General

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Date: APR 18 2013
Refer To: EP2013-0063

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

APR 2013

Subject: Review of March 2013 Groundwater Data

Dear Mr. Kieling:

The purpose of this letter is for Los Alamos National Laboratory (LANL) to provide the New Mexico Environment Department written submission that meets notification requirements presented in Section IV.A.3.g, Notification, of the Compliance Order on Consent. Members of LANL's Environmental Programs met on April 11, 2013, to review new groundwater data received in March 2013.

One-Day Notification

There were no instances of a contaminant detected in a well screen interval or spring at a concentration that exceeded the New Mexico Water Quality Control Commission or federal water quality standards for the first time (based on samples collected since June 14, 2007), so one-day notification was not required.

Fifteen-Day Notification

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

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

Sincerely,

Jeff Mousseau, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

Peter Maggiore, Assistant Manager
Environmental Projects Office
Los Alamos Field Office

JM/PM/CD/SP/DR:sm

Enclosure: Two hard copies with electronic files – Summary of New Los Alamos National Laboratory Groundwater Data Loaded in March 2013 (LA-UR-13-22629)

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SUMMARY OF NEW LOS ALAMOS NATIONAL LABORATORY GROUNDWATER DATA LOADED IN MARCH 2013

INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by the Los Alamos National Laboratory (the Laboratory) under its interim monitoring plan and contains results for chemical constituents that meet the seven screening criteria laid out in the 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 3-13 Groundwater Report*. This table contains some values that are reported when they are detected for the first time since June 14, 2007, or are greater than other data collected since that time (as specified in the 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 or based on consideration of monitoring data acquired before the current result (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current result
- 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 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 Consent Order.

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

DESCRIPTION OF TABLE

The table is divided into separate categories that correspond to the seven screening criteria in the 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, not all seven criteria may appear in the table.

The criteria are as follows:

CA. The Respondents shall notify the Department orally within one business day after review of the analytical data if such data show detection of a contaminant in a well screen interval or spring at a concentration that exceeds either the NMWQCC water quality standard or the federal MCL if that contaminant has not previously exceeded such water quality standard or maximum contaminant level in such well screen interval or spring.

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 prior to 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—identifies whether samples are filtered or unfiltered

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

Anyl Suite—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 to 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

