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*Date*: June 25, 2007
*Refer To*: EP2007-0391

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 May 2007 Groundwater Data**

Dear Mr. Bearzi:

The Los Alamos National Laboratory (LANL) Water Stewardship Project (LWSP) met on June 11, 2007, to review new groundwater data received in May 2007. At that time, several groundwater samples were identified with contaminant concentrations above the New Mexico or federal water quality standards. The LWSP director notified the Hazardous Waste Bureau by telephone on June 11, 2007, and followed up with an email on the same day. The instances of a contaminant above a standard for the first time were as follows:

- In Los Alamos Canyon alluvial well LAUZ-1, the total dissolved solids (TDS) value was measured at 1160 mg/L, above the New Mexico groundwater standard of 1000 mg/L.
- In Los Alamos Canyon alluvial well LAO-0.6, perchlorate was measured at 7.3 µg/L, above the Consent Order screening level of 4 µg/L. Perchlorate was not detected in the only prior sample from August 2006.
- In Los Alamos Canyon intermediate well LAOI-3.2, perchlorate was measured at 6.65 µg/L, above the Consent Order screening level of 4 µg/L.
- In Pueblo Canyon intermediate well APCO-1, perchlorate was measured at 8.3 µg/L, above the Consent Order screening level of 4 µg/L. The results are questionable: duplicate sample measurements by a more sensitive method were nondetect, in line with previous results from the well.
- In Bulldog Spring in Pajarito Canyon, dissolved iron was measured at 2200 µg/L, above the New Mexico groundwater standard of 1000 µg/L.



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- In Pajarito Canyon Kieling Spring, dissolved aluminum was measured at 12,800 µg/L, above the New Mexico groundwater standard of 5000 µg/L.

- At Anderson Spring in Pajarito Canyon in April 2007, six polycyclic aromatic hydrocarbons (PAHs) were detected for the first time, above the U.S. Environmental Protection Agency (EPA) maximum contaminant level (MCL) or risk levels. One compound, benzo(a)pyrene, was detected at a concentration 1.7 times the EPA MCL. Three other PAHs were above screening levels: benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene are respectively at 1.0, 107, and 9.1 times the $10^{-5}$ excess cancer risk EPA Region 6 tap screening levels.

This letter is our written submission that indicates in the accompanying report and tables the contaminants that meet the six screening criteria laid out in the Settlement Agreement for the Notice of Violation issued by NMED to DOE and LANS on September 15, 2006. To meet requirements in criteria 1, 3, and 4, the report calls out data that are the first exceedance of a standard, data that are the first exceedance of one-half a standard, and, generally, new detections of organic compounds.

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/AG:sm

Enclosure: Report and accompanying tables: "Summary of New Los Alamos National Laboratory Groundwater Data Loaded in May 2007" (EP2007-0391)

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

June 15, 2007

## EXECUTIVE SUMMARY

Key findings include the following:

**First exceedance of a standard:**

- In Los Alamos Canyon alluvial well LAUZ-1, the total dissolved solids (TDS) value (1160 mg/L) was measured above the New Mexico groundwater standard of 1000 mg/L for the first time.
- Perchlorate (7.3 µg/L) was detected for the first time in Los Alamos Canyon alluvial well LAO-0.5 above the Consent Order screening level of 4 µg/L. Perchlorate was not detected in the only previous sample from August 2006.
- In Los Alamos Canyon intermediate well LAOI-3.2, perchlorate (6.65 µg/L) was detected for the first time above the Consent Order screening level of 4 µg/L.
- In Pueblo Canyon alluvial well APCO-1, perchlorate (8.3 µg/L) was measured for the first time above the Consent Order screening level of 4 µg/L. The results are questionable: duplicate sample measurements by a more sensitive method were nondetect, consistent with prior results from the well. These results are not yet validated.
- Dissolved iron (2200 µg/L ) was found in Bulldog Spring in Pajarito Canyon for the first time above the New Mexico groundwater standard of 1000 µg/L.
- Dissolved aluminum (12,800 µg/L ) was measured at Pajarito Canyon intermediate Kisting Spring for the first time above the New Mexico groundwater standard of 5000 µg/L.
- Six PAHs were detected for the first time at Anderson Spring in Pajarito Canyon in April 2007. This is the third measurement for these compounds; no polycyclic aromatic hydrocarbons (PAHs) were found in the two prior samples. One compound, benzo(a)pyrene, was at a concentration 1.7 times the the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs). Three other PAHs were above screening levels: benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene are respectively at 1.0, 107, and 9.1 times the $10^{-5}$ excess cancer risk EPA Region VI tap water screening levels.

