## SUMMARY OF GROUNDWATER DATA REVIEWED IN FEBRUARY 2014 THAT MEET NOTIFICATION REQUIREMENTS

## 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 and contains results for chemical constituents that meet the seven screening criteria laid out in the Compliance Order on Consent (Consent Order). The report covers groundwater samples taken from wells or springs (listed in the accompanying table) that provide surveillance of the groundwater zones indicated in the table.

The report includes one table, *Table 1: NMED 1-14 Groundwater Report*. This table contains some values that are reported when they are detected for the first time since June 14, 2007, or are greater than other data collected since that time (as specified in the Consent Order). These reported data may be similar to data gathered before June 14, 2007.

This table includes the following:

- Additional comments on results that appear to be exceptional or based on consideration of monitoring data acquired before the current result (using statistics described below)
- Supplemental information summarizing monitoring results obtained before the current result
- Sampling date, name of the well or spring, location of the well or spring, depth of the screened
  interval, groundwater zone sampled, analytical result, detection limit, values for regulatory
  standards or screening levels, and analytical and secondary validation qualifiers. Additional
  information describing the locations and analytical data is also included. All data have been
  through secondary validation.

In accordance with the Consent Order, the screening levels used include the U.S. Environmental Protection Agency (EPA) maximum contaminant levels (MCLs), the New Mexico groundwater standards, and the EPA Regional Screening Levels for tap water (for compounds having no other regulatory standard). The EPA Regional Screening Levels for tap water are either for cancer (10<sup>-6</sup> excess risk) or noncancer risk values. The data were screened using 10 times the EPA's 10<sup>-6</sup> excess cancer risk values, to achieve 10<sup>-5</sup> excess cancer risk as indicated in Section VIII.A.1 of the Consent Order.

Background levels applied in Criteria 2 and 5 are the most recent NMED-approved 95% upper tolerance limits for background for each groundwater zone as set forth in the "Groundwater Background Investigation Report," prepared under Section IV.A.3.d of the Consent Order.

## **DESCRIPTION OF TABLE**

The table is divided into separate categories that correspond to the seven screening criteria in the Consent Order. Some data meet more than one of the criteria and appear in the table multiple times. The table also presents only the instances where the results exceed criteria; therefore, not all seven criteria may appear in the table.

The criteria are as follows:

- CA. The Respondents shall notify the Department orally within one business day after review of the analytical data if such data show detection of a contaminant in a well screen interval or spring at a concentration that exceeds either the NMWQCC water quality standard or the federal MCL if that contaminant has not previously exceeded such water quality standard or maximum contaminant level in such well screen interval or spring.
- C1. Detection of a contaminant that is an organic compound in a spring or screened interval of a well if that contaminant has not previously been detected in the spring or screened interval.
- C2. Detection of a contaminant that is a metal or other inorganic compound at a concentration above the background level in a spring or screened interval of a well if that contaminant has not previously exceeded the background level in the spring or screened interval.
- C3. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the New Mexico water quality standard or one-half the federal maximum contaminant level, or if there is no such standard for the contaminant, one-half the EPA Region 6 human health medium-specific screening level for tap water (now the EPA Regional Screening Levels for tap water), if that contaminant has not previously exceeded one-half such standard or screening level in the spring or screened interval.
- C4. Detection of perchlorate in a spring or screened interval of a well at a concentration of 2 µg/L or greater if perchlorate at such concentration has not previously been detected in the spring or screened interval.
- C5. Detection of a contaminant that is a metal or other inorganic compound in a spring or screened interval of a well at a concentration that exceeds 2 times the background level for the third consecutive sampling of the spring or screened interval.
- C6. Detection of a contaminant in a spring or screened interval of a well at a concentration that exceeds either one-half the New Mexico water quality standard or one-half the federal MCL, and that has increased for the third consecutive sampling of that spring or screened interval.

The next seven columns of the table give information on monitoring results obtained prior to the current result. The columns provide summary statistics for the samples collected since January 1, 2000, for the same analyte and field preparation (for example, filtered samples). The information includes the date of the first sampling event included in the statistics, the numbers of sampling events and samples analyzed, the number of detections, and the minimum, maximum, and median concentration for detections. This information indicates whether the new result is consistent with the range of earlier data.

The subsequent columns contain location and sampling information:

Hdr 1—canyon where monitoring location is found

Zone—groundwater zone sampled by monitoring location (such as alluvial spring)

Location—monitoring location name

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

Start Date—sample date

Fld QC Type Code—identifies regular samples (REG) or field duplicates (FD)

Fld Prep Code—identifies whether samples are filtered or unfiltered

Lab Sample Type Code—indicates whether result is a primary sample (INIT) or reanalysis (RE)

Anyl Suite Code—analytical suite (such as volatile organic compounds) for analyzed compound

Analyte Desc-name of analyte

Analyte—chemical symbol for analyte or CAS (Chemical Abstracts Service) number for organic compounds

Std Result—analytical result in standard measurement units

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

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

Screen Level—value of the LVL Type/Risk Code

Exceedance Ratio—ratio of Std Result to LVL Type/Risk Code. In earlier versions of this report, the ratio was divided by the basis for comparison in the criterion, but that is no longer the case. For example, for a criterion (such as C3) that compares the value to one-half the standard, a value equal to a standard previously had an exceedance ratio of 2. The current report shows this ratio as 1.

