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Date: SEP 26 2016
Refer To: ADEM-16-5249
LAUR: 16-27195
Locates Action No.: n/a

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

Subject: Monthly Notification of Groundwater Data Reviewed in September 2016

Dear Mr. Kieling:

This letter is Los Alamos National Laboratory's (LANL's) written submission in accordance with Section XXVI of the June 2016 Compliance Order on Consent (Consent Order). Los Alamos National Laboratory is currently updating its data screening procedures to incorporate the updated screening levels in Section IX of the 2016 Consent Order. Therefore, the screening levels used in this report are those specified in Section IV.A.3.g of the March 2005 Consent Order. Members of LANL's Associate Directorate for Environmental Management met on September 14, 2016, to review new groundwater data received in August 2016. This report was prepared by comparing the data against groundwater cleanup levels, as defined in Section VIII.A.1 of the March 2005 Consent Order. For comparison with U.S. Environmental Protection Agency (EPA) tap water standards, the carcinogenic risk was adjusted to 1×10^{-5}, as specified in the Consent Order. This report was prepared using the May 2016 EPA regional screening levels.

1-Day Notification

There were no instances of a contaminant detected at a concentration that exceeded the New Mexico Water Quality Control Commission standard or federal maximum contaminant level at locations where contaminants have not been previously detected above the respective standard (based on samples collected since June 14, 2007).

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.

15-Day Notification

The required information for the contaminants and other chemical parameters that meet the six reporting criteria requiring written notification within 15 days is given in the accompanying report and table.

If you have questions, please contact Steve Paris at (505) 606-0915 (smparis@lanl.gov) or Hai Shen at (505) 665-5046 (hai.shen@em.doe.gov).

Sincerely,

Bruce Robinson, Program Director
Environmental Remediation Program
Los Alamos National Laboratory

Sincerely,

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

BR/DR/SP:sm

Enclosure: Two hard copies with electronic files – Summary of Groundwater Data Reviewed in September 2016 That Meet Notification Requirements (EP2016-0124)

Cy: (Letter and CD and/or DVD)
Laurie King, EPA Region 6, Dallas, TX
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Mike Saladen, ADESH-EPC-CP
John Bretzke, ADESH-EPC-DO
Michael Brandt, ADESH
William Mairson, PADOPS
Craig Leasure, PADOPS

SUMMARY OF GROUNDWATER DATA REVIEWED IN SEPTEMBER 2016 THAT MEET NOTIFICATION REQUIREMENTS

INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by Los Alamos National Laboratory (the Laboratory) under its interim monitoring plan and contains results for chemical constituents that meet the six screening criteria laid out in the March 2005 Compliance Order on Consent (Consent Order). The report covers groundwater samples taken from wells or springs (listed in the accompanying table) that provide surveillance of the groundwater zones indicated in the table.

The report includes one table, *Table 1: NMED 08-16 Groundwater Report*. This table contains values which are detected for the first time since June 14, 2007, or detections of concentrations meeting other screening criteria since that time (as specified in the March 2005 Consent Order). These reported data may be similar to data gathered before June 14, 2007.

This table includes the following:

- Additional comments on results that appear to be exceptional based on consideration of monitoring data acquired before the current results (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current results
- 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.

In accordance with the March 2005 Consent Order, the screening levels used include the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), the New Mexico groundwater standards, and the EPA regional screening levels for tap water (for compounds having no other regulatory standard). The EPA regional screening levels for tap water are either for cancer (10^{-6} excess risk) or noncancer risk values. The data were screened using 10 times the EPA's 10^{-6} excess cancer risk values to achieve 10^{-5} excess cancer risk as indicated in Section VIII.A.1 of the March 2005 Consent Order. This report was prepared using the May 2016 EPA regional screening levels.

Background levels applied in Criteria 2 and 5 are the NMED-approved 95% upper tolerance limits for background for each groundwater zone as set forth in the "Groundwater Background Investigation Report, Rev 3," prepared under Section IV.A.3.d of the March 2005 Consent Order.

DESCRIPTION OF TABLE

15-Day Notification Requirement

The table is divided into separate categories that correspond to the six screening criteria in the March 2005 Consent Order. Some data meet more than one of the criteria and appear in the table multiple times. The table also presents only the instances where the results exceed criteria; therefore, all six criteria may not appear in the table.

