

DEPARTMENT OF ENERGY

Environmental Management Los Alamos Field Office (EM-LA)

Los Alamos, Mew Mexico 87544



April 30, 2021

EMLA-2021-BF108-02-001

Mr. Kevin Pierard 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 April 2021

Dear Mr. Pierard:

This letter is the U.S. Department of Energy (DOE) Environmental Management Los Alamos Field Office (EM-LA) and Newport News Nuclear BWXT-Los Alamos, LLC (N3B) written submission in accordance with Section XXVI.D of the 2016 Compliance Order on Consent (2016 Consent Order). Members of EM-LA and N3B met on April 15, 2021, to review groundwater data loaded or released in the Environmental Information Management System (EIM) 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 2016 Consent Order. These criteria consider New Mexico Water Quality Control Commission (NMWQCC) groundwater standards, U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), New Mexico Environment Department (NMED) screening levels for tap water, EPA regional screening levels for tap water, and NMED-approved background values for hydrogeological zones as set forth in the "Groundwater Background Investigation Report, Revision 5." The EPA tap water standard's carcinogenic risk values were adjusted to 1×10^{-5} , as specified in the 2016 Consent Order.

The enclosed report was prepared using the November 2020 EPA regional screening levels for tap water; the December 21, 2018, NMWQCC groundwater standards; and the June 2019 Table A-1 of "Risk Assessment Guidance for Site Investigations and Remediation" for NMED tap water screening levels.

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

1-Day Notification

One-day notification was not required because there were no cases of a contaminant detected in a well screen interval or spring at a concentration that exceeded a water quality standard for the first time. There were no instances of a contaminant detected at a concentration that exceeded the NMWQCC groundwater standard or federal MCL at locations where contaminants have not previously been detected above the respective standard as defined in the 2016 Consent Order (based on samples collected since June 14, 2007).

15-Day Notification

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

If you have questions, please contact Steve Veenis at (505) 309-1362 (steve.veenis@em-la.doe.gov) or Hai Shen at (505) 257-7943 (hai.shen@em.doe.gov).

Sincerely,

Arturo Q.

Duran

Date: 2021.04.27 14:31:54
-06'00'

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

Enclosures:

1. Summary of Groundwater Data Reviewed in April 2021 That Meet Notification Requirements (EM2021-0265)

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

Harry Burgess, 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

Chris Catechis, NMED-DOE-OB

Steve Yanicak, NMED-DOE-OB

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Jeff Holland, N3B

Danny Katzman, N3B Kim Lebak, N3B Joseph Legare, N3B Dana Lindsay, N3B Pamela Maestas, N3B Glenn Morgan, N3B Joseph Murdock, N3B Bruce Robinson, N3B Steve Veenis, N3B Brinson Willis, N3B Karen Armijo, NA-LA Peter Maggiore, NA-LA M. Lee Bishop, EM-LA Stephen Hoffman, EM-LA Kirk D. Lachman, EM-LA David Nickless, EM-LA Cheryl Rodriguez, EM-LA Hai Shen, EM-LA emla.docs@em.doe.gov n3brecords@em-la.doe.gov

Public Reading Room (EPRR)

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SUMMARY OF GROUNDWATER DATA REVIEWED IN APRIL 2021 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 2021 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 03-2021 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 03-2021 Groundwater Report Addendum, presents results that exceed the 95th percentile of those results in the data set defined in the "Groundwater Background Investigation Report, Revision 5." Only the contaminants and other chemical constituents that lack a calculated groundwater background value (i.e., the frequency of detections was too low to calculate a background value at the 95% upper tolerance level) are listed in this table. Table 2 is a voluntary submission by N3B to NMED 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 × 10⁻⁵, as specified in the 2016 Consent Order. This report was prepared using the November 2020 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 95th percentile of the data set used to establish background as defined in the "Groundwater Background Investigation Report, Revision 5."

DESCRIPTION OF TABLES

1-Day Notification Requirement

The CA value is used in the Criteria Code column of Table 1. The CA value 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 95th percentile in a spring or screened interval of a well if that contaminant has not previously exceeded the 95th percentile of the data set used to establish background in the spring or screened interval as defined in the "Groundwater Background Investigation Report, Revision 5"

XC4scr Detection of a contaminant that is a metal or other inorganic compound in a spring or screened interval of a well at a concentration that for the third consecutive sampling exceeds 2 times the 95th percentile of the data set used to establish background as defined in the "Groundwater Background Investigation Report, Revision 5"

Columns 2 through 8 in both tables provide summary statistics for metals or organic/inorganic compounds by field preparation code (e.g., filtered aluminum) for samples collected since January 1, 2000, including the currently reported data. The statistics include the date of the first sampling event; the number of sampling events and samples analyzed; the number of detections; and the minimum, maximum, and median concentration for detections. This information indicates whether the new result is consistent with the range of earlier data.

The subsequent columns contain location and sampling information as follows:

Canyon—canyon where monitoring location is found

Zone—hydrogeological zone from which the groundwater sample was collected (e.g., alluvial spring)

Location—monitoring location name

Screen Depth—depth of top of well screen in feet (0 for springs, -1 if unknown)

Start Date—date the sample was collected

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

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

Lab Sample Type Code—indicates whether result is a primary sample (INIT) or reanalysis (RE)

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

Analyte Desc-name of analyte

Analyte—chemical symbol for analyte or CAS (Chemical Abstracts Service) number for organic compounds

Std Result—analytical result in standard measurement units

Result/Median—ratio of the Std Result to the median of all detections since 2000

LVL Type/Risk Code—type of regulatory standard, screening level, or background value (indicating groundwater zone) used for comparison

Screen Level—value of the LVL Type/Risk Code

Exceedance Ratio—ratio of Std Result to LVL Type/Risk Code. In earlier versions of this report, the ratio was divided by the basis for comparison in the criterion, but that is no longer the case. For example, for a criterion (such as C3) that compares the value with one-half the standard, a value equal to a standard previously had an exceedance ratio of 2. The current report shows this ratio as 1.

Std MDL—method detection limit in standard measurement units

Std UOM—standard units of measurement

Dilution Factor—amount by which the sample was diluted to measure the concentration

Lab Qualifier—analytical laboratory 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

Anyl 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

HRMS—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, Inc., 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.

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.

I6b (validation reason code)—The associated matrix spike recovery was above the UAL. Follow the external laboratory limits located within the associated data package.

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

INIT—primary sample

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

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

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

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

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

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

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

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

PE12e (validation reason code)—The MS/MSD percent recovery was >10% but <75%.

