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Periodic Monitoring Report for Material Disposal Area C Monitoring Group, May 6–May 22, 2013



Prepared by the Environmental Programs Directorate

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EXECUTIVE SUMMARY

This periodic monitoring report (PMR) provides the results of the fiscal year 2013, third quarter, periodic monitoring event (PME) conducted by Los Alamos National Laboratory in the Material Disposal Area C monitoring group. This PME was conducted pursuant to the Interim Facility-Wide Groundwater Monitoring Plan for the 2013 Monitoring Year, October 2012–September 2013, prepared in accordance with the Compliance Order on Consent.

The PME documented in this report occurred from May 6 to May 22, 2013, and included the monitoring of groundwater wells and well screens. This report also includes any results from previous PMEs that were unreported in their respective PMRs because validated laboratory data were not available (in some cases because of data release agreements). Any additional results from sampling that occurred outside the time frame of a PME are also included in this report.

Water samples collected from various locations during this PME were analyzed for metals; volatile organic compounds; semivolatile organic compounds; high explosives; radionuclides, including low-level tritium; general inorganic chemicals, including perchlorate; stable isotopes; and field parameters (alkalinity, dissolved oxygen, pH, specific conductance, temperature, and turbidity).

No surface-water locations are sampled for this monitoring group.

No results from previous sampling of PME monitoring locations are reported in this PMR. No results from current PME groundwater samples reported in this PMR were above screening levels.

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Acronyms and Abbreviations

amsl	above mean sea level
AQA	Analytical Quality Associates, Inc.
BCG	Biota Concentration Guide (DOE)
CAS	Chemical Abstracts Service
CFR	Code of Federal Regulations (U.S.)
Consent Order	Compliance Order on Consent
DCG	Derived Concentration Guide (DOE)
DOE	Department of Energy (U.S.)
EPA	Environmental Protection Agency (U.S.)
gpm	gallons per minute
IFGMP	Interim Facility-Wide Groundwater Monitoring Plan
LANL	Los Alamos National Laboratory
MCL	maximum contaminant level (EPA)
MCPA	2-methyl-4-chlorophenoxyacetic acid
MCPP	2-(4-chloro-2-methylphenoxy)propanoic acid
MDA	material disposal area
MDL	method detection limit
N	no (best value flag code)
NMAC	New Mexico Administrative Code
NMED	New Mexico Environment Department
NMWQCC	New Mexico Water Quality Control Commission
PME	periodic monitoring event
PMR	periodic monitoring report
PQL	practical quantitation limit
QC	quality control
RPF	Records Processing Facility
SOP	standard operating procedure
TA	technical area
Y	yes (best value flag code)

1.0 INTRODUCTION

This periodic monitoring report (PMR) provides documentation of fiscal year 2013, third quarter, semiannual groundwater monitoring conducted by Los Alamos National Laboratory (LANL or the Laboratory) in the Material Disposal Area (MDA) C monitoring group. Monitoring was conducted pursuant to the Interim Facility-Wide Groundwater Monitoring Plan for the 2013 Monitoring Year, October 2012–September 2013 (2013 IFGMP) (LANL 2012, 225493), which was prepared in accordance with the Compliance Order on Consent (the Consent Order). The periodic monitoring event (PME) occurred from May 6 to May 22, 2013, and included sampling of groundwater wells and well screens.

This report also includes any results from previous PMEs that were unreported in their respective PMRs because validated laboratory data were not available (in some cases because of data release agreements). Any additional results from sampling that occurred outside the time frame of a PME are also included in this report.

Sections VIII.A and VIII.C of the Consent Order identify New Mexico Water Quality Control Commission (NMWQCC) groundwater and surface-water standards, including alternative abatement standards and U.S. Environmental Protection Agency (EPA) drinking water maximum contaminant levels (MCLs), as cleanup levels for groundwater when corrective action is implemented. NMWQCC groundwater standards, MCLs, and EPA regional screening levels for tap water are used as screening levels for monitoring data and are provided in this report.

This report presents the following information:

- general background information on the monitoring group
- field-measurement monitoring results
- water-quality monitoring results
- screening analysis results (comparing these PME results with regulatory standards and results from previous reports)
- a summary based on the data and the screening analysis

Information on radioactive materials and radionuclides, including the results of sampling and analysis of radioactive constituents, is voluntarily provided to the New Mexico Environment Department (NMED) in accordance with U.S. Department of Energy (DOE) policy.

1.1 Background

MDA C is located on Mesita del Buey in Technical Area 50 (TA-50), at the head of Ten Site Canyon. The MDA C monitoring group includes nearby regional monitoring wells on the mesa top and in Mortandad Canyon. TA-50 is bounded on the north by Effluent and Mortandad Canyons, on the east by the upper reaches of Ten Site Canyon, on the south by Twomile Canyon, and on the west by TA-55.

MDA C is an inactive 11.8-acre landfill consisting of 7 disposal pits and 108 shafts. Solid low-level radioactive wastes and chemical wastes were disposed of in the landfill between 1948 and 1974. The depths of the 7 pits at MDA C range from 12 ft to 25 ft below the original ground surface. The depths of the 108 shafts range from 10 ft to 25 ft below the original ground surface. The original ground surface is defined as beneath the cover that was placed over the site in 1984. The pits and shafts are constructed in the Tshirege Member of the Bandelier Tuff. The regional aquifer is estimated to be approximately 1330 ft deep based on the water level in well R-46 (LANL 2009, 105592). The topography of MDA C is relatively

flat, although the slope steepens to the north where the northeast corner of MDA C abuts the south wall of Ten Site Canyon.

Vapor-phase volatile organic compounds and tritium are present in the upper 500 ft of the unsaturated zone beneath MDA C (LANL 2011, 204370). The primary vapor-phase contaminants beneath MDA C are trichloroethene, tetrachloroethene, and tritium. There is no evidence of groundwater contamination in the regional aquifer. MDA C is located on a mesa top above thick, unsaturated units of the Bandelier Tuff; therefore, present-day aqueous-phase transport is generally believed to be minimal.

