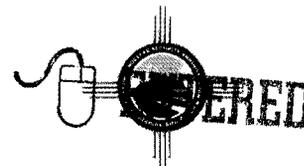


Environmental Programs
 P.O. Box 1663, MS M991
 Los Alamos, New Mexico 87545
 (505) 606-2337/FAX (505) 665-1812

General



National Nuclear Security Administration
 Los Alamos Site Office, MS A316
 Environmental Restoration Program
 Los Alamos, New Mexico 87544
 (505) 667-4255/FAX (505) 606-2132

Date: DEC 14 2011
 Refer To: EP2011-0410

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

Subject: Review of November 2011 Groundwater Data



Dear Mr. Kieling:

Members of the Los Alamos National Laboratory Environmental Programs Directorate staff met on December 8, 2011, to review new groundwater data received in November 2011. At that time, several groundwater samples were identified with contaminant concentrations above the New Mexico or federal water quality standards.

An Environmental Programs staff member notified the New Mexico Environment Department Hazardous Waste Bureau about these findings by email on December 8, 2011, and followed up with a phone call (voice message) on the same day.

The six instances of a contaminant above a standard for the first time (based on samples collected since June 14, 2007) are tabulated in the attached report. These instances are the following:

- Lead was found at 16.7 µg/L in an unfiltered sample collected on September 19, 2011, from Water Canyon intermediate well R-26 PZ-2; the U.S. Environmental Protection Agency (EPA) drinking water system action level is 15 µg/L. Lead has not been detected in filtered samples but has been found in previous unfiltered samples, probably from abrasion of well or sampling equipment.
- Tetrachloroethene was found at 5.03 µg/L in an unfiltered sample collected on September 19, 2011, from Water Canyon intermediate well 16-26644; the EPA maximum contaminant level is 5 µg/L. This compound has been found in previous samples collected since April 2010 at concentrations up to 3.7 µg/L.
- Four polycyclic aromatic hydrocarbon compounds were found in an unfiltered field duplicate sample (but not in the primary sample) collected at Spring 4 in White Rock Canyon on October 5, 2011. The presence of these compounds may be from contamination during sampling or laboratory analysis. Only one of the compounds, benzo(b)fluoranthene, was previously detected at the spring in 15 total sampling events. In the recent sample,



indeno(1,2,3-cd)pyrene was found at 0.568 µg/L, above the 0.29 µg/L EPA tap water screening level; benzo(b)fluoranthene was found at 0.58 µg/L, above the 0.29 µg/L EPA tap water screening level; benzo(a)pyrene was found at 0.636 µg/L, above the 0.2 µg/L EPA maximum contaminant level; and dibenz(a,h)anthracene was found at 0.466 µg/L, above the 0.029 µg/L EPA tap water screening level.

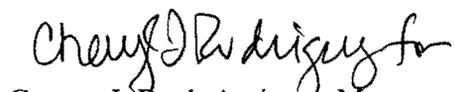
This letter is our written submission that meets notification requirements laid out in Section IV.A.3.g of the Compliance Order on Consent, modified on May 13, 2008. The required information for the chemical constituents that meet the seven screening criteria contained in that section is given in the accompanying report and tables.

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,


Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,


George J. Rael, Assistant Manager
Environmental Projects Office
Los Alamos Site Office

MG/GR/CD/SP/DR:sm

Enclosure: Two hard copies with electronic files – Summary of New Los Alamos National Laboratory Groundwater Data Loaded in November 2011 (LA-UR-11-6959)

Cy: (w/enc.)
RPF, MS M707 (electronic copy)
Public Reading Room, MS M992 (hard copy)

Cy: (Letter and CD/DVD only)
Neil Weber, San Ildefonso Pueblo, NM
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, MS M894
Ed Worth, DOE-LASO, MS A316
Hai Shen, DOE-LASO, MS A316
Jake Meadows, ENV-RCRA, MS K490
Steve Paris, EP-CAP, MS M992
William Alexander, EP-BPS, MS M992