Std Mdl—method detection limit in standard measurement units

Std Uom—standard units of measurement

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

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

Concat Flag Code—secondary validation qualifier

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

Anyl Meth Code—analytical method number

Lab Code—analytical laboratory name

Comment—comment on the analytical result

Table 1: NMED 1-14 Groundwater Report

|               |        |             |            |            |               |            |   |                  |               |              |  |         |                 | _                                | 1         |                             | T                  |                               | 1       |        |                               |                  | ı                                 |          |   |
|---------------|--------|-------------|------------|------------|---------------|------------|---|------------------|---------------|--------------|--|---------|-----------------|----------------------------------|-----------|-----------------------------|--------------------|-------------------------------|---------|--------|-------------------------------|------------------|-----------------------------------|----------|---|
| Criteria Code | Visits | First Event | Min Detect | Max Detect | Median Detect | Num Detect | Hdr 1   | Zone             | Location      | Screen Depth | Start Date Start Date FId OC Type Code | $\perp$ | Anyl Suite Code | Analyte Desc                     | Analyte   | Std Result<br>Result/Median | LVL Type/Risk Code | Screen Level Exceedance Ratio | Std Mdl |        | Dilution Factor Lab Qual Code | Concat Flag Code | Concat Reason Code Anyl Meth Code | Lab Code | Comment   |
| C1            | 9 12   | 08/31/10    | 0.9        | 0.9        | 0.9           | 1          | Water Canyon (includes Canyon del Valle, Potrillo, and Fence Canyons) | Intermediate     | CDV-16-4ip S1 | 815.6        | 12/18/13 REG UF                        | INI     | VOC             | Trichlorobenzene[1,2,3-]         | 87-61-6   | 0.9 1                       | EPA TAP SCRN LVL   | 5.2 0.2                       | 0.3     | ug/L ′ | ı                             | J                | J_LAB SW-846:8260I                | GELC     |   |
| C1            | 12 16  | 10/11/06    | 16.3       | 16.3       | 16.3          | 1          | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Intermediate     | R-23i S3      | 524          | 12/04/13 REG UF                        | INI     | SVOC            | Benzoic Acid                     | 65-85-0   | 16.3 1                      | EPA TAP SCRN LVL   | 58000 0                       | 6.19    | ug/L ′ | l J                           | J                | J_LAB SW-846:82700                | GELC     |   |
| C1            | 12 16  | 10/11/06    | 0.0175     | 0.0175     | 0.0175        | 1          | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Intermediate     | R-23i S3      | 524          | 12/04/13 REG UF                        | INI     | SVOC            | Pyrene                           | 129-00-0  | 0.0175 1                    | EPA TAP SCRN LVL   | 87 0                          | 0.017   | ug/L   | I J                           | J                | J_LAB SW-846:8310                 | GELC     |   |
| C1            | 12 16  | 02/21/10    | 3.01       | 3.01       | 3.01          | 1          | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-54 S2       | 915          | 12/16/13 REG UF                        | INI     | VOC             | Acetone                          | 67-64-1   | 3.01 1                      | EPA TAP SCRN LVL   | 12000 0                       | 3       | ug/L ′ | ı J                           | J                | J_LAB SW-846:8260I                | GELC     | Not present in field duplicate  |
| C2            | 9 10   | 12/16/10    | 11.3       | 11.3       | 11.3          | 1          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-60          | 1330         | 11/14/13 REG F                         | INI     | METALS          | Copper                           | Cu        | 11.3 1                      | LANL Reg BG LVL    | 3 3.8                         | 3       | ug/L ′ |                               | NQ               | NQ SW-846:6010                    | GELC     |   |
| C2            | 28 35  | 05/19/05    | 0.0989     | 0.0989     | 0.0989        | -          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-1           | 1031.12      | 11/18/13 REG F                         | INI     | GENINORG        | Ammonia as Nitrogen              | NH3-N     | 0.0989 1                    | LANL Reg BG LVL    | 0.05 2                        | 0.017   | mg/L ′ |                               | NQ               | NQ EPA:350.1                      | GELC     |   |
| C2            | 9 11   | 05/20/11    | 0.0193     | 0.186      | 0.0317        | 6          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-61 S1       | 1125         | 11/15/13 FD F                          | INI     | GENINORG        | Ammonia as Nitrogen              | NH3-N     | 0.168 5.3                   | LANL Reg BG LVL    | 0.05 3.4                      | 0.017   | mg/L ′ | 1                             | NQ               | NQ EPA:350.1                      | GELC     |   |
| C2            | 9 11   | 05/20/11    | 0.0193     | 0.186      | 0.0317        | 6          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-61 S1       | 1125         | 11/15/13 REG F                         | INI     | GENINORG        | Ammonia as Nitrogen              | NH3-N     | 0.186 5.9                   | LANL Reg BG LVL    | 0.05 3.7                      | 0.017   | mg/L ′ |                               | NQ               | NQ EPA:350.1                      | GELC     |   |
| C2            | 9 9    | 04/23/10    | 68.1       | 68.1       | 68.1          | 1          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-52 S2       | 1107         | 12/11/13 REG F                         | INI     | METALS          | Aluminum                         | Al        | 68.1 1                      | LANL Reg BG LVL    | 68 1                          | 68      | ug/L ′ | ı J                           | J                | J_LAB SW-846:6010I                | GELC     |   |
