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National Nuclear Security Administration
Los Alamos Site Office, MS A316
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Los Alamos, New Mexico 87544
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Date: May 25, 2007
Refer To: EP2007-0294

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Review of April 2007 Groundwater Data

Dear Mr. Bearzi:

The Los Alamos National Laboratory Water Stewardship Project (LWSP) met on May 9, 2007, to review new groundwater data received in April 2007. At that time, one groundwater sample was identified with contaminant concentrations above the New Mexico water quality standards. The LWSP director notified the Hazardous Waste Bureau by telephone on May 10, 2007, and followed up with an email on the same day.

Chrysene, an organic compound, was detected for the first time at Cañada del Buey alluvial well CDBO-6 during February 2007. The concentration was 1.6 times the U.S. Environmental Protection Agency's maximum contaminant level of 0.2 µg/L.

Following the spirit of the draft Settlement Agreement, this letter is our written submission that indicates, in the accompanying report and tables, the contaminants that meet the six screening criteria for the Agreement.

If you have questions, please contact Ardyth Simmons at (505) 665-3935 (asimmons@lanl.gov) or Mat Johansen at (505) 665-5046 (mjohansen@doeal.gov).

Sincerely,

Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

SGS/DRG/TBA/DBR:sm

Enclosure: Report and accompanying tables: "Summary of New LANL Groundwater Data Loaded in April 2007" (LA-UR-07-3337, EP2007-0294)

Cy: (w/enc.)

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SUMMARY OF NEW LANL GROUNDWATER DATA LOADED IN APRIL 2007

May 22, 2007

EXECUTIVE SUMMARY

Key findings include:

First exceedance of a standard:

- Chrysene (with a J-qualifier at 0.312 µg/L) was detected at 1.6 times the EPA MCL at Cañada del Buey alluvial well CDBO-6 for the first time during February 2007. Chrysene was not detected in the companion field duplicate or the field blank from the same sampling event. Results from the previous seven sampling events (1997 through 2006) were also all nondetects.

First exceedance of ½ standard:

- Benzo(b)fluoranthene (0.215 µg/L, with a J-qualifier) was detected for the first time in Cañada del Buey alluvial well CDBO-6 at 73% of the 10⁻⁵ excess cancer risk EPA tap screening level (0.03 µg/L) during February 2007.
- The highest chloride results to date were measured in Pajarito Canyon alluvial wells 18-MW-18 (200 mg/L) and PCO-2 (128 mg/L) at 80 % and 51%, respectively, of the New Mexico groundwater standard (250 mg/L) during March 2007.
- The highest total dissolved solids result to date (516 mg/L) was measured in Pajarito Canyon alluvial well 18-MW-18 at 52% of the New Mexico groundwater standard of 1000 mg/L during March 2007.

Other new results:

- Mercury was detected at Mortandad Canyon alluvial well MCO-7 in a non-filtered sample at 4.9 µg/L in March 2007. This was 2.5 times the NM groundwater standard of 2 µg/L, and this result is not yet validated. Mercury has previously been detected five times at this well, out of 25 sampling rounds since 1978, at concentrations ranging from 0.10 µg/L to 1.9 µg/L.
- A first time detection of filtered chromium was measured at Mortandad Canyon intermediate well MCOI-8 (21.3 µg/L) in February 2007 at 43% of the NM groundwater standard of 50 µg/L.
- Bis(2-ethylhexyl)phthalate was detected at MCOI-6 in duplicate samples at, respectively, 1.5 and 1.2 times the EPA MCL of 6 µg/L during the February 2007 monitoring round. The compound has now been above the MCL in the last three sampling events, has been found in five of six sampling events, and never been found in a field QC sample (not including field duplicates).
- The PCB compound aroclor-1242 is a first time detect at Mortandad Canyon regional well R-1. It was measured at 0.15 µg/L, which is 30% of the MCL (J-qualified, MDL 0.03 µg/L) in March 2007. This compound was not detected in six previous sampling rounds which included ten analyses.
- RDX was detected at 0.17 µg/L in regional well R-18 in Pajarito Canyon in March 2007 (J-qualified, MDL 0.13 µg/L). RDX has been detected in the three latest sampling events at approximately the same concentrations. Results from the first two sampling rounds were all nondetects.