The criteria 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 exceeds either one-half the New Mexico water quality standard or one-half the federal maximum contaminant level, or if there is no such standard for the contaminant, one-half the EPA Region 6 human health medium-specific screening level for tap water (now the EPA Regional Screening Levels 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 perchlorate in a spring or screened interval of a well at a concentration of 2 µg/L or greater if perchlorate at such concentration has not previously been detected in the spring or screened interval.

C5. 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.

C6. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the New Mexico water quality standard or one-half the federal MCL and that has increased for the third consecutive sampling of that spring or screened interval.

The next seven columns of the table give information on monitoring results obtained before the current result. The columns provide summary statistics for the samples collected since January 1, 2000, for the same analyte and field preparation (for example, filtered samples). The information includes the date of the first sampling event included in the statistics, the numbers 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:

Hdr 1—canyon where monitoring location is found

Zone—groundwater zone sampled by monitoring location (such as alluvial spring)

Location—monitoring location name

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

Start Date—sample date

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

Fld Prep Code—identifies whether samples are filtered or unfiltered

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

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

Analyte Desc—name of analyte

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

Std Result—analytical result in standard measurement units

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

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

Screen Level—value of the LVL Type/Risk Code

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

Std Mdl—method detection limit in standard measurement units

Std Uom—standard units of measurement

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

Lab Qual Code—analytical laboratory qualifiers indicating analytical quality of the sample

Validation Flag—secondary validation qualifier

Validation Reason Code—concatenated secondary validation codes explaining assignment of qualifiers

Anyl Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—comment on the analytical result