RE—reanalysis

REG—regular sample

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

SwRI—Southwest Research Institute

UF—unfiltered

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

Table 1: NMED 03-21 Groundwater Report

ıan	ie 1: Niv	IED 03-21 Ground	awater	Repoi	rt			_																				
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		Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std MDL	Std UOM	Dilution Factor	Lab Qualifier	Validation Qualifier Validation Reason Code	Anyl Meth Code	Lab Code Comment
C1	7 7	12/14/2000 3.1	9.8	3.7	3	Ancho Canyon	Regional	R-31 S4	826.6	02/19/2021	REG	UF I	INIT VOC	,	Acetone	67-64-1	3.71	1.0	NMED A1 TAP SCRN LVL	14100	0.0	1.50	μg/L	1.00	J J	J_LA	B SW-846:8260B G	SELC
C2	2 2	12/14/2020 114.0	179.0	146.5		Upper Los Alamos Canyon	Regional	R-7 S3	895.5	02/17/2021	REG	F I	INIT GENIN	ORG -	Total Dissolved Solids	TDS	179.0	1.2	LANL Reg BG LVL	161	1.1	3.40	mg/L	1.00	H J	. 19	EPA:160.1	SELC
C4	13 13	02/23/2004 187.0	204.0	196.0	13	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT METAL	S I	Barium	Ва	202.0	1.0	LANL Int BG LVL	14	15.0	1.00	μg/L	1.00	Ν	Q NQ	SW-846:6010C	SELC
C4	13 13	02/23/2004 27.9	31.9	30.7	13	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT METAL	S (Calcium	Ca	31.8	1.0	LANL Int BG LVL	11	3.0	0.05	mg/L	1.00	Ν	Q NQ	SW-846:6010C	GELC
C4	16 16	02/23/2004 6.72	8.62	7.32	16	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT GENIN	ORG	Chloride	CI(-1)	8.62	1.2	LANL Int BG LVL	3	2.8	0.07	mg/L	1.00	Ν	Q NQ	EPA:300.0	GELC
C4	16 16	02/23/2004 0.99	1.29	1.07	16	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT GENIN	ORG I	Fluoride	F(-1)	1.26	1.2	LANL Int BG LVL	0	5.4	0.03	mg/L	1.00	Ν	Q NQ	EPA:300.0	GELC
C4	10 10	07/25/2006 80.7	92.4	88.3	10	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT GENIN	ORG I	Hardness	Hardness	92.3	1.0	LANL Int BG LVL	38	2.4	0.45	mg/L	1.00	N	Q NQ	SM:A2340B	SELC
C4	17 17	02/23/2004 2.31	3.28	2.78	17	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT GENIN	ORG I	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.86	1.0	LANL Int BG LVL	0	6.2	0.17	mg/L	10.00	N	Q NQ	EPA:353.2	SELC
C4	12 12	04/17/2007 1.24	2.27	1.39	12	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT LCMS/	MS I	Perchlorate	CIO4	2.27	1.6	LANL Int BG LVL	0	8.4	0.10	μg/L	2.00	N	Q NQ	SW-846:6850	SELC
C4	13 13	02/23/2004 289.0	329.0	309.0	13	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT METAL	.s s	Strontium	Sr	315.0	1.0	LANL Int BG LVL	60	5.3	1.00	μg/L	1.00	N	Q NQ	SW-846:6010C	GELC
C4	13 13	02/23/2004 2.36	2.90	2.80	13	Pueblo Canyon	Intermediate	R-5 S2	372.8	02/18/2021	REG	F I	INIT METAL	S I	Uranium	U	2.36	8.0	LANL Int BG LVL	1	2.4	0.07	μg/L	1.00	Ν	Q NQ	SW-846:6020B	SELC
C4	61 81	06/15/2005 30.1	48.2	39.6	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F	INIT METAL	.S I	Barium	Ва	36.3	0.9	LANL Int BG LVL	14	2.7	1.00	μg/L	1.00	Ν	Q NQ	SW-846:6010C	SELC
C4	61 81	06/15/2005 42.8	75.5	62.5	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F	INIT METAL	S (Calcium	Ca	59.2	0.9	LANL Int BG LVL	11	5.5	0.05	mg/L	1.00	Ν	Q NQ	SW-846:6010C	SELC
C4	62 82	06/15/2005 21.2	64.8	53.5	82	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F	INIT GENIN	ORG	Chloride	CI(-1)	49.3	0.9	LANL Int BG LVL	3	15.9	0.67	mg/L	10.00	J	+ I6b	EPA:300.0	SELC
C4	62 82	06/15/2005 0.412	0.668	0.525	79	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT GENIN	ORG I	Fluoride	F(-1)	0.54	1.0	LANL Int BG LVL	0	2.3	0.03	mg/L	1.00	Ν	Q NQ	EPA:300.0	GELC
C4	61 81	06/15/2005 142.0	253.0	209.0	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT GENIN	ORG I	Hardness	Hardness	197.0	0.9	LANL Int BG LVL	38	5.2	0.45	mg/L	1.00	Ν	Q NQ	SM:A2340B	GELC
C4	61 81	06/15/2005 8.5	15.7	12.8	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT METAL	S I	Magnesium	Mg	12.0	0.9	LANL Int BG LVL	3	3.8	0.11	mg/L	1.00	Ν	Q NQ	SW-846:6010C	GELC
C4	61 81	06/15/2005 2.90	41.80	23.20	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT METAL	S I	Nickel	Ni	25.2	1.1	LANL Int BG LVL	4	6.9	0.60	μg/L	1.00	Ν	Q NQ	SW-846:6020B	SELC
C4	62 82	06/15/2005 7.62	20.40	10.75	82	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT GENIN	ORG I	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	12.4	1.2	LANL Int BG LVL	0	27.0	0.85	mg/L	50.00	N	Q NQ	EPA:353.2	GELC
C4	57 73	02/26/2007 56.3	190.0	79.1	73	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT LCMS/	MS I	Perchlorate	CIO4	83.8	1.1	LANL Int BG LVL	0	310.4	2.50	μg/L	50.00	N	Q NQ	SW-846:6850 G	GELC
C4	61 81	06/15/2005 196.0	339.0	275.0	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT METAL	.s s	Strontium	Sr	263.0	1.0	LANL Int BG LVL	60	4.4	1.00	μg/L	1.00	Ν	Q NQ	SW-846:6010C	SELC
C4	61 81	06/15/2005 34.7	77.6	59.2	81	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F I	INIT GENIN	ORG	Sulfate	SO4(-2)	48.2	0.8	LANL Int BG LVL	7	6.8	1.33	mg/L	10.00	Ν	Q NQ	EPA:300.0	SELC
C4	14 14	09/14/2000 37.9	72.6	54.9		Upper Los Alamos Canyon	Intermediate	R-9i S1	189.1	02/22/2021	REG	F I	INIT METAL	.S I	Barium	Ва	38.0	0.7	LANL Int BG LVL	14	2.8	1.00	μg/L	1.00	N	Q NQ	SW-846:6010C	GELC
C4	16 17	09/14/2000 24.0	45.5	39.1		Upper Los Alamos Canyon	Intermediate	R-9i S1	189.1	02/22/2021	REG	F	INIT GENIN	ORG	Chloride	CI(-1)	42.8	1.1	LANL Int BG LVL	3	13.8	0.67	mg/L	10.00	N	Q NQ	EPA:300.0	GELC
C4	10 10	08/29/2008 74.5	96.9	86.6	10		Intermediate	R-9i S1	189.1	02/22/2021	REG	F	INIT GENIN	ORG I	Hardness	Hardness	79.0	0.9	LANL Int BG LVL	38	2.1	0.45	mg/L	1.00	N	Q NQ	SM:A2340B	SELC
C4	14 14	09/14/2000 5.60	8.84	7.22	14	Upper Los Alamos	Intermediate	R-9i S1	189.1	02/22/2021	REG	F I	INIT METAL	S I	Magnesium	Mg	6.89	1.0	LANL Int BG LVL	3	2.2	0.11	mg/L	1.00	N	Q NQ	SW-846:6010C	GELC
C4	14 14	09/14/2000 7.4	21.0	11.0	14	Upper Los Alamos	Intermediate	R-9i S1	189.1	02/22/2021	REG	F I	INIT METAL	S I	Molybdenum	Мо	7.37	0.7	LANL Int BG LVL	3	2.5	0.20	μg/L	1.00	J	+ I4a	SW-846:6020B	GELC
C4	14 14	09/14/2000 110.0	141.0	126.0		Upper Los Alamos	Intermediate	R-9i S1	189.1	02/22/2021	REG	F I	INIT METAL	.s s	Strontium	Sr	126.0	1.0	LANL Int BG LVL	60	2.1	1.00	μg/L	1.00	N	Q NQ	SW-846:6010C	GELC
C4	48 62	10/21/2008 56.1	79.4	69.0		Canyon Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT METAL	s I	Barium	Ва	79.4	1.2	LANL Int BG LVL	14	5.9	1.00	μg/L	1.00	N		SW-846:6010C	SELC
		10/21/2008 59.5	76.3	68.1		Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT METAL		Calcium	Са	68.9	1.0	LANL Int BG LVL	11	6.4	0.05	_	1.00	N		SW-846:6010C	
		10/21/2008 53.4	93.0	68.0		Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT GENIN		Chloride	CI(-1)	75.0	1 1	LANL Int BG LVL	3	24.1	1.34		20.00		Q NQ		SELC
		10/21/2008 33.4		235.0		Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT GENIN		Hardness	Hardness	236.0	1.0	LANL Int BG LVL	38	6.2	0.45	mg/L	1.00		Q NQ		SELC
		10/21/2008 204.0	17.5	15.8		Sandia Canyon	Intermediate	SCI-2		02/09/2021			INIT METAL		Magnesium	Mg		1.0	LANL Int BG LVL	3	1	0.43	mg/L	1.00	N		SW-846:6010C	
		10/21/2008 13.6	19.6	16.6		Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT METAL		Nickel	Ni	13.6	0.8	LANL Int BG LVL	4	3.7	0.60	µg/L	1.00	N			SELC
		10/21/2008 13.0	5.10	4.11		Sandia Canyon	Intermediate	SCI-2	548.0		REG		INIT GENIN		Nitrate-Nitrite as Nitrogen	NO3+NO2-N		0.8	LANL Int BG LVL	0	7.4	0.17	mg/L	10.00		Q NQ		SELC
		10/21/2008 2.89		0.950		Sandia Canyon	Intermediate	SCI-2			REG		INIT LCMS/		Perchlorate	CIO4	0.850	_	LANL Int BG LVL	0	3.1	0.05	µg/L	1.00		Q NQ		SELC
U4	+0 00	10/21/2000 0.030	1.120	0.900	00	Ganula Ganyon	miciniediale	JUI-2	340.0	0210312021	NEG	'	IIVII LOIVIO/	VIO I	i Gionolate	0104	0.000	0.9	LAINE IIII DG LVL	١٠	J. I	0.05	µ9/∟	1.00	I^	עןוזע	377-040.0000 C	, LLO