Concat Flag Code—secondary validation qualifier

Concat 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 3-13 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	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Anyl Meth Code	Lab Code	Comment
C2	17	17	07/31/01	5.55	89.1	11.5	17	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	35.2	LANL Avl BG LVL	24.83	1.4	1.33	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C2	1	1	02/08/13	3.58	3.58	3.58	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Total Organic Carbon	TOC	3.58	LANL Avl BG LVL	0.46	7.8	0.33	mg/L	1		NQ	NQ	SW-846:9060	GELC	
C5	24	29	06/14/05	0.368	4.15	2.25	29	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	2.37	LANL Avl BG LVL	0.05	47.4	0.25	ug/L	5		NQ	NQ	SW-846:6850	GELC	
C5	30	35	03/12/01	0.092	0.886	0.36	25	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Total Kjeldahl Nitrogen	TKN	0.128	LANL Avl BG LVL	0.04	3.2	0.033	mg/L	1		J+	I6b	EPA:351.2	GELC	
C5	19	21	10/09/08	0.102	0.26	0.2015	20	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Bromide	Br(-1)	0.26	LANL Reg BG LVL	0.1	2.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	0.102	0.26	0.2015	20	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.194	LANL Reg BG LVL	0.1	1.9	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	
C5	19	21	10/09/08	28.7	41.9	35.9	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Chloride	Cl(-1)	41.3	LANL Reg BG LVL	3.57	11.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	28.7	41.9	35.9	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	41.5	LANL Reg BG LVL	3.57	11.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	30	10/09/08	744	1240	894	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	METALS	Chromium	Cr	1070	LANL Reg BG LVL	5.75	186.1	40	ug/L	20		NQ	NQ	SW-846:6020	GELC	
C5	19	30	10/09/08	744	1240	894	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	METALS	Chromium	Cr	1040	LANL Reg BG LVL	5.75	180.9	40	ug/L	20		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	11.1	15.7	13.8	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Magnesium	Mg	15.2	LANL Reg BG LVL	4.15	3.7	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	21	10/09/08	11.1	15.7	13.8	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Magnesium	Mg	15.1	LANL Reg BG LVL	4.15	3.6	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	21	10/09/08	8.8	29.6	23.1	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	METALS	Nickel	Ni	24.4	LANL Reg BG LVL	3.09	7.9	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	8.8	29.6	23.1	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	METALS	Nickel	Ni	23.4	LANL Reg BG LVL	3.09	7.6	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	0.057	7.03	5.99	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.34	LANL Reg BG LVL	0.89	6	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	19	21	10/09/08	0.057	7.03	5.99	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.44	LANL Reg BG LVL	0.89	6.1	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	19	21	10/09/08	1.18	1.46	1.31	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Perchlorate	ClO4	1.25	LANL Reg BG LVL	0.46	2.7	0.2	ug/L	4		NQ	NQ	SW-846:6850	GELC	
C5	19	21	10/09/08	1.18	1.46	1.31	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	1.23	LANL Reg BG LVL	0.46	2.7	0.2	ug/L	4		NQ	NQ	SW-846:6850	GELC	
C5	19	21	10/09/08	60.6	80.6	71.3	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Sulfate	SO4(-2)	76	LANL Reg BG LVL	7.2	10.6	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	60.6	80.6	71.3	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	76.2	LANL Reg BG LVL	7.2	10.6	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	33	36	05/20/05	0.113	0.33	0.217	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.241	LANL Reg BG LVL	0.1	2.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	33	36	05/20/05	21.1	35.8	29.4	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	34.3	LANL Reg BG LVL	3.57	9.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	34	38	05/20/05	310	472	394.5	38	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	METALS	Chromium	Cr	433	LANL Reg BG LVL	5.75	75.3	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	33	36	05/20/05	8.68	12.1	10.5	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Magnesium	Mg	11.5	LANL Reg BG LVL	4.15	2.8	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	33	36	05/20/05	6.1	34	14.5	34	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	METALS	Nickel	Ni	21.9	LANL Reg BG LVL	3.09	7.1	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	31	33	05/20/05	3.1	5.39	4.15	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.98	LANL Reg BG LVL	0.89	4.5	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	31	33	09/01/05	0.802	1.13	0.978	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.975	LANL Reg BG LVL	0.46	2.1	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	33	36	05/20/05	38.1	51.3	43.1	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	49	LANL Reg BG LVL	7.2	6.8	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	13	18	03/06/10	49.8	99.8	78.25	18	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	02/04/13	REG	F	INIT	METALS	Chromium	Cr	98.1	LANL Reg BG LVL	5.75	17.1	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	13	16	03/06/10	0.44	2.46	1.026	14	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	02/04/13	REG	UF	INIT	GENINORG	Total Organic Carbon	TOC	1.08	LANL Reg BG LVL	0.33	3.3	0.33	mg/L	1		NQ	NQ	SW-846:9060	GELC	
C5	19	27	10/21/08	0.194	0.639	0.505	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.612	LANL Int BG LVL	0.03	20.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	19	29	10/21/08	59.5	71.7	66.5	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Calcium	Ca	66.4	LANL Int BG LVL	17.31	3.8	0.05	mg/L	1		J-	I6a	SW-846:6010B	GELC	