Cy: (w/o enc.)
Pete Padilla, Los Alamos County Utility Department, Los Alamos, NM
Tom Skibitski, NMED-OB, Santa Fe, NM (date-stamped letter emailed)
Annette Russell, DOE-LASO (date-stamped letter emailed)
David Rogers, EP-ET, MS M992 (date-stamped letter emailed)
Mei Ding, EES-6, MS J514 (date-stamped letter emailed)
Ardyth Simmons, EP-ET, MS M992 (date-stamped letter emailed)
Craig Douglass, EP-CAP, MS M996 (date-stamped letter emailed)
Michael J. Graham, ADEP, MS M991 (date-stamped letter emailed)

SUMMARY OF NEW LOS ALAMOS NATIONAL LABORATORY GROUNDWATER DATA LOADED IN NOVEMBER 2011

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. This report contains results for chemical constituents that meet the seven screening criteria laid out in the Compliance Order on Consent (Consent Order), modified May 13, 2008. 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 11-11 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 are often similar to data gathered before June 14, 2007.

This table includes additional comments on the significance of the results for those that appear to be exceptional or are first-time occurrences of results based on considering monitoring data acquired before June 14, 2007 (using statistics described below).

The table contains supplemental information summarizing monitoring results obtained before June 14, 2007.

The table includes sampling date, the name of the well or spring, the location of the well or spring, the depth of the screened interval, the 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. The definitions for abbreviations in the table may be found at <http://www.lanl.gov/environment/all/racer.shtml>.

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). In the table, the EPA Regional Screening Levels for tap water are identified as being for cancer (10^{-5} excess) or noncancer risk values. The data were screened using 10 times the EPA's 10^{-6} excess cancer risk values, 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 and included below: they are labeled C1 through C6 and CA for cases where the concentration of a constituent in a well screen or spring has not previously exceeded either the New Mexico Water Quality Control Commission (NMWQCC) standard or the federal MCLs. Some data meet one or more than one 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 over a longer time frame than samples collected after June 14, 2007. 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 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

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

Start Date—sample date

Fld QC Type Code—identifies samples that are field duplicates (definitions for these and other abbreviations may be found at <http://www.lanl.gov/environment/all/racer.shtml>)

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—gives 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—the analytical result in standard measurement units

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

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

Screen Level—the value of the LVL Type/Risk Code

Exceedance Ratio—the ratio of Std Result to LVL Type/Risk Code, divided by the basis for comparison in the criterion. For example, for a criterion (such as C3) that compares the value to 1/2 the standard, a value equal to a standard has an exceedance ratio of 2.

- C1, C2, and CA refer to a screening value so the exceedance ratio compares the result directly to the screening value.
- C3, C4, and C6 refer to 1/2 of a screening value so the exceedance ratio compares the result to 1/2 the screening value.
- C5 refers to 2 times a screening value so the exceedance ratio compares the result to 2 times the screening value.

Std Mdl—the method detection limit in standard measurement units

Std UOM—the standard units of measurement

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

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

Concat Flag Code—concatenated secondary validation qualifiers produced by an independent contractor who reviews data packages, verifying, for example, that holding times were met, that all documentation is present, and that analytical laboratory quality control measures were applied, documented, and kept within contract requirements

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

Anyl Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—a comment on the analytical result