2.0 SCOPE OF ACTIVITIES

The PME for the MDA C monitoring group was conducted pursuant to the 2013 IFGMP (LANL 2012, 225493).

Table 2.0-1 provides the location name, sample collection date, screened interval, top and bottom screen depths, casing volume, purge volume, and purge rate for each of the locations scheduled to be monitored. These locations are shown in Figure 2.0-1. Some locations on this map may not have been sampled.

3.0 MONITORING RESULTS

3.1 Methods and Procedures

All methods and procedures used to perform the field activities associated with the PME are documented in the 2013 IFGMP (LANL 2012, 225493).

3.2 Field Parameter Results

Appendix A contains the field parameter results for this PME and the four previous PMEs.

3.3 Groundwater Elevations

The periodic monitoring water-level data for the previous 2 yr are presented in Appendix B (on CD included with this document). For wells equipped with transducers, the reported water level is the water-level measurement taken earliest on the day of sampling. All manual measurements were recorded immediately before sampling. The groundwater-elevation measurements are shown graphically in Figure 3.3-1. No surface-water locations are sampled for this monitoring group.

3.4 Deviations from Planned Scope

Table 3.4-1 describes the fieldwork deviations from the planned scope of the PME. Table 3.4-2 presents a list of analytes for which the practical quantitation limits (PQLs) are greater than screening levels.

4.0 ANALYTICAL DATA RESULTS

4.1 Methods and Procedures

All methods and procedures used to perform the analytical activities of the PME are documented in the 2013 IFGMP (LANL 2012, 225493). Purge water is managed and characterized in accordance with waste

profile form 39268, a copy of which was included in Appendix F of a previous PMR (LANL 2008, 103737), and ENV-RCRA-QP-010.3, Land Application of Groundwater. ENV-RCRA-QP-010.3 implements the NMED-approved Notice of Intent Decision Tree for land application of drilling, development, rehabilitation, and sampling of purge water.

All sampling, data reviews, and data package validations were conducted using standard operating procedures (SOPs) that are part of a comprehensive quality assurance program. The procedures are available at http://www.lanl.gov/community-environment/environmental-stewardship/plans-procedures.php. Completed chain-of-custody forms serve as analytical request forms and include the requester or owner, sample number, program code, date and time of sample collection, total number of bottles, list of analytes to be measured, bottle sizes, and preservatives for each required analysis.

The required analytical laboratory batch quality control (QC) is defined by the analytical method, the analytical statement of work, and generally accepted laboratory practices. The analytical laboratory assigns qualifiers to the data to indicate the quality of the analytical results. The laboratory batch QC is used in the secondary data validation process to evaluate the quality of individual analytical results, evaluate the appropriateness of the analytical methodologies, and measure the routine performance of the analytical laboratory.

In addition to batch QC performed by laboratories, the Laboratory submitted field QC samples to test the overall sampling and analytical laboratory process and to spot-check for analytical problems. These results are used in secondary validation along with information provided by the analytical laboratory.

After the Laboratory receives the analytical laboratory data packages, the packages receive secondary validation. For data collected before March 2012, validation was done by an independent contractor, Analytical Quality Associates, Inc. (AQA). After that date, validation is done by an automated process after data are loaded.

Data validation determines the quality of an analytical data set. Data validation focuses on specific quality assurance samples, such as matrix spikes, duplicates, surrogates, method blanks, laboratory control samples, and holding times, which indicate the accuracy and precision of the analyses. Based on the results, data qualifiers are applied to indicate data quality issues as well as the usability of results. This process also includes a description of the reasons for any failure to meet method, procedural, or contractual requirements and an evaluation of the impact of such failure on the overall data set.

AQA's reviews follow the guidelines set in the DOE model SOP for data validation, which includes reviewing the data quality and the documentation's correctness and completeness, verifying that holding times were met, and ensuring that analytical laboratory QC measures were applied, documented, and kept within contract requirements. As a result of secondary validation, a second set of qualifiers was assigned to the analytical results.

Auto validation (1) ensures that the electronic data deliverable contains all the required fields, (2) verifies that results of all QC checks and procedures are within valid criteria limits, and (3) applies specific qualifiers and reason codes per the EPA's National Functional Guidelines for data review as well as the Laboratory's SOPs. Once auto validation is complete, the data are uploaded into the Laboratory's database system and the public database (http://intellusnm.com/).

The Laboratory assigns detection status to the analytical result based on the analytical laboratory and secondary validation qualifiers. A detect flag of "N" indicates that, based on the qualifiers, the result was not detected.

4.2 Analytical Data

Appendix C presents the analytical data from this PME and from the four sampling events at these locations immediately before the PME. The analytical laboratory reports (including chain-of-custody forms and data validation forms) are provided in Appendix F (on CD included with this document).

Appendix C contains all data collected during the PME (i.e., all data that have been independently reviewed for conformance with Laboratory requirements) with the following constraints.

- All data
    - ❖ Data that are R-qualified (rejected because of noncompliance regarding QC acceptance criteria) during independent validation are considered unusable but are still reported.
    - ❖ Analytical laboratory QC results, including matrix spike and matrix spike duplicates, and field blanks, trip blanks, and equipment blanks are not included in the data set.
    - ❖ Field duplicates, reanalyses, and results from different analytical methods are reported.
- Radionuclides
    - ❖ Only cesium-137, cobalt-60, neptunium-237, potassium-40, and sodium-22 are reported (or analyzed) for the gamma spectroscopy suite.
    - ❖ Americium-241 and uranium-235 are reported only by chemical separation alpha spectroscopy. No gamma spectroscopy results are presented for these analytes.
    - ❖ Otherwise, all results are reported at all locations.
- Nonradionuclides
    - ❖ All detected results are reported.

Multiple analyses of a sample, including dilutions and reanalyses, create redundant results. These multiple results have the same sample ID, analytical laboratory code, and analytical method. The analytical and validation information is used to designate the preferred result, which is marked with a best value flag of “Y” (yes). The redundant values of lower quality are assigned a best value flag of “N” (no). In cases where a reanalysis gives a significantly different result than an earlier value, the original result may be rejected and assigned a best value flag of N, and the reanalysis result may be marked with a best value flag of Y. The best value flag is included in Appendix C.