- A first time detection of RDX degradation products DNX and MNX was measured at regional well CdV-R-15-3, 1350 feet, in Cañon de Valle during March 2007. The data are not yet validated and the results are near the MDL. These compounds have no regulatory standards or risk-based screening levels. The only prior high explosives compound detected in this well was dinitrotoluene[2,6-] in a borehole sample in March 2000.

INTRODUCTION

This report provides preliminary information to NMED concerning recent groundwater data. This report highlights constituents that exceed 50% of an applicable regulatory standard or first time detections of organic compounds in groundwater samples taken from several wells or springs (listed on accompanying tables), which provide surveillance of the groundwater zones indicated in the tables. Other new detections near standards are also included where they were recognized.

In the tables, information is given for sample date, detection limits, values for regulatory standards, analytical and secondary validation qualifiers. Generally, all data have been through secondary validation, as indicated on the tables by a preliminary flag of N. Definitions for abbreviations in the tables may be found at <http://wqdbworld.lanl.gov/> under "lookup tables" under the menu on the left side of the page.

The screening levels used include EPA MCLs, NM groundwater standards, and EPA Region VI tap water screening levels (for compounds having no other regulatory standard). In the tables the EPA Region VI tap water screening levels are identified as being for cancer (10^{-6} excess) or non cancer risk values. We screened using 10 times the 10^{-6} excess cancer risk values as indicated under Section VIII.A.1 of the Consent Order.

The following discussion provides information on prior occurrence of the constituents at the given locations.

GENERAL CHEMISTRY RESULTS

Fluoride concentrations in Mortandad Canyon alluvial wells MCO-5, MCO-6, MCO-7.5, MCA-2, and MT-4 fall within 59% to 85% of the 1.6 mg/L NM groundwater standard. These values are consistent with previous data from these wells.

The chloride concentration in Mortandad Canyon alluvial well MCO-0.6 was 377 mg/L, above the NM groundwater standard of 250 mg/L but consistent with previous values. As presented above, the chloride concentration in Pajarito Canyon alluvial wells 18-MW-18 and PCO-2 were above ½ the NM groundwater standard for the first time in March 2007. This may be from runoff of road salt and subsequent infiltration to the alluvial system.

Nitrate (as N) results in Mortandad Canyon intermediate wells MCOI-4 and MCOI-6 show a slight decrease from 17 mg/L to 14.9 mg/L and 18.3 mg/L to 16.9 mg/L from October 2006 to February 2007. Although these values are above the NM groundwater standard they are consistent with previous measurements.

At Pajarito Canyon alluvial well 18-MW-18 during March 2007, the highest result to date for total dissolved solids (TDS) was measured. The result was 52% of the NM groundwater standard of 1000 mg/L. TDS was measured at Mortandad Canyon alluvial well MCO-0.6 at 95% of the NM groundwater standard. This value is consistent with previous measurements at MCO-0.6 since 2005; results from four sampling events range from 907 mg/L to 1650 mg/L.

Perchlorate concentrations at Mortandad intermediate wells MCOI-4 and MCOI-6 and alluvial wells MCA-2 and MCO-7.5 were above the EPA drinking water equivalent level of 24.5 µg/L in samples collected during February and March 2007. These values are consistent with previous measurements. Perchlorate samples have been collected twice at Mortandad Canyon alluvial well MT-4. Concentrations at MT-4 decreased from 62.6 µg/L in September 2006 to 30.5 µg/L in March 2007. Perchlorate values at Mortandad Canyon alluvial wells including MCO-4B, MCO-5, MCO-6, and regional well R-15 continue to be above the 4 µg/L Consent Order screening threshold.

METALS RESULTS

Mercury was detected at Mortandad Canyon alluvial well MCO-7 in a non-filtered sample at 4.9 µg/L in March 2007. This was 2.5 times the NM groundwater standard of 2 µg/L, and this result is not yet validated. Mercury has previously been detected five times at this well, out of 25 sampling rounds since 1978, at concentrations ranging from 0.10 µg/L to 1.9 µg/L. Reanalysis was not possible, as the 28-day holding time has expired. The next sample round will occur in June.

Filtered iron, manganese, and aluminum concentrations at several wells and springs were above 50% of the NM groundwater standards. Typically the wells are either shallow alluvial wells or are wells with screens impacted by residual organic drilling fluids. Concentrations of filtered iron, manganese, and aluminum in springs appear to be correlated with turbidity.