EM2021-0265 9 April 2021

Table 1: NMED 03-21 Groundwater Report

тар	e 1: NIV	IED 03-21 Ground	water i	Report					•			•														
Criteria Code	Visits Samples	First Event Min Detect	Max Detect	Median Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std MDL	Std UOM	Dilution Factor	Lab Qualifier		Anyl Meth Code	g ő
C4	48 62	10/21/2008 264.0	360.0	329.0 61	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG		NIT METALS	Strontium	Sr	339.0	1.0	LANL Int BG LVL	60	5.7	1.00	μg/L	1.00	NC		SW-846:6010C GEI	
	48 60	10/21/2008 77.9		88.7 60	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG		NIT GENINOR	Sulfate	SO4(-2)	86.0	1.0	LANL Int BG LVL	7	12.1	2.66	mg/L	20.00	NC		EPA:300.0 GEI	
C4		10/21/2008 1.200	2.560	1.845 62	Sandia Canyon	Intermediate	SCI-2	548.0		REG		NIT METALS	Uranium	U	2.35	1.3	LANL Int BG LVL	1	2.4	0.07	μg/L	1.00	NC		SW-846:6020B GEI	
C4		08/30/2007 68.0	408.0	347.0 77		Regional	R-35a			FD		NIT METALS	Barium	Ва	365.0	1.1	LANL Reg BG LVL	_	9.6	1.00	µg/L	1.00	NC		SW-846:6010C GEI	
	68 77	08/30/2007 68.0	408.0	347.0 77	Januara Janyon	Regional	R-35a			REG		NIT METALS	Barium	Ва	368.0	1.1	LANL Reg BG LVL	38	9.7	1.00	μg/L	1.00	NC	-	SW-846:6010C GEI	
C4		08/30/2007 5.97	7.31	6.56 77	Sandia Canyon	Regional	R-35a	_		FD		NIT GENINOR	Chloride	CI(-1)	6.76	1.0	LANL Reg BG LVL	3	2.5	0.07	mg/L	1.00	J+	I4g	EPA:300.0 GEI	
C4		08/30/2007 5.97	7.31	6.56 77	Sandia Canyon	Regional	R-35a	1013.1	02/18/2021	REG		NIT GENINOR	Chloride	CI(-1)	6.65	1.0	LANL Reg BG LVL	3	2.5	0.07	mg/L	1.00	J+		EPA:300.0 GEI	
C4		08/30/2007 1.200	22.200		<u> </u>	Regional	R-35a	1013.1	02/18/2021	FD		NIT METALS	Nickel	Ni	9.48	1.2	LANL Reg BG LVL	3	3.3	0.60	μg/L	1.00	NC		SW-846:6020B GEI	
C4		08/30/2007 1.200	22.200		Sandia Canyon	Regional	R-35a			REG		NIT METALS	Nickel	Ni	9.39	1.2	LANL Reg BG LVL	3	3.2	0.60	μg/L	1.00	NC	-	SW-846:6020B GEI	
-	47 52	11/10/2008 3.370	7.890	4.825 52	<u> </u>	Regional	R-43 S2	969.1	02/05/2021	FD		NIT GENINOR	Chloride	CI(-1)	7.71	1.6	LANL Reg BG LVL	3	2.9	0.07	mg/L	1.00	J+		EPA:300.0 GEI	
-	47 52	11/10/2008 3.37	7.89	4.83 52	Sandia Canyon	Regional	R-43 S2	969.1	02/05/2021	REG		NIT GENINOR	Chloride	CI(-1)	7.89	1.6	LANL Reg BG LVL	3	2.9	0.07	mg/L	1.00	J+		EPA:300.0 GEI	
	47 57	11/10/2008 1.80	49.10	9.29 47	Sandia Canyon	Regional	R-43 S2	969.1	02/05/2021	FD		NIT METALS	Chromium	Cr	41.7	4.5	LANL Reg BG LVL	7	5.6	3.00	µg/L	1.00	NC		SW-846:6020B GEI	
C4		11/10/2008 1.80		9.29 47	Sandia Canyon	Regional	R-43 S2	969.1	02/05/2021	REG	_	NIT METALS	Chromium	Cr	42.4	4.6	LANL Reg BG LVL	7	5.7	3.00	µg/L	1.00	NC		SW-846:6020B GEI	
C4		11/10/2008 0.389	5.40	3.12 51		Regional	R-43 S2	969.1	02/05/2021	FD		NIT GENINOR	Nitrate-Nitrite as Nitroger	-	+	1.3	LANL Reg BG LVL	1	5.3	0.17	mg/L	10.00	NC		EPA:353.2 GEI	
-	47 51	11/10/2008 0.389	5.40	3.12 51	Sandia Canyon	Regional	R-43 S2	969.1	02/05/2021	REG		NIT GENINOR	Nitrate-Nitrite as Nitroger		-	1.3	LANL Reg BG LVL	1	5.3	0.17	mg/L	10.00	NC		EPA:353.2 GEI	
-	47 52	11/10/2008 0.411	0.953	0.754 52		Regional	R-43 S2	969.1	02/05/2021	FD		NIT LCMS/MS	Perchlorate	CIO4	0.890	1.2	LANL Reg BG LVL	0	2.1	0.05	µg/L	1.00	NC		SW-846:6850 GEI	
-	47 52	11/10/2008 0.411	0.953	0.754 52		Regional	R-43 S2	969.1	02/05/2021	REG		NIT LCMS/MS	Perchlorate	CIO4	0.922	1.2	LANL Reg BG LVL	0	2.2	0.05	µg/L	1.00	NC		SW-846:6850 GEI	
	47 52	11/10/2008 3.96	11.50	7.27 52		Regional	R-43 S2	969.1	02/05/2021	FD		NIT GENINOR	Sulfate	SO4(-2)	11.3	1.6	LANL Reg BG LVL	5	2.5	0.13	mg/L	1.00	NC		EPA:300.0 GEI	
C4		11/10/2008 3.96	11.50	7.27 52	Sandia Canyon	Regional	R-43 S2	969.1	02/05/2021	REG		NIT GENINOR	Sulfate	SO4(-2)	11.5	1.6	LANL Reg BG LVL	5	2.5	0.13	mg/L	1.00	NC		EPA:300.0 GEI	