| C2            | 13 14  | 06/22/09    | 0.0939     | 0.0939     | 0.0939        | 1          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-37 S2       | 1026         | 12/06/13 REG F                         | INI     | GENINORG        | Ammonia as Nitrogen              | NH3-N     | 0.0939 1                    | LANL Reg BG LVL    | 0.05 1.9                      | 0.017   | mg/L ′ |                               | NQ               | NQ EPA:350.1                      | GELC     |   |
| C2            | 13 14  | 06/22/09    | 184        | 184        | 184           | 1          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-37 S2       | 1026         | 12/06/13 REG F                         | INI     | METALS          | Iron                             | Fe        | 184 1                       | LANL Reg BG LVL    | 21 8.8                        | 30      | ug/L   | 1                             | NQ               | NQ SW-846:6010I                   | GELC     |   |
| C2            | 14 21  | 02/06/09    | 0.531      | 1.39       | 0.61          | 21         | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-38          | 821.2        | 12/02/13 REG F                         | INI     | GENINORG        | Nitrate-Nitrite as Nitrogen      | NO3+NO2-N | 1.39 2.3                    | LANL Reg BG LVL    | 0.89 1.6                      | 0.017   | mg/L   | ı                             | J                | I10a EPA:353.2                    | GELC     |   |
| C2            | 9 13   | 04/14/10    | 39.2       | 39.2       | 39.2          | 1          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-53 S2       | 959.7        | 12/12/13 REG F                         | INI     | METALS          | Iron                             | Fe        | 39.2 1                      | LANL Reg BG LVL    | 21 1.9                        | 30      | ug/L ′ | I J                           | J                | J_LAB SW-846:6010I                | GELC     |   |
| C2            | 14 16  | 04/01/09    | 3.48       | 4.2        | 3.935         | 16         | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-41 S2       | 965.3        | 12/10/13 REG F                         | INI     | GENINORG        | Magnesium                        | Mg        | 4.2 1.1                     | LANL Reg BG LVL    | 4.15 1                        | 0.11    | mg/L   | l                             | J                | I10a SW-846:6010I                 | GELC     |   |
| C2            | 7 7    | 09/09/10    | 0.627      | 0.946      | 0.76          | 7          | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-55 S1       | 860          | 12/02/13 REG F                         | INI     | GENINORG        | Nitrate-Nitrite as Nitrogen      | NO3+NO2-N | 0.946 1.2                   | LANL Reg BG LVL    | 0.89 1.1                      | 0.017   | mg/L   | ı                             | NQ               | NQ EPA:353.2                      | GELC     |   |
| C2            | 13 16  | 01/15/09    | 1.75       | 5.23       | 1.91          | 16         | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-40 S2       | 849.27       | 12/03/13 REG F                         | INI     | GENINORG        | Chloride                         | CI(-1)    | 5.23 2.7                    | LANL Reg BG LVL    | 3.57 1.5                      | 0.067   | mg/L 1 |                               | NQ               | NQ EPA:300.0                      | GELC     | IC anions increase but cations and alkalinity don't- likely chem analysis issue |
| C2            | 13 16  | 01/15/09    | 0.195      | 0.597      | 0.2445        | 16         | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-40 S2       | 849.27       | 12/03/13 REG F                         | INI     | GENINORG        | Fluoride                         | F(-1)     | 0.597 2.4                   | LANL Reg BG LVL    | 0.57 1                        | 0.033   | mg/L   | l                             | NQ               | NQ EPA:300.0                      | GELC     | IC anions increase but cations and alkalinity don't- likely chem analysis issue |
| C2            | 13 16  | 01/15/09    | 1.95       | 10.5       | 2.33          | 16         | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-40 S2       | 849.27       | 12/03/13 REG F                         | INI     | GENINORG        | Sulfate                          | SO4(-2)   | 10.5 4.5                    | LANL Reg BG LVL    | 7.2 1.5                       | 0.133   | mg/L   |                               | NQ               | NQ EPA:300.0                      | GELC     | IC anions increase but cations and alkalinity don't- likely chem analysis issue |
| C2            | 28 34  | 03/01/04    | 15.6       | 110        | 62.8          | 2          | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-32 S1       | 867.5        | 12/04/13 REG F                         | INI     | METALS          | Aluminum                         | Al        | 110 1.8                     | LANL Reg BG LVL    | 68 1.6                        | 68      | ug/L ′ | J                             | J                | J_LAB SW-846:6010I                | GELC     |   |
| C2            | 6 7    | 06/25/10    | 0.21       | 0.21       | 0.21          | 1          | Pajarito Canyon (includes Twomile and Threemile Canyons)              | Regional         | R-57 S2       | 971.5        | 12/05/13 REG F                         | INI     | GENINORG        | Ammonia as Nitrogen              | NH3-N     | 0.21 1                      | LANL Reg BG LVL    | 0.05 4.2                      | 0.017   | mg/L ′ |                               | NQ               | NQ EPA:350.1                      | GELC     |   |
| C5            | 14 16  | 03/11/09    | 2.41       | 5.29       | 3.74          | 12         | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-46          | 1340         | 11/18/13 REG F                         | INI     | METALS          | Antimony                         | Sb        | 3.71 1                      | LANL Reg BG LVL    | 1 3.7                         | 1       | ug/L ′ | '                             | NQ               | NQ SW-846:6020                    | GELC     |   |