Table 1: NMED 11-11 Groundwater Report

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Port Depth	Start Date	Fid QC Type Code	Fid Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Symbol	Std Result	Result/Median	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	
C1	7	7	05/11/05	7.55	7.55	7.55	1	Lower Los Alamos Canyon (San Ildefonso Pueblo)	Alluvial	LLAO-4	5.24	08/11/11		UF	CS	SVOA	Diethylphthalate		7.55	1.00	EPA TAP SCRNL LVL N	29000	0.0	3.1	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC		
C1	8	8	11/14/00	0.156	0.156	0.156	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		UF	CS	HEXP	Amino-2,6-dinitrotoluene[4-]		0.156	1.00	EPA TAP SCRNL LVL N	73	0.0	0.1	ug/L	2	J	J	J_LAB	SW-846:8321A_MOD	GELC		
C1	7	7	11/14/00	1.74	1.74	1.74	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		UF	CS	VOA	Isopropyltoluene[4-]		1.74	1.00				0.25	ug/L	1					SW-846:8260B	GELC	
C1	15	18	04/13/05	1.74	61.1	31.42	2	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26	659.3	09/16/11		UF	CS	VOA	Acetone		61.1	1.94	EPA TAP SCRNL LVL N	22000	0.0	3.5	ug/L	1		J	V7c	SW-846:8260B	GELC		
C1	7	7	10/06/03	1.32	1.32	1.32	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 3AA	0	10/03/11		UF	CS	VOA	Carbon Disulfide		1.32	1.00	EPA TAP SCRNL LVL N	1000	0.0	1.3	ug/L	1	J	J	J_LAB	SW-846:8260B	GELC		
C1	15	21	09/25/00	0.568	0.568	0.568	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Indeno(1,2,3-cd)pyrene		0.568	1.00	EPA TAP SCRNL LVL C-5	0.29	2.0	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C1	15	21	09/25/00	0.58	7.2	3.89	2	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(b)fluoranthene		0.58	0.15	EPA TAP SCRNL LVL C-5	0.29	2.0	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C1	15	21	09/25/00	0.5	0.568	0.534	2	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(k)fluoranthene		0.568	1.06	EPA TAP SCRNL LVL C-5	2.9	0.2	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C1	15	21	09/25/00	0.636	0.636	0.636	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(a)pyrene		0.636	1.00	EPA MCL	0.2	3.2	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C1	15	21	09/25/00	0.466	0.466	0.466	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Dibenz(a,h)anthracene		0.466	1.00	EPA TAP SCRNL LVL C-5	0.029	16.1	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C2	37	44	03/28/00	14	53.3	20.3	44	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	GENINORG	Calcium		53.3	2.63	LANL Avl BG LVL	26.36	2.0	0.05	mg/L	1					SW-846:6010B	GELC	
C2	37	44	03/28/00	2.8	6.25	3.46	40	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	GENINORG	Potassium		6.25	1.81	LANL Avl BG LVL	5.21	1.2	0.05	mg/L	1	E				SW-846:6010B	GELC	
C2	37	44	03/28/00	4.4	14.4	5.9	44	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	GENINORG	Magnesium		14.4	2.44	LANL Avl BG LVL	7.78	1.9	0.11	mg/L	1					SW-846:6010B	GELC	
C2	9	10	01/26/07	0.0687	0.0687	0.0687	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	GENINORG	Ammonia as Nitrogen		0.0687	1.00	LANL Avl BG LVL	0.04	1.7	0.016	mg/L	1					EPA:350.1	GELC	
C2	37	44	03/28/00	0.903	7.71	1.8	19	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	METALS	Cobalt		7.71	4.28	LANL Avl BG LVL	0.5	15.4	1	ug/L	1					SW-846:6010B	GELC	
C2	4	4	04/02/08	0.079	0.079	0.079	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	GENINORG	Perchlorate		0.079	1.00	LANL Avl BG LVL	0.05	1.6	0.05	ug/L	1	J	J	J_LAB	SW-846:6850	GELC		
C2	7	7	11/14/00	3.47	8.97	6.02	7	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	GENINORG	Magnesium		8.97	1.49	LANL Avl BG LVL	7.78	1.2	0.11	mg/L	1					SW-846:6010B	GELC	
