

Summary of Additional LANL Groundwater Data Loaded in August through October  
2006

December 13, 2006

**Executive Summary**

**Key findings include:**

- **Fluoride and perchlorate results in Mortandad Canyon alluvial groundwater that are consistent with earlier values;**
- **Increased TDS results for two intermediate wells at TA-3 (03-B-10 and 03-B-13);**
- **In addition to high concentrations of aluminum, iron, and manganese related to sample turbidity or well construction, filtered lead concentrations in 03-B-10 and 03-B-13 that were above the EPA tap water screening level of 15 µg/L;**
- **RDX at Bulldog Spring, consistent with earlier data; and**
- **Dichloroethene[1,1-], trichloroethane[1,1,1-], and dioxane[1,4-] results at 03-B-10 and 03-B-13 that are consistent with earlier values.**

**Introduction**

This report provides preliminary information to NMED concerning recent groundwater data. These data were omitted from prior screenings as a result of a data entry error when chain of custody forms were submitted to the sample management office. This report highlights constituents that exceed 50% of an applicable regulatory standard in groundwater samples taken from several wells or springs (listed on four accompanying tables), which provide surveillance of the groundwater zones indicated in the tables.

In the tables, information is given for sample date, detection limits, values for regulatory standards, analytical and secondary validation qualifiers, and comments on the



observations. All data have been through secondary validation, as indicated on the tables by a preliminary flag of N.

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

Groundwater data included in this review were principally from sampling of Pajarito and White Rock Canyons. These results included 146 samples and about 378 sample bottles.

### **General Chemistry Results**

TDS results for two intermediate wells at TA-3 (03-B-10 and 03-B-13) were 60% of the NM Groundwater Standard. Prior data are not available for 03-B-10; the results in 03-B-13 are twice values found in samples from June, 2006.

Fluoride results in Mortandad Canyon alluvial wells MCO-4B, MCO-6, and MCO-7 are similar to prior results. Perchlorate results in Mortandad Canyon alluvial groundwater and in Pajarito Canyon intermediate Bulldog Spring are in keeping with earlier data.

### **Metals Results**

Several wells and springs had dissolved concentrations of aluminum, iron, or manganese (related to sample turbidity or well-drilling effects) that were more than 50% of groundwater standards.

Filtered lead concentrations in 03-B-10 and 03-B-13 were above the EPA tap water screening level of 15 µg/L. The results for both wells are ten times values found in June 2006 samples.

### **Organic Results**

Dichloroethene[1,1-], trichloroethane[1,1,1-], and dioxane[1,4-], were detected at two intermediate wells at TA-3 (03-B-10 and 03-B-13), as in prior samples. RDX was present in a sample Bulldog Spring, as in the past.

This report contains all LC/MS/MS results and all IC detections (Note lower IC MDL for EES-6)																														
Sample with result > 24.5 (EPA Drinking Water Equivalent Level)																														
Sample with result > 4 CO Screening Level)																														
Sample with 0.6 < result < 4 (NMED background upper limit and CO Screening Level)																														
File	Unit	Hdr	Zor	Location Name	Well Class	Port Depth	Start Date	Fid C	Fid P	Lab S	Analy	Anyl	Meth	Code	Symbol	Std Result	Std Mdl	Std U	Diluti	Lab	Conc	Conc	Prefir	Load Date	Lab Code	Source Ori	Comments	Sample Id	Anyl Suite	Uri
W	#	#	Upper	Inte	LAOI-3.2a	SINGLE	181	10/13/06	F	CS	ClO4	EPA.314.0				4.09		4 ug/L	1	J		N	11/17/06	GELC	ESH-18HDRO		GF06100GI32A01	GENINOR	13963481	
W	#	#	Upper	Inte	LAOI-3.2a	SINGLE	181	10/13/06	F	CS	ClO4	SW846 6850 Modified				4.26		0.5 ug/L	10			N	11/17/06	GELC	ESH-18HDRO		GF06100GI32A01	GENINOR	13963441	
W	#	#	Mortar	Alk	MCO-4B	SINGLE	9	10/19/06	F	CS	ClO4	EPA.314.0				29.8		4 ug/L	1			N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM01	GENINOR	14027561	
W	#	#	Mortar	Alk	MCO-4B	SINGLE	9	10/19/06	F	CS	ClO4	SW846 6850 Modified				30.5		5 ug/L	100	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM01	GENINOR	14027511	
W	#	#	Mortar	Alk	MCO-4B	SINGLE	9	10/19/06	FD	F	CS	ClO4	EPA.314.0			30.6		4 ug/L	1			N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM90	GENINOR	14027781	
W	#	#	Mortar	Alk	MCO-4B	SINGLE	9	10/19/06	FD	F	CS	ClO4	SW846 6850 Modified			30.1		5 ug/L	100	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM90	GENINOR	14027691	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	F	CS	ClO4	EPA.314.0				116		8 ug/L	2			N	11/22/06	GELC	ESH-18HDRO		GF061000GMC501	GENINOR	13993001	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	F	CS	ClO4	SW846 6850 Modified				132		10 ug/L	200	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF061000GMC501	GENINOR	13992961	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	FD	F	CS	ClO4	EPA.314.0			115		8 ug/L	2			N	11/22/06	GELC	ESH-18HDRO		GF061000GMC520	GENINOR	13993461	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	FD	F	CS	ClO4	SW846 6850 Modified			131		10 ug/L	200	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF061000GMC520	GENINOR	13993421	