| C5            | 17 19  | 03/11/09    | 0.869      | 7.67       | 1.56          | 19         | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-46          | 1340         | 11/18/13 REG UF                        | INI     | GENINORG        | Total Organic Carbon             | TOC       | 1.35 0.9                    | LANL Reg BG LVL    | 0.33 4.1                      | 0.33    | mg/L ′ | l                             | NQ               | NQ SW-846:9060                    | GELC     |   |
| C5            |        | 05/20/11    |            |            | 15.1          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-61 S1       | 1125         | 11/15/13 FD F                          | INI     |                 | Chromium                         | Cr        |                             | LANL Reg BG LVL    | 5.75 3.3                      | 2       | ug/L ′ |                               |                  | NQ SW-846:6020                    |          | Highest result  |
| C5            |        | 05/20/11    |            |            | 15.1          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | , and the second | R-61 S1       | 1125         | 11/15/13 REG F                         |         | METALS          | Chromium                         | Cr        |                             | LANL Reg BG LVL    | 5.75 3.3                      | 2       | ug/L ′ |                               |                  | NQ SW-846:6020                    |          | Highest result  |
| C5            |        | 05/20/11    |            |            | 33.7          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       |                  | R-61 S1       | 1125         | 11/15/13 FD F                          |         | METALS          | Manganese                        | Mn        |                             | LANL Reg BG LVL    | 2.94 3.8                      |         | ug/L ′ |                               |                  | NQ SW-846:6010I                   |          |   |
| C5            |        | 00,20,11    |            |            | 33.7          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       |                  | R-61 S1       | 1125         | 11/15/13 REG F                         |         | METALS          | Manganese                        | Mn        |                             | LANL Reg BG LVL    | 2.94 3.8                      |         | ug/L ′ |                               |                  | NQ SW-846:6010I                   | GELC     |   |
| C5            |        | 05/20/11    |            |            | 6.22          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | ŭ                | R-61 S1       | 1125         | 11/15/13 FD F                          |         | GENINORG        |                                  | CIO4      |                             | LANL Reg BG LVL    |                               | 0.5     | ug/L ′ |                               |                  | NQ SW-846:6850                    |          | Note maximum value, on 2/12 was 7.37 ug/L                                       |
| C5            |        | 05/20/11    |            |            | 6.22          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       |                  | R-61 S1       | 1125         | 11/15/13 REG F                         | INI     |                 |                                  | CIO4      |                             | LANL Reg BG LVL    |                               | 0.5     | ug/L ′ |                               | NQ               |                                   | GELC     |   |
| C5            |        | 05/20/11    |            |            | 9.26          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Ŭ                | R-61 S1       | 1125         | 11/15/13 FD F                          |         | GENINORG        |                                  | К         | 9.26 1                      | LANL Reg BG LVL    |                               |         | mg/L ′ |                               |                  | NQ SW-846:6010I                   |          |   |
| C5            |        |             |            |            | 9.26          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-61 S1       | 1125         | 11/15/13 REG F                         |         | GENINORG        |                                  | K         | 9.35 1                      | LANL Reg BG LVL    |                               | 0.05    | mg/L ′ |                               | NQ               | NQ SW-846:6010                    |          |   |
| C5            |        | 05/20/11    |            |            | 1.08          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       |                  | R-61 S1       | 1125         |  |         |                 | Total Organic Carbon             | TOC       |                             | LANL Reg BG LVL    |                               |         | mg/L ′ |                               | J                | J_LAB SW-846:9060                 | GELC     |   |
| C5            |        | 05/20/11    |            |            | 1.08          |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       |                  | R-61 S1       | 1125         | 11/15/13 REG UF                        |         |                 |                                  | TOC       |                             | LANL Reg BG LVL    |                               | 0.33    | mg/L ′ |                               | J                | J_LAB SW-846:9060                 | GELC     |   |
| C5            |        |             | 0.0531     |            | 3.1           |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | , i              | R-61 S1       | 1125         | 11/15/13 FD F                          |         | GENINORG        | Phosphorus                       | PO4-P     | 2.97 1                      | LANL Reg BG LVL    |                               |         | mg/L 5 |                               |                  | NQ EPA:365.4                      | GELC     |   |
| C5            | 9 11   | 05/20/11    | 0.0531     | 11.8       | 3.1           |            | Mortandad Canyon (includes Ten Site Canyon and Canada del Buey)       | Regional         | R-61 S1       | 1125         | 11/15/13 REG F                         | INI     | GENINORG        | Total Phosphate as<br>Phosphorus | PO4-P     | 2.92 0.9                    | LANL Reg BG LVL    | 0.16 18.3                     | 0.085   | mg/L 5 |                               | NQ               | NQ EPA:365.4                      | GELC     |   |