At Mortandad Canyon intermediate well MCOI-6 the filtered chromium has declined from 41.5 µg/L to 30.3 µg/L from October 2006 to February 2007. The data from 2005 to 2007 generally shows a decline in concentrations over six sampling rounds.

The February 2007 results from MCOI-8 showed a first time detection of filtered chromium (21.3 µg/L). This value is approximately at 43% of the NM groundwater standard. MCOI-8 has very slow recharge and cannot be sampled with a pump. Samples are collected from the sump using a bailer, with typical sample volumes in the range of 1 to 2 liters over a six-hour period.

ORGANIC RESULTS

A number of low-level organic compound detections often occur that are sporadic and likely result from contamination during sampling or analysis, with numerous compounds found in trip, field, or equipment blanks. Such compounds include bis(2-ethylhexyl)phthalate, acetone, toluene, methylene chloride, and carbon disulfide.

Chrysene was detected for the first time at Cañada del Buey alluvial well CDBO-6 during February 2007. The concentration was 0.312 µg/L (with a J-qualifier, MDL of 0.2 µg/L) and was 1.6 times the EPA MCL of 0.2 µg/L. However, chrysene was not detected in the companion field duplicate or the field blank from the same sampling event suggesting field or analytical laboratory contamination as a source. Results from the previous seven sampling events (1997 through 2006) were all nondetect for chrysene and other PAH compounds. Two other PAH compounds were detected in the February 2007 sample at lower levels: benzo(b)fluoranthene (at 73% of the EPA tap water screening level for 10^{-5} excess cancer risk) and benzo(k)fluoranthene. Both locations will be sampled again for PAH compounds in June 2007.

Bis(2-ethylhexyl)phthalate concentrations in duplicate samples from MCOI-6 were 150% to 124% of the EPA MCL in February 2007. This compound has been found in 5 of 6 sampling events from this well at concentrations ranging from 2 µg/L to 12 µg/L, and was above the MCL in the last three sampling events. MCOI-6 has sufficient recharge to be equipped with a Bennett pump.

The February 2007 dioxane results from Mortandad Canyon intermediate wells MCOI-4 and MCOI-6 using the more sensitive SVOC method were nondetect at MCOI-4 and 25 µg/L at MCOI-6. This method has a MDL of about 1.2 µg/L. Results from the VOC method have an MDL of 20 µg/L and should be disregarded (all results were estimated), as that method does not have adequate sensitivity in this concentration range. MCOI-6 is scheduled for sampling again in June 2007.

A first time detect of the PCB compound aroclor-1242 occurred at Mortandad Canyon regional well R-1. It was measured at 0.15 µg/L (J-qualified, MDL 0.03 µg/L), which is 30% of the MCL (0.5 µg/L) in March 2007. This compound was not detected in six previous sampling rounds which included ten analyses. Due to the low solubility of PCBs and the sporadic nature of detections, it is unlikely that the PCB has reached the regional aquifer. These detections are most likely due to contamination during sample collection or analysis. Additional PCB samples will be collected in June.

RDX was detected at 0.17 µg/L in regional well R-18 in Pajarito Canyon in March 2007 (J-qualified, MDL 0.13 µg/L). This value is 2.7% of the EPA Region VI 10^{-5} excess cancer risk tap water screening level of 6.1 µg/L. RDX has been detected in the three latest sampling events at approximately the same concentrations. Results from the first two sampling rounds were all nondetects. Additional samples will be collected in May 2007.

A first time detection of RDX degradation products DNX and MNX was measured at regional well CdV-R-15-3, 1350 feet, in Cañon de Valle during March 2007. The data are not yet validated and the results are near the MDL. These compounds have no regulatory standards or risk-based screening levels. The only prior high explosives compound detected in this well was dinitrotoluene[2,6-] in a borehole sample in March 2000.