C4		03/05/2009 2.74	6.18	4.44 71	Mortandad Canyon	Regional	R-45 S2	974.9	02/23/2021	REG		NIT GENINOR	Chloride	CI(-1)	6.0	1.4	LANL Reg BG LVL	3	2.2	0.07	mg/L	1.00	NC		EPA:300.0 GEI	
-	67 76	03/05/2009 6.1	55.0	23.2 75	Mortandad Canyon	Regional	R-45 S2	974.9	02/23/2021	REG		NIT METALS	Chromium	Cr	47.3	2.0	LANL Reg BG LVL	7	6.3	3.00	μg/L	1.00	NC		SW-846:6020B GEI	
C4	7 8	08/04/2020 16.8	19.3	18.2 8	Mortandad Canyon	Regional	R-70 S2			REG		NIT GENINOR	Chloride	CI(-1)	16.8	0.9	LANL Reg BG LVL	3	6.2	0.34	<u> </u>	5.00	NC		EPA:300.0 GEI	
C4	7 8	08/04/2020 210.0	272.0	255.5 8	Mortandad Canyon	Regional	R-70 S2			REG		NIT METALS	Chromium	Cr	235.0	0.9	LANL Reg BG LVL	7	31.4	3.00	μg/L	1.00	NC		SW-846:6020B GEI	
C4		08/04/2020 3.7	4.1	3.9 8	Mortandad Canyon	Regional	R-70 S2			REG		NIT GENINOR	Nitrate-Nitrite as Nitroger		3.76	1.0	LANL Reg BG LVL	1	4.9	0.17	mg/L	10.00	NC		EPA:353.2 GEI	
C4	7 8	08/04/2020 0.812	0.986	0.881 8	Mortandad Canyon	Regional	R-70 S2			REG		NIT LCMS/MS	Perchlorate	CIO4	0.866	1.0	LANL Reg BG LVL	0	2.1	0.05	µg/L	1.00	NC		SW-846:6850 GEI	
C4	7 8	08/04/2020 30.10	32.60	31.05 8	Mortandad Canyon	Regional	R-70 S2	_		REG		NIT GENINORO	Sulfate	SO4(-2)	30.2	1.0	LANL Reg BG LVL	5	6.6	0.67	-	5.00	NC		EPA:300.0 GEI	
	80 96	05/17/2005 2.27	7.43	5.41 96	Sandia Canyon	Regional	R-11	855.0	02/26/2021	REG	F II	NIT GENINOR	Nitrate-Nitrite as Nitroger			1.1	LANL Reg BG LVL	1	7.5	0.17	mg/L	10.00	NC	Q NQ	EPA:353.2 GEI	
		02/24/2000 1.35		2.14 70		Regional	R-15		02/04/2021				Nitrate-Nitrite as Nitroger			_	LANL Reg BG LVL	1	2.7	0.09		5.00	NC		EPA:353.2 GEI	
		02/24/2000 1.35		2.14 70		Regional	R-15	958.6		REG		NIT GENINOR	_				LANL Reg BG LVL	1	2.7	0.09		5.00	NO		EPA:353.2 GEI	
		02/28/2007 5.34		8.05 58		Regional	R-15	958.6	02/04/2021			NIT LCMS/MS	Perchlorate	CIO4	10.7	+	LANL Reg BG LVL	_	25.8	0.50		10.00	NO		SW-846:6850 GEI	
		02/28/2007 5.34		8.05 58		Regional	R-15	958.6		REG	_	NIT LCMS/MS	Perchlorate	CIO4	10.8	1.3	LANL Reg BG LVL	_	26.1	0.50		10.00	NC		SW-846:6850 GEI	
		03/12/2008 4.05	6.83	6.07 54		Regional	R-36	766.9	02/05/2021	REG		NIT GENINOR		CI(-1)	6.42	1.1	LANL Reg BG LVL	3	2.4	0.07	_	1.00	J+		EPA:300.0 GEI	
		03/12/2008 1.25	6.80	2.42 55	•	Regional	R-36	766.9		REG		NIT GENINOR	-		+	1.1	LANL Reg BG LVL	1	3.4	0.09		5.00	NO		EPA:353.2 GEI	
		03/12/2008 0.845	1.740	1.510 53		Regional	R-36	766.9		REG		NIT LCMS/MS	Perchlorate	CIO4	1	8.0	LANL Reg BG LVL	0	2.9	0.05		1.00	NO		SW-846:6850 GEI	
		11/05/2008 3.60	9.39	7.83 55		Regional	R-43 S1	903.9	02/09/2021	REG		NIT GENINOR	Chloride	CI(-1)	9.01	1.2	LANL Reg BG LVL	_	3.3	0.07		1.00	NC		EPA:300.0 GEI	
		11/05/2008 2.4	223.0	106.0 57		Regional	R-43 S1	903.9		REG	_	NIT METALS	Chromium	Cr	189.0	+	LANL Reg BG LVL	_	25.3	15.00		5.00	NC		SW-846:6020B GEI	
		11/05/2008 4.67	6.15	5.36 53	+	Regional	R-43 S1	903.9	02/09/2021	REG		NIT GENINOR				0.9	LANL Reg BG LVL		6.6	0.17	_	10.00	NO		EPA:353.2 GEI	
		11/05/2008 8.77	21.00	16.20 55		Regional	R-43 S1	903.9	02/09/2021	REG		NIT GENINOR		SO4(-2)	17.1	1.1	LANL Reg BG LVL		3.7	0.13		1.00	NC		EPA:300.0 GEI	
		02/17/2009 1.99	20.3	2.48 73		Regional	R-44 S1	895.0	02/25/2021	REG		NIT GENINOR		CI(-1)	20.3	8.2	LANL Reg BG LVL		7.5	0.34		5.00	NC		EPA:300.0 GEI	
		02/17/2009 1.99	20.3	2.48 73		Regional	R-44 S1	895.0	02/01/2021	REG		NIT GENINOR	+	CI(-1)	 	7.7	LANL Reg BG LVL	_	7.1	0.34	_	5.00	NC		EPA:300.0 GEI	
		02/17/2009 0.536	1	13.2 46		Regional	R-44 S1		02/25/2021			NIT METALS	Nickel	Ni	1	4.2	LANL Reg BG LVL	_	18.9	0.60		1.00	NO		SW-846:6020B GEI	
C4	70 73	02/17/2009 0.536	109.0	13.2 46	Mortandad Canyon	Regional	R-44 S1	895.0	02/01/2021	REG	F II	NIT METALS	Nickel	Ni	44.4	3.4	LANL Reg BG LVL	3	15.3	0.60	μg/L	1.00	NO	Q NQ	SW-846:6020B GEI	.C