Table 1: NMED 08-16 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C2	38	42	06/09/05	1.24	2.7	1.65	4	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-5	689.04	07/25/16	REG	F	INIT	METALS	Antimony	Sb	1.24	0.8	LANL Int BG LVL	0.5	2.5	1	ug/L	1	J	J	J_LAB	SW-846:6020	GELC	
C2	31	43	10/21/08	3.48	5.57	4.45	6	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	METALS	Copper	Cu	5.57	1.3	LANL Int BG LVL	5.32	1	3	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C2	42	48	02/24/00	167	167	167	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-15	958.6	07/26/16	REG	F	INIT	METALS	Aluminum	Al	167	1	LANL Reg BG LVL	68	2.5	68	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	Result is the first detection. Turbility of the sample is low.
C2	29	35	06/27/05	303	303	303	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-33 S1	995.5	07/26/16	REG	F	INIT	METALS	Aluminum	Al	303	1	LANL Reg BG LVL	68	4.5	68	ug/L	1		NQ	NQ	SW-846:6010C	GELC	Result is the first detection. Turbility of the sample is low.
C2	29	29	06/24/05	284	284	284	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-33 S2	1112.4	07/26/16	REG	F	INIT	METALS	Aluminum	Al	284	1	LANL Reg BG LVL	68	4.2	68	ug/L	1		NQ	NQ	SW-846:6010C	GELC	Result is the first detection. Turbility of the sample is low.
C2	25	26	02/28/09	0.0257	0.401	0.05	11	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	FD	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.401	8	LANL Reg BG LVL	0.16	2.5	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	25	26	03/05/09	0.0196	0.218	0.04735	12	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S2	974.9	07/28/16	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.218	4.6	LANL Reg BG LVL	0.16	1.4	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	
C2	27	32	03/06/10	1.13	1.13	1.13	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	07/27/16	REG	F	INIT	METALS	Cobalt	Co	1.13	1	LANL Reg BG LVL	0.5	2.3	1	ug/L	1	J	J	J_LAB	SW-846:6010C	GELC	
C5	57	65	03/12/01	0.11	1.51	1	65	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-6	27	07/28/16	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.861	0.9	LANL Avl BG LVL	0.27	3.2	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	41	47	04/27/05	3.23	31.7	9.85	47	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-6	27	07/28/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	4.58	0.5	LANL Avl BG LVL	0.05	91.6	0.5	ug/L	10		NQ	PE12d	SW-846:6850	GELC	
C5	58	66	03/12/01	241	601	312.5	66	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-6	27	07/28/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	331	1.1	LANL Avl BG LVL	139	2.4	3.4	mg/L	1		J	i10b	EPA:160.1	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C5	22	23	08/07/01	154	394	196	23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	METALS	Barium	Ba	215	1.1	LANL Avl BG LVL	68.57	3.1	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	63	71	03/12/01	0.726	1.79	1.235	70	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.925	0.7	LANL Avl BG LVL	0.27	3.4	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	63	71	03/12/01	0.726	1.79	1.235	70	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.895	0.7	LANL Avl BG LVL	0.27	3.3	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	22	23	08/07/01	21.8	92.1	56.1	23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	METALS	Molybdenum	Mo	33.1	0.6	LANL Avl BG LVL	2	16.6	0.165	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	45	51	04/28/05	6.23	47.5	11.4	51	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	7.61	0.7	LANL Avl BG LVL	0.05	152.2	0.5	ug/L	10		NQ	NQ	SW-846:6850	GELC	
C5	45	51	04/28/05	6.23	47.5	11.4	51	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	7.55	0.7	LANL Avl BG LVL	0.05	151	0.5	ug/L	10		NQ	NQ	SW-846:6850	GELC	
C5	22	23	08/07/01	11.5	23	16.6	23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Potassium	K	15.8	1	LANL Avl BG LVL	5.21	3	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	22	23	08/07/01	43.1	80	59.6	23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Sodium	Na	57.3	1	LANL Avl BG LVL	15.54	3.7	0.1	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	63	71	03/12/01	220	556	308	71	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	306	1	LANL Avl BG LVL	139	2.2	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	63	71	03/12/01	220	556	308	71	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	310	1	LANL Avl BG LVL	139	2.2	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	32	33	08/07/01	0.04	0.432	0.279	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-7	39	07/28/16	REG	F	INIT	GENINORG	Total Phosphate as Phosphorus	PO4-P	0.239	0.9	LANL Avl BG LVL	0.05	4.8	0.02	mg/L	1		NQ	NQ	EPA:365.4	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C5	38	42	06/09/05	0.083	0.214	0.134	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-5	689.04	07/25/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.214	1.6	LANL Int BG LVL	0.03	7.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	38	47	06/09/05	1.1	13	4.32	41	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-5	689.04	07/25/16	REG	F	INIT	METALS	Chromium	Cr	11.2	2.6	LANL Int BG LVL	1	11.2	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	38	42	06/09/05	3.17	6.45	4.54	42	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-5	689.04	07/25/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	6.45	1.4	LANL Int BG LVL	2.41	2.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	Result is the highest value.
C5	38	42	06/09/05	68.7	132	88.6	42	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-5	689.04	07/25/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	116	1.3	LANL Int BG LVL	0.05	2320	10	ug/L	200		J+	PE12f	SW-846:6850	GELC	