**First exceedance of one-half standard:**

- The second measurement of chloride at Pueblo Canyon alluvial well PAO-2 (135 mg/L) is the highest result for this well, at 54% of the New Mexico groundwater standard of 250 mg/L. This value is about 5.7 times the first measurement in August 2006.
- Mercury (1.8 µg/L) in the unfiltered sample from Pajarito Canyon alluvial well PCO-3 is the first measurement above one-half the New Mexico groundwater standard of 2 µg/L (which applies to total mercury). Mercury has been detected four times at this well, out of 13 samples since 1985. The previous mercury concentrations range from 0.2 µg/L to 0.3 µg/L
- Dissolved aluminum (4500 µg/L) was found at Bulldog Spring in Pajarito Canyon for the first time above one-half the New Mexico groundwater standard of 5000 µg/L.

**Other new results:**

- The chloride concentration (506 mg/L) at Upper Los Alamos Canyon alluvial well LAUZ-1 is the highest at this well over the last 10 yr and is twice the New Mexico groundwater standard of 250 mg/L. The result is not the first above the standard.
- The first detection of butanone[2-] (1.76 µg/L) in Los Alamos Canyon DP Spring is close to the method detection limit (MDL) of 1.25 µg/L. The noncancer risk EPA tap screening level for this compound is 7065 µg/L. Butanone[2-] was not detected in the companion field trip blank, nor in eight previous samples collected since 1997.
- The organic compound delta-benzene hexachloride (BHC[delta-]) (0.41 µg/L, MDL 0.005 µg/L) was detected for the first time at Los Alamos Canyon alluvial well LAO-3a. There is no standard for this compound. BHC[delta-] was not detected in two previous measurements made since 2004. This compound is an impurity of the pesticide lindane, which was not detected in the sample.
- Bis(2-ethylhexyl)phthalate (3.34 µg/L, near the MDL of 2.27 µg/L) was detected in duplicate samples in Water Canyon regional well R-27 at 56% of the EPA MCL. Bis(2-ethylhexyl)phthalate has been detected at this concentration in each of three consecutive sample events, with none detected in quality control samples.
- Toluene (41.1 µg/L, MDL 0.25 µg/L) at Los Alamos Canyon intermediate well LAOI-7 was detected at 5% of the New Mexico groundwater standard of 750 µg/L. Toluene has been detected in the last five sampling rounds since May 2006 and the levels are generally decreasing from a high of 112 µg/L in August 2006.

## INTRODUCTION

This report provides preliminary information to the New Mexico Environment Department (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.

The tables provide information on the sample date, detection limits, values for regulatory standards, and 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, New Mexico groundwater standards, and EPA Region 6 tap water screening levels (for compounds having no other regulatory standard). In the tables, the EPA Region 6 tap water screening levels are identified as being for cancer ($10^{-6}$ excess) or noncancer 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 previous occurrences of the constituents at the given locations.

## GENERAL CHEMISTRY RESULTS

The TDS in Upper Los Alamos Canyon alluvial well LAUZ-1 (1160 mg/L) is the first above the New Mexico groundwater standard of 1000 mg/L. The chloride concentration (506 mg/L) is the highest over the last 10 yr at this well. While this value is twice the New Mexico groundwater standard of 250 mg/L, it is not the first above the standard. The elevated TDS and chloride concentrations in this well could be from runoff of road salt applied during the winter season.

Perchlorate (7.3 µg/L ) was measured in Los Alamos Canyon alluvial well LAO-0.6 for the first time above the Consent Order screening level of 4 µg/L. Perchlorate was not detected in the only previous sample from August 2006.

The first perchlorate result above the Consent Order screening level of 4 µg/L in Los Alamos Canyon intermediate well LAOI-3.2 was measured (6.65 µg/L).

In Pueblo Canyon alluvial well APCO-1, perchlorate was measured in duplicate samples (4.42 µg/L and 8.31 µg/L, J-qualifier) for the first time above the Consent Order screening level of 4 µg/L. However, duplicate sample measurements by a more sensitive method were nondetect, consistent with previous results from the well. Thus, the new perchlorate results in this well are probably false positives. Note that these results are not yet validated.

The second measurement of chloride at Pueblo Canyon alluvial well PAO-2 (135 mg/L) is the highest for the well, at 54% of the New Mexico groundwater standard of 250 mg/L. This value is about 5.7 times the first result in August 2006.

Past chloride and TDS results at Pajarito Canyon alluvial well PCO-3 have been variable. The results of chloride (140 mg/L) and TDS (603 mg/L) from April 2007 are at 56% and 60%, respectively, of the New Mexico groundwater standards of 250 mg/L and 1000 mg/L. These values are within the range of previous data.