General Inorganic Compounds

Analyte	Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Prep Code	Fid Qc Type Code	Lab Sample Type Code	Symbol	Std Result	Std Uncert	Std Mda	Std Uom	Lab Code	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/Scr Level)	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/Scr Level)
Cl(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	03/07/07	F		CS		377			mg/L	GELC		J	I14b	N			250	1.51
Cl(-1)	Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-MW-18	SINGLE	12.5	03/19/07	F		CS		200			mg/L	GELC				N			250	0.8
Cl(-1)	Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	PCO-2	SINGLE	1.5	03/20/07	F		CS		128			mg/L	GELC		J	I13b, I14b	N			250	0.51
F(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	03/05/07	F		CS		0.945			mg/L	GELC				N			1.6	0.59
F(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	02/28/07	F		CS		1.01			mg/L	GELC				N			1.6	0.63
F(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-2	SINGLE	45	02/28/07	F		CS		1.25			mg/L	GELC				N			1.6	0.78
F(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	03/02/07	F		CS		1.36			mg/L	GELC				N			1.6	0.85
F(-1)	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-4	SINGLE	54	03/13/07	F		CS		1.3			mg/L	GELC				N			1.6	0.81
NO3+NO2-N	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07	F		CS		14.9			mg/L	GELC		J	I14b, I13b	N	10	1.49	10	1.49
NO3+NO2-N	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	F	FD	CS		16.4			mg/L	GELC				N	10	1.64	10	1.64
NO3+NO2-N	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	F		CS		16.9			mg/L	GELC				N	10	1.69	10	1.69
TDS	Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	03/07/07	F		CS		950			mg/L	GELC				N			1000	0.95
TDS	Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-MW-18	SINGLE	12.5	03/19/07	F		CS		516			mg/L	GELC				N			1000	0.52

Perchlorate Results Greater Than 2 µg/L

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fld Qc Type Code	Fld Prep Code	Lab Sample Type Code	Analyte	Anyl Meth Code	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	Lab Code
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	9	02/27/07		F	CS	CIO4	EPA:314.0		17.3	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	9	02/27/07		F	CS	CIO4	SW-846:6850		15.7	1	µg/L	20		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	03/05/07		F	CS	CIO4	EPA:314.0		24.5	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	03/05/07		F	CS	CIO4	SW-846:6850		24.1	2.5	µg/L	50		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	02/28/07		F	CS	CIO4	EPA:314.0		22.1	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	02/28/07		F	CS	CIO4	SW-846:6850		22.4	2	µg/L	40		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-2	SINGLE	45	02/28/07		F	CS	CIO4	EPA:314.0		27.7	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-2	SINGLE	45	02/28/07		F	CS	CIO4	SW-846:6850		26.3	2	µg/L	40		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	03/02/07		F	CS	CIO4	EPA:314.0		27.6	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	03/02/07		F	CS	CIO4	SW-846:6850		26	2	µg/L	40		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-4	SINGLE	54	03/13/07		F	CS	CIO4	EPA:314.0		30.5	4	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-4	SINGLE	54	03/13/07		F	CS	CIO4	SW-846:6850		28.1	2	µg/L	40		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07		F	CS	CIO4	EPA:314.0		141	40	µg/L	10		J	I14b, I13b	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07		F	CS	CIO4	SW-846:6850		136	10	µg/L	200		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		F	CS	CIO4	EPA:314.0		162	40	µg/L	10		J	I14b	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		F	CS	CIO4	SW-846:6850		150	10	µg/L	200		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	F	CS	CIO4	EPA:314.0		160	40	µg/L	10		J	I14b	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	F	CS	CIO4	SW-846:6850		160	10	µg/L	200		J	LMS1	N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	959	02/28/07		F	CS	CIO4	EPA:314.0		6.88	4	µg/L	1	J			N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	959	02/28/07		F	CS	CIO4	SW-846:6850		5.34	0.5	µg/L	10		J	LMS1	N	GELC