C5	44	63	06/15/05	25.4	56	43.9	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	METALS	Boron	B	54.2	1.2	LANL Int BG LVL	15.12	3.6	15	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	44	63	06/15/05	0.212	0.703	0.575	60	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.546	0.9	LANL Int BG LVL	0.03	18.2	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	44	63	06/15/05	42.8	75.5	63.9	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Calcium	Ca	60.9	1	LANL Int BG LVL	17.31	3.5	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	44	63	06/15/05	21.2	64.8	54.8	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	55.7	1	LANL Int BG LVL	7.78	7.2	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	44	66	06/15/05	29.4	81.3	54.65	66	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	METALS	Chromium	Cr	77.8	1.4	LANL Int BG LVL	1	77.8	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	44	63	06/15/05	0.412	0.635	0.528	60	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.475	0.9	LANL Int BG LVL	0.23	2.1	0.033	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	44	63	06/15/05	8.49	15.7	13	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Magnesium	Mg	12.5	1	LANL Int BG LVL	6.12	2	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C5	44	63	06/15/05	2.9	41.8	25.7	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	METALS	Nickel	Ni	25.7	1	LANL Int BG LVL	1	25.7	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	44	63	06/15/05	7.62	20.4	9.95	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	9.73	1	LANL Int BG LVL	2.41	4	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	44	63	06/15/05	56.3	246	75.8	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	69.8	0.9	LANL Int BG LVL	0.05	1396	5	ug/L	100		NQ	NQ	SW-846:6850	GELC	
C5	44	63	06/15/05	19.5	29.4	25.6	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Sodium	Na	26	1	LANL Int BG LVL	12.19	2.1	0.1	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	44	63	06/15/05	298	497	404	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	431	1.1	LANL Int BG LVL	127	3.4	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	44	63	06/15/05	15.9	288	30.1	63	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	07/25/16	REG	F	INIT	METALS	Zinc	Zn	28.1	0.9	LANL Int BG LVL	2	14.1	3.3	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	31	41	10/21/08	0.194	0.683	0.561	40	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.654	1.2	LANL Int BG LVL	0.03	21.8	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	31	43	10/21/08	59.5	73.6	67	43	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Calcium	Ca	70.5	1.1	LANL Int BG LVL	17.31	4.1	0.05	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	31	41	10/21/08	53.4	71.9	62.1	41	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	69.5	1.1	LANL Int BG LVL	7.78	8.9	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	31	48	10/21/08	355	658	480	48	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	METALS	Chromium	Cr	385	0.8	LANL Int BG LVL	1	385	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	30	41	10/21/08	13.1	17.3	15.6	41	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Magnesium	Mg	15.9	1	LANL Int BG LVL	6.12	2.6	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	31	43	10/21/08	14.5	19.6	17	43	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	METALS	Nickel	Ni	15.7	0.9	LANL Int BG LVL	1	15.7	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	31	41	10/21/08	0.899	1.12	0.979	41	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.972	1	LANL Int BG LVL	0.05	19.4	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	31	41	10/21/08	77.9	103	88.7	41	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	88.7	1	LANL Int BG LVL	40.03	2.2	1.33	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	31	42	10/21/08	354	796	420.5	42	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Total Dissolved	TDS	496	1.2	LANL Int BG LVL	127	3.9	3.4	mg/L	1	H	NQ	NQ	EPA:160.1	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
																	Solids															
C5	31	43	10/21/08	1.2	2.15	1.63	43	Sandia Canyon	Intermediate	SCI-2	548	08/02/16	REG	F	INIT	GENINORG	Uranium	U	1.95	1.2	LANL Int BG LVL	0.72	2.7	0.067	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	42	50	02/24/00	2.6	18.2	9.8	49	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-15	958.6	07/26/16	REG	F	INIT	METALS	Chromium	Cr	11.6	1.2	LANL Reg BG LVL	5.75	2	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	42	49	02/24/00	1.35	3.31	2.21	49	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-15	958.6	07/26/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.11	1	LANL Reg BG LVL	0.89	2.4	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C5	38	44	05/25/05	5.34	9.05	7.045	44	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-15	958.6	07/26/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	8.86	1.3	LANL Reg BG LVL	0.46	19.3	1	ug/L	20		NQ	NQ	SW-846:6850	GELC	