C5	19	27	10/21/08	53.4	67.8	59.8	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	66.6	LANL Int BG LVL	7.78	8.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	34	10/21/08	433	658	507.5	34	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Chromium	Cr	435	LANL Int BG LVL	1	435	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	19	29	10/21/08	13.1	16.7	15.3	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Magnesium	Mg	15.7	LANL Int BG LVL	6.12	2.6	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	29	10/21/08	14.5	19.3	16.9	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Nickel	Ni	17.9	LANL Int BG LVL	1	17.9	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	27	10/21/08	0.936	1.12	1.02	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.985	LANL Int BG LVL	0.05	19.7	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	19	29	10/21/08	278	350	321	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Strontium	Sr	330	LANL Int BG LVL	154.8	2.1	1	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	27	10/21/08	83.3	101	87.5	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	91	LANL Int BG LVL	40.03	2.3	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	27	10/21/08	354	451	414	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	419	LANL Int BG LVL	127	3.3	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	19	29	10/21/08	1.2	2.11	1.45	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	RAD	Uranium	U	2.11	LANL Int BG LVL	0.72	2.9	0.067	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	5	7	03/26/12	1.64	8.74	7.85	7	Sandia Canyon	Regional	R-62	1158.4	02/05/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.43	LANL Reg BG LVL	3.57	2.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	5	7	03/26/12	123	198	133	7	Sandia Canyon	Regional	R-62	1158.4	02/05/13	REG	F	INIT	METALS	Chromium	Cr	123	LANL Reg BG LVL	5.75	21.4	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	17	23	11/05/08	2.35	49.6	11.845	20	Sandia Canyon	Regional	R-43 S1	903.9	02/06/13	REG	F	INIT	METALS	Chromium	Cr	43.1	LANL Reg BG LVL	5.75	7.5	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	decline from previous 49.6 ug/L
C5	17	17	11/05/08	5.05	6.03	5.5	16	Sandia Canyon	Regional	R-43 S1	903.9	02/06/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.05	LANL Reg BG LVL	0.89	5.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C5	32	41	05/17/05	13.5	34.9	20.7	41	Sandia Canyon	Regional	R-11	855	02/04/13	FD	F	INIT	METALS	Chromium	Cr	26.8	LANL Reg BG LVL	5.75	4.7	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	32	41	05/17/05	13.5	34.9	20.7	41	Sandia Canyon	Regional	R-11	855	02/04/13	REG	F	INIT	METALS	Chromium	Cr	28.6	LANL Reg BG LVL	5.75	5	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	31	38	05/17/05	2.27	7.43	5.06	38	Sandia Canyon	Regional	R-11	855	02/04/13	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.49	LANL Reg BG LVL	0.89	6.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	31	38	05/17/05	2.27	7.43	5.06	38	Sandia Canyon	Regional	R-11	855	02/04/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.56	LANL Reg BG LVL	0.89	6.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	30	43	06/15/05	25.4	51.3	35.6	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Boron	B	50	LANL Int BG LVL	15.12	3.3	15	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	0.212	0.702	0.604	41	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.604	LANL Int BG LVL	0.03	20.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	30	43	06/15/05	42.8	75.5	64.5	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Calcium	Ca	67.9	LANL Int BG LVL	17.31	3.9	0.05	mg/L	1		J-	I6a	SW-846:6010B	GELC	
C5	30	43	06/15/05	21.2	64.8	44.9	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	60.1	LANL Int BG LVL	7.78	7.7	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	30	46	06/15/05	29.4	66.1	48.55	46	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Chromium	Cr	66.1	LANL Int BG LVL	1	66.1	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	maximum; increase from 30 ug/L in 2008
C5	30	43	06/15/05	0.412	0.635	0.538	40	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.499	LANL Int BG LVL	0.23	2.2	0.033	mg/L	1		NQ	NQ	EPA:300.0	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	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Anyl Meth Code	Lab Code	Comment
C5	30	43	06/15/05	8.49	15.7	13	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Magnesium	Mg	14.2	LANL Int BG LVL	6.12	2.3	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	2.9	40.8	8.9	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Nickel	Ni	36.5	LANL Int BG LVL	1	36.5	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	30	43	06/15/05	7.62	20.4	13.6	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	7.62	LANL Int BG LVL	2.41	3.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	30	43	06/15/05	56.3	246	96.7	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	56.3	LANL Int BG LVL	0.05	1126	5	ug/L	100		NQ	NQ	SW-846:6850	GELC	
C5	30	43	06/15/05	19.5	28.8	25.1	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Sodium	Na	27.8	LANL Int BG LVL	12.19	2.3	0.1	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	196	339	276	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Strontium	Sr	312	LANL Int BG LVL	154.8	2	1	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	298	497	401	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	417	LANL Int BG LVL	127	3.3	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	30	43	06/15/05	17.9	288	35.1	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Zinc	Zn	17.9	LANL Int BG LVL	2	8.9	3.3	ug/L	1		NQ	NQ	SW-846:6010B	GELC	