Metals

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Analyte	Fid Prep Code	Lab Sample Type Code	Fid Qc Type Code	Symbol	Std Result	Std Mdl	Std Uom	Anyl Meth Code	Lab Code	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/ Scr Level)	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/ Scr Level)
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	03/07/07	Fe	F	CS			15100	18	µg/L	SW-846:6010B	GELC				N			1000	15.1
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	03/07/07	Mn	F	CS			3690	2	µg/L	SW-846:6010B	GELC				N			200	18.45
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-1	SINGLE	2.4	03/06/07	Al	F	CS			6870	68	µg/L	SW-846:6010B	GELC	N	J+	I3	N			5000	1.37
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-1	SINGLE	2.4	03/06/07	Fe	F	CS			3720	18	µg/L	SW-846:6010B	GELC				N			1000	3.72
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7	SINGLE	39	03/01/07	Hg	UF	CS			4.9	0.06	µg/L	EPA:245.2	GELC				Y	2	2.45	2	2.45
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-8	SINGLE	665	02/27/07	Fe	F	CS			1130	18	µg/L	SW-846:6010B	GELC				N			1000	1.13
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-8	SINGLE	665	02/27/07	Mn	F	CS			997	2	µg/L	SW-846:6010B	GELC				N			200	4.99
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	Cr	F	CS	FD		30.3	1	µg/L	SW-846:6020	GELC				N			50	0.61
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	Cr	F	CS			29.4	1	µg/L	SW-846:6020	GELC				N			50	0.59
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	Threemile Spring	SPRING	0	03/20/07	Fe	F	CS			765	18	µg/L	SW-846:6010B	GELC				N			1000	0.77
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	TA-18 Spring	SPRING	0	03/20/07	Fe	F	CS	FD		899	18	µg/L	SW-846:6010B	GELC				N			1000	0.9
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	TA-18 Spring	SPRING	0	03/20/07	Fe	F	CS			761	18	µg/L	SW-846:6010B	GELC				N			1000	0.76
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Homestead Spring	SPRING	0	03/21/07	Al	F	CS			4200	68	µg/L	SW-846:6010B	GELC				N			5000	0.84
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Homestead Spring	SPRING	0	03/21/07	Fe	F	CS			1890	18	µg/L	SW-846:6010B	GELC				N			1000	1.89
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Starmer Spring	SPRING	0	03/21/07	Al	F	CS			3810	68	µg/L	SW-846:6010B	GELC				N			5000	0.76
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Starmer Spring	SPRING	0	03/21/07	Fe	F	CS			1710	18	µg/L	SW-846:6010B	GELC				N			1000	1.71
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Charlie's Spring	SPRING	0	03/21/07	Al	F	CS			4320	68	µg/L	SW-846:6010B	GELC				N			5000	0.86
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Charlie's Spring	SPRING	0	03/21/07	Fe	F	CS			1930	18	µg/L	SW-846:6010B	GELC				N			1000	1.93

Chromium Results

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Qc Type Code	Fid Prep Code	Lab Sample Type Code	Analyte	Anyl Meth Code	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	Lab Code
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-8	SINGLE	665	02/27/07		F	CS	Cr	SW-846:6020		21.3	1	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		F	CS	Cr	SW-846:6020		29.4	1	µg/L	1				N	GELC
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	F	CS	Cr	SW-846:6020		30.3	1	µg/L	1				N	GELC

Organic Compounds

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Qc Type Code	Fid Prep Code	Lab Sample Type Code	Any/ Suite Code	Analyte Desc	Analyte	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	Any/ Meth Code	Lab Code	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/Scr Level)	EPA TAP SCRNL LVL Scr Lvl Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/Scr Level)
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.91	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07		UF	CS	SVOA	Benzo(b)fluoranthene	205-99-2		0.215	0.2	µg/L	1	J			N	SW-846:8270C	GELC			0.029499	7.29				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07		UF	CS	SVOA	Benzo(k)fluoranthene	207-08-9		0.251	0.2	µg/L	1	J			N	SW-846:8270C	GELC			0.294985	0.85				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07	FB	UF	CS	VOA	Butanone[2-]	78-93-3		2.07	1.25	µg/L	1	J			N	SW-846:8260B	GELC					7064.516	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07		UF	CS	SVOA	Chrysene	218-01-9		0.312	0.2	µg/L	1	J			N	SW-846:8270C	GELC	0.2	1.56	2.949853	0.11				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	CDBO-6	SINGLE	34	02/27/07		UF	CS	SVOA	Di-n-octylphthalate	117-84-0		9.36	3	µg/L	1	J			N	SW-846:8270C	GELC					1460	0.01		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-1	SINGLE	2.4	03/06/07		UF	CS	VOA	Acetone	67-64-1		2.92	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCA-1	SINGLE	2.4	03/06/07		UF	CS	PEST /PCB	DDD[4,4-]	72-54-8		0.0068	0.00526	µg/L	1	JP	NJ	PWQ6	N	SW-846:8081A	GELC			0.280131	0.02				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	03/07/07		UF	CS	VOA	Acetone	67-64-1		4.59	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	03/02/07		UF	CS	VOA	Acetone	67-64-1		7.21	1.25	µg/L	1				N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	03/02/07	FTB	UF	CS	VOA	Toluene	108-88-3		0.431	0.25	µg/L	1	J			N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-4	SINGLE	54	03/13/07		UF	CS	VOA	Acetone	67-64-1		4.04	1.25	µg/L	1	J	J-	VWQ9	N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-4	SINGLE	54	03/13/07		UF	CS	SVOA	Benzoic Acid	65-85-0		14.6	6.06	µg/L	1	J			N	SW-846:8270C	GELC					146000	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07		UF	CS	VOA	Acetone	67-64-1		4.34	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07		UF	CS	VOA	Dioxane[1,4-]	123-91-1		52.9	20	µg/L	1		J-, J	V7b, VWQ9	N	SW-846:8260B	GELC			6.111958	8.66				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	03/02/07	FTB	UF	CS	VOA	Toluene	108-88-3		0.606	0.25	µg/L	1	J			N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	UF	CS	VOA	Acetone	67-64-1		2.72	1.25	µg/L	1	J	J-	VWQ9	N	SW-846:8260B	GELC					5475	0		