Data for PMRs are evaluated using the following screening process. The sources of screening levels with which the results are compared are listed in Table 4.2-1.

- The base-flow monitoring locations are assigned to one of two screening categories—perennial or ephemeral. Along with a hardness value, this category determines the screening levels used for data at each monitoring location. Hardness-dependent screening levels used to screen data at each base-flow monitoring location are determined using the geometric mean of hardness data (mg/L as calcium carbonate) collected from 2006 to 2010 at each location. Hardness-dependent acute and chronic criteria were used for total aluminum and dissolved cadmium, chromium, copper, lead, manganese, nickel, silver, and zinc in accordance with the requirements of 20 New Mexico Administrative Code (NMAC) 6.4.
- Surface-water and groundwater perchlorate data were compared with the screening level of 4 µg/L established in Section VIII.A.1.a of the Consent Order.

- Other groundwater data are screened to Groundwater Cleanup Levels described in Section VIII.A.1 of the Consent Order; for an individual substance, the lesser of the EPA MCL or the NMWQCC groundwater standard is used.
- If an NMWQCC standard or an MCL has not been established for a specific substance for which toxicological information is published, the EPA Regional Screening Levels for Tap Water (formerly Region 6 Screening Levels for Tap Water) are used as the Groundwater Cleanup Level. These screening levels are for either a cancer- or noncancer-risk type. The Consent Order specifies screening at a 10^{-5} excess cancer risk. The EPA screening levels are for 10^{-6} excess cancer risk, so 10 times the EPA 10^{-6} screening levels are used for screening.
- The NMWQCC groundwater standards apply to the dissolved (filtered) portion of specified contaminants; however, the standards for mercury, organic compounds, and nonaqueous-phase liquids apply to the total unfiltered concentrations of the contaminants. EPA MCLs are applied to both filtered and unfiltered sample results.
- The analytical results for radioactivity are compared with the DOE Biota Concentration Guides (BCGs) for surface water and Derived Concentration Guides (DCGs) for groundwater.

The results of data screening for this PMR are presented in Appendix D. This appendix shows all analytical results greater than half the lowest applicable screening levels. Results with a best value flag of N are included in Appendix D but not discussed in the text. No analytes from the current PME exceeded half their screening levels.

Table 4.2-2 provides groundwater analytical results (by hydrogeologic zone for a specific analytical suite) that are above screening levels. Multiple detections of a particular constituent at a location are counted as one result. For example, if aluminum is detected above a screening level in both a primary sample and a field duplicate, only the highest result is shown. No analytes from the current PME exceeded their screening levels.

Graphs in Appendix E display concentration histories of analytes for locations where the analyte was above its screening level at least once during the three most recent PMEs. Concentrations of the analyte are plotted for a 3-yr period. If 3 yr of data are not available, then all available results for the analyte are plotted. When shown, the solid red lines depict applicable screening levels. Results with a best value flag of N are not included in Appendix E.

No analytes from the current PME exceeded their screening level at more than one sampling location, so no maps showing concentrations are included.

4.2.1 Surface Water (Base Flow)

No surface-water locations are included in this monitoring group.

4.2.2 Groundwater

No results from previous sampling of MDA C monitoring group PME monitoring locations are reported in this PMR.

No results from current PME groundwater samples reported in this PMR were above screening levels.

4.3 Sampling Program Modifications

No modifications to the periodic monitoring sampling for the MDA C monitoring group are proposed at this time.

5.0 SUMMARY AND INTERPRETATIONS

5.1 Monitoring Results

The field parameter monitoring results are presented in Appendix A.

5.2 Analytical Results

5.2.1 Surface Water (Base Flow)

No surface-water locations are included in this monitoring group.

5.2.2 Groundwater

No results from previous sampling of PME monitoring locations are reported in this PMR. No results from current PME groundwater samples reported in this PMR were above screening levels.

For results above screening levels, the types of contaminants detected and their concentrations are consistent with data reported from previous monitoring events in this monitoring group.

5.3 Data Gaps

Table 3.4-1 summarizes the field deviations encountered during the PME. The table also provides a detailed account of sampling event deviations.

5.4 Remediation System Monitoring

Remediation system monitoring is not applicable to the MDA C monitoring group because no systems are installed in the monitoring group area.

6.0 REFERENCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

LANL (Los Alamos National Laboratory), September 2008. "Periodic Monitoring Report for White Rock Watershed, April 23–April 30, 2008," Los Alamos National Laboratory document LA-UR-08-5847, Los Alamos, New Mexico. (LANL 2008, 103737)

LANL (Los Alamos National Laboratory), March 2009. "Completion Report for Regional Aquifer Well R-46," Los Alamos National Laboratory document LA-UR-09-1338, Los Alamos, New Mexico. (LANL 2009, 105592)

LANL (Los Alamos National Laboratory), June 2011. "Phase III Investigation Report for Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50," Los Alamos National Laboratory document LA-UR-11-3429, Los Alamos, New Mexico. (LANL 2011, 204370)

LANL (Los Alamos National Laboratory), August 2012. "Interim Facility-Wide Groundwater Monitoring Plan for the 2013 Monitoring Year, October 2012–September 2013," Los Alamos National Laboratory document LA-UR-12-21331, Los Alamos, New Mexico. (LANL 2012, 225493)

