SUMMARY OF NEW LOS ALAMOS NATIONAL LABORATORY GROUNDWATER DATA LOADED IN JULY 2007

August 23, 2007

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 highlights new results for constituents that for the first time at a location exceed an applicable regulatory standard, exceed half that standard, or are first-time detections of organic compounds. The report covers groundwater samples taken from wells or springs (listed on the accompanying table) that provide surveillance of the groundwater zones indicated in the tables.

The table is divided into three different categories. The first category contains results equal to or greater then a regulatory standard, the second presents data that are above one-half a regulatory standard, and the third describes first-time detections of an organic constituents.

Information in the accompanying table includes sample date, identification of the well or spring, the location of the well or spring, the depth of the screened interval, groundwater zone sampled, analytical result, and values for regulatory standards. Additional information describing the locations and analytical data is also included. Generally, all data have been through secondary validation, as indicated in the tables by a preliminary flag of N. The 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 the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), the New Mexico groundwater standards, and the 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 noncancer risk values. The data were screened using 10 times the 10^{-6} excess cancer risk values, as indicated in Section VIII.A.1 of the March 1, 2005, Compliance Order on Consent.

SUMMARY OF DATA

The data included in this report fall into several categories:

- Several alluvial locations in Sandia and Mortandad Canyon had exceedances of metals most likely related to turbidity (SCA-4, MCO-0.6, MCO-2, and at MCO-7).
- Elevated chloride was observed at wells 03-B-10, 03-B-13, and SCA-1. The water quality of these locations may be affected by road salting, resulting in elevated chloride during the winter.
- Results from well SCA-4 and spring WA-625 are from the first sampling at these locations. Therefore, the values automatically trigger some screening criteria as first results.
- Numerous compounds found in trip, field, or equipment blanks. These low-level organic compound detections occur sporadically and probably result from contamination during sampling or analysis Such compounds include bis(2-ethylhexyl)phthalate, acetone, toluene, methylene chloride, and carbon disulfide.

Groundwater Data Review for July 2007
Date of review: 8/8/2007
Data compiled by: Data Team (A.R. Groffman)

Watershed	Location	Zone	Well Class	Port Depth (feet)	Sampling Date	Analyte	Standard Result	Standard Uncertainty	MDL/MDA	Unit of Measurement	Standard or Screening Level Type	Standard or Screening Level Threshold	Exceedances Ratio of Standard Screening Level	Preliminary Flag[a]	Web Flag[b]	Comments
Criteria A, First Time above a Standard (24-hour Reporting)																
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-10	I[c]	SINGLE	20.6	03/29/07	Chloride	414		3.3	mg/L	NM GW STD	250	1.66	N	Y	Three sampling rounds, previous range 51.8 to 54.4 mg/L, highest result to date.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-10	I	SINGLE	20.6	03/29/07	Dioxane[1,4-]	72.7		1.01	µg/L	EPA TAP SCRN LVL C	61.12	1.19	N	Y	First time detected above a std by the SVOA method, FTB was nondetect. Previously detected above the screening level by the VOA method, four sampling rounds total.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-13	I	SINGLE	21.5	03/29/07	Chloride	387		3.3	mg/L	NM GW STD	250	1.55	N	Y	Four sampling rounds; previous range 43.2 to 78.0 mg/L, highest result to date.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-2	A[d]	SINGLE	2	06/14/07	Aluminum	9410		68	µg/L	NM GW STD	5000	1.88	N	Y	First time result is above the New Mexico groundwater standard, also highest to date. Only one previous filtered sample was analyzed for aluminum in July 2000 at 110.0 µg/L.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-2	A	SINGLE	2	06/14/07	Beryllium	5.8		1	µg/L	EPA PRIM DW STD	4	1.45	N	Y	First time above a standard (EPA MCL) and highest to date; the companion filtered result was nondetect. Three detections (one filtered and two nonfiltered) out of four previous analyses.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCOI-6	I	SINGLE	686	06/05/07	Dioxane[1,4-]	63.9		20	µg/L	EPA TAP SCRN LVL C	61.12	1.05	N	Y	Field duplicate. This result represents the first time detection above the EPA tap screening level [C]; detections were observed in all seven previous analyses. Companion SVOC result with a lower detection limit (preferred method) was 24.1 µg/L.
Sandia Canyon	SCA-4	A	SINGLE	37	06/18/07	Arsenic	15		1.5	µg/L	EPA PRIM DW STD	10	1.5	Y	Y	First time above a standard (EPA MCL). In addition, this is the first sampling round result, first analysis, and the FB was nondetect.
Sandia Canyon	SCA-4	A	SINGLE	37	06/18/07	Lead	19.8		0.5	µg/L	EPA PRIM DW STD	15	1.32	Y	Y	First time detected above a std, first sampling round
Water Canyon (includes Cañon de Valle, Potrillo and Fence Canyons)	WA-625 Spring	A	SPRING	0	05/23/07	Acrolein	9.01		3	µg/L	EPA TAP SCRN LVL N	0.04	216.49	N	Y	First time detected above a std and first sampling round. Not detected in FTB, rarely detected across the Laboratory (only 2 detections out of 1019 analyses of primary samples and field duplicates), J qualifier.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-7	A	SINGLE	4.9	03/01/07	Mercury	4.9		0.06	µg/L	EPA PRIM DW STD	2	2.45	N	Y	Previously detected 5 times out of 25 sampling rounds since 1978. Previous concentrations ranged from 0.10 µg/L to 1.9 µg/L. This NF result was previously reported before undergoing secondary validation.

