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John Kieling, Bureau Chief Hazardous Waste Bureau

Santa Fe, NM 87505-6303

New Mexico Environment Department 2905 Rodeo Park Drive East, Building 1



Environmental Management Los Alamos Field Office, MS A316 3747 West Jemez Road Los Alamos, New Mexico 87544 (505) 667-4255/FAX (505) 606-2132

Date:

APR 2 4 2015

Refer To: ADESH-15-066

LAUR: 15-22491

Locates Action No.: N/A

RECEIVED

APR 24 2015

Hazardous Waste Bureau

Subject: Monthly Notification of Groundwater Data Reviewed in April 2015

Dear Mr. Kieling:

This letter is Los Alamos National Laboratory's (LANL's) written submission that meets notification requirements presented in Section IV.A.3.g, Notification, of the Compliance Order on Consent (Consent Order). Members of LANL's Environmental Programs met on April 14, 2015, to review new groundwater data received in March 2015. This report was prepared by comparing the data against groundwater cleanup levels, as defined in Section VIII.A.1 of the Consent Order, For comparison with U.S. Environmental Protection Agency tap water standards, the carcinogenic risk was adjusted to 1×10^{-5} , as specified in the Consent Order.

This report also includes any data that were collected on San Ildefonso Pueblo and were subject to reporting at this time. These data have been reviewed by San Ildefonso Pueblo. This review is required under the Memorandum of Agreement dated May 28, 2014, between the U.S. Department of Energy/National Nuclear Security Administration, Los Alamos Field Office, and San Ildefonso Pueblo.

1-Day Notification

There were no instances of a contaminant detected 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).

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 seven 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,

Dave McInroy, Program Director Environmental Remediation Program Los Alamos National Laboratory Sincerely,

Christine Gelles, Acting Manager Environmental Management Los Alamos Field Office

DM/CG/SP:sm

Enclosure: Two hard copies with electronic files – Summary of Groundwater Data Reviewed in

April 2015 That Meet Notification Requirements (EP2015-0076)

Cy: (w/enc.)

Steve Paris, ADEP ER Program, MS M992

Public Reading Room (EPRR)

ADESH Records

Cy: (Letter and CD and/or DVD)

Laurie King, EPA Region 6, Dallas, TX

Steve Yanicak, NMED-DOE-OB, MS M894

Raymond Martinez, San Ildefonso Pueblo, NM

Dino Chavarria, Santa Clara Pueblo, NM

Jake Meadows, ADESH-ENV-CP, MS K490

PRS Database

Cy: (w/o enc./date-stamped letter emailed)

Pete Padilla, Los Alamos County Utility Department, Los Alamos, NM

lasomailbox@nnsa.doe.gov

Annette Russell, DOE-EM-LA

Hai Shen, DOE-EM-LA

David Rhodes, DOE-EM-LA

Kimberly Davis Lebak, DOE-NA-LA

Mei Ding, EES-6

Tim Goering, ADEP ER Program

Stanislaw Marczak, ADEP ER Program

Dave McInroy, ADEP ER Program

Randy Erickson, ADEP

Tony Grieggs, ADESH-ENV-CP

Jocelyn Buckley, ADESH-ENV-CP

Alison Dorries, ADESH-ENV-DO

Michael Brandt, ADESH

Amy De Palma, PADOPS

Michael Lansing, PADOPS

SUMMARY OF GROUNDWATER DATA REVIEWED IN APRIL 2015 THAT MEET NOTIFICATION REQUIREMENTS

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 3-15 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, all seven criteria may not 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 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 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