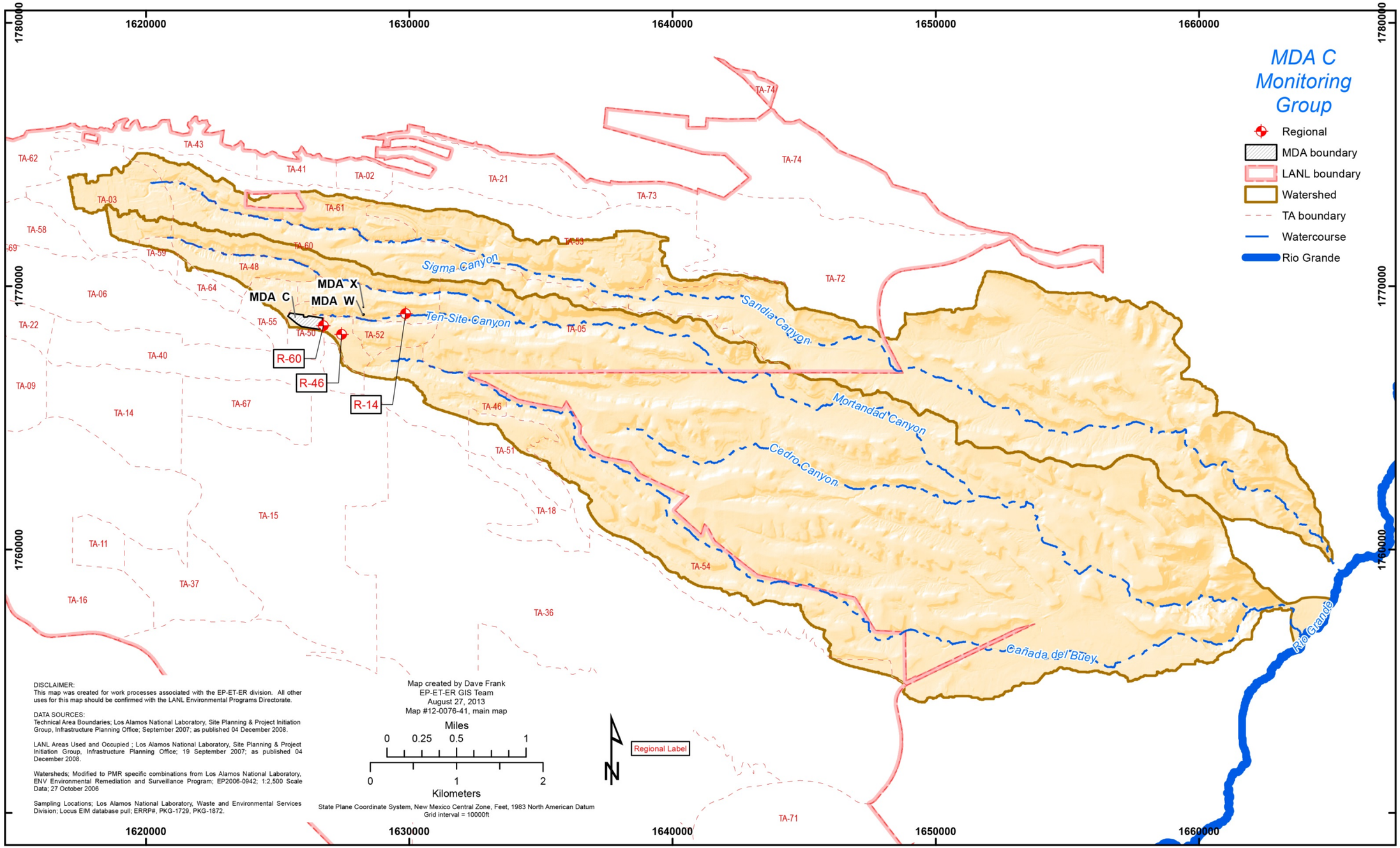


Figure 2.0-1 Locations scheduled to be monitored for this PME (see Table 3.4-1).

