1/11/2007	40.8	99.4	82.25	42	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Boron	B	66.3	0.8	Int-Scr_95	16.2	4.1	15.0	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC4scr	42	45	1/11/2007	6.27	22.1	11.15	44	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Chromium	Cr	6.27	0.6	Int-Scr_95	2.72	2.3	3.00	µg/L	1.00	J	J	J_LAB	SW-846:6020B	GELC	
XC4scr	43	46	1/11/2007	357	536	468	46	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	383	0.8	Int-Scr_95	135	2.8	2.38	mg/L	1.00	—	J	I10er	EPA:160.1	GELC	
XC4scr	42	43	1/11/2007	0.404	1.57	0.937	41	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	1.44	1.5	Int-Scr_95	0.178	8.1	0.0200	mg/L	1.00	—	J+	I4a	EPA:365.4	GELC	
XC4scr	42	43	1/11/2007	1.14	3.09	2	43	Sandia Canyon	Intermediate	SCI-1	358.4	11/2/2023	REG	F	INIT	Metals	Uranium	U	1.45	0.7	Int-Scr_95	0.614	2.4	0.0670	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
XC4scr	59	79	10/21/2008	168	658	416	79	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	Metals	Chromium	Cr	168	0.4	Int-Scr_95	2.72	61.8	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
XC4scr	59	73	10/21/2008	354	796	429	73	Sandia Canyon	Intermediate	SCI-2	548.0	11/2/2023	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	429	1	Int-Scr_95	135	3.2	2.38	mg/L	1.00	—	J	I10er	EPA:160.1	GELC	
XC4scr	101	118	8/30/2007	137	199	168	118	Sandia Canyon	Regional	R-35a	1013.1	11/17/2023	REG	F	INIT	Metals	Strontium	Sr	160	1	Reg-Scr_95	74.4	2.2	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC4scr	71	94	6/15/2005	25.4	64.6	48.7	93	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Boron	B	52.0	1.1	Int-Scr_95	16.2	3.2	15.0	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	
XC4scr	71	97	6/15/2005	29.4	86.6	58.2	97	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	Metals	Chromium	Cr	54.3	0.9	Int-Scr_95	2.72	20	3.00	µg/L	1.00	—	NQ	NQ	SW-846:6020B	GELC	
XC4scr	73	94	6/15/2005	298	527	396.5	94	Mortandad Canyon	Intermediate	MCOI-6	686.0	11/8/2023	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	374	0.9	Int-Scr_95	135	2.8	2.38	mg/L	1.00	—	J	I10er	EPA:160.1	GELC	

Table 2: NMED 12-23 Groundwater Report Addendum

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth (ft)	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Analyte 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	Analy Meth Code	Lab Code	Comment
XC4scr	17	17	7/13/2010	0.00361	0.00814	0.006755	16	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	UF	INIT	Inorganic	Cyanide (Total)	CN(TOTAL)	0.00617	0.9	Reg-Scr_95	0.0017	3.6	0.00167	mg/L	1.00	—	NQ	NQ	SW-846:9012B	GELC	
XC4scr	33	35	10/9/2008	120	237	195	35	Mortandad Canyon	Regional	R-42	931.8	11/6/2023	REG	F	INIT	Metals	Strontium	Sr	237	1.2	Reg-Scr_95	74.4	3.2	1.00	µg/L	1.00	—	NQ	NQ	SW-846:6010D	GELC	

^a — = Lab qualifier not applicable.

^b S1 = Screen 1.

^c S2 = Screen 2.

^d Data pertaining to a well drilled at a target angle from the vertical. Depth value represents linear feet along (down) the borehole.