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 3-15 Groundwater Report

				<u> </u>	I I	T T			I		I	1				1		1	-	1	l						-		
Criteria Code	Visits Samples	First Event	Min Detect	Max Detect	Median Detect Num Detect	Hdr 1		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	Anyl Meth Code	Lab Code	Comment
C1 1	6 21	04/18/01	0.0299	0.0299	0.0299 1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	diate Ma	rtin Spring	0	01/27/15	REG	UF	INIT	SVOC	Chrysene	218-01-9	0.0299	1	EPA TAP SCRN LVL	34	0	0.0167	ug/L	1	J J	J_L/	B SW-846:8310	GELC	not found in field duplicate (FD)sample
C1 1	6 21	04/18/01	0.0263	0.0263	0.0263 1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons) Interme Spring	diate Ma	rtin Spring	0	01/27/15	REG	UF	INIT	SVOC	Pyrene	129-00-0	0.0263	1	EPA TAP SCRN LVL	120	0	0.0167	ug/L	1	J J	J_L/	B SW-846:8310	GELC	not found in field duplicate (FD)sample
C1 1	5 16	01/05/09	0.165	0.165	0.165 1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	diate R-2	25b	750	01/23/15	REG	UF	INIT	HEXP	Amino-4,6-dinitrotoluene[2-]	35572-78-2	0.165	1	EPA TAP SCRN LVL	39	0	0.0851	ug/L	2	J J	J_L/	B SW-846:8321A_MOD	GELC	
C1 9	13	12/21/09	32.6	33.9	33.25 2	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	diate R-4	17i	840	01/26/15	FD	UF	INIT	SVOC	Benzoic Acid	65-85-0	33.9	1	EPA TAP SCRN LVL	75000	0	6.25	ug/L	1	١	Q NQ	SW-846:8270D	GELC	
C1 9	13	12/21/09	32.6	33.9	33.25 2	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	diate R-4	17i	840	01/26/15	REG	UF	INIT	SVOC	Benzoic Acid	65-85-0	32.6	1	EPA TAP SCRN LVL	75000	0	6	ug/L	1	١	Q NQ	SW-846:8270D	GELC	
C2 3	7 40	05/20/05	1.26	1.26	1.26 1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-2	28	934.3	02/25/15	REG	F	INIT	METALS	Antimony	Sb	1.26	1	LANL Reg BG LVL	1	1.3	1	ug/L	1	J J	J_L/	B SW-846:6020	GELC	
C2 2	1 24	02/22/09	125	125	125 1	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	14 S2	985.3	02/17/15	REG	F	INIT	METALS	Aluminum	Al	125	1	LANL Reg BG LVL	68	1.8	68	ug/L	1	J J	J_L/	B SW-846:6010C	GELC	
C2 3	5 40	06/07/05	3.45	3.5	3.475 2	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-3	34	883.7	12/22/14	FD	F	INIT	METALS	Copper	Cu	3.45	1	LANL Reg BG LVL	3	1.2	3	ug/L	1	J J	J_L/	B SW-846:6010C	GELC	
C5 4	4 53	03/28/00	4580	13600	6410 53	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	CD	V-16-02659	1.7	01/27/15	FD	F	INIT	METALS	Barium	Ва	5700	0.9	LANL AVI BG LVL	68.57	83.1	1	ug/L	1	Ν	Q NQ	SW-846:6010C	GELC	
C5 4	4 53	03/28/00	4580	13600	6410 53	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	CD	V-16-02659	1.7	01/27/15	REG	F	INIT	METALS	Barium	Ва	5650	0.9	LANL AVI BG LVL	68.57	82.4	1	ug/L	1	Ν	Q NQ	SW-846:6010C	GELC	
C5 3	6 42	02/24/00	1.35	3.31	2.215 42	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-1	15	958.6	02/13/15	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.32	1	LANL Reg BG LVL	0.89	2.6	0.085	mg/L	5	Ν	Q NQ	EPA:353.2	GELC	
C5 3	2 38	05/25/05	5.34	8.42	6.99 38	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-1	15	958.6	02/13/15	REG	F	INIT	GENINORG	Perchlorate	CIO4	7.22	1	LANL Reg BG LVL	0.46	15.7	0.5	ug/L	10	Ν	Q NQ	SW-846:6850	GELC	
C5 2	4 26	10/09/08	0.102	0.364	0.206 25	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	GENINORG	Bromide	Br(-1)	0.259	1.3	LANL Reg BG LVL	0.1	2.6	0.067	mg/L	1	١	Q NQ	EPA:300.0	GELC	
C5 2	4 26	10/09/08	40.6	56.5	50.4 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	GENINORG	Calcium	Са	50.1	1	LANL Reg BG LVL	24.88	2	0.05	mg/L	1	N	Q NQ	SW-846:6010C	GELC	