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Table 1: NMED 03-21 Groundwater Report

ıaı	DIE 1: NIV	IED 03-21 Ground	iwater i	Report	-																						
Criteria Code	Visits Samples	First Event Min Detect	Max Detect	Median Detect Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	FId QC T	Fld Prep Code	Lab Sample Type Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std MDL	Std UOM	Dilution Factor	<u>⊊</u>	dation Re	Anyl Meth Code	Lab Code	Comment
C4	70 73	02/17/2009 0.123	2.67	1.2 72	Mortandad Canyon	Regional	R-44 S1	895.0	02/25/2021	REG F	. IN	IIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.67	2.2	LANL Reg BG LVL	1	3.5	0.09	mg/L	5.00	NO	NQ	EPA:353.2	GELC	
C4	70 73	02/17/2009 0.123	2.670	1.2 72	Mortandad Canyon	Regional	R-44 S1	895.0	02/01/2021	REG F	IN.	IIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.65	2.2	LANL Reg BG LVL	1	3.4	0.17	mg/L	10.00	NO	NQ	EPA:353.2	GELC	
C4	70 73	02/17/2009 2.8	19.9	3.6 73	Mortandad Canyon	Regional	R-44 S1	895.0	02/25/2021	REG F	IN.	IIT GENINORG	Sulfate	SO4(-2)	19.6	5.5	LANL Reg BG LVL	5	4.3	0.67	mg/L	5.00	NO	NQ.	EPA:300.0	GELC	
C4	70 73	02/17/2009 2.8	19.9	3.6 73	Mortandad Canyon	Regional	R-44 S1	895.0	02/01/2021	REG F	IN	IIT GENINORG	Sulfate	SO4(-2)	19.7	5.5	LANL Reg BG LVL	5	4.3	0.13	mg/L	1.00	NO	NQ	EPA:300.0	GELC	
C4	68 73	02/28/2009 3.0	17.0	5.1 73	Mortandad Canyon	Regional	R-45 S1	0.088	02/23/2021	REG F	IN.	IIT GENINORG	Chloride	CI(-1)	15.4	3.0	LANL Reg BG LVL	3	5.7	0.13	mg/L	2.00	NO	NQ	EPA:300.0	GELC	
C4	68 73	02/28/2009 0.256	3.47	2.79 73	Mortandad Canyon	Regional	R-45 S1	0.088	02/23/2021	REG F	. IV	IIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.01	1.1	LANL Reg BG LVL	1	3.9	0.09	mg/L	5.00	NO	. NQ	EPA:353.2	GELC	
C4	68 73	02/28/2009 4.1	17.2	7.84 73	Mortandad Canyon	Regional	R-45 S1	0.088	02/23/2021	REG F	. IN	IIT GENINORG	Sulfate	SO4(-2)	15.4	2.0	LANL Reg BG LVL	5	3.4	0.13	mg/L	1.00	NO	NQ.	EPA:300.0	GELC	
C4	70 78	03/06/2010 4.68	20.0	9.55 78	Mortandad Canyon	Regional	R-50 S1	1077.0		REG F	. IN	IIT GENINORG	Chloride	CI(-1)	18.3	1.9	LANL Reg BG LVL	3	6.8	0.34	mg/L	5.00	NO		EPA:300.0	GELC	
C4		03/06/2010 23.2	150.0	84.3 80	Mortandad Canyon	Regional	R-50 S1			REG F	. IN	NIT METALS	Chromium	Cr	24.6	0.3	LANL Reg BG LVL	7	3.3	3.00	μg/L	1.00	NO		SW-846:6020B		
C4	70 78	03/06/2010 1.51	14.60	5.03 78	Mortandad Canyon	Regional			02/24/2021	REG F	IN	NT METALS	Nickel	Ni	7.37	1.5	LANL Reg BG LVL	3	2.5	0.60	μg/L	1.00	NO		SW-846:6020B		
		03/06/2010 0.40	2.94	2.07 79	Mortandad Canyon	Regional	R-50 S1		02/24/2021	REG F		IIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.75	1.3	LANL Reg BG LVL	1	3.6	0.09	mg/L	5.00	NO		EPA:353.2	GELC	
C4		03/06/2010 7.22	20.2	14.1 78	Mortandad Canyon	Regional	R-50 S1			REG F		IIT GENINORG	Sulfate	SO4(-2)	19.5	1.4	LANL Reg BG LVL	5	4.2	0.13	mg/L	1.00	NO		EPA:300.0	GELC	
C4		05/20/2011 2.03		21.60 62	Mortandad Canyon	Regional	R-61 S1			FD F		NT METALS	Chromium	Cr	40.5	1.0	LANL Reg BG LVL	7	5.4	3.00	µg/L	1.00	NO		SW-846:6020B	3 GELC	
C4	_	05/20/2011 2.03	_	21.60 62	Mortandad Canyon	Regional	R-61 S1			REG F		NT METALS	Chromium	Cr	41.1	1.9	LANL Reg BG LVL	7	5.5	3.00	µg/L	1.00	NO	_	SW-846:6020B	GELC GELC	
		05/20/2011 0.43	2.95	2.19 63	Mortandad Canyon	Regional	R-61 S1		02/17/2021	FD F		NIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N		1.3	LANL Reg BG LVL	1	3.2	0.17	mg/L	10.00	NO		EPA:353.2	GELC	
C4			2.95	2.19 63	1					REG F		IT GENINORG				1.1		1	3.2	0.17	_	-	NO		EPA:353.2	GELC	
		05/20/2011 0.43 05/20/2011 2.96	+		Mortandad Canyon	Regional	R-61 S1						Nitrate-Nitrite as Nitrogen	NO3+NO2-N		1.1	LANL Reg BG LVL	0			mg/L	10.00					
C4			16.2	12.0 62	Mortandad Canyon	Regional	R-61 S1			FD F			Perchlorate	CIO4	12.4	1.0	LANL Reg BG LVL	0	30.0	0.50	µg/L	10.00	NO		SW-846:6850	GELC	