C2	4	4	04/02/08	0.0626	0.0626	0.0626	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	GENINORG	Ammonia as Nitrogen		0.0626	1.00	LANL Avl BG LVL	0.04	1.6	0.016	mg/L	1					EPA:350.1	GELC	
C2	7	7	11/14/00	0.078	0.078	0.078	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Mercury		0.078	1.00	LANL Avl BG LVL	0.06	1.3	0.066	ug/L	1	J	J	J_LAB	EPA:245.2	GELC	note MDL>background, filtered detects unusual, not in UF, two prior UF detects at this well	
C2	4	4	04/02/08	1.35	2.15	1.69	4	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Molybdenum		2.15	1.27	LANL Avl BG LVL	2	1.1	0.17	ug/L	1					SW-846:6020	GELC	
C2	6	6	01/24/07	0.03	0.0763	0.031	3	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	GENINORG	Ammonia as Nitrogen		0.0763	2.46	LANL Avl BG LVL	0.04	1.9	0.016	mg/L	1					EPA:350.1	GELC	
C2	5	8	04/20/10	13.1	18.5	14.1	8	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	09/19/11		F	CS	GENINORG	Calcium		18.5	1.31	LANL Int BG LVL	17.31	1.1	0.05	mg/L	1					SW-846:6010B	GELC	
C2	14	19	06/01/05	0.071	0.071	0.071	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	09/22/11		F	CS	METALS	Mercury		0.071	1.00	LANL Int BG LVL	0.06	1.2	0.066	ug/L	1	J	J	J_LAB	EPA:245.2	GELC	note MDL>background, filtered detects unusual, not in UF	
C2	9	14	09/26/05	0.023	0.0547	0.0389	2	White Rock Canyon and Rio Grande	Regional Spring	Spring 3A	0	10/03/11		F	CS	GENINORG	Ammonia as Nitrogen		0.0547	1.41	LANL Reg BG LVL	0.05	1.1	0.016	mg/L	1		J+	16b	EPA:350.1	GELC		
C2	13	18	09/25/00	0.011	4.34	0.061	3	White Rock Canyon and Rio Grande	Regional Spring	Spring 3A	0	10/03/11		F	CS	GENINORG	Total Phosphate as Phosphorus		4.34	71.15	LANL Reg BG LVL	0.16	27.1	0.15	mg/L	10					EPA:365.4	GELC	
C3	3	3	04/05/10	2.47	2.47	2.47	1	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26 PZ-2	150	09/19/11		UF	CS	METALS	Beryllium		2.47	1.00	EPA MCL	4	1.2	1	ug/L	1	J	J	J_LAB	SW-846:6010B	GELC	filtered result was ND as were prior 2 UF and 5 F results	
C3	15	21	09/25/00	0.568	0.568	0.568	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Indeno(1,2,3-cd)pyrene		0.568	1.00	EPA TAP SCRNL LVL C-5	0.29	3.9	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C3	15	21	09/25/00	0.58	7.2	3.89	2	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(b)fluoranthene		0.58	0.15	EPA TAP SCRNL LVL C-5	0.29	4.0	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C3	15	21	09/25/00	0.636	0.636	0.636	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(a)pyrene		0.636	1.00	EPA MCL	0.2	6.4	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C3	15	21	09/25/00	0.466	0.466	0.466	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Dibenz(a,h)anthracene		0.466	1.00	EPA TAP SCRNL LVL C-5	0.029	32.1	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample	
C5	37	44	03/28/00	4580	13600	6365	44	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	1.7	09/16/11		F	CS	METALS	Barium		13600	2.14	LANL Avl BG LVL	68.57	99.2	1	ug/L	1					SW-846:6010B	GELC	previous high was 8440 ug/L, UF of 13,400 ug/L was also above previous high of 8720 ug/L
C5	6	6	11/14/00	623	2250	1240	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Boron		1550	1.25	LANL Avl BG LVL	51.89	14.9	15	ug/L	1	N	J+	16b	SW-846:6010B	GELC		
C5	7	7	11/14/00	102	283	185	5	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Barium		283	1.53	LANL Avl BG LVL	68.57	2.1	1	ug/L	1					SW-846:6010B	GELC	
C5	7	7	11/14/00	19.2	182	49.8	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Manganese		33.1	0.66	LANL Avl BG LVL	2	8.3	2	ug/L	1					SW-846:6010B	GELC	