The fluoride concentration (1.05 mg/L) at Pueblo Canyon regional well R-5 Intermediate zone 384 ft is at 66% of the New Mexico groundwater standard of 1.6 mg/L. Fluoride values at the intermediate and two regional zones of this well have been nearly constant since the first samples in 2004. Fluoride concentrations at two deeper zones are below one-half the standard.

The chloride concentration (175 mg/L) at DP Spring in Upper Los Alamos Canyon is about 70% of the New Mexico groundwater standard of 250 mg/L. The chloride concentration measured in the April 2007 sample is within the previous values.

## METALS RESULTS

The dissolved iron and aluminum results in three Pajarito Canyon intermediate springs (Anderson, Bulldog, and Kelling) are the highest to date. Dissolved iron was found in Bulldog Spring for the first time above the New Mexico groundwater standard of 1000 µg/L (2200 µg/L). Aluminum was measured for the first time above the New Mexico groundwater standard of 5000 µg/L at Kieling Spring (12,800 µg/L). Dissolved aluminum was found for the first time above one-half the New Mexico groundwater standard of 5000 µg/L at Bulldog Spring (4500 µg/L). The dissolved and total concentrations for iron and aluminum show a strong increase with increasing turbidity, suggesting that the iron is partly in colloidal form (Figures 1 and 2). The aluminum and iron concentrations are also higher at lower pH (Figure 3).

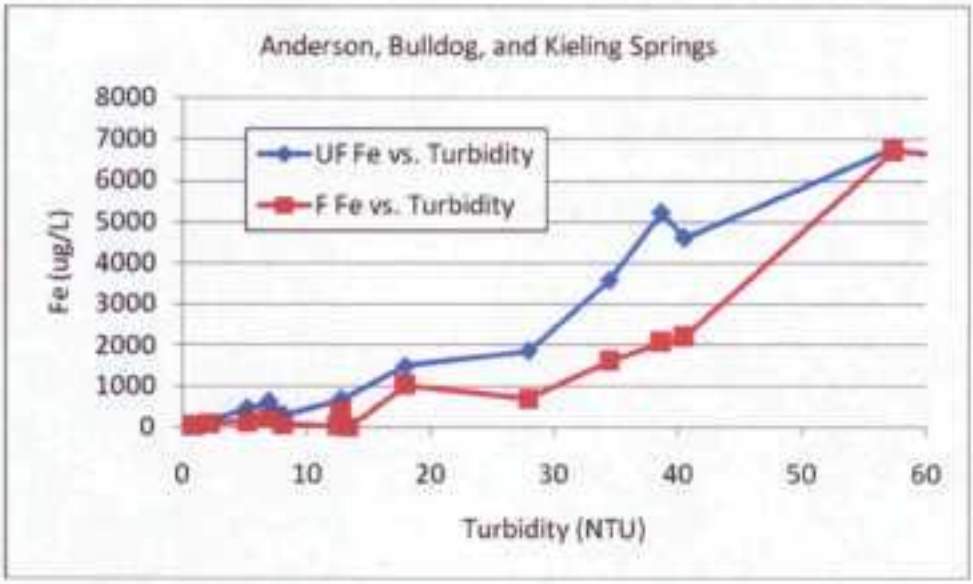


**Figure 1** **Variation of filtered and unfiltered iron concentrations with turbidity for Anderson, Kieling, and Bulldog springs**