SUMMARY OF NEW LOS ALAMOS NATIONAL LABORATORY GROUNDWATER DATA LOADED IN MARCH 2013

INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (NMED) concerning recent groundwater monitoring data obtained by the Los Alamos National Laboratory (the Laboratory) under its interim monitoring plan and contains results for chemical constituents that meet the seven screening criteria laid out in the 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 3-13 Groundwater Report*. This table contains some values that are reported when they are detected for the first time since June 14, 2007, or are greater than other data collected since that time (as specified in the 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 or based on consideration of monitoring data acquired before the current result (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current result
- 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 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 Consent Order.

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

DESCRIPTION OF TABLE

The table is divided into separate categories that correspond to the seven screening criteria in the 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, not all seven criteria may appear in the table.

The criteria are as follows:

CA. The Respondents shall notify the Department orally within one business day after review of the analytical data if such data show detection of a contaminant in a well screen interval or spring at a concentration that exceeds either the NMWQCC water quality standard or the federal MCL if that contaminant has not previously exceeded such water quality standard or maximum contaminant level in such well screen interval or spring.

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 prior to 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—identifies whether samples are filtered or unfiltered

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

Anyl Suite—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 to 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

Concat Flag Code—secondary validation qualifier

Concat 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 3-13 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	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Anyl Meth Code	Lab Code	Comment
C2	17	17	07/31/01	5.55	89.1	11.5	17	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	35.2	LANL Avl BG LVL	24.83	1.4	1.33	mg/L	10		NQ	NQ	EPA:300.0	GELC	
C2	1	1	02/08/13	3.58	3.58	3.58	1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Total Organic Carbon	TOC	3.58	LANL Avl BG LVL	0.46	7.8	0.33	mg/L	1		NQ	NQ	SW-846:9060	GELC	
C5	24	29	06/14/05	0.368	4.15	2.25	29	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	2.37	LANL Avl BG LVL	0.05	47.4	0.25	ug/L	5		NQ	NQ	SW-846:6850	GELC	
C5	30	35	03/12/01	0.092	0.886	0.36	25	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Alluvial	MCO-3	2	02/08/13	REG	F	INIT	GENINORG	Total Kjeldahl Nitrogen	TKN	0.128	LANL Avl BG LVL	0.04	3.2	0.033	mg/L	1		J+	I6b	EPA:351.2	GELC	
C5	19	21	10/09/08	0.102	0.26	0.2015	20	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Bromide	Br(-1)	0.26	LANL Reg BG LVL	0.1	2.6	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	0.102	0.26	0.2015	20	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.194	LANL Reg BG LVL	0.1	1.9	0.067	mg/L	1	J	J	J_LAB	EPA:300.0	GELC	
C5	19	21	10/09/08	28.7	41.9	35.9	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Chloride	Cl(-1)	41.3	LANL Reg BG LVL	3.57	11.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	28.7	41.9	35.9	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	41.5	LANL Reg BG LVL	3.57	11.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	30	10/09/08	744	1240	894	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	METALS	Chromium	Cr	1070	LANL Reg BG LVL	5.75	186.1	40	ug/L	20		NQ	NQ	SW-846:6020	GELC	
C5	19	30	10/09/08	744	1240	894	30	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	METALS	Chromium	Cr	1040	LANL Reg BG LVL	5.75	180.9	40	ug/L	20		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	11.1	15.7	13.8	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Magnesium	Mg	15.2	LANL Reg BG LVL	4.15	3.7	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	21	10/09/08	11.1	15.7	13.8	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Magnesium	Mg	15.1	LANL Reg BG LVL	4.15	3.6	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	21	10/09/08	8.8	29.6	23.1	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	METALS	Nickel	Ni	24.4	LANL Reg BG LVL	3.09	7.9	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	8.8	29.6	23.1	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	METALS	Nickel	Ni	23.4	LANL Reg BG LVL	3.09	7.6	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	21	10/09/08	0.057	7.03	5.99	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.34	LANL Reg BG LVL	0.89	6	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	19	21	10/09/08	0.057	7.03	5.99	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.44	LANL Reg BG LVL	0.89	6.1	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	19	21	10/09/08	1.18	1.46	1.31	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Perchlorate	ClO4	1.25	LANL Reg BG LVL	0.46	2.7	0.2	ug/L	4		NQ	NQ	SW-846:6850	GELC	