C5 2	4 26	10/09/08	28.7	48.3	37.85 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	GENINORG	Chloride	CI(-1)	44.7	1.2	LANL Reg BG LVL	3.57	12.5	0.67	mg/L	10	N	Q NQ	EPA:300.0	GELC	
C5 2	4 35	10/09/08	744	1240	908 35	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	METALS	Chromium	Cr	915	1	LANL Reg BG LVL	5.75	159.1	2	ug/L	1	N	Q NQ	SW-846:6020	GELC	
C5 2	4 26	10/09/08	11.1	15.7	14 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	GENINORG	Magnesium	Mg	14.3	1	LANL Reg BG LVL	4.15	3.4	0.11	mg/L	1	Ν	Q NQ	SW-846:6010C	GELC	
C5 2	4 26	10/09/08	8.8	34	23.4 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	METALS	Nickel	Ni	34	1.5	LANL Reg BG LVL	3.09	11	0.5	ug/L	1	١	Q NQ	SW-846:6020	GELC	
C5 2	4 26	10/09/08	0.057	7.03	5.965 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	al R-4	12	931.8	02/26/15	REG	F	INIT	GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	5.95	1	LANL Reg BG LVL	0.89	6.7	0.085	mg/L	5	٨	Q NQ	EPA:353.2	GELC	
C5 2	4 26	10/09/08	1.08	1.46	1.28 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/26/15		F		GENINORG	Perchlorate	CIO4	1.09	0.9	LANL Reg BG LVL	0.46		0.1	ug/L	2		Q NQ	SW-846:6850	GELC	
C5 2		10/09/08	60.6	83.2	73.65 26	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/26/15		F		GENINORG	Sulfate	SO4(-2)	77.4	1.1	Ţ.	7.2		1.33	mg/L	10		Q NQ	EPA:300.0	GELC	
	7 40	05/20/05		0.33	0.224 37	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)						F		GENINORG		Br(-1)			LANL Reg BG LVL			0.067	mg/L	1		Q NQ	EPA:300.0	GELC	
C5 3		05/20/05		39.3	29.5 40	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15		F		GENINORG	Chloride	CI(-1)	36.4		LANL Reg BG LVL		10.2		mg/L	10		Q NQ	EPA:300.0	GELC	
C5 3		05/20/05	310	472	399.5 42	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15				METALS	Chromium	Cr	422	1.1	LANL Reg BG LVL		73.4		ug/L	1		Q NQ	SW-846:6020	GELC	
	7 40		8.68	12.1	10.75 40	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15		F		GENINORG	Magnesium	Mg	11.9		- 3			0.11	mg/L	1		Q NQ	SW-846:6010C	GELC	
C5 3		05/20/05		34	14.5 38	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15		F		METALS	Nickel	Ni	12.9	0.9	LANL Reg BG LVL			0.5	ug/L	1		Q NQ	SW-846:6020	GELC	
	5 37	05/20/05		5.39	4.15 37	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15		F		GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	4.21	1	LANL Reg BG LVL			0.085	mg/L	5		Q NQ	EPA:353.2	GELC	
	5 37		0.802	1.13	0.975 37	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15				GENINORG	Perchlorate	CIO4	0.962	1	LANL Reg BG LVL			0.05	ug/L	1		Q NQ	SW-846:6850	GELC	
C5 3		05/20/05	38.1	56.4	43.95 40	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/25/15		F		GENINORG	Sulfate	SO4(-2)	52.3	1.2	Ů			1.33	mg/L	10		Q NQ	EPA:300.0	GELC	
	9 23		8.4	33.6	17.5 23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/18/15		۲		METALS	Chromium	Cr	27.3	1.6	- 3			2	ug/L	1		Q NQ	SW-846:6020	GELC	Links
	9 19		0.256	3.47	2.28 19	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/18/15		-		GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	3.47		LANL Reg BG LVL			0.085	mg/L	5		Q NQ	EPA:353.2	GELC	ŭ .
	9 24	03/05/09	6.1	17.2	9.05 23	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)				02/19/15		F		METALS	Chromium	Cr	17.2		LANL Reg BG LVL		_	2	ug/L	1		Q NQ	SW-846:6020	GELC	highest result
C5 2	1 27	03/06/10	49.8	126	84.6 27	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	aı R-5	50 S1	1077	02/23/15	KEG	F	IINI I	METALS	Chromium	Cr	117	1.4	LANL Reg BG LVL	5.75	20.3	2	ug/L	1	N	Q NQ	SW-846:6020	GELC	