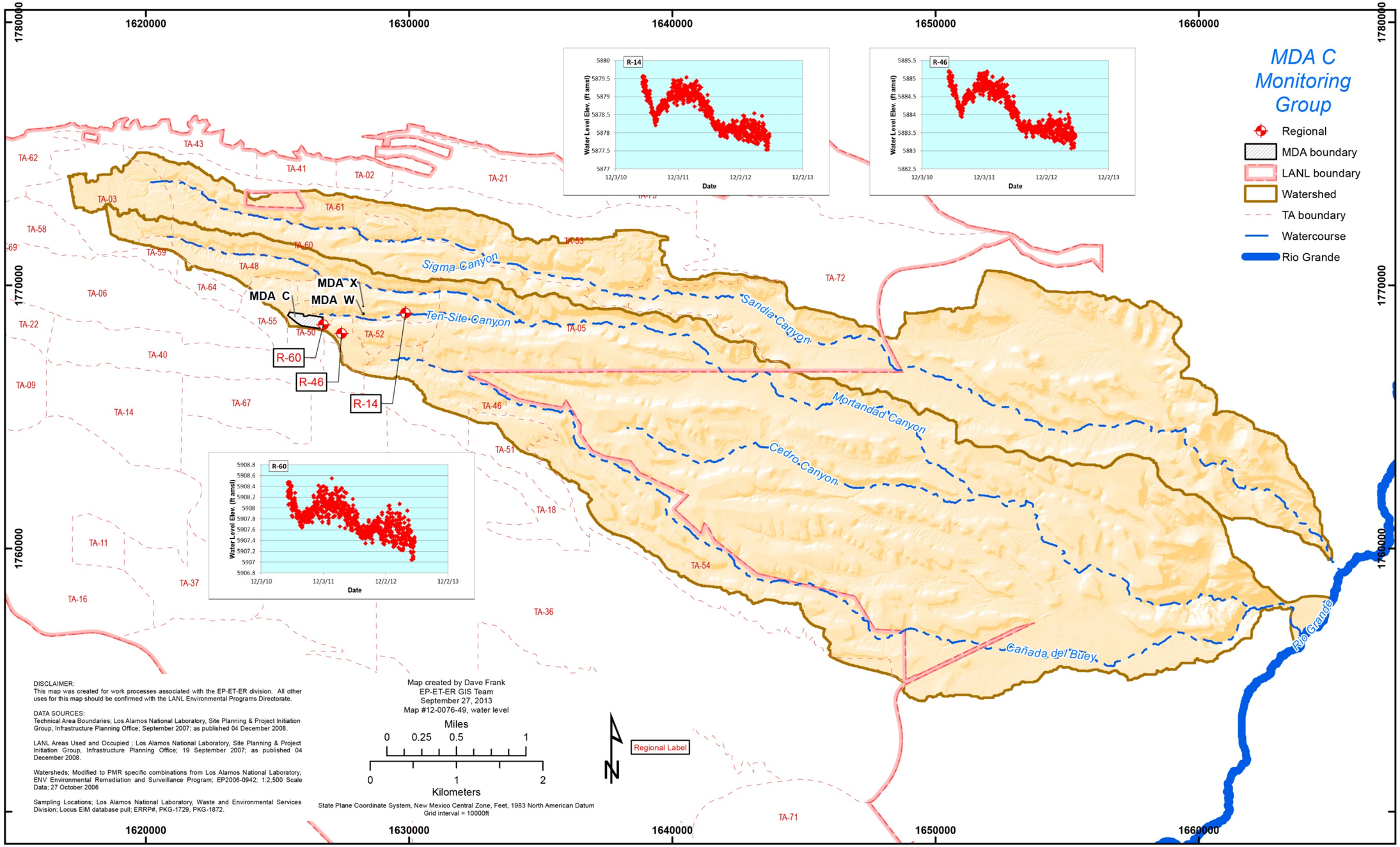


Figure 3.3-1 Groundwater elevations

Table 2.0-1
MDA C Monitoring Group Locations and General Information

Location Name	Sample Collection Date	Screened Interval (ft)	Screen Top Depth (ft)	Screen Bottom Depth (ft)	Calculated Single Casing Volume (gal.)	Purge Volume (gal.)	Purge Rate (gpm*)
R-14 S1	05/14/13	32.6	1200.6	1233.2	49.9	153	6.97
R-46	05/21/13	20.7	1340	1360.7	53.4	165	4.69
R-60	05/07/13	20.9	1330	1350.9	40.9	123	1.25

*gpm = Gallons per minute.

Table 3.4-1
MDA C Monitoring Group PME Observations and Deviations

Location	Deviation	Cause	Comment
n/a*	n/a	n/a	No deviations for this PME

*n/a = Not applicable.

Table 3.4-2
Analytes with PQLs above Screening Levels

Analyte or CAS[a] No.	Analyte Name	MDL[b]	PQL	Screening Level	Unit	Screening-Level Type
Herbicides						
94-74-6	MCPA[c]	12	53	18	µg/L	EPA Regional Tap
93-65-2	MCPP[d]	11	53	37	µg/L	EPA Regional Tap
Metals						
Be	Beryllium	1	5	4	µg/L	EPA MCL
Semivolatile Organic Compounds						
1912-24-9	Atrazine	3	10	3	µg/L	EPA MCL
103-33-3	Azobenzene	2	10	1.3	µg/L	EPA Regional Tap
92-87-5	Benzidine	3	10	0.00094	µg/L	EPA Regional Tap
56-55-3	Benzo(a)anthracene	0.2	1	0.29	µg/L	EPA Regional Tap
50-32-8	Benzo(a)pyrene	0.2	1	0.2	µg/L	EPA MCL
205-99-2	Benzo(b)fluoranthene	0.2	1	0.29	µg/L	EPA Regional Tap
111-44-4	Bis(2-chloroethyl)ether	2	10	0.12	µg/L	EPA Regional Tap
117-81-7	Bis(2-ethylhexyl)phthalate	2	10	6	µg/L	EPA MCL
106-47-8	Chloroaniline[4-]	2	10	3.4	µg/L	EPA Regional Tap
53-70-3	Dibenz(a,h)anthracene	0.2	1	0.029	µg/L	EPA Regional Tap
91-94-1	Dichlorobenzidine[3,3'-]	2	10	1.5	µg/L	EPA Regional Tap
534-52-1	Dinitro-2-methylphenol[4,6-]	3	10	2.9	µg/L	EPA Regional Tap
123-91-1	Dioxane[1,4-]	2	10	6.7	µg/L	EPA Regional Tap

Table 3.4-2 (continued)

Analyte or CAS[a] No.	Analyte Name	MDL[b]	PQL	Screening Level	Unit	Screening-Level Type
118-74-1	Hexachlorobenzene	2	10	1	µg/L	EPA MCL
193-39-5	Indeno(1,2,3-cd)pyrene	0.2	1	0.29	µg/L	EPA Regional Tap
55-18-5	Nitrosodiethylamine[N-]	2	10	0.0014	µg/L	EPA Regional Tap
62-75-9	Nitrosodimethylamine[N-]	2	10	0.0042	µg/L	EPA Regional Tap
924-16-3	Nitroso-di-n-butylamine[N-]	3	10	0.024	µg/L	EPA Regional Tap
621-64-7	Nitroso-di-n-propylamine[N-]	2	10	0.096	µg/L	EPA Regional Tap
930-55-2	Nitrosopyrrolidine[N-]	2	10	0.32	µg/L	EPA Regional Tap
108-60-1	Oxybis(1-chloropropane) [2,2'-]	2	10	3.2	µg/L	EPA Regional Tap
87-86-5	Pentachlorophenol	2	10	1	µg/L	EPA MCL
108-95-2	Phenol	1	10	5	µg/L	NMWQCC Groundwater Standard
Volatile Organic Compounds						
107-02-8	Acrolein	1.3	5	0.042	µg/L	EPA Regional Tap
107-13-1	Acrylonitrile	1	5	0.45	µg/L	EPA Regional Tap
126-99-8	Chloro-1,3-butadiene[2-]	0.3	1	0.16	µg/L	EPA Regional Tap
96-12-8	Dibromo-3-chloropropane[1,2-]	0.3	1	0.2	µg/L	EPA MCL
106-93-4	Dibromoethane[1,2-]	0.25	1	0.05	µg/L	EPA MCL
126-98-7	Methacrylonitrile	1	5	1	µg/L	EPA Regional Tap
75-09-2	Methylene chloride	3	10	5	µg/L	EPA MCL
96-18-4	Trichloropropane[1,2,3-]	0.3	1	0.0072	µg/L	EPA Regional Tap

Note: This table is applicable to all samples reported in all PMRs.