C5	19	21	10/09/08	1.18	1.46	1.31	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	1.23	LANL Reg BG LVL	0.46	2.7	0.2	ug/L	4		NQ	NQ	SW-846:6850	GELC	
C5	19	21	10/09/08	60.6	80.6	71.3	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	FD	F	INIT	GENINORG	Sulfate	SO4(-2)	76	LANL Reg BG LVL	7.2	10.6	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	21	10/09/08	60.6	80.6	71.3	21	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-42	931.8	02/01/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	76.2	LANL Reg BG LVL	7.2	10.6	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	33	36	05/20/05	0.113	0.33	0.217	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.241	LANL Reg BG LVL	0.1	2.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	33	36	05/20/05	21.1	35.8	29.4	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	34.3	LANL Reg BG LVL	3.57	9.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	34	38	05/20/05	310	472	394.5	38	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	METALS	Chromium	Cr	433	LANL Reg BG LVL	5.75	75.3	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	33	36	05/20/05	8.68	12.1	10.5	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Magnesium	Mg	11.5	LANL Reg BG LVL	4.15	2.8	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	33	36	05/20/05	6.1	34	14.5	34	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	METALS	Nickel	Ni	21.9	LANL Reg BG LVL	3.09	7.1	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	31	33	05/20/05	3.1	5.39	4.15	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.98	LANL Reg BG LVL	0.89	4.5	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	31	33	09/01/05	0.802	1.13	0.978	33	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.975	LANL Reg BG LVL	0.46	2.1	0.1	ug/L	2		NQ	NQ	SW-846:6850	GELC	
C5	33	36	05/20/05	38.1	51.3	43.1	36	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-28	934.3	02/01/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	49	LANL Reg BG LVL	7.2	6.8	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	13	18	03/06/10	49.8	99.8	78.25	18	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	02/04/13	REG	F	INIT	METALS	Chromium	Cr	98.1	LANL Reg BG LVL	5.75	17.1	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	13	16	03/06/10	0.44	2.46	1.026	14	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-50 S1	1077	02/04/13	REG	UF	INIT	GENINORG	Total Organic Carbon	TOC	1.08	LANL Reg BG LVL	0.33	3.3	0.33	mg/L	1		NQ	NQ	SW-846:9060	GELC	
C5	19	27	10/21/08	0.194	0.639	0.505	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.612	LANL Int BG LVL	0.03	20.4	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	19	29	10/21/08	59.5	71.7	66.5	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Calcium	Ca	66.4	LANL Int BG LVL	17.31	3.8	0.05	mg/L	1		J-	I6a	SW-846:6010B	GELC	
C5	19	27	10/21/08	53.4	67.8	59.8	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	66.6	LANL Int BG LVL	7.78	8.6	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	34	10/21/08	433	658	507.5	34	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Chromium	Cr	435	LANL Int BG LVL	1	435	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	19	29	10/21/08	13.1	16.7	15.3	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Magnesium	Mg	15.7	LANL Int BG LVL	6.12	2.6	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	29	10/21/08	14.5	19.3	16.9	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Nickel	Ni	17.9	LANL Int BG LVL	1	17.9	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	19	27	10/21/08	0.936	1.12	1.02	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	0.985	LANL Int BG LVL	0.05	19.7	0.05	ug/L	1		NQ	NQ	SW-846:6850	GELC	