LA-UR-15-22491 EP2015-0076

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Criteria Code	Visits Samples	First Event	Min Detect	Max Detect	Median Detect Num Detect	Hdr 1	Zone	Location	Screen Depth	Start Date		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 MdI	Std Uom	Dilution Factor	Lab Qual Code	Validation Flag	Validation Reason Code	Lab Code	Comment
C5 2	1 25	02/17/09	7.34	18.7	13.7 25	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	Regional	R-44 S1	895	02/17/15	REG F	.	NIT METALS	Chromium	Cr	17	1.2	LANL Reg BG LVL	5.75	3	2	ug/L	1		NQ N	SW-846:6020	GELC	
C5 6	2 77	01/10/00	146	266	189 71	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	01/27/15	REG F	: 1	NIT METALS	Barium	Ва	202	1.1	LANL Int BG LVL	71.83	2.8	1	ug/L	1		NQ N	SW-846:6010C	GELC	
C5 1	4 19	01/29/07	13.9	42	19.8 19	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	0	01/27/15	REG F	- 1	NIT GENINORG	Chloride	CI(-1)	21.9	1.1	LANL Int BG LVL	7.78	2.8	0.335	mg/L	5		NQ N	Q EPA:300.0	GELC	
C5 1	3 18	01/29/07	0.518	0.717	0.604 18	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	Burning	0	01/27/15	REG F	- 1	NIT GENINORG	Perchlorate	CIO4	0.717	1.2	LANL Int BG LVL	0.05	14.3	0.05	ug/L	1		NQ N	Q SW-846:6850	GELC	
C5 5	8 65	01/10/00	122	243	174 58	Water Canyon (includes Canyon del	Intermediate	Ground Spring Martin Spring	0	01/27/15	FD F	: 1	NIT METALS	Barium	Ва	167	1	LANL Int BG LVL	71.83	2.3	1	ug/L	1		NQ N	Q SW-846:6010C	GELC	
C5 5	8 65	01/10/00	122	243	174 58	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del		Martin Spring	0	01/27/15	REG F	: 1	NIT METALS	Barium	Ва	168	1	LANL Int BG LVL	71.83	2.3	1	ug/L	1		NQ N	Q SW-846:6010C	GELC	
C5 5	4 61	01/10/00	570	2840	1700 61	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del		Martin Spring	0	01/27/15	FD F	: 1	NIT METALS	Boron	В	839	0.5	LANL Int BG LVL	15.12	55.5	15	ug/L	1		NQ N	SW-846:6010C	GELC	
C5 5	4 61	01/10/00	570	2840	1700 61	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del		Martin Spring	0	01/27/15	REG F	: 1	NIT METALS	Boron	В	841	0.5	LANL Int BG LVL	15.12	55.6	15	ug/L	1		NQ N	SW-846:6010C	GELC	
C5 1	4 19	01/30/07	18.3	44.2	23 19	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del		Martin Spring	0	01/27/15	FD F	- 1	NIT GENINORG	Chloride	CI(-1)	44.1	1.9	LANL Int BG LVL	7.78	5.7	0.67	mg/L	10		NQ N	Q EPA:300.0	GELC	
C5 1	4 19	01/30/07	18.3	44.2	23 19	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del		Martin Spring	0	01/27/15	REG F	- 1	NIT GENINORG	Chloride	CI(-1)	44.2	1.9	LANL Int BG LVL	7.78	5.7	0.67	mg/L	10		NQ N	Q EPA:300.0	GELC	
C5 1	2 16	01/30/07	0.459	0.707	0.561 16	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		Martin Spring	0	01/27/15	FD F	: 1	NIT GENINORG	Perchlorate	CIO4	0.543	1	LANL Int BG LVL	0.05	10.9	0.05	ug/L	1		NQ N	Q SW-846:6850	GELC	
C5 1	2 16	01/30/07	0.459	0.707	0.561 16	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		Martin Spring	0	01/27/15	REG F	= 1	NIT GENINORG	Perchlorate	CIO4	0.543	1	LANL Int BG LVL	0.05	10.9	0.05	ug/L	1		NQ N	Q SW-846:6850	GELC	