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|--|-----------------------|---------|-------------|------------|---------------|---------------------------------------|--------------|---------------|-------------|------------|---------|-------|-------------|-------------------------|----------|-----------|---------------|--------------------|-------------|-----------------|--------|--------|----------|------|--------------------|----------------|------|
|  | riteria Code<br>Isits | amples  | Dete        | lax Detect | fedian Detect | ldr 1                                 | one          | ocation       | creen Depth | itart Date | QC Type | Prep  | Sample      |                         | ınalyte  | td Result | tesult/Median | .VL Type/Risk Code | creen Level | xceedance Ratio | td Mdl | _   .  | Oual Cor | ncat | concat Reason Code | ₽              |      |
| Part   |                       |         |             | 5590 7     | 731 8         |                                       | Regional     | R-61 S2       | 1220.4      | 11/14/13   |         | F II  |             | Iron                    |          |           | 1.2           | LANL Reg BG LVL    | 21          | 41.1            |        | ug/L 1 |          | _    | NQ                 | SW-846:6010B   | GELC |
| Part   | C5 9                  | 9 05/2  | 24/11 22.2  | 908 1      | 27 9          | Mortandad Canyon (includes Ten Site   | Regional     | R-61 S2       | 1220.4      | 11/14/13   | REG I   | F II  | NIT METALS  | Manganese               | Mn       | 127       | 1             | LANL Reg BG LVL    | 2.94        | 43.2            | 2      | ug/L 1 |          | NQ   | NQ                 | SW-846:6010B   | GELC |
| Fig.   Control   Control | C5 9                  | 9 05/2  | 4/11 1.51   | 24.4       | 2.5 9         | Mortandad Canyon (includes Ten Site   | Regional     | R-61 S2       | 1220.4      | 11/14/13   | REG I   | F II  | NIT GENINOF | RG Potassium            | К        | 13.8      | 1.1           | LANL Reg BG LVL    | 2.63        | 5.2             | 0.05   | mg/L 1 |          | NQ   | NQ                 | SW-846:6010B   | GELC |
| No.   1  | C5 9                  | 9 05/2  | 4/11 0.573  | 14.7       | .5 9          | Mortandad Canyon (includes Ten Site   | Regional     | R-61 S2       | 1220.4      | 11/14/13   | REG     | UF II | NIT GENINOF | RG Total Organic Carbon | TOC      | 1.49      | 1             | LANL Reg BG LVL    | 0.33        | 4.5             | 0.33   | mg/L 1 |          | NQ   | NQ                 | SW-846:9060    | GELC |
| 2  | C5 9                  | 9 05/2  | 4/11 0.0389 | 19.7       | 7.09 6        | Mortandad Canyon (includes Ten Site   | Regional     | R-61 S2       | 1220.4      | 11/14/13   | REG I   | F II  | NIT GENINOF |                         | PO4-P    | 6.65      | 0.9           | LANL Reg BG LVL    | 0.16        | 41.6            | 0.085  | mg/L 5 |          | J    | I10a               | EPA:365.4      | GELC |
|  | C5 16                 | 21 03/0 | 6/10 49.8   | 103        | 79 2          | Mortandad Canyon (includes Ten Site   | Regional     | R-50 S1       | 1077        | 11/12/13   | REG I   | F II  | NIT METALS  |                         | Cr       | 83.9      | 1.1           | LANL Reg BG LVL    | 5.75        | 14.6            | 2      | ug/L 1 |          | NQ   | NQ                 | SW-846:6020    | GELC |
| 1  | C5 16                 | 19 03/0 | 6/10 1.51   | 8.66       | 3.59 1        | 9 Mortandad Canyon (includes Ten Site | Regional     | R-50 S1       | 1077        | 11/12/13   | REG     | F II  | NIT METALS  | Nickel                  | Ni       | 8         | 2.2           | LANL Reg BG LVL    | 3.09        | 2.6             | 0.5    | ug/L 1 |          | NQ   | NQ                 | SW-846:6020    | GELC |
| Fig.    | C5 16                 | 19 03/0 | 0.44        | 2.46       | .16 1         | 7 Mortandad Canyon (includes Ten Site | Regional     | R-50 S1       | 1077        | 11/12/13   | REG     | UF II | NIT GENINOF | RG Total Organic Carbon | TOC      | 1.65      | 1.4           | LANL Reg BG LVL    | 0.33        | 5               | 0.33   | mg/L 1 |          | NQ   | NQ                 | SW-846:9060    | GELC |
| Column   C | C5 13                 | 14 07/1 | 3/09 0.435  | 0.615      | ).517 1       | 4 Mortandad Canyon (includes Ten Site | Intermediate | R-37 S1       | 929.3       | 12/05/13   | REG     | F II  | NIT GENINOF | RG Perchlorate          | CIO4     | 0.448     | 0.9           | LANL Int BG LVL    | 0.05        | 9               | 0.05   | ug/L 1 |          | NQ   | NQ                 | SW-846:6850    | GELC |
| Column   C | C5 14                 | 15 07/1 | 3/09 1.32   | 1.84       | .55 1         | 5 Mortandad Canyon (includes Ten Site | Intermediate | R-37 S1       | 929.3       | 12/05/13   | REG     | F II  | NIT RAD     | Uranium                 | U        | 1.48      | 1             | LANL Int BG LVL    | 0.72        | 2.1             | 0.067  | ug/L 1 |          | J    | I10a               | SW-846:6020    | GELC |
|  | C5 14                 | 21 02/0 | 6/09 4.9    | 69         | 0.065 2       |                                       | Regional     | R-38          | 821.2       | 12/02/13   | FD I    | F II  | NIT METALS  | Zinc                    | Zn       | 8.82      | 0.9           | LANL Reg BG LVL    | 3.89        | 2.3             | 3.3    | ug/L 1 | J        | J    | J_LA               | B SW-846:6010B | GELC |
| No.   No.  | C5 14                 | 21 02/0 | 6/09 4.9    | 69 1       | 0.065 2       |                                       | Regional     | R-38          | 821.2       | 12/02/13   | REG     | F II  | NIT METALS  | Zinc                    | Zn       | 9.13      | 0.9           | LANL Reg BG LVL    | 3.89        | 2.3             | 3.3    | ug/L 1 | J        | J    | J_LA               | B SW-846:6010B | GELC |
| Column   C | C5 9                  | 10 08/3 | 1/10 65.5   | 115        | 73.1 1        |                                       | Intermediate | CDV-16-4ip S1 | 815.6       | 12/18/13   | REG     | F II  | NIT METALS  | Boron                   | В        | 66.9      | 0.9           | LANL Int BG LVL    | 15.12       | 4.4             | 15     | ug/L 1 |          | J    | 110a               | SW-846:6010B   | GELC |