[a] CAS = Chemical Abstracts Service.

[b] MDL = Method detection limit.

[c] MCPA = 2-Methyl-4-chlorophenoxyacetic acid.

[d] MCPP = 2-(4-Chloro-2-methylphenoxy)propanoic acid.

Table 4.2-1
Sources of Screening Levels for Groundwater and Surface Water at Los Alamos National Laboratory

Standard Source	Standard Type	Groundwater	Surface Water
DOE Order 5400.5	DOE BCGs	n/a[a]	X[b]
DOE Order 5400.5	DOE 100-mrem Public Dose DCG	X	n/a
DOE Order 5400.5	DOE 4-mrem Drinking Water DCG	X	n/a
40 CFR[c] 141	EPA Primary Drinking Water Standard	X	n/a
EPA Regional Screening Levels for Chemical Contaminants at Superfund Sites	EPA Regional Screening Levels for Tap Water	X	n/a
20 NMAC.3.4	New Mexico Environmental Improvement Board Radiation Protection Standards	X	X
20 NMAC 6.2	NMWQCC Groundwater Standard	X	n/a
20 NMAC 6.4	NMWQCC Irrigation Standard	n/a	X
20 NMAC 6.4	NMWQCC Livestock Watering Standard	n/a	X
20 NMAC 6.4	NMWQCC Wildlife Habitat Standard	n/a	X
20 NMAC 6.4	NMWQCC Aquatic Life Standards Acute	n/a	X
20 NMAC 6.4	NMWQCC Aquatic Life Standards Chronic	n/a	X
20 NMAC 6.4	NMWQCC Human Health Standard	n/a	X

[a] n/a = Not applicable.

[b] X = Applied to data screen for this report.

[c] CFR = Code of Federal Regulations.

Table 4.2-2
MDA C Monitoring Group Groundwater Results above Screening Levels

Location	Date	Analyte	Field Prep Code	Result	Unit	Screening Level	Screening-Level Type
Regional Aquifer							
n/a*	n/a	No results above screening levels for this PME	n/a	n/a	n/a	n/a	n/a

*n/a = Not applicable.

Appendix A

Field Parameter Results, Including Results from Previous Four Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Analyte	Result	Unit	Sample
R-14 S1	1200.6	05/14/13	WG[a]	Dissolved Oxygen	5.45	mg/L	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	Dissolved Oxygen	5.64	mg/L	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	Dissolved Oxygen	5.51	mg/L	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	Dissolved Oxygen	5.17	mg/L	CAMO-12-1526
R-14 S1	1200.6	08/03/11	WG	Dissolved Oxygen	5.25	mg/L	CAMO-11-24652
R-14 S1	1200.6	05/14/13	WG	Oxidation-Reduction Potential	230.9	mV	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	Oxidation-Reduction Potential	184.3	mV	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	Oxidation-Reduction Potential	167.1	mV	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	Oxidation-Reduction Potential	167.1	mV	CAMO-12-1526
R-14 S1	1200.6	08/03/11	WG	Oxidation-Reduction Potential	139.2	mV	CAMO-11-24652
R-14 S1	1200.6	05/14/13	WG	pH	8.13	SU[b]	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	pH	8.26	SU	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	pH	8.31	SU	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	pH	8.43	SU	CAMO-12-1526
R-14 S1	1200.6	08/03/11	WG	pH	8.37	SU	CAMO-11-24652
R-14 S1	1200.6	05/14/13	WG	Specific Conductance	129	µS/cm	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	Specific Conductance	134	µS/cm	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	Specific Conductance	131	µS/cm	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	Specific Conductance	130	µS/cm	CAMO-12-1526
R-14 S1	1200.6	08/03/11	WG	Specific Conductance	133	µS/cm	CAMO-11-24652
R-14 S1	1200.6	05/14/13	WG	Temperature	22.29	deg C	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	Temperature	22.09	deg C	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	Temperature	23.63	deg C	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	Temperature	23.17	deg C	CAMO-12-1526
R-14 S1	1200.6	08/03/11	WG	Temperature	23.76	deg C	CAMO-11-24652
R-14 S1	1200.6	05/14/13	WG	Turbidity	0.65	NTU[c]	CAMO-13-30613
R-14 S1	1200.6	11/05/12	WG	Turbidity	0.51	NTU	CAMO-13-24276
R-14 S1	1200.6	05/29/12	WG	Turbidity	0.5	NTU	CAMO-12-14044
R-14 S1	1200.6	11/08/11	WG	Turbidity	0.51	NTU	CAMO-12-1526