C5 5	8 65	01/10/00	17	50.2	34.3 65	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		Martin Spring	0	01/27/15	FD F	: 1	NIT GENINORG	Sodium	Na	44	1.3	LANL Int BG LVL	12.19	3.6	0.1	mg/L	1	E	NQ N	Q SW-846:6010C	GELC	
C5 5	8 65	01/10/00	17	50.2	34.3 65	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		Martin Spring	0	01/27/15	REG F	= 1	NIT GENINORG	Sodium	Na	43.4	1.3	LANL Int BG LVL	12.19	3.6	0.1	mg/L	1	E	NQ N	Q SW-846:6010C	GELC	
C5 1	2 13	01/05/09	0.208	0.306	0.286 13	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Spring Intermediate	R-25b	750	01/23/15	REG F	- 1	NIT GENINORG	Perchlorate	CIO4	0.28	1	LANL Int BG LVL	0.05	5.6	0.05	ug/L	1		NQ N	Q SW-846:6850	GELC	
C5 2	6 36	10/21/08	59.5	73.6	66.9 36	Sandia Canyon	Intermediate	SCI-2	548	02/19/15	REG F	- 1	NIT GENINORG	Calcium	Ca	71.2	1.1	LANL Int BG LVL	17.31	4.1	0.05	mg/L	1		NQ N	Q SW-846:6010C	GELC	
C5 2	_		53.4	71.9	60.35 34	Sandia Canyon		SCI-2	_	02/19/15	REG F		NIT GENINORG	Chloride	CI(-1)	69.2	1.1	LANL Int BG LVL	7.78		0.67	mg/L	10		NQ N		GELC	
	6 41 5 34	10/21/08	368 13.1	658 17.3	502 41 15.55 34	Sandia Canyon Sandia Canyon		SCI-2 SCI-2	-	02/19/15	REG F		NIT METALS NIT GENINORG	Chromium Magnesium	Cr Mg	433 17	0.9	LANL Int BG LVL	6.12	433 2.8	0.11	ug/L mg/L	1		NQ N		GELC GELC	
	6 36	10/21/08	14.5	19.3	16.9 36	Sandia Canyon		SCI-2	-	02/19/15	REG F		NIT METALS	Nickel	Ni	16.9	1.1	LANL Int BG LVL	1	16.9	0.11	ug/L	1		NQ N		GELC	
C5 2		10/21/08	0.918	1.12	0.9885 34	Sandia Canyon		SCI-2		02/19/15	REG F		NIT GENINORG	Perchlorate	CIO4	0.932	0.9	LANL Int BG LVL	0.05	_	0.05	ug/L	1		NQ N		GELC	
C5 2	6 36	10/21/08	278	350	323.5 36	Sandia Canyon	Intermediate	SCI-2	548	02/19/15	REG F	. 1	NIT METALS	Strontium	Sr	320	1	LANL Int BG LVL	154.8	2.1	1	ug/L	1		NQ N	SW-846:6010C	GELC	
C5 2	6 34	10/21/08	77.9	103	88.25 34	Sandia Canyon	Intermediate	SCI-2	548	02/19/15	REG F	- 1	NIT GENINORG	Sulfate	SO4(-2)	93.6	1.1	LANL Int BG LVL	40.03	2.3	1.33	mg/L	10		NQ N	Q EPA:300.0	GELC	
C5 2	6 34	10/21/08	354	451	415.5 34	Sandia Canyon	Intermediate	SCI-2	548	02/19/15	REG F	1	NIT GENINORG	Total Dissolved Solids	TDS	386	0.9	LANL Int BG LVL	127	3	3.4	mg/L	1		NQ N	Q EPA:160.1	GELC	
C5 1	0 13	12/21/09	0.222	0.272	0.246 13	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-47i	840	01/26/15	FD F	-	NIT GENINORG	Perchlorate	CIO4	0.253	1	LANL Int BG LVL	0.05	5.1	0.05	ug/L	1		NQ N	SW-846:6850	GELC	
C5 1	0 13	12/21/09	0.222	0.272	0.246 13	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-47i	840	01/26/15	REG F	- 1	NIT GENINORG	Perchlorate	CIO4	0.255	1	LANL Int BG LVL	0.05	5.1	0.05	ug/L	1		NQ N	SW-846:6850	GELC	
C5 1	0 11	02/08/10	1.41	5.23	2.67 11	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-37-1(i)	632	02/06/15	REG F		NIT METALS	Nickel	Ni	4.07	1.5	LANL Int BG LVL	1	4.1	0.5	ug/L	1		NQ N	SW-846:6020	GELC	
C5 9	10	02/08/10	0.112	0.257	0.126 10	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		,,		02/06/15	REG F		NIT GENINORG	Perchlorate	CIO4	0.127	1	LANL Int BG LVL	0.05	2.5	0.05	ug/L	1	J	J J	LAB SW-846:6850	GELC	