| No.   Control   Control  | C5 9                  | 10 08/3 | 1/10 0.351  | 0.397      | ).3665 1      |                                       | Intermediate | CDV-16-4ip S1 | 815.6       | 12/18/13   | REG     | F II  | NIT GENINOF | RG Perchlorate          | CIO4     | 0.362     | 1             | LANL Int BG LVL    | 0.05        | 7.2             | 0.05   | ug/L 1 |          | NQ   | NQ                 | SW-846:6850    | GELC |
| Second Control   Seco | C5 27                 | 37 06/2 | 3/06 81.1   |            |               |                                       | Intermediate | 03-B-13       | 21.5        | 12/16/13   | REG     | F II  | NIT METALS  | Aluminum                | Al       | 5950      | 2             | LANL Int BG LVL    | 1066        | 5.6             | 68     | ug/L 1 |          | J    | I10a               | SW-846:6010B   | GELC |
| Second Column   Second Colum |                       |         |             |            |               | and Threemile Canyons)                | Intermediate |               |             |            |         |       |             |                         |          |           |               |                    |             |                 |        | ug/L 1 | J        | J    | J_LA               |                |      |
| Secondary   Seco |                       |         |             |            |               |                                       |              |               |             |            |         |       |             | Lead                    |          |           |               |                    | 0.5         |                 |        | ug/L 1 |          | J    | I10a               |                |      |
| Second Process   Control Con |                       |         |             |            |               | and Threemile Canyons)                |              |               |             |            |         |       |             | , i                     |          |           |               |                    | 2           |                 |        |        |          | J    |                    |                |      |
| A  |                       |         |             |            |               | and Threemile Canyons)                |              |               |             |            |         |       |             |                         |          |           |               |                    | 2           |                 |        |        |          | J    |                    |                |      |
|  |                       |         |             |            |               | and Threemile Canyons)                |              |               |             |            |         |       |             | ·                       | CO3+HCO3 |           |               |                    | 52          |                 |        |        |          |      |                    |                |      |
| Fig.    |                       |         |             |            |               | and Threemile Canyons)                |              |               |             |            |         |       |             |                         |          |           | 1             |                    | 2           |                 |        |        |          |      |                    |                |      |
| C  |                       |         |             |            |               | and Threemile Canyons)                |              |               |             |            |         |       |             | ·                       |          |           | 1             |                    | 2           |                 |        | Ů      |          |      |                    |                |      |
| C5   22   30   80,2007   25   24   33,6   5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5   3   38,5  |                       |         |             |            |               | Valle, Potrillo, and Fence Canyons)   | , i          |               |             |            |         |       |             |                         |          |           |               |                    |             |                 |        |        | J        |      |                    |                |      |
| C5   22   23   03/30/07   68   389   338   23   23  |                       |         |             |            |               | Valle, Potrillo, and Fence Canyons)   | Ŭ            |               |             |            |         |       |             | ŭ .                     |          |           | 0.1           |                    |             |                 |        |        |          |      |                    |                |      |
| C5   21   24   03/12/08   1.25   2.71   2.28   24   Sandia Carryon   Regional R.36   766.9   11/13/13   REG   F   NIT   GENINORG   Nitrate-Nutrie as Nitrogen   NO3+NO2-N   2.55   1.1   LANL Reg BG LVL   0.48   3.9   0.085   mgL   5   NO   NQ   EPA:353.2   GELC   |                       |         |             |            |               |                                       |              |               |             |            |         |       |             |                         |          |           | 1             |                    |             |                 |        |        | _        |      |                    |                |      |
| C5   20   20   30   301/208   6.845   1.74   1.52   23   3. Sandia Carnyon   Regional R-36   766.9   11/13/13   REG   F   INIT   GENINORG   Perchiorate   C1O4   1.51   0.9   LANL. Reg BG LIV.   0.46   3.3   0.1   ugl.   2   NO   NO   SW-8466950   GELC  |                       |         |             |            |               |                                       | •            |               |             |            |         |       |             |                         |          |           | _             |                    |             |                 |        |        |          |      |                    |                |      |