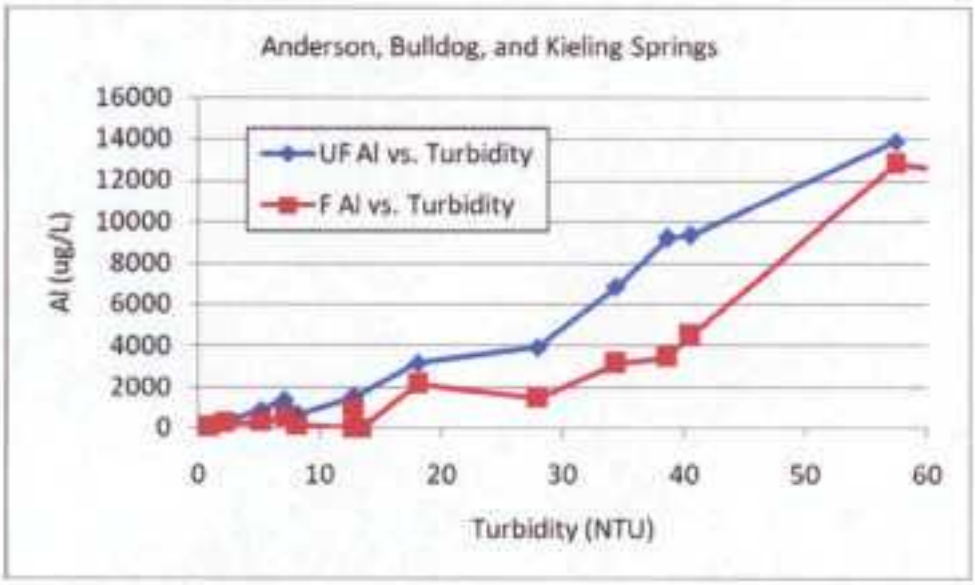


**Figure 2** **Variation of filtered and unfiltered aluminum concentrations with turbidity for Anderson, Kieling, and Bulldog springs**

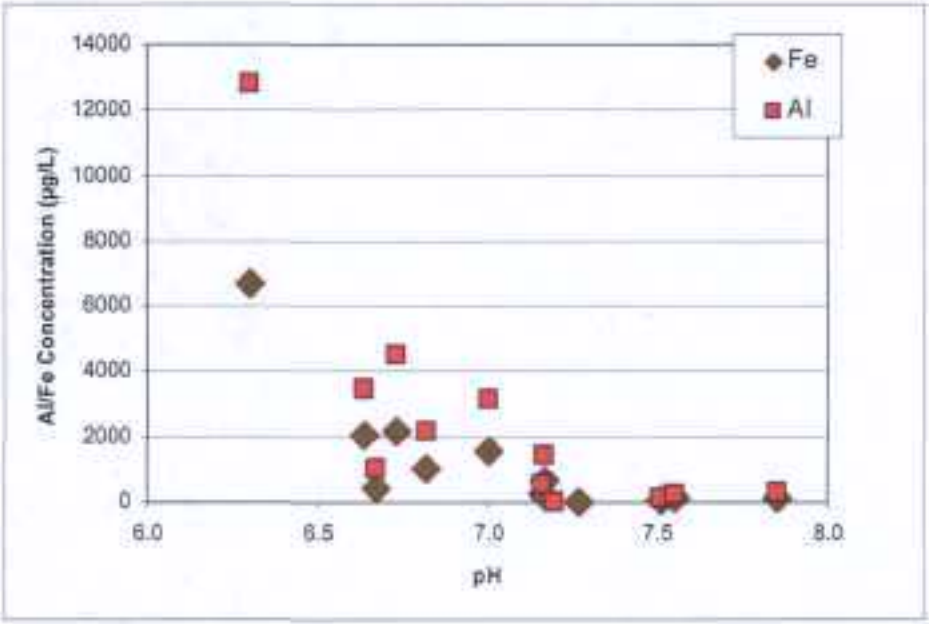


**Figure 3 Variation of filtered aluminum and iron concentrations with pH for Anderson, Kieling, and Bulldog springs**

Mercury (1.8 µg/L) in the unfiltered sample from Pajarito Canyon alluvial well PCO-3 is the first measurement above one-half the New Mexico groundwater standard of 2 µg/L (which applies to total mercury). Mercury has been detected four times at this well, out of 13 samples since 1985. However, the previous mercury detections in this and other alluvial wells appear to be the result of either analytical interference (based on the patterns of occurrence) or incorrect reporting (based on records).

## 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.

Six PAHs were detected for the first time at Anderson Spring in Pajarito Canyon in April 2007, in the third measurement for these compounds. One compound, benzo(a)pyrene, was at a concentration 1.7 times the EPA MCL. Three other PAHs were above the EPA tap water screening levels: benzo(b)fluoranthene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene are respectively at 1.0, 107, and 9.1 times the $10^{-6}$ excess cancer risk EPA Region 6 tap screening levels.

The first detection of butanone[2-] (1.76 µg/L) in Los Alamos Canyon DP Spring is close to MDL of 1.25 µg/L. The noncancer risk EPA tap screening level for this compound is 7065 µg/L. Butanone[2-] was not detected in the companion field trip blank, nor in 8 prior samples collected since 1997.

The organic compound BHC[delta-] (0.411 µg/L) was detected for the first time at Los Alamos Canyon alluvial well LAO-3a. There is no standard for this organic compound. BHC[delta-] was not detected in two prior measurements made since 2004. This compound is an impurity of the pesticide lindane, which was not detected in the sample. The absence of lindane calls the detection of BHC[delta-] into question.

Bis(2-ethylhexyl)phthalate (3.34 µg/L, near the MDL) was detected in Water Canyon regional well R-27 at 56% of the EPA MCL. Bis(2-ethylhexyl)phthalate has been detected at this concentration in each of three consecutive samples, with none detected in quality control samples.