C5 1	0 11	02/08/10	3.51	30.7	10.035 10	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)		,,		02/06/15			NIT METALS	Zinc	Zn	6.14	0.6		2	3.1	3.3	ug/L	1	J		LAB SW-846:6010C	GELC	
C5 9	9	12/11/09	0.112	0.134	0.123 9	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-27i	619	02/06/15	REG F		NIT GENINORG	Perchlorate	CIO4	0.112	0.9	LANL Int BG LVL	0.05	2.2	0.05	ug/L	1	J	J J	LAB SW-846:6850	GELC	
C5 8	8	08/08/11	0.136	0.19	0.157 8	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Spring	Vine Tree Spring		12/16/14			NIT GENINORG		Br(-1)	0.16	1	LANL Int BG LVL		5.3	0.067	mg/L	1	J		LAB EPA:300.0	GELC	
C5 8	8	08/08/11	0.438	0.693	0.471 8	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Intermediate Spring	Vine Tree Spring		12/16/14		1	NIT GENINORG	Fluoride	F(-1)	0.475	1	LANL Int BG LVL	0.23	2.1	0.033	mg/L	1		NQ N	Q EPA:300.0	GELC	
C5 8	8	08/08/11	4.86	6.54	5.53 8	Lower Los Alamos Canyon (San Ildefonso Pueblo)		Vine Tree Spring	0	12/16/14	REG F	- Ti	NIT GENINORG	Perchlorate	CIO4	6.54	1.2	LANL Int BG LVL	0.05	130.8	0.5	ug/L	10		NQ N	SW-846:6850	GELC	highest result
C5 8	8	08/08/11	1.39	2.16	1.77 8	Lower Los Alamos Canyon (San Ildefonso Pueblo)		Vine Tree Spring	0	12/16/14	REG F	- 1	NIT GENINORG	Uranium	U	1.78	1	LANL Int BG LVL	0.72	2.5	0.067	ug/L	1		NQ N	SW-846:6020	GELC	
C5 1	_	03/26/12		11.7	8.07 16	Sandia Canyon		R-62		02/24/15			NIT GENINORG	Chloride	CI(-1)	9.2	1.1				0.067	mg/L	1		NQ N		GELC	
	1 16	03/26/12		240	135.5 16	Sandia Canyon		R-62			REG F		NIT METALS	Chromium	Cr	136	1	LANL Reg BG LVL		23.7	2	ug/L	1		NQ N		GELC	
	0 50	05/17/05		34.9	21.55 50	Sandia Canyon		R-11			REG F		NIT METALS	Chromium	Cr	24	1.1	LANL Reg BG LVL		4.2	2	ug/L	1		NQ N		GELC	
C5 3		05/17/05			5.15 47	Sandia Canyon		R-11		02/12/15			NIT GENINORG	Nitrate-Nitrite as Nitrogen	†	5.95	_	LANL Reg BG LVL		6.7		mg/L	5		NQ N		GELC	
C5 2		08/29/07		62.3	30.2 35 342.5 28	Sandia Canyon		R-35b R-35a		02/20/15	REG F		NIT METALS NIT METALS	Zinc Barium	Zn Ba	17.6 347	0.6				3.3	ug/L	1		NQ N		GELC GELC	
	7 28 4 27	08/30/07 03/12/08		389 2.78	342.5 28 2.3 27	Sandia Canyon Sandia Canyon		R-35a R-36		02/25/15	REG F		NIT GENINORG	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	2.33	1	LANL Reg BG LVL LANL Reg BG LVL	0.89		0.085	ug/L mg/L	5		NQ N		GELC	
	3 26	03/12/08		1.74		Sandia Canyon		R-36		02/12/15			NIT GENINORG		CIO4	1.48	0.9	·			0.065	ug/L	_		NQ N		GELC	
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Criteria Code	Visits Samples	First Event	Min Detect	Max Detect	Median Detect Num Detect		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		Validation Flag	Anyl Meth Code	Lab Code	Comment
	27	03/12/08	45.2	91.1	58.4 27	Sandia Canyon Region		R-36	766.9	02/12/15	REG		INIT METALS	Zinc	Zn	45.2	0.8	LANL Reg BG LVL	3.89		3.3	ug/L	1		Q NQ	SW-846:6010C	GELC	