| C5   21   24   03/12/08   49.1   91.1   59.35   24   Sandia Canyon   Regional R-36   766.9   11/13/13   REG   F   INIT   METALS   Zinc   Zin |                       |         |             |            |               |                                       | ·            |               |             |            |         |       |             |                         |          |           |               | •                  |             |                 |        |        | _        | _    |                    |                |      |
| C5   18   20   990807   0.086   0.151   0.118   14   Pajarito Caryon (includes Twomile and Threemile Caryons)   1.1   1.2   Pajarito Caryon (includes Twomile and Threemile Caryons)   1.2   1 |                       |         |             |            |               |                                       | , ,          |               |             |            |         |       |             |                         |          |           |               |                    |             |                 | _      |        | +        |      |                    |                |      |
| C5   18   20   09/06/07   3.66   37.2   20.25   20   Pajarito Caryon (includes Twomile and Threemile Caryons)   Intermediate   R-23i S1   400.3   12/03/13   REG   F   INIT   GENINORG   Perchlorate   CIO4   0.333   1.3   LANL Int BG LVL   0.05   6.7   0.05   ug/L   1   NQ   NQ   SW-846:6850   GELC   G |                       |         |             |            |               | 4 Pajarito Canyon (includes Twomile   | , ,          |               |             |            |         |       |             |                         | 1        |           | _             |                    |             |                 |        |        | J        |      |                    |                |      |
| C5   17   18   09/06/07   0.11   0.333   0.249   17   Pajarito Canyons (includes Twomile and Threemile Canyons)   12/03/13   REG   F   INIT   GENINORG   Perchlorate   CIO4   0.333   1.3   LANL Int BG LVL   0.05   6.7   0.05   ug/L   1   NQ   NQ   SW-846:6850   GELC   SW-846:6850   GELC   NQ   NQ   SW-846:6850   GELC   NQ   NQ   NQ   NQ   NQ   NQ   NQ   N   | C5 18                 | 20 09/0 | 6/07 3.66   | 37.2       | 20.25 2       | 20 Pajarito Canyon (includes Twomile  | Intermediate | R-23i S1      | 400.3       | 12/03/13   | REG     | F II  | NIT GENINOF | Chloride                | CI(-1)   | 37.2      | 1.8           | LANL Int BG LVL    | 7.78        | 4.8             | 0.67   | mg/L 1 | )        | NQ   | NQ                 | EPA:300.0      |      |
| C5   21   24   10/11/06   0.186   0.31   0.2575   24   Pajarito Canyons)   C5   21   24   10/11/06   0.186   0.31   0.2575   24   Pajarito Canyon (includes Twomile and Threemile Canyons)   C5   21   21   0.3/11/04   11   28.5   18.5   21   Pajarito Canyon (includes Twomile and Threemile Canyons)   C6   22   25   0.3/10/04   113   253   180   25   Pajarito Canyon (includes Twomile and Threemile Canyons)   Regional R-20 S2   1147.1   12/06/13   REG   F   INIT   METALS   Manganese   Mn   79   1.1   LANL Reg BG LVL   2.94   | C5 17                 | 18 09/0 | 6/07 0.11   | 0.333      | ).249 1       | 7 Pajarito Canyon (includes Twomile   | Intermediate | R-23i S1      | 400.3       | 12/03/13   | REG     | F II  | NIT GENINOF | RG Perchlorate          | CIO4     | 0.333     | 1.3           | LANL Int BG LVL    | 0.05        | 6.7             | 0.05   | ug/L 1 |          | NQ   | NQ                 | SW-846:6850    |      |
| C5 21 24 10/11/06 0.186 0.31 0.2575 24 Pajarito Canyon (includes Twomile and Threemile Canyons)  C5 21 21 03/11/04 11 28.5 18.5 21 Pajarito Canyon (includes Twomile and Threemile Canyons)  C5 22 25 03/10/04 13 253 180 25 Pajarito Canyon (includes Twomile Canyons)  Regional R-20 S2 1147.1 12/06/13 REG F INIT METALS Manganese  Mn 23.3 1.3 LANL Reg BG LVL 2.94 7.9 2 ug/L 1 NQ NQ SW-846:6010B GELC  Mn 23.3 1.3 LANL Reg BG LVL 2.94 7.9 2 ug/L 1 NQ NQ SW-846:6010B GELC  LANL Reg BG LVL 2.94 7.9 2 ug/L 1 NQ NQ SW-846:6010B GELC  Mn 23.3 1.3 LANL Reg BG LVL 2.94 7.9 2 ug/L 1 NQ NQ SW-846:6010B GELC  LANL Reg BG LVL 2.94 2.94 2.94 2.94 2.94 2.94 2.94 2.94   | C5 22                 | 24 10/0 | 3/06 0.146  | 0.263      | 0.2285 2      | Pajarito Canyon (includes Twomile     | Intermediate | R-23i S2      | 470.2       | 12/03/13   | REG     | F II  | NIT GENINOF | RG Perchlorate          | CIO4     | 0.254     | 1.1           | LANL Int BG LVL    | 0.05        | 5.1             | 0.05   | ug/L 1 |          | NQ   | NQ                 | SW-846:6850    | GELC |
| Signature   Sign | C5 21                 | 24 10/1 | 1/06 0.186  | 0.31       | ).2575 2      |                                       | Intermediate | R-23i S3      | 524         | 12/04/13   | REG     | F II  | NIT GENINOF | RG Perchlorate          | CIO4     | 0.282     | 1.1           | LANL Int BG LVL    | 0.05        | 5.6             | 0.05   | ug/L 1 |          | NQ   | NQ                 | SW-846:6850    | GELC |
|  |                       |         |             | 28.5       | 8.5 2         |                                       | Regional     | R-20 S1       | 904.6       | 12/17/13   | REG     | F II  | NIT METALS  | Manganese               | Mn       | 23.3      | 1.3           | LANL Reg BG LVL    | 2.94        | 7.9             | 2      | ug/L 1 |          | NQ   | NQ                 | SW-846:6010B   | GELC |
|  | C5 22                 | 25 03/1 | 0/04 113    | 253        | 80 2          |                                       | Regional     | R-20 S2       | 1147.1      |            |         |       | NIT METALS  | Barium                  | Ва       |           |               |                    | 56.83       | 3.7             | 1      | ug/L 1 |          | NQ   | NQ                 | SW-846:6010B   | GELC |
|  | C5 22                 | 25 03/1 | 0/04 38.5   | 382        | 69.3          |                                       | Regional     | R-20 S2       | 1147.1      | 12/06/13   | REG     | F II  | NIT METALS  | Manganese               | Mn       | 79        | 1.1           | LANL Reg BG LVL    | 2.94        | 26.9            | 2      | ug/L 1 |          | NQ   | NQ                 | SW-846:6010B   | GELC |