Location	Depth (ft)	Date	Field Matrix	Analyte	Result	Unit	Sample
R-14 S1	1200.6	08/03/11	WG	Turbidity	0.36	NTU	CAMO-11-24652
R-46	1340	05/21/13	WG	Dissolved Oxygen	6.46	mg/L	CAMO-13-30615
R-46	1340	11/16/12	WG	Dissolved Oxygen	0.5	mg/L	CAMO-13-24278
R-46	1340	06/01/12	WG	Dissolved Oxygen	6.22	mg/L	CAMO-12-17127
R-46	1340	05/21/12	WG	Dissolved Oxygen	6.43	mg/L	CAMO-12-14045
R-46	1340	11/08/11	WG	Dissolved Oxygen	6.49	mg/L	CAMO-12-1530
R-46	1340	05/21/13	WG	Oxidation-Reduction Potential	208.5	mV	CAMO-13-30615
R-46	1340	11/16/12	WG	Oxidation-Reduction Potential	176.3	mV	CAMO-13-24278
R-46	1340	06/01/12	WG	Oxidation-Reduction Potential	187.5	mV	CAMO-12-17127
R-46	1340	05/21/12	WG	Oxidation-Reduction Potential	142.8	mV	CAMO-12-14045
R-46	1340	11/08/11	WG	Oxidation-Reduction Potential	130.4	mV	CAMO-12-1530
R-46	1340	05/21/13	WG	pH	7.78	SU	CAMO-13-30615
R-46	1340	11/16/12	WG	pH	8.01	SU	CAMO-13-24278
R-46	1340	06/01/12	WG	pH	8.08	SU	CAMO-12-17127
R-46	1340	05/21/12	WG	pH	7.87	SU	CAMO-12-14045
R-46	1340	11/08/11	WG	pH	8.02	SU	CAMO-12-1530
R-46	1340	05/21/13	WG	Specific Conductance	124	µS/cm	CAMO-13-30615
R-46	1340	11/16/12	WG	Specific Conductance	121	µS/cm	CAMO-13-24278
R-46	1340	06/01/12	WG	Specific Conductance	123	µS/cm	CAMO-12-17127
R-46	1340	05/21/12	WG	Specific Conductance	120	µS/cm	CAMO-12-14045
R-46	1340	11/08/11	WG	Specific Conductance	122	µS/cm	CAMO-12-1530
R-46	1340	05/21/13	WG	Temperature	20.65	deg C	CAMO-13-30615
R-46	1340	11/16/12	WG	Temperature	18.59	deg C	CAMO-13-24278
R-46	1340	06/01/12	WG	Temperature	21.42	deg C	CAMO-12-17127
R-46	1340	05/21/12	WG	Temperature	21.93	deg C	CAMO-12-14045
R-46	1340	11/08/11	WG	Temperature	21.41	deg C	CAMO-12-1530
R-46	1340	05/21/13	WG	Turbidity	1.08	NTU	CAMO-13-30615
R-46	1340	11/16/12	WG	Turbidity	0.5	NTU	CAMO-13-24278
R-46	1340	06/01/12	WG	Turbidity	0.4	NTU	CAMO-12-17127

Location	Depth (ft)	Date	Field Matrix	Analyte	Result	Unit	Sample
R-46	1340	05/21/12	WG	Turbidity	1.03	NTU	CAMO-12-14045
R-46	1340	11/08/11	WG	Turbidity	1.23	NTU	CAMO-12-1530
R-60	1330	05/07/13	WG	Dissolved Oxygen	5.78	mg/L	CAMO-13-30616
R-60	1330	11/01/12	WG	Dissolved Oxygen	5.85	mg/L	CAMO-13-24279
R-60	1330	05/31/12	WG	Dissolved Oxygen	5.51	mg/L	CAMO-12-14046
R-60	1330	11/22/11	WG	Dissolved Oxygen	5.23	mg/L	CAMO-12-1522
R-60	1330	07/26/11	WG	Dissolved Oxygen	4.52	mg/L	CAPA-11-14772
R-60	1330	07/26/11	WG	Dissolved Oxygen	4.52	mg/L	CAPA-11-14773
R-60	1330	07/26/11	WG	Dissolved Oxygen	4.56	mg/L	CAPA-11-14774
R-60	1330	07/26/11	WG	Dissolved Oxygen	4.5	mg/L	CAPA-11-14776
R-60	1330	07/26/11	WG	Dissolved Oxygen	4.5	mg/L	CAPA-11-23020
R-60	1330	05/07/13	WG	Oxidation-Reduction Potential	192.8	mV	CAMO-13-30616
R-60	1330	11/01/12	WG	Oxidation-Reduction Potential	132.2	mV	CAMO-13-24279
R-60	1330	05/31/12	WG	Oxidation-Reduction Potential	203.1	mV	CAMO-12-14046
R-60	1330	11/22/11	WG	Oxidation-Reduction Potential	96.2	mV	CAMO-12-1522
R-60	1330	07/26/11	WG	Oxidation-Reduction Potential	33.7	mV	CAPA-11-14774
R-60	1330	07/26/11	WG	Oxidation-Reduction Potential	45.9	mV	CAPA-11-14776
R-60	1330	07/26/11	WG	Oxidation-Reduction Potential	45.9	mV	CAPA-11-23020
R-60	1330	05/07/13	WG	pH	8.01	SU	CAMO-13-30616
R-60	1330	11/01/12	WG	pH	8.3	SU	CAMO-13-24279
R-60	1330	05/31/12	WG	pH	8.35	SU	CAMO-12-14046
R-60	1330	11/22/11	WG	pH	8.45	SU	CAMO-12-1522
R-60	1330	07/26/11	WG	pH	8.33	SU	CAPA-11-14772
R-60	1330	07/26/11	WG	pH	8.33	SU	CAPA-11-14773
R-60	1330	07/26/11	WG	pH	8.17	SU	CAPA-11-14774
R-60	1330	07/26/11	WG	pH	8.09	SU	CAPA-11-14776
R-60	1330	07/26/11	WG	pH	8.09	SU	CAPA-11-23020
R-60	1330	05/07/13	WG	Specific Conductance	127	µS/cm	CAMO-13-30616
R-60	1330	11/01/12	WG	Specific Conductance	116	µS/cm	CAMO-13-24279