	29 1 46	11/30/05 03/23/00	2030	111 5150	9.545 28 3195 46	Sandia Canyon Region Water Canyon (includes Canyon del Alluvia		R-10a CDV-16-02656	690 3	12/22/14 01/28/15	REG REG		INIT METALS INIT METALS	Zinc Barium	Zn Ba	7.9 2960	0.8	LANL Reg BG LVL LANL Avl BG LVL	3.89 68.57	43.2	3.3 1	ug/L ug/L	1	J J	J_L/ Q NQ	.B SW-846:6010C SW-846:6010C	GELC GELC	
C5	1 13	01/23/07	0.158	0.935	0.395 13	Valle, Potrillo, and Fence Canyons) Water Canyon (includes Canyon del Alluvia	I	CDV-16-02656	3	01/28/15	REG	F	INIT GENINORG	Perchlorate	CIO4	0.935	2.4	LANL AvI BG LVL	0.05	18.7	0.1	ug/L	2	N	Q NQ	SW-846:6850	GELC	
C5	2 35	06/09/05	0.083	0.157	0.133 29	Valle, Potrillo, and Fence Canyons) Mortandad Canyon (includes Ten Interm	ediate	MCOI-5	689.04	02/20/15	REG	F	INIT GENINORG	Bromide	Br(-1)	0.137	1	LANL Int BG LVL	0.03	4.6	0.067	mg/L	1	J J	J_L	B EPA:300.0	GELC	
C5	2 40	06/09/05	1.1	8.06	3.945 34	Site Canyon and Canada del Buey) Mortandad Canyon (includes Ten Interm	ediate	MCOI-5	689.04	02/20/15	REG	F	INIT METALS	Chromium	Cr	5.57	1.4	LANL Int BG LVL	1	5.6	2	ug/L	1	J J	J_L	B SW-846:6020	GELC	
C5	2 35	06/09/05	68.7	132	88.1 35		ediate	MCOI-5	689.04	02/20/15	REG	F	INIT GENINORG	Perchlorate	CIO4	78.8	0.9	LANL Int BG LVL	0.05	1576	5	ug/L	100	N	Q NQ	SW-846:6850	GELC	
C5	8 55	06/15/05	25.4	51.9	40.8 55		ediate	MCOI-6	686	02/26/15	FD	F	INIT METALS	Boron	В	46.8	1.1	LANL Int BG LVL	15.12	3.1	15	ug/L	1	J J	J_L	B SW-846:6010C	GELC	
C5	8 55	06/15/05	25.4	51.9	40.8 55	Site Canyon and Canada del Buey) Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	REG	F	INIT METALS	Boron	В	45.3	1.1	LANL Int BG LVL	15.12	3	15	ug/L	1	J J	J_L	B SW-846:6010C	GELC	
C5	8 55	06/15/05	0.212	0.703	0.5965 52	, ,,	ediate	MCOI-6	686	02/26/15	FD	F	INIT GENINORG	Bromide	Br(-1)	0.575	1	LANL Int BG LVL	0.03	19.2	0.067	mg/L	1	N	Q NQ	EPA:300.0	GELC	
C5	8 55	06/15/05	0.212	0.703	0.5965 52	, ,,	ediate	MCOI-6	686	02/26/15	REG	F	INIT GENINORG	Bromide	Br(-1)	0.571	1	LANL Int BG LVL	0.03	19	0.067	mg/L	1	N	Q NQ	EPA:300.0	GELC	
C5	8 55	06/15/05	42.8	75.5	63.9 55		ediate	MCOI-6	686	02/26/15	FD	F	INIT GENINORG	Calcium	Ca	59.7	0.9	LANL Int BG LVL	17.31	3.4	0.05	mg/L	1	N	Q NQ	SW-846:6010C	GELC	
C5	8 55	06/15/05	42.8	75.5	63.9 55		ediate	MCOI-6	686	02/26/15	REG	F	INIT GENINORG	Calcium	Ca	58.8	0.9	LANL Int BG LVL	17.31	3.4	0.05	mg/L	1	N	Q NQ	SW-846:6010C	GELC	
C5	8 55	06/15/05	21.2	64.8	49.6 55		ediate	MCOI-6	686	02/26/15	FD	F	INIT GENINORG	Chloride	CI(-1)	57.7	1.2	LANL Int BG LVL	7.78	7.4	0.67	mg/L	10	Ν	Q NQ	EPA:300.0	GELC	
C5	8 55	06/15/05	21.2	64.8	49.6 55		ediate	MCOI-6	686	02/26/15	REG	F	INIT GENINORG	Chloride	CI(-1)	57.4	1.2	LANL Int BG LVL	7.78	7.4	0.67	mg/L	10	N	Q NQ	EPA:300.0	GELC	
C5	8 58	06/15/05	29.4	81.3	51.35 58		ediate	MCOI-6	686	02/26/15	FD	F	INIT METALS	Chromium	Cr	75.1	1.5	LANL Int BG LVL	1	75.1	2	ug/L	1	N	Q NQ	SW-846:6020	GELC	
C5	8 58	06/15/05	29.4	81.3	51.35 58	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	REG	F	INIT METALS	Chromium	Cr	74.1	1.4	LANL Int BG LVL	1	74.1	2	ug/L	1	N	Q NQ	SW-846:6020	GELC	