| Criteria Code | Visits | Samples<br>First Event | Min Detect | Max Detect | Median Detect | Num Detect | Hdr 1  | Zone     | Location | Screen Depth | Start Date | Fld QC Type Code | Fld Prep Code | Lab Sample Type Code | Anyl Suite Code | Analyte Desc         | Analyte | Std Result | Result/Median | LVL Type/Risk Code | Screen Level | Exceedance Ratio | Std Mdl | Std Uom | tion F | Lab Qual Code | Concat Reason Code | Anyl Meth Code | Lab Code | Comment |
|---------------|--------|------------------------|------------|------------|---------------|------------|--|----------|----------|--------------|------------|------------------|---------------|----------------------|-----------------|----------------------|---------|------------|---------------|--------------------|--------------|------------------|---------|---------|--------|---------------|--------------------|----------------|----------|---------|
| C5            | 20 25  | 03/10/0                | 4 1.18     | 51.7       | 2.5           | 23         | Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-20 S2  |              |            |                  |               |                      |                 | Total Organic Carbon | TOC     | 3.06       | 1.2           | LANL Reg BG LVL    | 0.33         | 9.3              | 0.33    | mg/L 1  |        | N             | Q NQ               | SW-846:9060    | GELC     |         |
| C5            | 28 34  | 03/01/0                | 4 3.1      | 103        | 38.3          |            | Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-32 S1  | 867.5        | 12/04/13   | REG              | F             | INIT                 | METALS          | Zinc                 | Zn      | 32.2       | 8.0           | LANL Reg BG LVL    | 3.89         | 8.3              | 3.3     | ug/L 1  |        | Z             | Q NQ               | SW-846:6010B   | GELC     |         |
| C5            | 12 12  | 2 06/23/0              | 9 0.615    | 3.54       | 1.015         |            | Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-49 S1  | 845          | 12/09/13   | REG              | UF            | INIT                 | GENINORG        | Total Organic Carbon | TOC     | 0.693      | 0.7           | LANL Reg BG LVL    | 0.33         | 2.1              | 0.33    | mg/L 1  | J      | J             | J_LAB              | SW-846:9060    | GELC     |         |
| C5            | 6 7    | 07/01/1                | 0 8.81     | 78.6       | 19.1          |            | Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-57 S1  | 910          | 12/05/13   | FD               | F             | INIT                 | METALS          | Manganese            | Mn      | 8.81       | 0.5           | LANL Reg BG LVL    | 2.94         | 3                | 2       | ug/L 1  | J      | J             | J_LAB              | SW-846:6010B   | GELC     |         |
| C5            | 6 7    | 07/01/1                | 0 8.81     | 78.6       | 19.1          |            | Pajarito Canyon (includes Twomile and Threemile Canyons) | Regional | R-57 S1  | 910          | 12/05/13   | REG              | F             | INIT                 | METALS          | Manganese            | Mn      | 9.75       | 0.5           | LANL Reg BG LVL    | 2.94         | 3.3              | 2       | ug/L 1  | J      | J             | J_LAB              | SW-846:6010B   | GELC     |         |

7