C4		05/20/2011 2.96	16.2	12.0 62	Mortandad Canyon	Regional	R-61 S1			REG F		IIT LCMS/MS	Perchlorate	CIO4	13.0	1.1	LANL Reg BG LVL	0	31.4	0.50	µg/L	10.00	NO		SW-846:6850	GELC	
	32 38	03/26/2012 1.64	19.9	9.69 38	Sandia Canyon	Regional	R-62			REG F		IIT GENINORG	Chloride	CI(-1)	19.9	2.1	LANL Reg BG LVL	3	7.4	0.34	mg/L	5.00	NO		EPA:300.0	GELC	
C4		03/26/2012 104.0	346.0	185.0 38	Sandia Canyon	Regional	R-62			REG F		NIT METALS	Chromium	Cr	331.0	1.8	LANL Reg BG LVL	1	44.3	3.00	µg/L	1.00	NO		SW-846:6020B		
C4	32 38	03/26/2012 4.31	8.92	5.66 37	Sandia Canyon	Regional	R-62	1158.4	02/02/2021	REG F		NIT METALS	Magnesium	Mg	8.70	1.5	LANL Reg BG LVL	4	2.1	0.11	mg/L	1.00	NO		SW-846:6010C		
C4		03/26/2012 0.069	2.37	1.36 38	Sandia Canyon	Regional	R-62		02/02/2021	REG F		IIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N		1.7	LANL Reg BG LVL	1	3.1	0.17	mg/L	10.00	NO		EPA:353.2	GELC	
C4	32 38	03/26/2012 0.719	0.937	0.811 38	Sandia Canyon	Regional	R-62	1158.4		REG F		IIT LCMS/MS	Perchlorate	CIO4	0.874		LANL Reg BG LVL	0	2.1	0.05	μg/L	1.00	NO		SW-846:6850	GELC	
	32 38	03/26/2012 2.56	34.9	17.4 38	Sandia Canyon	Regional	R-62		02/02/2021	REG F		IIT GENINORG	Sulfate	SO4(-2)	34.9	2.0	LANL Reg BG LVL	5	7.6	0.67	mg/L	5.00	NO	_	EPA:300.0	GELC	
C4	7 7	08/04/2020 5.78	7.28	6.08 7	Mortandad Canyon	Regional				REG F		IIT GENINORG	Chloride	CI(-1)	5.81	1.0	LANL Reg BG LVL	3	2.2	0.07	mg/L	1.00	NO		EPA:300.0	GELC	
C4	7 7	08/04/2020 13.5	30.5	19.8 7	Mortandad Canyon	Regional		963.0	02/19/2021	REG F		NIT METALS	Chromium	Cr	15.1	8.0	LANL Reg BG LVL	7	2.0	3.00	μg/L	1.00	NO		SW-846:6020B	GELC	
C4	7 7	08/04/2020 2.44	2.92	2.68 7	Mortandad Canyon	Regional	R-70 S1	963.0	02/19/2021	REG F		IIT GENINORG	Nitrate-Nitrite as Nitrogen			1.0	LANL Reg BG LVL	1	3.3	0.09	mg/L	5.00	NO	NQ	EPA:353.2	GELC	
		08/17/2006 6.62		6.91 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well		12/11/2020			IIT GENINORG		, ,	6.69		LANL Reg BG LVL				mg/L		J+	l4a	EPA:300.0	GELC	
		08/17/2006 6.62		6.91 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well		12/11/2020	REG F			Chloride	CI(-1)	6.69	1.0	LANL Reg BG LVL	3	2.5	0.07	mg/L	1.00	J+	l4a	EPA:300.0	GELC	
C4	9 11	08/17/2006 62.3	75.6	71.6 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	FD F	IN	NIT METALS	Sodium	Na	73.4	1.0	LANL Reg BG LVL	16	4.6	0.10	mg/L	1.00	E NO	NQ	SW-846:6010C	GELC	
C4	9 11	08/17/2006 62.3	75.6	71.6 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	REG F	IN	NIT METALS	Sodium	Na	71.6	1.0	LANL Reg BG LVL	16	4.5	0.10	mg/L	1.00	E NO	NQ	SW-846:6010C	GELC	
C4	9 11	08/17/2006 20.8	23.5	21.6 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	FD F	IN	IT GENINORG	Sulfate	SO4(-2)	20.8	1.0	LANL Reg BG LVL	5	4.5	0.27	mg/L	2.00	J+	l6b	EPA:300.0	GELC	
C4	9 11	08/17/2006 20.8	23.5	21.6 11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	REG F	IN	GENINORG	Sulfate	SO4(-2)	20.8	1.0	LANL Reg BG LVL	5	4.5	0.27	mg/L	2.00	J+	l6b	EPA:300.0	GELC	
C4	9 11	08/17/2006 14.2	17.1	14.9 10	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	FD F	IN	NIT METALS	Uranium	U	14.7	1.0	LANL Reg BG LVL	1	12.4	0.07	μg/L	1.00	NO	NQ	SW-846:6020B	GELC	
C4	9 11	08/17/2006 14.2	17.1	14.9 10	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	REG F	IN	NIT METALS	Uranium	U	14.5	1.0	LANL Reg BG LVL	1	12.2	0.07	μg/L	1.00	NO	NQ.	SW-846:6020B	GELC	
C4	11 11	08/18/2006 148.0	162.0	158.0 11	White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG F	IN	IIT GENINORG	Alkalinity-CO3+HCO3	ALK- CO3+HCO3	159.0	1.0	LANL Reg BG LVL	73	2.2	1.45	mg/L	1.00	NO	NQ	EPA:310.1	GELC	
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Table 1: NMED 03-21 Groundwater Report