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Qc Type Code	Fid Prep Code	Lab Sample Type Code	AnyI Suite Code	Analyte Desc	Analyte	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	AnyI Meth Code	Lab Code	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/Scr Level)	EPA TAP SCRIN LVL Scr Lvl Risk Code = cancer	EPA TAP SCRIN LVL Ratio (Result/Scr Level) Risk Code = cancer	EPA TAP SCRIN LVL Ratio (Result/Scr Level) Risk Code = noncancer	EPA TAP SCRIN LVL Ratio (Result/Scr Level) Risk Code = noncancer	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/Scr Level)
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		UF	CS	VOA	Acetone	67-64-1		3.96	1.25	µg/L	1	J	J-	VWQ9	N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	117-81-7		7.46	2.25	µg/L	1	J			N	SW-846:8270C	GELC	6	1.24	4.802252	1.55				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	117-81-7		9	2.5	µg/L	1	J			N	SW-846:8270C	GELC	6	1.5	4.802252	1.87				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	UF	CS	SVOA	Dioxane[1,4-]	123-91-1		25	1.12	µg/L	1				N	SW-846:8270C	GELC			6.111958	4.09				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	UF	CS	VOA	Dioxane[1,4-]	123-91-1		39.2	20	µg/L	1	J	J-, J	V7b, VWQ9	N	SW-846:8260B	GELC			6.111958	6.41				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		UF	CS	SVOA	Dioxane[1,4-]	123-91-1		25	1.25	µg/L	1				N	SW-846:8270C	GELC			6.111958	4.09				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		UF	CS	VOA	Dioxane[1,4-]	123-91-1		37.8	20	µg/L	1	J	J, J-	VWQ9, V7b	N	SW-846:8260B	GELC			6.111958	6.18				
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07	FD	UF	CS	VOA	Toluene	108-88-3		1.1	0.25	µg/L	1				N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	02/26/07		UF	CS	VOA	Toluene	108-88-3		1.11	0.25	µg/L	1				N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-1	SINGLE	1031.1	03/07/07		UF	CS	VOA	Acetone	67-64-1		2.44	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-1	SINGLE	1031.1	03/07/07		UF	CS	PEST /PCB	Aroclor-1242	53469-21-9		0.15	0.0333	µg/L	1	P	J+, J	PWQ6, PWQ1 0	N	SW-846:8082	GELC	0.5	0.3	0.033616	4.46			1	0.15
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-13	SINGLE	958.3	02/28/07	FTB	UF	CS	VOA	Methylene Chloride	75-09-2		2.26	2	µg/L	1	J			N	SW-846:8260B	GELC	5	0.45	8.936207	0.25			100	0.02
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-13	SINGLE	958.3	02/28/07	FTB	UF	CS	VOA	Toluene	108-88-3		0.307	0.25	µg/L	1	J			N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	958.6	02/28/07	FTB	UF	CS	VOA	Methylene Chloride	75-09-2		2.09	2	µg/L	1	J			N	SW-846:8260B	GELC	5	0.42	8.936207	0.23			100	0.02
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	958.6	02/28/07	FTB	UF	CS	VOA	Toluene	108-88-3		0.307	0.25	µg/L	1	J			N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-16	MULTI	1238	03/06/07	SS	UF	CS	VOA	Toluene	108-88-3		0.499	0.25	µg/L	1	J			N	SW-846:8260B	GELC	1000	0			2281.25	0	750	0
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-16r	SINGLE	600	03/14/07		UF	CS	VOA	Acetone	67-64-1		3.21	1.25	µg/L	1	J	J+	VWQ9	N	SW-846:8260B	GELC					5475	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-21	SINGLE	888.8	03/15/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.43	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Qc Type Code	Fid Prep Code	Lab Sample Type Code	AnyI Suite Code	Analyte Desc	Analyte	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	AnyI Meth Code	Lab Code	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/Scr Level)	EPA TAP SCRNL LVL Scr Lvl Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/Scr Level)