Toluene (41.1 µg/L, MDL 0.25 µg/L) at Los Alamos Canyon intermediate well LAOI-7 was detected at 5% of the New Mexico groundwater standard of 750 µg/L. Toluene has been detected in the last five sampling rounds since May 2006, and the levels are decreasing from a high of 112 µg/L in August 2006.

Research department explosive [also hexahydro-1,3,5-trinitro-1,3,5-triazine] (RDX) was detected in Kieling Spring (0.147 ug/L) and Bulldog Spring (2.48 ug/L) at 2.4% and 40.6% of the EPA Region 6 screening level. These results are consistent with previous data. Similarly, high-melting explosive [also 1,3,5,7-tetranitro-1,3,5,7-tetrazocine] (HMX) detected in Kieling Spring (0.148 ug/L) and Bulldog Spring (1.98 ug/L) are at the same level as previous values.

Dioxane[1,4-] (1.13 µg/L, J-qualifier) in Los Alamos canyon intermediate well R-6i was detected at 1.8% of the EPA Region 6 $10^{-6}$ excess cancer risk tap water screening level of 61 µg/L. This value is less than the prior result (2.66 µg/L, J-qualifier) in July 2006. Dioxane[1,4-] has only been measured twice with the more sensitive semivolatile organic analysis (SVOA) method, and detected both times.

## General Inorganic Compounds

| Analyte | Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | Port Depth | Start Date Time | Fld Prep Code | Fld 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) | Pueblo Canyon (includes Acid Canyon) | Alluvial | PAO-2 | SINGLE | 6.06 | 11.06 | 6.06 | 04/23/07 | F | | CS | | 135 | | | mg/L | GELC | | J | I14b, I13b | N | | | 250 | 0.54 |
| Cl(-1) | Upper Los Alamos Canyon (includes DP Canyon) | Alluvial Spring | DP Spring | SPRING | | | 0 | 04/18/07 | F | | CS | | 175 | | | mg/L | GELC | | | | N | | | 250 | 0.7 |
| Cl(-1) | Upper Los Alamos Canyon (includes DP Canyon) | Alluvial | LAUZ-1 | SINGLE | 5.35 | 10.35 | 5.35 | 04/17/07 | F | | CS | | 506 | | | mg/L | GELC | | J | I14b, I13b | N | | | 250 | 2.02 |
| Cl(-1) | Pajarito Canyon (includes Twomile and Threemile Canyons) | Alluvial | PCO-3 | SINGLE | 5.7 | 17.7 | 5.7 | 04/04/07 | F | | CS | | 140 | | | mg/L | GELC | | | | N | | | 250 | 0.56 |
| F(-1) | Pueblo Canyon (includes Acid Canyon) | Intermediate | R-5 | MULTI | 372.8 | 388.8 | 383.9 | 04/17/07 | F | | CS | | 1.05 | | | mg/L | GELC | | | | N | | | 1.6 | 0.66 |
| TDS | Upper Los Alamos Canyon (includes DP Canyon) | Alluvial | LAUZ-1 | SINGLE | 5.35 | 10.35 | 5.35 | 04/17/07 | F | | CS | | 1160 | | | mg/L | GELC | | | | N | | | 1000 | 1.16 |
| TDS | Pajarito Canyon (includes Twomile and Threemile Canyons) | Alluvial | PCO-3 | SINGLE | 5.7 | 17.7 | 5.7 | 04/04/07 | F | | CS | | 603 | | | mg/L | GELC | | | | N | | | 1000 | 0.6 |