Criteria Code	Visits Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std MDL	Std UOM	Dilution Factor	Lab Qualifier	Validation Qualifier	Validation Reason Code	Anyl Meth Code	Comment
C4	11 11	08/18/2006	121.0	147.0	132.0		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	FI	NIT METALS	Barium	Ва	136.0	1.0	LANL Reg BG LVL	38	3.6	1.00	μg/L	1.00	^	IQ N	Q :	SW-846:6010C GELC	
C4	11 11	08/18/2006	10.8	17.6	12.0		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	FI	NIT GENINORG	Chloride	CI(-1)	10.8	0.9	LANL Reg BG LVL	3	4.0	0.13	mg/L	2.00	J	+ 14	a I	EPA:300.0 GELC	
C4	11 11	08/18/2006	1.97	3.03	2.31		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	F I	NIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	1.97	0.9	LANL Reg BG LVL	1	2.6	0.09	mg/L	5.00	٨	Q N	Q I	EPA:353.2 GELC	
C4	11 11	08/18/2006	44.6	68.8	51.5		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	F I	NIT METALS	Sodium	Na	52.1	1.0	LANL Reg BG LVL	16	3.3	0.10	mg/L	1.00	E N	IQ N	Q :	SW-846:6010C GELC	
C4	11 11	08/18/2006	383.0	438.0	389.0		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	F I	NIT METALS	Strontium	Sr	383.0	1.0	LANL Reg BG LVL	157	2.4	1.00	μg/L	1.00	٨	IQ N	Q :	SW-846:6010C GELC	
C4	11 11	08/18/2006	18.9	21.0	19.5		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	F I	NIT GENINORG	Sulfate	SO4(-2)	19.5	1.0	LANL Reg BG LVL	5	4.2	0.13	mg/L	1.00	J	+ 16	b I	EPA:300.0 GELC	
C4	11 11	08/18/2006	6.90	10.10	7.64		White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG	F I	NIT METALS	Uranium	U	7.64	1.0	LANL Reg BG LVL	1	6.4	0.07	μg/L	1.00		IQ N	Q :	SW-846:6020B GELC	