C5	8 55	06/15/05	0.412	0.635	0.5345 52	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	FD	F	INIT GENINORG	Fluoride	F(-1)	0.529	1	LANL Int BG LVL	0.23	2.3	0.033	mg/L	1	N	Q NQ	EPA:300.0	GELC	
C5	8 55	06/15/05	0.412	0.635	0.5345 52	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	REG	F	INIT GENINORG	Fluoride	F(-1)	0.525	1	LANL Int BG LVL	0.23	2.3	0.033	mg/L	1	N	Q NQ	EPA:300.0	GELC	
C5	8 55	06/15/05	8.49	15.7	13 55	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	FD	F	INIT GENINORG	Magnesium	Mg	12.4	1	LANL Int BG LVL	6.12	2	0.11	mg/L	1	N	Q NQ	SW-846:6010C	GELC	
C5	8 55	06/15/05	8.49	15.7	13 55	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)	ediate	MCOI-6	686	02/26/15	REG	F	INIT GENINORG	Magnesium	Mg	12.3	0.9	LANL Int BG LVL	6.12	2	0.11	mg/L	1	N	Q NQ	SW-846:6010C	GELC	
C5		06/15/05	2.9	41.8	16.7 55	Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT METALS	Nickel	Ni	34.6	2.1	LANL Int BG LVL	1	34.6	0.5	ug/L	1		Q NQ	SW-846:6020	GELC	
C5		06/15/05		41.8	16.7 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT METALS	Nickel	Ni	35.6	2.1	LANL Int BG LVL	1		0.5	ug/L	1		Q NQ	SW-846:6020	GELC	
C5		06/15/05		20.4	11 55	Site Canyon and Canada del Buey)		MCOI-6		02/26/15				Nitrate-Nitrite as Nitrogen	NO3+NO2-N				2.41		0.17	mg/L			Q NQ	EPA:353.2	GELC	
	8 55	06/15/05		20.4	11 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT GENINORG	Ů	NO3+NO2-N		0.7	LANL Int BG LVL	2.41		0.17	mg/L			Q NQ	EPA:353.2	GELC	
	8 55	06/15/05		246	81.9 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT GENINORG		CIO4		0.7		0.05	1222		ug/L			Q NQ	SW-846:6850	GELC	
	55	06/15/05		246	81.9 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT GENINORG		CIO4	62.9		LANL Int BG LVL	0.05	1258		ug/L	100		Q NQ	SW-846:6010C	GELC	
	8 55	06/15/05		29.4	25.6 55 25.6 55	Site Canyon and Canada del Buey)			686 686				INIT GENINORG		Na Na	29.4	1.1		12.19		0.1	mg/L	1		Q NQ	SW-846:6010C SW-846:6010C	GELC	
	8 55 8 55	06/15/05		497	403 55	Site Canyon and Canada del Buey)		MCOI-6		02/26/15			INIT GENINORG		TDS	409	1.7	LANL Int BG LVL	12.19		3.4	mg/L			Q NQ	SW-846:6010C EPA:160.1	GELC	
	8 55	06/15/05		497	403 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT GENINORG	Total Dissolved Solids Total Dissolved Solids	TDS	409	1.1	LANL Int BG LVL	127		3.4	mg/L mg/L			Q NQ	EPA:160.1	GELC	
	8 55	06/15/05		288	32.8 55	Site Canyon and Canada del Buey)		MCOI-6		02/26/15			INIT METALS	Zinc	Zn	26.8	0.8	LANL Int BG LVL	2	13.4		ug/L	1		Q NQ	SW-846:6010C	GELC	
	8 55		15.9	288	32.8 55	Site Canyon and Canada del Buey)		MCOI-6	686	02/26/15			INIT METALS	Zinc	Zn	26.7	0.8		2	13.4		ug/L	1		Q NQ	SW-846:6010C	GELC	
C6		10/21/08	368	658	502 41	Site Canyon and Canada del Buey)	ediate		548	02/20/13			INIT METALS	Chromium	Cr	433	0.9		50	8.7	2	ug/L	1		Q NQ	SW-846:6020	GELC	
C6	8		4.86	6.54	5.53 8		ediate	Vine Tree Spring	0	12/16/14	REG		INIT GENINORG		CIO4	6.54	1.2	Consent Order	4		0.5	ug/L	10		Q NQ	SW-846:6850	_	highest result
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