C5	19	29	10/21/08	278	350	321	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	METALS	Strontium	Sr	330	LANL Int BG LVL	154.8	2.1	1	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	19	27	10/21/08	83.3	101	87.5	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Sulfate	SO4(-2)	91	LANL Int BG LVL	40.03	2.3	0.665	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	19	27	10/21/08	354	451	414	27	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	419	LANL Int BG LVL	127	3.3	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	19	29	10/21/08	1.2	2.11	1.45	29	Sandia Canyon	Intermediate	SCI-2	548	01/31/13	REG	F	INIT	RAD	Uranium	U	2.11	LANL Int BG LVL	0.72	2.9	0.067	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	5	7	03/26/12	1.64	8.74	7.85	7	Sandia Canyon	Regional	R-62	1158.4	02/05/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	7.43	LANL Reg BG LVL	3.57	2.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	5	7	03/26/12	123	198	133	7	Sandia Canyon	Regional	R-62	1158.4	02/05/13	REG	F	INIT	METALS	Chromium	Cr	123	LANL Reg BG LVL	5.75	21.4	10	ug/L	5		NQ	NQ	SW-846:6020	GELC	
C5	17	23	11/05/08	2.35	49.6	11.845	20	Sandia Canyon	Regional	R-43 S1	903.9	02/06/13	REG	F	INIT	METALS	Chromium	Cr	43.1	LANL Reg BG LVL	5.75	7.5	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	decline from previous 49.6 ug/L
C5	17	17	11/05/08	5.05	6.03	5.5	16	Sandia Canyon	Regional	R-43 S1	903.9	02/06/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.05	LANL Reg BG LVL	0.89	5.7	0.085	mg/L	5		NQ	NQ	EPA:353.2	GELC	
C5	32	41	05/17/05	13.5	34.9	20.7	41	Sandia Canyon	Regional	R-11	855	02/04/13	FD	F	INIT	METALS	Chromium	Cr	26.8	LANL Reg BG LVL	5.75	4.7	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	32	41	05/17/05	13.5	34.9	20.7	41	Sandia Canyon	Regional	R-11	855	02/04/13	REG	F	INIT	METALS	Chromium	Cr	28.6	LANL Reg BG LVL	5.75	5	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	31	38	05/17/05	2.27	7.43	5.06	38	Sandia Canyon	Regional	R-11	855	02/04/13	FD	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.49	LANL Reg BG LVL	0.89	6.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	31	38	05/17/05	2.27	7.43	5.06	38	Sandia Canyon	Regional	R-11	855	02/04/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.56	LANL Reg BG LVL	0.89	6.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	30	43	06/15/05	25.4	51.3	35.6	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Boron	B	50	LANL Int BG LVL	15.12	3.3	15	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	0.212	0.702	0.604	41	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.604	LANL Int BG LVL	0.03	20.1	0.067	mg/L	1		NQ	NQ	EPA:300.0	GELC	
C5	30	43	06/15/05	42.8	75.5	64.5	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Calcium	Ca	67.9	LANL Int BG LVL	17.31	3.9	0.05	mg/L	1		J-	I6a	SW-846:6010B	GELC	
C5	30	43	06/15/05	21.2	64.8	44.9	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Chloride	Cl(-1)	60.1	LANL Int BG LVL	7.78	7.7	0.335	mg/L	5		NQ	NQ	EPA:300.0	GELC	
C5	30	46	06/15/05	29.4	66.1	48.55	46	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Chromium	Cr	66.1	LANL Int BG LVL	1	66.1	2	ug/L	1		NQ	NQ	SW-846:6020	GELC	maximum; increase from 30 ug/L in 2008
C5	30	43	06/15/05	0.412	0.635	0.538	40	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Fluoride	F(-1)	0.499	LANL Int BG LVL	0.23	2.2	0.033	mg/L	1		NQ	NQ	EPA:300.0	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	LVL Type/Risk Code	Screen Level	Exceedance Ratio	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Anyl Meth Code	Lab Code	Comment
C5	30	43	06/15/05	8.49	15.7	13	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Magnesium	Mg	14.2	LANL Int BG LVL	6.12	2.3	0.11	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	2.9	40.8	8.9	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Nickel	Ni	36.5	LANL Int BG LVL	1	36.5	0.5	ug/L	1		NQ	NQ	SW-846:6020	GELC	
C5	30	43	06/15/05	7.62	20.4	13.6	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	7.62	LANL Int BG LVL	2.41	3.2	0.17	mg/L	10		NQ	NQ	EPA:353.2	GELC	
C5	30	43	06/15/05	56.3	246	96.7	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Perchlorate	ClO4	56.3	LANL Int BG LVL	0.05	1126	5	ug/L	100		NQ	NQ	SW-846:6850	GELC	
C5	30	43	06/15/05	19.5	28.8	25.1	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Sodium	Na	27.8	LANL Int BG LVL	12.19	2.3	0.1	mg/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	196	339	276	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Strontium	Sr	312	LANL Int BG LVL	154.8	2	1	ug/L	1		NQ	NQ	SW-846:6010B	GELC	
C5	30	43	06/15/05	298	497	401	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	GENINORG	Total Dissolved Solids	TDS	417	LANL Int BG LVL	127	3.3	3.4	mg/L	1		NQ	NQ	EPA:160.1	GELC	
C5	30	43	06/15/05	17.9	288	35.1	43	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Intermediate	MCOI-6	686	02/05/13	REG	F	INIT	METALS	Zinc	Zn	17.9	LANL Int BG LVL	2	8.9	3.3	ug/L	1		NQ	NQ	SW-846:6010B	GELC	