Table 2: NMED 03-21 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	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std UOM	Dilution Factor	Lab Qualifier Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
XC2scr	r 14 14	09/14/2000	2.030	3.460	2.290		Upper Los Alamos Canyon	Intermediate	R-9i S1	189.1	02/22/2021	REG	F II	TIV	METALS	Arsenic	As	3.460	1.5	Int-Scr_95	3 1	2 2.00	μg/L	1.00	J J	J_LAB	SW-846:6020B	GELC	
XC2scr	r 12 13	02/25/2004	0.002	0.002	0.002		Upper Los Alamos Canyon	Regional	R-8 S1	705.3	02/23/2021	REG	UF II	VIT	INORGANIC	Cyanide (Total)	CN(TOTAL)	0.002	1.0	Reg-Scr_95	0 1	4 0.00	mg/L	1.00	J J	J_LAB	EPA:335.4	GELC	
XC4scr	r 61 81	06/15/2005	25.400	64.600	47.250	80	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F II	TIV	METALS	Boron	В	64.600	1.4	Int-Scr_95	16 4	0 15.0	0 μg/L	1.00	NQ	NQ	SW-846:6010C	GELC	
XC4scr	r 61 81	06/15/2005	0.212	0.703	0.568	78	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F II	TIV	GENINORG	Bromide	Br(-1)	0.453	8.0	Int-Scr_95	0 6	3 0.07	mg/L	1.00	NQ	NQ	EPA:300.0	GELC	
XC4scr	r 61 84	06/15/2005	29.400	86.600	60.950	84	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F II	VIT	METALS	Chromium	Cr	60.600	1.0	Int-Scr_95	3 2	2.3 3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	1
XC4scr	r 61 81	06/15/2005	3.810	26.100	8.200	79	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F II	TIV	METALS	Copper	Cu	8.750	1.1	Int-Scr_95	3 2	9 3.00	μg/L	1.00	J J	J_LAB	SW-846:6010C	GELC	
XC4scr	f 62 82	06/15/2005	298.000	527.000	402.000	82	Mortandad Canyon	Intermediate	MCOI-6	686.0	02/08/2021	REG	F II	VIT		Total Dissolved Solids	TDS	371.000	0.9	Int-Scr_95	135 2	7 3.40	mg/L	1.00	J+	l4g	EPA:160.1	GELC	
XC4scr	r 48 60	10/21/2008	0.194	0.858	0.633	59	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG	F II	TIV	GENINORG	Bromide	Br(-1)	0.858	1.4	Int-Scr_95	0 1	2.0 0.07	mg/L	1.00	NQ	NQ	EPA:300.0	GELC	
XC4scr	r 48 67	10/21/2008	234.000	658.000	435.000	67	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG	F II	TIV	METALS	Chromium	Cr	234.000	0.5	Int-Scr_95	3 8	3.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	<u> </u>
XC4scr	r 33 39	08/04/2009	0.004	0.010	0.007	39	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG	UF II	TIV	INORGANIC	Cyanide (Total)	CN(TOTAL)	0.004	0.6	Int-Scr_95	0 2	2 0.00	mg/L	1.00	J J-	l6a	EPA:335.4	GELC	
XC4scr	r 48 61	10/21/2008	354.000	796.000	426.000	61	Sandia Canyon	Intermediate	SCI-2	548.0	02/09/2021	REG	F II	VIT		Total Dissolved Solids	TDS	414.000	1.0	Int-Scr_95	135 3	1 3.40	mg/L	1.00	NQ	NQ	EPA:160.1	GELC	
XC4scr	r 68 77	08/30/2007	20.600	48.200	39.000	71	Sandia Canyon	Regional	R-35a	1013.1	02/18/2021	FD	F II	TIV	METALS	Boron	В	42.600	1.1	Reg-Scr_95	19 2	3 15.0	0 μg/L	1.00	J J	J_LAB	SW-846:6010C	GELC	
XC4scr	r 68 77	08/30/2007	20.600	48.200	39.000	71	Sandia Canyon	Regional	R-35a	1013.1	02/18/2021	REG	F II	TIV	METALS	Boron	В	43.300	1.1	Reg-Scr_95	19 2	3 15.0	0 μg/L	1.00	J J	J_LAB	SW-846:6010C	GELC	
XC4scr	r 70 73	02/17/2009	0.076	0.160	0.144	28	Mortandad Canyon	Regional	R-44 S1	895.0	02/25/2021	REG	F II	TIV	GENINORG	Bromide	Br(-1)	0.141	1.0	Reg-Scr_95	0 2	1 0.07	mg/L	1.00	J J	J_LAB	EPA:300.0	GELC	
XC4scr	r 70 73	02/17/2009	0.076	0.160	0.144	28	Mortandad Canyon	Regional	R-44 S1	895.0	02/01/2021	REG	F II	TIV	GENINORG	Bromide	Br(-1)	0.152	1.1	Reg-Scr_95	0 2	3 0.07	mg/L	1.00	J J	l6a,l6b	EPA:300.0	GELC	
XC4scr			0.069	0.162	0.101	58	Mortandad Canyon	Regional	R-50 S1	1077.0	02/24/2021	REG	F II	TIV	GENINORG		Br(-1)	0.149	1.5	Reg-Scr_95	0 2	2 0.07	mg/L	1.00	J J	J_LAB	EPA:300.0	GELC	
XC4scr	r 54 63	05/20/2011	0.053	11.800	0.519	60	Mortandad Canyon	Regional	R-61 S1	1125.0	02/17/2021	FD	F II	TIV		Total Phosphate as Phosphorus	PO4-P	0.248	0.5	Reg-Scr_95	0 3	0 0.02	mg/L	1.00	NQ	NQ	EPA:365.4	GELC	

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Criteria Code	Visits	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Canyon	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level Exceedance Ratio	Std MDL	Std UOM	Dilution Factor	Lab Qualifier Validation Qualifier	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
XC4s	or 54 63	05/20/2011	0.053	11.800	0.519	60	Mortandad Canyon	Regional	R-61 S1	1125.0	02/17/2021	REG F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P 0.24	.1 0	0.5	Reg-Scr_95	0 2.9	0.02	mg/L	1.00	NQ	NQ	EPA:365.4	GELC	
XC4s	r 32 38	03/26/2012	0.071	0.202	0.118	33	Sandia Canyon	Regional	R-62	1158.4	02/02/2021	REG F	INIT	GENINORG	Bromide	Br(-1) 0.19	0 1	1.6 I	Reg-Scr_95	0 2.8	0.07	mg/L	1.00	J J	l6a,l6b	EPA:300.0	GELC	
XC4s	er 9 1	08/17/2006	60.500	84.100	69.800	11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	FD F	INIT	METALS	Boron	В 83.7	00 1	1.2	Reg-Scr_95	19 4.5	15.00	μg/L	1.00	NQ	NQ	SW-846:6010C	GELC	
XC4s	er 9 1	08/17/2006	60.500	84.100	69.800	11	White Rock Canyon and Rio Grande	Regional	Black Mesa Well	NA	12/11/2020	REG F	INIT	METALS	Boron	B 84.1	00 1	1.2	Reg-Scr_95	19 4.5	15.00	μg/L	1.00	NQ	NQ	SW-846:6010C	GELC	
XC4s	r 11 1	08/18/2006	6.000	11.900	10.105	10	White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG F	INIT	METALS	Arsenic	As 9.81	0 1	1.0 I	Reg-Scr_95	3.6	2.00	μg/L	1.00	NQ	NQ	SW-846:6020B	GELC	
XC4s	r 11 1	08/18/2006	94.300	147.00	0 106.000	11	White Rock Canyon and Rio Grande	Regional	J. Martinez House Well	NA	12/11/2020	REG F	INIT	METALS	Boron	В 111.	.000 1	1.0 I	Reg-Scr_95	19 5.9	15.00	µg/L	1.00	NQ	NQ	SW-846:6010C	GELC	

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