C5	43	46	05/20/05	0.113	0.33	0.231	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.287	1.2	LANL Reg BG LVL	0.1	2.9	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	43	46	05/20/05	21.1	39.3	30.15	46	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	35.6	1.2	LANL Reg BG LVL	3.57	10	0.67	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	44	48	05/20/05	310	472	403	48	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	METALS	Chromium	Cr	430	1.1	LANL Reg BG LVL	5.75	74.8	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	43	46	05/20/05	8.68	12.5	11.05	46	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Magnesium	Mg	11.1	1	LANL Reg BG LVL	4.15	2.7	0.11	mg/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	43	46	05/20/05	6.1	34	14.6	44	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	METALS	Nickel	Ni	16.5	1.1	LANL Reg BG LVL	3.09	5.3	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	41	43	05/20/05	3.1	5.39	4.02	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.87	1	LANL Reg BG LVL	0.89	4.3	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C5	41	43	09/01/05	0.802	1.13	0.978	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.936	1	LANL Reg BG LVL	0.46	2	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C5	43	46	05/20/05	38.1	56.4	45.95	46	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	07/25/16	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	51	1.1	LANL Reg BG LVL	7.2	7.1	1.33	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C5	33	34	08/30/07	68	389	346.5	34	Sandia Canyon	Regional	R-35a	1013.1	08/01/16	REG	F	INIT	METALS	Barium	Ba	359	1	LANL Reg BG LVL	56.83	6.3	1	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	33	41	08/29/07	10.8	62.3	29.2	41	Sandia Canyon	Regional	R-35b	825.4	08/01/16	REG	F	INIT	METALS	Zinc	Zn	10.8	0.4	LANL Reg BG LVL	3.89	2.8	3.3	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	30	34	03/12/08	1.25	6.8	2.35	34	Sandia Canyon	Regional	R-36	766.9	08/01/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.37	1	LANL Reg BG LVL	0.89	2.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C5	29	32	03/12/08	0.845	1.74	1.565	32	Sandia Canyon	Regional	R-36	766.9	08/01/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	1.51	1	LANL Reg BG LVL	0.46	3.3	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	30	33	03/12/08	28.9	91.1	55.4	33	Sandia Canyon	Regional	R-36	766.9	08/01/16	REG	F	INIT	METALS	Zinc	Zn	28.9	0.5	LANL Reg BG LVL	3.89	7.4	3.3	ug/L	1		NQ	NQ	SW-846:6010C	GELC	
C5	31	35	11/05/08	3.6	8.84	6.26	35	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	8.38	1.3	LANL Reg BG LVL	3.57	2.3	0.067	mg/L	1		J	I4a	EPA:300.0	GELC	
C5	31	40	11/05/08	2.35	160	43.1	37	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	METALS	Chromium	Cr	160	3.7	LANL Reg BG LVL	5.75	27.8	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	Result is the highest value. Concentration increases steadily.
C5	31	34	11/05/08	5.01	6.15	5.42	33	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.04	0.9	LANL Reg BG LVL	0.89	5.7	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	31	35	11/05/08	0.678	1.03	0.94	35	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.991	1.1	LANL Reg BG LVL	0.46	2.2	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	31	35	11/05/08	8.77	21	12.3	35	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	16.5	1.3	LANL Reg BG LVL	7.2	2.3	0.133	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	30	32	11/10/08	0.389	5.4	1.34	32	Sandia Canyon	Regional	R-43 S2	969.1	08/02/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.27	2.4	LANL Reg BG LVL	0.89	3.7	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	27	31	02/17/09	7.34	21.8	14.2	31	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-44 S1	895	07/26/16	REG	F	INIT	METALS	Chromium	Cr	13.8	1	LANL Reg BG LVL	5.75	2.4	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date	Fld QC Type Code	Fld Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Analyte	Std Result	Result/Median	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Anyl Meth Code	Lab Code	Comment
C5	25	30	02/28/09	8.4	42.2	19.95	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	FD	F	INIT	METALS	Chromium	Cr	42.2	2.1	LANL Reg BG LVL	5.75	7.3	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	Result is the highest value. Concentration increases steadily.
C5	25	30	02/28/09	8.4	42.2	19.95	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	REG	F	INIT	METALS	Chromium	Cr	41.9	2.1	LANL Reg BG LVL	5.75	7.3	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	25	26	02/28/09	0.256	3.47	2.57	26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.89	1.1	LANL Reg BG LVL	0.89	3.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	25	26	02/28/09	0.256	3.47	2.57	26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.24	1.3	LANL Reg BG LVL	0.89	3.6	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	25	30	03/05/09	6.1	20.1	9.99	29	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S2	974.9	07/28/16	REG	F	INIT	METALS	Chromium	Cr	20.1	2	LANL Reg BG LVL	5.75	3.5	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	Result is the highest value. Concentration increases steadily.
C5	27	32	03/06/10	4.68	10.1	7.43	32	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	07/27/16	REG	F	INIT	GENINORG	Chloride	Cl(-1)	8.04	1.1	LANL Reg BG LVL	3.57	2.3	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	27	34	03/06/10	49.8	146	94.65	34	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	07/27/16	REG	F	INIT	METALS	Chromium	Cr	107	1.1	LANL Reg BG LVL	5.75	18.6	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	27	33	03/06/10	0.398	2.72	1.53	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	07/27/16	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	1.85	1.2	LANL Reg BG LVL	0.89	2.1	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C6	31	40	11/05/08	2.35	160	43.1	37	Sandia Canyon	Regional	R-43 S1	903.9	08/02/16	REG	F	INIT	METALS	Chromium	Cr	160	3.7	NM GW STD	50	3.2	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	Result is the highest value. Concentration increases steadily.
C6	25	30	02/28/09	8.4	42.2	19.95	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-45 S1	880	07/28/16	FD	F	INIT	METALS	Chromium	Cr	42.2	2.1	NM GW STD	50	0.8	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	Result is the highest value. Concentration increases steadily.