**Perchlorate Results Greater Than 2 µg/L**

| Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | 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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pueblo Canyon (includes Acid Canyon) | Alluvial | APCO-1 | SINGLE | 5 | 15 | 5 | 04/25/07 | | F | CS | ClO4 | EPA:314.0 | | 4.42 | 4 | µg/L | 1 | J | | | Y | GELC |
| Pueblo Canyon (includes Acid Canyon) | Alluvial | APCO-1 | SINGLE | 5 | 15 | 5 | 04/25/07 | FD | F | CS | ClO4 | EPA:314.0 | | 8.31 | 4 | µg/L | 1 | J | | | Y | GELC |
| Pueblo Canyon (includes Acid Canyon) | Intermediate | R-3i | SINGLE | 215 | 222 | 215 | 04/09/07 | | F | CS | ClO4 | SW-846:6850 | | 2.6 | 0.25 | µg/L | 5 | | | | N | GELC |
| Pueblo Canyon (includes Acid Canyon) | Regional | R-4 | SINGLE | 793 | 816 | 793 | 04/17/07 | | F | CS | ClO4 | SW-846:6850 | | 2.54 | 0.25 | µg/L | 5 | | | | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Alluvial | LAO-0.6 | SINGLE | 8 | 13 | 8 | 04/10/07 | | F | CS | ClO4 | EPA:314.0 | | 8.46 | 4 | µg/L | 1 | J | | | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Alluvial | LAO-0.6 | SINGLE | 8 | 13 | 8 | 04/10/07 | | F | CS | ClO4 | SW-846:6850 | | 7.3 | 0.5 | µg/L | 10 | | J | LMS1 | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | R-6i | SINGLE | 602 | 612 | 602 | 04/12/07 | | F | CS | ClO4 | EPA:314.0 | | 8.6 | 4 | µg/L | 1 | J | | | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | R-6i | SINGLE | 602 | 612 | 602 | 04/12/07 | | F | CS | ClO4 | SW-846:6850 | | 7.04 | 0.5 | µg/L | 10 | | J | LMS1 | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-3.2 | SINGLE | 153 | 163 | 153 | 04/19/07 | | F | CS | ClO4 | EPA:314.0 | | 8.16 | 4 | µg/L | 1 | J | | | N | GELC |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-3.2 | SINGLE | 153 | 163 | 153 | 04/19/07 | | F | CS | ClO4 | SW-846:6850 | | 6.65 | 0.5 | µg/L | 10 | | J | LMS1 | N | GELC |

Metals

| Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | Port Depth | Start Date Time | Analyte | Fld Prep Code | Lab Sample Type Code | Fld 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) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Alluvial | PCO-3 | SINGLE | 5.7 | 17.7 | 5.7 | 04/04/07 | Hg | UF | CS | | | 1.8 | 0.06 | µg/L | EPA:245.2 | GELC | | | | N | 2 | 0.9 | 2 | 0.9 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Alluvial | PCO-3 | SINGLE | 5.7 | 17.7 | 5.7 | 04/04/07 | Mn | F | CS | | | 389 | 2 | µg/L | SW-846:6010B | GELC | | | | N | | | 200 | 1.95 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | Al | F | CS | | | 3440 | 68 | µg/L | SW-846:6010B | GELC | N | | | N | | | 5000 | 0.69 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | Fe | F | CS | | | 2070 | 18 | µg/L | SW-846:6010B | GELC | | | | N | | | 1000 | 2.07 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | Al | F | CS | | | 12800 | 68 | µg/L | SW-846:6010B | GELC | N | | | N | | | 5000 | 2.56 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | Fe | F | CS | | | 6720 | 18 | µg/L | SW-846:6010B | GELC | | | | N | | | 1000 | 6.72 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Bulldog Spring | SPRING | | | 0 | 03/26/07 | Al | F | CS | | | 4500 | 68 | µg/L | SW-846:6010B | GELC | N | | | N | | | 5000 | 0.9 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Bulldog Spring | SPRING | | | 0 | 03/26/07 | Fe | F | CS | | | 2200 | 18 | µg/L | SW-846:6010B | GELC | | | | N | | | 1000 | 2.2 |