Criteria Code	Visits	Samples	First Event	Min Detect	Max Detect	Median Detect	Num Detect	Hdr 1	Zone	Location	Port Depth	Start Date	Fid QC Type Code	Fid Prep Code	Lab Sample Type Code	Anyl Suite Code	Analyte Desc	Symbol	Std Result	Result/Median	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	7	7	11/14/00	2.31	2.9	2.52	4	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Nickel		2.31	0.92	LANL Avi BG LVL	1	1.2	0.5	ug/L	1				SW-846:6020	GELC	
C5	7	7	11/14/00	35.4	413	235	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Zinc		220	0.94	LANL Avi BG LVL	2	55.0	3.3	ug/L	1				SW-846:6010B	GELC	
C5	17	17	11/14/00	149	502	309	17	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Boron		349	1.13	LANL Avi BG LVL	51.89	3.4	15	ug/L	1				SW-846:6010B	GELC	
C5	21	21	11/14/00	123	283	197	19	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Barium		272	1.38	LANL Avi BG LVL	68.57	2.0	1	ug/L	1				SW-846:6010B	GELC	
C5	21	21	11/14/00	11.2	1300	269	21	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Manganese		269	1.00	LANL Avi BG LVL	2	67.3	2	ug/L	1				SW-846:6010B	GELC	
C5	21	21	11/14/00	2.17	7.5	3.66	16	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Nickel		3.61	0.99	LANL Avi BG LVL	1	1.8	0.5	ug/L	1				SW-846:6020	GELC	
C5	21	21	11/14/00	1.6	14.8	4.4	15	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Vanadium		3.2	0.73	LANL Avi BG LVL	1	1.6	1	ug/L	1	J	J	J_LAB	SW-846:6010B	GELC	
C5	21	21	11/14/00	5.04	36.8	15.9	17	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06294	2.5	09/20/11		F	CS	METALS	Zinc		6.72	0.42	LANL Avi BG LVL	2	1.7	3.3	ug/L	1	J	J	J_LAB	SW-846:6010B	GELC	
C5	6	6	04/15/09	2.15	14.2	4.53	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26 PZ-2	150	09/19/11		F	CS	METALS	Cobalt		7.3	1.61	LANL Int BG LVL	0.5	7.3	1	ug/L	1				SW-846:6010B	GELC	
C5	6	6	04/15/09	12	93.8	26.6	5	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26 PZ-2	150	09/19/11		F	CS	METALS	Manganese		51.3	1.93	LANL Int BG LVL	2	12.8	2	ug/L	1				SW-846:6010B	GELC	
C5	6	6	04/15/09	2.56	6.69	4.65	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26 PZ-2	150	09/19/11		F	CS	METALS	Nickel		2.9	0.62	LANL Int BG LVL	1	1.5	0.5	ug/L	1				SW-846:6020	GELC	
C5	11	14	02/01/07	0.204	0.262	0.229	14	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26	659.3	09/16/11		F	CS	GENINORG	Perchlorate		0.216	0.94	LANL Int BG LVL	0.05	2.2	0.05	ug/L	1		J+	PE12f	SW-846:6850	GELC	
C5	5	8	04/20/10	15.2	20.6	19.6	8	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	09/19/11		F	CS	GENINORG	Chloride		19.9	1.02	LANL Int BG LVL	7.78	1.3	0.13	mg/L	2				EPA:300.0	GELC	
C5	5	8	04/20/10	0.472	0.762	0.514	8	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	09/19/11		F	CS	GENINORG	Perchlorate		0.553	1.08	LANL Int BG LVL	0.05	5.5	0.05	ug/L	1				SW-846:6850	GELC	
C5	5	8	04/20/10	2.46	5.96	4.72	8	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	09/19/11		F	CS	METALS	Nickel		2.46	0.52	LANL Int BG LVL	1	1.2	0.5	ug/L	1				SW-846:6020	GELC	
C5	10	14	05/21/07	0.449	0.589	0.51	14	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	09/22/11		F	CS	GENINORG	Perchlorate		0.577	1.13	LANL Int BG LVL	0.05	5.8	0.05	ug/L	1				SW-846:6850	GELC	