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Fl	Hk	Uf	Hdr	Zor	Location Name	Well Class	Port	Depth	Start Date	Fid C	Fid P	Lab S	Anal	Anyl Meth Code	Symbol	Std Result	Std Mdl	Std U	Diluti	Lab C	Conc	Conc	Prefir	Load Date	Lab Code	Source Ori	Comments	Sample Id	Anyl Suite	Uri
W	#	#	Upper	Inte	LAOI-3.2a	SINGLE	181	10/13/06		F	CS	CIO4	EPA:314.0			4.09	4	ug/L	1	J		N	11/17/06	GELC	ESH-18HDRO		GF06100GI32A01	GENINOR	13963481	
W	#	#	Upper	Inte	LAOI-3.2a	SINGLE	181	10/13/06		F	CS	CIO4	SW846 6850 Modified			4.26	0.5	ug/L	10			N	11/17/06	GELC	ESH-18HDRO		GF06100GI32A01	GENINOR	13963441	
W	#	#	Mortar	Altk	MCO-4B	SINGLE	9	10/19/06		F	CS	CIO4	EPA:314.0			29.8	4	ug/L	1			N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM01	GENINOR	14027561	
W	#	#	Mortar	Altk	MCO-4B	SINGLE	9	10/19/06		F	CS	CIO4	SW846 6850 Modified			30.5	5	ug/L	100	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM01	GENINOR	14027511	
W	#	#	Mortar	Altk	MCO-4B	SINGLE	9	10/19/06	FD	F	CS	CIO4	EPA:314.0			30.6	4	ug/L	1			N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM90	GENINOR	14027781	
W	#	#	Mortar	Altk	MCO-4B	SINGLE	9	10/19/06	FD	F	CS	CIO4	SW846 6850 Modified			30.1	5	ug/L	100	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF060900G4BM90	GENINOR	14027691	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06		F	CS	CIO4	EPA:314.0			116	8	ug/L	2			N	11/22/06	GELC	ESH-18HDRO		GF061000GMC501	GENINOR	13993001	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06		F	CS	CIO4	SW846 6850 Modified			132	10	ug/L	200	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF061000GMC501	GENINOR	13992961	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	FD	F	CS	CIO4	EPA:314.0			115	8	ug/L	2			N	11/22/06	GELC	ESH-18HDRO		GF061000GMC520	GENINOR	13993461	
W	#	#	Mortar	Inte	MCOI-5	SINGLE	689	10/19/06	FD	F	CS	CIO4	SW846 6850 Modified			131	10	ug/L	200	J	LMS	N	11/22/06	GELC	ESH-18HDRO		GF061000GMC520	GENINOR	13993421	

Samples where result/screening level > 10																				Samples where 1 < result/screening level < 10																			
H#	U#	Hdr 1	Zone	Location Name	Well Class	Port Depth	Start Date	Source Org	Analyt	Fld Pre	Lab Se	Fld Qc	Symbo	Std Result	Std Mdl	Std Uf	Load Date	Lab Code	Lab C	Conc	Conc	Prelin	Samg	Uri	EPA PRIM DW STD Scr Lvl	EPA PRIM DW STD Ratio (Res)	NM GW LIM Scr Lvl	NM GW LIM Ratio (Res)											
#	#	Sand	Regic	R-11	SINGLE	855	02/03/06	ER	Cr(VI)	F	CS			26	0.6	ug/L	11/20/06	STLA		J+	I3	N	SF06	13976881			50	0.52											
#	#	Sand	Regic	R-11	SINGLE	855	04/20/06	ER	Cr(VI)	F	CS			27.3	0.25	ug/L	11/20/06	STLA		J	IWQ1	N	SF06	13977341			50	0.55											
#	#	Sand	Regic	R-11	SINGLE	855	10/10/06	ESH-18HD	Cr	F	CS	FD		29.3	1	ug/L	11/15/06	GELC				N	GF06	13923721			50	0.59											
#	#	Sand	Regic	R-11	SINGLE	855	10/10/06	ESH-18HD	Cr	F	CS			29.4	1	ug/L	11/15/06	GELC				N	GF06	13923151			50	0.59											
#	#	Morta	Intern	MCOI-6	SINGLE	686	01/31/06	ER	Cr(VI)	F	CS			53.2	1.5	ug/L	11/20/06	STLA				N	SF06	13977171	100	0.53	50	1.06											
#	#	Morta	Regic	R-28	SINGLE	934.3	01/26/06	ER	Cr(VI)	F	CS			405	7.5	ug/L	11/20/06	STLA				N	SF06	13977201	100	4.05	50	8.1											
#	#	Morta	Regic	R-28	SINGLE	934.3	04/19/06	ER	Cr(VI)	F	CS			417	1	ug/L	11/20/06	STLA		J	IWQ1	N	SF06	13977351	100	4.17	50	8.34											
#	#	Pajar	Regic	R-17	MULTI	1057	10/19/06	ESH-18HD	Fe	F	CS			1510	18	ug/L	11/22/06	GELC	N	J+	I3	N	GF06	14013721			1000	1.51											