Watershed	Location	Zone	Well Class	Port Depth (feet)	Sampling Date	Analyte	Standard Result	Standard Uncertainty	MDL/MDA	Unit of Measurement	Standard or Screening Level Type	Standard or Screening Level Threshold	Exceedances Ratio of Standard Screening Level	Preliminary Flag[a]	Web Flag[b]	Comments
Criteria A, First Time above a Standard (24-hour Reporting)																
Pajarito Canyon (includes Twomile and Threemile Canyons)	Charlie's Spring	S[e]	SPRING		03/21/07	Fe	1930		18	µg/L	NM GW STD	1000	1.93	N	Y	Filtered result, nonfiltered also over std, three sampling rounds.
Pajarito Canyon (includes Twomile and Threemile Canyons)	Homestead Spring	S	SPRING		03/21/07	Fe	1890		18	µg/L	NM GW STD	1000	1.89	N	Y	Filtered result, nonfiltered also over std but not first time, eight sampling rounds total.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-0.6	A	SINGLE	1.05	06/19/07	Arsenic	6.4		1.5	µg/L	EPA PRIM DW STD	10	0.64	N	Y	First time detected above one-half a standard (EPA MCL). This location has been sampled for arsenic 5 times.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-2	A	SINGLE	2	06/14/07	Chromium	41.8		1	µg/L	NM GW STD	50	0.84	N	Y	First time detected above one-half a standard and highest filtered result to date. The companion nonfiltered result is 4.6 times the filtered result. Four sampling rounds since 1998, with three nonfiltered and one filtered analyses previously.
Sandia Canyon	SCA-1	A	SINGLE	1.3	02/21/07	Chloride	197		1.32	mg/L	NM GW STD	250	0.79	N	Y	First time above one-half a standard (New Mexico groundwater standard); this is the second sampling round.
Water Canyon (includes Cañon de Valle, Potrillo and Fence Canyons)	WA-625 Spring	A	SPRING	0	05/23/07	Barium	701		1	µg/L	NM GW STD	1000	0.7	N	Y	First sampling round and first time detected above a std (New Mexico groundwater standard). Downgradient from TA-16 firing site.
Pajarito Canyon (includes Twomile and Threemile Canyons)	Homestead Spring	S	SPRING	0	03/21/07	Aluminum	4200		68	µg/L	NM GW STD	5000	0.84	N	Y	The filtered aluminum result was reported in May but was not validated at that time. This represents the validated result.
Pajarito Canyon (includes Twomile and Threemile Canyons)	Starmer Spring	S	SPRING	0	03/21/07	Aluminum	3810		68	µg/L	NM GW STD	5000	0.762	N	Y	Filtered aluminum, three sampling rounds to date, highest to date by 4 times. Filtered aluminum result was reported in May but was not validated at that time. This represents the validated result.
Pajarito Canyon (includes Twomile and Threemile Canyons)	Charlie's Spring	S	SPRING	0	03/21/07	Aluminum	4320		68	µg/L	NM GW STD	5000	0.864	N	Y	Filtered aluminum, eight sampling rounds to date, highest to date by 2 times. Filtered aluminum result was reported in May but was not validated at that time. This represents the validated result.
Los Alamos Canyon (includes Pueblo, DP, and Guaje Canyons)	PAO-2	A	SINGLE	6.06	04/23/07	Chloride	135		1.32	µg/L	NM GW STD	250	0.54	N	Y	Second and highest result of chloride; this value is about 5.7 times the first result in August 2006.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-13	I	SINGLE	21.5	03/29/07	Total Petroleum Hydrocarbons Gasoline Range Org.	75.3		25	µg/L	None	None	None	N	Y	Only one analysis and detection (MDL 25 µg/L).
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	R-1	R[f]	SINGLE	1031	06/11/07	DDT[4,4'-]	0.0136		0.01	µg/L	EPA TAP SCRN LVL C	0.19773981	0.068777	N	Y	First time detected to date, eight sampling rounds performed, FD was nondetect.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	R-1	R	SINGLE	1031	06/11/07	DDD[4,4'-]	0.00973		0.01	µg/L	EPA TAP SCRN LVL C	0.28	0.034734	N	Y	First time detected to date, eight sampling collection rounds at this location, FD was nondetect.