## Organic Compounds

| Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | Port Depth | Start Date Time | Fld Qc Type Code | Fld Prep Code | Lab Sample Type Code | Anyl 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 | Anyl Meth Code | Lab Code | EPA PRIM DW STD Scr Lvl | EPA PRIM DW STD Ratio (Result/Scr Level) | EPA TAP SCRN LVL Scr Lvl Risk Code=cancer | EPA TAP SCRN LVL Ratio (Result/Scr Level) Risk Code = cancer | EPA TAP SCRN LVL Scr Lvl Risk Code = noncancer | EPA TAP SCRN LVL Ratio (Result/Scr Level) Risk Code = noncancer | NM GW LIM Scr Lvl | NM GW LIM Ratio (Result/Scr Level) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Pueblo Canyon (includes Acid Canyon) | Intermediate | R-5 | MULTI | 372.8 | 388.8 | 383.9 | 04/17/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.556 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Pueblo Canyon (includes Acid Canyon) | Regional | R-4 | SINGLE | 792.9 | 816 | 792.9 | 04/17/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.577 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Pueblo Canyon (includes Acid Canyon) | Regional | R-5 | MULTI | 676.9 | 720.3 | 718.6 | 04/18/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.65 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Upper Los Alamos Canyon (includes DP Canyon) | Alluvial Spring | DP Spring | SPRING | | | 0 | 04/18/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.565 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Upper Los Alamos Canyon (includes DP Canyon) | Alluvial Spring | DP Spring | SPRING | | | 0 | 04/18/07 | | UF | CS | VOA | Butanone[2-] | 78-93-3 | | 1.76 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 7064.516 | 0 | | |
| Upper Los Alamos Canyon (includes DP Canyon) | Alluvial | LAO-3a | SINGLE | 4.7 | 14.7 | 4.7 | 04/12/07 | | UF | CS | PEST/ PCB | BHC[delta-] | 319-86-8 | | 0.411 | 0.00521 | µg/L | 1 | | | | N | SW-846:8081A | GELC | | | | | | | | |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | R-6i | SINGLE | 602 | 612 | 602 | 04/12/07 | FB | UF | CS | VOA | Acetone | 67-64-1 | | 13.7 | 1.25 | µg/L | 1 | | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | R-6i | SINGLE | 602 | 612 | 602 | 04/12/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.54 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | R-6i | SINGLE | 602 | 612 | 602 | 04/12/07 | | UF | CS | SVOA | Dioxane[1,4-] | 123-91-1 | | 1.13 | 1.06 | µg/L | 1 | J | J-, J | SWQ9, SV18 | N | SW-846:8270C | GELC | | | 6.111956 | 0.18 | | | | |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-7 | SINGLE | 240 | 259.6 | 240 | 04/18/07 | FB | UF | CS | VOA | Acetone | 67-64-1 | | 7.39 | 1.25 | µg/L | 1 | | J- | VWQ3, VWQ9 | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-7 | SINGLE | 240 | 259.6 | 240 | 04/18/07 | FD | UF | CS | VOA | Toluene | 108-88-3 | | 38.1 | 0.25 | µg/L | 1 | | | | N | SW-846:8260B | GELC | 1000 | 0.04 | | | 2281.25 | 0.02 | 750 | 0.05 |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-7 | SINGLE | 240 | 259.6 | 240 | 04/18/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.552 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Upper Los Alamos Canyon (includes DP Canyon) | Intermediate | LAOI-7 | SINGLE | 240 | 259.6 | 240 | 04/18/07 | | UF | CS | VOA | Toluene | 108-88-3 | | 41.1 | 0.25 | µg/L | 1 | | | | N | SW-846:8260B | GELC | 1000 | 0.04 | | | 2281.25 | 0.02 | 750 | 0.05 |
| Upper Los Alamos Canyon (includes DP Canyon) | Regional | R-8 | MULTI | 705.31 | 755.7 | 711.1 | 04/10/07 | FTB | UF | CS | VOA | Methylene Chloride | 75-09-2 | | 2.23 | 2 | µg/L | 1 | J | J+ | VWQ9 | N | SW-846:8260B | GELC | 5 | 0.45 | 8.938207 | 0.25 | | | 100 | 0.02 |
| Upper Los Alamos Canyon (includes DP Canyon) | Regional | R-8 | MULTI | 705.31 | 755.7 | 711.1 | 04/10/07 | FTB | UF | CS | VOA | Toluene | 108-88-3 | | 0.649 | 0.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | 1000 | 0 | | | 2281.25 | 0 | 750 | 0 |
| Lower Los Alamos Canyon (San Ildefonso Pueblo) | Regional | R-24 | SINGLE | 825 | 848 | 825 | 04/16/07 | FB | UF | CS | VOA | Acetone | 67-64-1 | | 11 | 1.25 | µg/L | 1 | | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Alluvial | PCO-3 | SINGLE | 5.7 | 17.7 | 5.7 | 04/04/07 | FTB | UF | CS | VOA | Acetone | 67-64-1 | | 2.85 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | FTB | UF | CS | VOA | Acetone | 67-64-1 | | 1.98 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |

| Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | Port Depth | Start Date Time | Fld Qc Type Code | Fld Prep Code | Lab Sample Type Code | Anyl Suite Code | Analyte Desc | Analyte | Symbol | Std Result | Std Mdl | Std Uom | Dilution Factor | Lab Qual Code | Concal Flag Code | Concal Reason Code | Prelim Flag | Anyl Meth Code | Lab Code | EPA PRIM DW STD Scr Lvl | EPA PRIM DW STD Ratio (Result/Scr Level) | EPA TAP SCRN LVL Scr Lvl Risk Code=cancer | EPA TAP SCRN LVL Ratio (Result/Scr Level) Risk Code = cancer | EPA TAP SCRN LVL Scr Lvl Risk Code = noncancer | EPA TAP SCRN 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) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | FTB | UF | CS | VOA | Carbon Disulfide | 75-15-0 | | 1.68 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 1042.857 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Benzo(a)pyrene | 50-32-8 | | 0.34 | 0.189 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | 0.2 | 1.7 | 0.00295 | 115.28 | | | 0.7 | 0.49 |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Benzo(b)fluoranthene | 205-99-2 | | 0.305 | 0.189 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | | | 0.029499 | 10.34 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Benzo(g,h,i)perylene | 191-24-2 | | 0.636 | 0.189 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | | | | | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Benzo(k)fluoranthene | 207-08-9 | | 0.322 | 0.189 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | | | 0.294985 | 1.09 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Dibenz(a,h)anthracene | 53-70-3 | | 3.16 | 0.188 | µg/L | 1 | | J+ | SWQ5 | N | SW-846:8270C | GELC | | | 0.00295 | 1071.24 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Anderson Spring | SPRING | | | 0 | 03/27/07 | | UF | CS | SVOA | Indeno(1,2,3-cd)pyrene | 193-39-5 | | 2.67 | 0.189 | µg/L | 1 | | J+ | SWQ5 | N | SW-846:8270C | GELC | | | 0.029499 | 90.51 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | FTB | UF | CS | VOA | Acetone | 67-64-1 | | 2.4 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | FTB | UF | CS | VOA | Carbon Disulfide | 75-15-0 | | 15.3 | 1.25 | µg/L | 1 | | | | N | SW-846:8260B | GELC | | | | | 1042.857 | 0.01 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | | UF | CS | HEXP | HMX | 2691-41-0 | | 0.148 | 0.104 | µg/L | 2 | J | J+ | LC2 | N | SW-846:8321A_MOD | GELC | | | | | 1825 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Kieling Spring | SPRING | | | 0 | 03/26/07 | | UF | CS | HEXP | RDX | 121-82-4 | | 0.147 | 0.13 | µg/L | 2 | J | J+ | LC2 | N | SW-846:8321A_MOD | GELC | | | 0.611196 | 0.24 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Bulldog Spring | SPRING | | | 0 | 03/26/07 | FTB | UF | CS | VOA | Acetone | 67-64-1 | | 1.52 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Bulldog Spring | SPRING | | | 0 | 03/26/07 | | UF | CS | HEXP | HMX | 2691-41-0 | | 1.98 | 0.104 | µg/L | 2 | | J+ | LC2 | N | SW-846:8321A_MOD | GELC | | | | | 1825 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate Spring | Bulldog Spring | SPRING | | | 0 | 03/26/07 | | UF | CS | HEXP | RDX | 121-82-4 | | 2.48 | 0.13 | µg/L | 2 | | | | N | SW-846:8321A_MOD | GELC | | | 0.611196 | 4.06 | | | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Intermediate | R-23i | MULTI | 524 | 547 | 524 | 04/23/07 | | UF | CS | VOA | Acetone | 67-64-1 | | 1.33 | 1.25 | µg/L | 1 | J | J- | VWO3, V12b, VWO9 | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-19 | MULTI | 1410.2 | 1417.4 | 1413 | 04/03/07 | | UF | CS | VOA | Acetone | 67-64-1 | | 1.69 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons) | Regional | R-27 | SINGLE | 852 | 875 | 852 | 03/30/07 | FD | UF | CS | SVOA | Bis(2-ethylhexyl)phthalate | 117-81-7 | | 3.36 | 2.27 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | 6 | 0.56 | 4.802252 | 0.7 | | | | |

| Hdr 1 | Zone | Location Name | Well Class | Top Depth | Bottom Depth | Port Depth | Start Date Time | Fld Qc Type Code | Fld Preg Code | Lab Sample Type Code | Anyl 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 | Anyl Meth Code | Lab Code | EPA PRIM DW STD Scr Lvl | EPA PRIM DW STD Ratio (Result/Scr Level) | EPA TAP SCRN LVL Scr Lvl Risk Code=cancer | EPA TAP SCRN LVL Ratio (Result/Scr Level) Risk Code = cancer | EPA TAP SCRN LVL Scr Lvl Risk Code = noncancer | EPA TAP SCRN LVL Ratio (Result/Scr Level) Risk Code = noncancer | NM GW LIM Scr Lvl | NM GW LIM Ratio (Result/Scr Level) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons) | Regional | R-27 | SINGLE | 852 | 875 | 852 | 03/30/07 | FTB | UF | CS | VOA | Acetone | 67-64-1 | | 2.08 | 1.25 | µg/L | 1 | J | | | N | SW-846:8260B | GELC | | | | | 5475 | 0 | | |
| Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons) | Regional | R-27 | SINGLE | 852 | 875 | 852 | 03/30/07 | | UF | CS | SVOA | Bis(2-ethylhexyl)phthalate | 117-81-7 | | 2.82 | 2.5 | µg/L | 1 | J | | | N | SW-846:8270C | GELC | 6 | 0.44 | 4.802252 | 0.55 | | | | |