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-21	SINGLE	888.8	03/15/07		UF	CS	SVOA	Benzoic Acid	65-85-0		12.5	6	µg/L	1	J	J-	SWQ9	N	SW-846:8270C	GELC					146000	0		
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-34	SINGLE	895.15	03/13/07		UF	CS	VOA	Acetone	67-64-1		2.96	1.25	µg/L	1	J	J+	VWQ9	N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-BG-1	SINGLE	10	03/20/07		UF	CS	VOA	Acetone	67-64-1		2.47	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-MW-18	SINGLE	12.5	03/19/07		UF	CS	VOA	Acetone	67-64-1		2.36	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-MW-8	SINGLE	8	03/21/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.83	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	18-MW-9	SINGLE	6	03/22/07		UF	CS	VOA	Acetone	67-64-1		22.2	1.25	µg/L	1				N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	TA-18 Spring	SPRING	0	03/20/07	FD	UF	CS	VOA	Acetone	67-64-1		3.55	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	TA-18 Spring	SPRING	0	03/20/07		UF	CS	VOA	Acetone	67-64-1		3.21	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial Spring	Threemile Spring	SPRING	0	03/20/07		UF	CS	VOA	Acetone	67-64-1		3.53	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-23i	MULTI	524	02/26/07	FTB	UF	CS	VOA	Chloromethane	74-87-3		0.63	0.5	µg/L	1	J	J-	VWQ9	N	SW-846:8260B	GELC		2.134503	0.3					
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-23i	MULTI	470.2	02/28/07	FTB	UF	CS	VOA	Dichlorobenzene[1,4-]	106-46-7		0.262	0.25	µg/L	1	J			N	SW-846:8260B	GELC	75	0	2.761862	0.09				
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Charlie's Spring	SPRING	0	03/21/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.69	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate Spring	Homestead Spring	SPRING	0	03/21/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.3	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-18	SINGLE	1358	03/22/07	FD	UF	CS	VOA	Acetone	67-64-1		12.5	1.25	µg/L	1				N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-18	SINGLE	1358	03/22/07		UF	CS	VOA	Acetone	67-64-1		12.9	1.25	µg/L	1				N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-18	SINGLE	1358	03/22/07	FD	UF	CS	HEXP	RDX	121-82-4		0.168	0.13	µg/L	2	J			N	SW-846:8321A_MOD	GELC			0.611196	0.27				
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-18	SINGLE	1358	03/22/07		UF	CS	HEXP	RDX	121-82-4		0.144	0.13	µg/L	2	J			N	SW-846:8321A_MOD	GELC			0.611196	0.24				
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-22	MULTI	1273.5	03/20/07	FTB	UF	CS	VOA	Acetone	67-64-1		1.81	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		

Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date Time	Fid Qc Type Code	Fid Prep Code	Lab Sample Type Code	AnyI Suite Code	Analyte Desc	Analyte	Symbol	Std Result	Std Mdl	Std Uom	Dilution Factor	Lab Qual Code	Concat Flag Code	Concat Reason Code	Prelim Flag	AnyI Meth Code	Lab Code	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Result/Scr Level)	EPA TAP SCRNL LVL Scr Lvl Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = cancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	EPA TAP SCRNL LVL Ratio (Result/Scr Level) Risk Code = noncancer	NM GW LIM Scr Lvl	NM GW LIM Ratio (Result/Scr Level)
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-23	SINGLE	816	03/19/07	FD	UF	CS	VOA	Acetone	67-64-1		2.28	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-23	SINGLE	816	03/19/07		UF	CS	VOA	Acetone	67-64-1		1.35	1.25	µg/L	1	J			N	SW-846:8260B	GELC					5475	0		
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-23	SINGLE	816	03/19/07	FD	UF	CS	PEST /PCB	DDD[4,4'-]	72-54-8		0.00609	0.00521	µg/L	1	JP	J	PWQ6	N	SW-846:8081A	GELC			0.280131	0.02				