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Criteria A, First Time above a Standard (24-hour Reporting)																
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	R-1	R	SINGLE	1031	06/11/07	DDE[4,4'-]	0.0118		0.01	µg/L	EPA TAP SCRN LVL C	0.20	0.059674	N	Y	First time detected to date, eight sampling rounds, FD was nondetect.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-4B	A	SINGLE	8.9	06/04/07	Benzoic Acid	7.65		6	µg/L	EPA TAP SCRN LVL N	146000	5.24E-05	N	Y	First time detected to date out of 13 sampling rounds and subsequent analyses.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MT-3	A	SINGLE	44	06/07/07	Bis(2-ethylhexyl) phthalate	1.38		1.35	µg/L	EPA PRIM DW STD	6	0.23	N	Y	First time detected out of six sampling rounds, installation blank from 2002 was a detect.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-10	I	SINGLE	20.6	03/29/07	Acetone	16		1.25	µg/L	EPA TAP SCRN LVL N	5475	0.002922	N	Y	First time detected out of four sampling rounds, not detected in the FTB.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-10	I	SINGLE	20.6	03/29/07	Butanone[2-]	3.17		1.25	µg/L	EPA TAP SCRN LVL N	7064.52	0.000449	N	Y	First time detected out of four sampling rounds, not detected in the FTB.
Pajarito Canyon (includes Twomile and Threemile Canyons)	03-B-13	I	SINGLE	21.5	03/29/07	Acetone	22.7		2.5	µg/L	EPA TAP SCRN LVL N	5475	0.004146	N	Y	First time detected out of four sampling rounds, no FTB results are available at this time.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCA-2	A	SINGLE	45	06/05/07	Acetone	1.4		1.25	µg/L	EPA TAP SCRN LVL N	5475	0.000256	N	Y	First time detected out of five analyses, not detected in the FTB.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-2	A	SINGLE	2	06/14/07	Acetone	1.8		1.25	µg/L	EPA TAP SCRN LVL N	5475	0.000329	N	Y	First time detected out of four sampling rounds since 1998, not detected in the accompanying FTB.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-2	A	SINGLE	2	06/14/07	Butanone[2-]	1.34		1.25	µg/L	EPA TAP SCRN LVL N	7064.52	0.00019	N	Y	First time detected out of four analyses since 1998, not detected in the FTB.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-4B	A	SINGLE	8.9	06/04/07	Toluene	0.289		0.25	µg/L	NM GW STD	750	0.000385	N	Y	First time detected out of 14 sampling rounds, not detected in the accompanying FTB.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCO-4B	A	SINGLE	8.9	06/04/07	Isopropyl toluene[4-]	0.419		0.25	µg/L	None	None	None	N	Y	First time detected out of 13 sampling rounds, not detected in the accompanying FTB.
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	MCOI-5	I	SINGLE	689	06/04/07	Acetone	1.75		1.25	µg/L	EPA TAP SCRN LVL N	5475	0.00032	N	Y	First time detected out of seven sampling rounds, not detected in the FTB.
Pajarito Canyon (includes Twomile and Threemile Canyons)	R-32	R	MULTI	976	03/27/07	Acetone	2.48		1.25	µg/L	EPA TAP SCRN LVL N	5475	0.000453	N	Y	First time detected out of eight sampling rounds, not detected in the FTB.
Water Canyon (includes Cañon de Valle, Potrillo and Fence Canyons)	WA-625 Spring	A	SPRING	0	05/23/07	Butanone[2-]	2.32		1.25	µg/L	EPA TAP SCRN LVL N	7064.52	0.000328	N	Y	First time detected and first sampling round at this location.

Watershed	Location	Zone	Well Class	Port Depth (feet)	Sampling Date	Analyte	Standard Result	Standard Uncertainty	MDL/MDA	Unit of Measurement	Standard or Screening Level Type	Standard or Screening Level Threshold	Exceedances Ratio of Standard Screening Level	Preliminary Flag[a]	Web Flag[b]	Comments
Criteria A, First Time above a Standard (24-hour Reporting)																
Pajarito Canyon (includes Twomile and Threemile Canyons)	R-17	R	MULTI	1057	04/25/07	Aroclor-1242	0.17		0.04	µg/L	EPA PRIM DW STD	0.5	0.34	N	Y	Detected for the first time, not detected in the field duplicate. Previously sampled for three times, and all were nondetects. This Aroclor-1242 detection is probably a false positive from analytical laboratory contamination.
Los Alamos Canyon (includes Pueblo, DP, and Guaje Canyons)	DP Spring	S	SPRING	0	04/18/07	Butanone[2-]	1.76		1.25	µg/L	EPA TAP SCRN LVL N	7064.52	0.000249	N	Y	This first detection is just above the MDL of 1.25 µg/L and not detected in the companion field trip blank nor in eight previous samples collected since 1997.

[a] Preliminary Flag = Denotes whether the data is preliminary "Y" (yes) and has not been qualified and "N" or no if the data has been qualified and is not preliminary.

[b] Web Flag = Denotes whether the data can be released to the Web, "Y" for yes and "N" or no, if the data are proprietary (San Ildefonso, municipal water supply) be reviewed by that entity.

[c] I = Intermediate groundwater.

[d] A = Alluvial groundwater.

[e] S = Spring.

[f] R = Regional groundwater.