C5	14	19	06/01/05	51	65.4	58.1	19	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	09/22/11		F	CS	METALS	Boron		64.5	1.11	LANL Int BG LVL	15.12	2.1	15	ug/L	1		J+	I6b	SW-846:6010B	GELC	
C5	14	19	06/01/05	3.2	12.2	4.7	19	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	09/22/11		F	CS	METALS	Nickel		7.82	1.66	LANL Int BG LVL	1	3.9	0.5	ug/L	1				SW-846:6020	GELC	
C5	14	19	06/01/05	4.9	31.4	7.9	15	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	624	09/22/11		F	CS	METALS	Zinc		26.2	3.32	LANL Int BG LVL	2	6.6	3.3	ug/L	1				SW-846:6010B	GELC	
C5	7	7	05/10/10	1.09	1.29	1.19	5	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Regional	R-29	1170	09/21/11		F	CS	METALS	Cobalt		1.16	0.97	LANL Reg BG LVL	0.5	1.2	1	ug/L	1	J	J	J_LAB	SW-846:6010B	GELC	
C5	7	7	05/10/10	23.6	214	47.1	7	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Regional	R-29	1170	09/21/11		F	CS	METALS	Manganese		23.6	0.50	LANL Reg BG LVL	2.94	4.0	2	ug/L	1				SW-846:6010B	GELC	steady decrease since first samples in 2010
C5	9	9	09/26/05	7.19	7.97	7.61	9	White Rock Canyon and Rio Grande	Regional Spring	Spring 4B	0	10/05/11		F	CS	GENINORG	Chloride		7.97	1.05	LANL Reg BG LVL	3.57	1.1	0.066	mg/L	1		J+	I6b	EPA:300.0	GELC	
C5	11	12	09/26/00	133	234	151	4	White Rock Canyon and Rio Grande	Regional Spring	Ancho Spring	0	10/07/11		F	CS	METALS	Iron		162	1.07	LANL Reg BG LVL	21	3.9	30	ug/L	1				SW-846:6010B	GELC	
C5	11	12	09/26/00	3.43	52.6	33.7	7	White Rock Canyon and Rio Grande	Regional Spring	Ancho Spring	0	10/07/11		F	CS	METALS	Manganese		33.7	1.00	LANL Reg BG LVL	2.94	5.7	2	ug/L	1				SW-846:6010B	GELC	
C6	6	6	11/14/00	623	2250	1240	6	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	2	09/22/11		F	CS	METALS	Boron		1550	1.25	NM GW STD	750	4.1	15	ug/L	1	N	J+	I6b	SW-846:6010B	GELC	
CA	3	3	04/05/10	3.06	16.7	10.6	3	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	R-26 PZ-2	150	09/19/11		UF	CS	METALS	Lead		16.7	1.58	EPA MCL	15	1.1	0.5	ug/L	1				SW-846:6020	GELC	both prior UF samples detected lead, one at 10.6 ug/L
CA	5	8	04/20/10	1.38	5.03	3.29	8	Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons)	Intermediate	16-26644	130	09/19/11		UF	CS	VOA	Tetrachloroethene		5.03	1.53	EPA MCL	5	1.0	0.3	ug/L	1				SW-846:8260B	GELC	FD result 3.09 ug/L, similar to 4 prior sample events
CA	15	21	09/25/00	0.568	0.568	0.568	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Indeno(1,2,3-cd)pyrene		0.568	1.00	EPA TAP SCRNL LVL C-5	0.29	2.0	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample
CA	15	21	09/25/00	0.58	7.2	3.89	2	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(b)fluoranthene		0.58	0.15	EPA TAP SCRNL LVL C-5	0.29	2.0	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample
CA	15	21	09/25/00	0.636	0.636	0.636	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Benzo(a)pyrene		0.636	1.00	EPA MCL	0.2	3.2	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample
CA	15	21	09/25/00	0.466	0.466	0.466	1	White Rock Canyon and Rio Grande	Regional Spring	Spring 4	0	10/05/11	FD	UF	CS	SVOA	Dibenz(a,h)anthracene		0.466	1.00	EPA TAP SCRNL LVL C-5	0.029	16.1	0.34	ug/L	1	J	J	J_LAB	SW-846:8270C	GELC	only in FD, not in primary sample