Location	Depth (ft)	Date	Field Matrix	Analyte	Result	Unit	Sample
R-60	1330	05/31/12	WG	Specific Conductance	131	µS/cm	CAMO-12-14046
R-60	1330	11/22/11	WG	Specific Conductance	124	µS/cm	CAMO-12-1522
R-60	1330	07/26/11	WG	Specific Conductance	133	µS/cm	CAPA-11-14772
R-60	1330	07/26/11	WG	Specific Conductance	133	µS/cm	CAPA-11-14773
R-60	1330	07/26/11	WG	Specific Conductance	134	µS/cm	CAPA-11-14774
R-60	1330	07/26/11	WG	Specific Conductance	128	µS/cm	CAPA-11-14776
R-60	1330	07/26/11	WG	Specific Conductance	128	µS/cm	CAPA-11-23020
R-60	1330	05/07/13	WG	Temperature	24.32	deg C	CAMO-13-30616
R-60	1330	11/01/12	WG	Temperature	23.72	deg C	CAMO-13-24279
R-60	1330	05/31/12	WG	Temperature	24.39	deg C	CAMO-12-14046
R-60	1330	11/22/11	WG	Temperature	22.65	deg C	CAMO-12-1522
R-60	1330	07/26/11	WG	Temperature	22.82	deg C	CAPA-11-14772
R-60	1330	07/26/11	WG	Temperature	22.82	deg C	CAPA-11-14773
R-60	1330	07/26/11	WG	Temperature	24.25	deg C	CAPA-11-14774
R-60	1330	07/26/11	WG	Temperature	24.64	deg C	CAPA-11-14776
R-60	1330	07/26/11	WG	Temperature	24.64	deg C	CAPA-11-23020
R-60	1330	05/07/13	WG	Turbidity	1.09	NTU	CAMO-13-30616
R-60	1330	11/01/12	WG	Turbidity	1.49	NTU	CAMO-13-24279
R-60	1330	05/31/12	WG	Turbidity	2.77	NTU	CAMO-12-14046
R-60	1330	11/22/11	WG	Turbidity	1.82	NTU	CAMO-12-1522
R-60	1330	07/26/11	WG	Turbidity	2.75	NTU	CAPA-11-14772
R-60	1330	07/26/11	WG	Turbidity	2.75	NTU	CAPA-11-14773
R-60	1330	07/26/11	WG	Turbidity	2.73	NTU	CAPA-11-14774
R-60	1330	07/26/11	WG	Turbidity	1.3	NTU	CAPA-11-14776
R-60	1330	07/26/11	WG	Turbidity	1.3	NTU	CAPA-11-23020

[a] WG = Groundwater.

[b] SU = Standard unit.

[c] NTU = Nephelometric turbidity unit.

Appendix B

Groundwater-Elevation Measurements
(on CD included with this document)

Appendix C

Analytical Chemistry Results, Including Results from Previous Four Monitoring Events if Available

The following pages provide lists of (1) acronyms, abbreviations, symbols, and various analytical codes; (2) analytical laboratory qualifier codes; and (3) secondary validation flag codes that may be used in Appendix C. Please note that these are comprehensive lists, and this periodic monitoring report may not include all of the terms in the lists.

Acronyms and Abbreviations

Acronym, Abbreviation, or Symbol	Description
Miscellaneous	
%	percent
%D	percent difference
%R	percent recovery
%RSD	percent relative standard deviation
<	Based on qualifiers, the result was a nondetection.
—	none
4,4'-DDD	4,4'-dichlorodiphenyldichloroethane
4,4'-DDT	4,4'-dichlorodiphenyltrichloroethane
BHC	benzene hexachloride
CB	chlorinated biphenyl
CCB	continuing calibration blank
CCV	continuing calibration verification
CLP	Control Laboratory Program
CRDL	contract-required detection limit
CRI	CDRL check standard
DCG	Derived Concentration Guide (DOE)
DDE	dichlorodiphenyldichloroethylene
DNX	dinitroso-RDX (or hexahydro-1,3-dinitroso-5-nitro-1,3,5-triazine)
DOE	Department of Energy (U.S.)
DQO	data quality objective
EPA	Environmental Protection Agency (U.S.)
GC	gas chromatography
GC/MS	gas chromatography/mass spectrometry
GFAA	graphite furnace atomic absorption
GFPC	gas-flow proportional counter
GW	groundwater
HH OO	Human Health—Organism Only (NMWQCC standard)
HMX	1,3,5,7-tetranitro-1,3,5,7-tetrazocine
HPLC	high-pressure liquid chromatography
ICAL	initial calibration
ICPAES	inductively coupled plasma atomic (optical) emission spectroscopy
ICV	initial calibration verification
IDL	instrument detection limit

Acronyms and Abbreviations (continued)

Acronym, Abbreviation, or Symbol	Description
Miscellaneous (continued)	
IS	internal standard
LAL	lower acceptance limit
LANL	Los Alamos National Laboratory
LCS	laboratory control sample
LLEE	low-level electrolytic extraction
LOC	level of chlorination
LSC	liquid scintillation counting
Lvl	level
MCL	maximum contaminant level (EPA)
MDA	minimum detectable activity
MDC	minimum detectable concentration
MDL	method detection limit
MNX	mononitroso-RDX (or hexahydro-1-nitroso-3,5-dinitro-1,3,5-triazine)
MS	matrix spike
MSD	matrix spike duplicate
NM	NMWQCC
NMED	New Mexico Environmental Department
NMWQCC	New Mexico Water Quality Control Commission
OPR	ongoing precision recovery
PCB	polychlorinated biphenyl
PCDD	polychlorinated dibenzo-p-dioxin
PCDF	polychlorinated dibenzofuran
PQL	practical quantitation limit
Prelim	preliminary
QC	quality control
RDX	hexahydro-1,3,5-trinitro-1,3,5-triazine
RF	response factor
RL	reporting limit
RPD	relative percent difference
RRF	relative response factor
RRT	relative retention time
RT	retention time
Scr	screening
SDG	sample delivery group
SMO	Sample Management Office
SSC	suspended sediment concentration
SU	standard unit
TCDD	tetrachlorodibenzo-p-dioxin

Acronyms and Abbreviations (continued)

Acronym, Abbreviation, or Symbol	Description
Miscellaneous (continued)	
TCDF	tetrachlorodibenzofuran
TDS	total dissolved solids
TPH-DRO	total petroleum hydrocarbons—diesel range organics
TNX	trinitroso-RDX (or hexahydro-1,3,5-trinitroso-1,3,5-triazine)
TPU	total propagated uncertainty
UAL	upper acceptance limit
Field Matrix Codes	
W	water
WG	groundwater
WM	snowmelt
WP	persistent flow
WS	base flow
WT	storm runoff
Field Prep Codes	
F	filtered
UF	unfiltered
Lab Sample Type Codes	
CS	client sample
DL	dilution
DUP	duplicate
INIT	initial
RE	reanalysis
REDL	reanalysis dilution
REDP	reanalysis duplicate
RI	reissue
TRP	triplicate
Field QC Type Codes	
EQB	equipment rinsate blank
FB	field blank
FD	field duplicate
FR	field rinsate
FS	field split
FTB	field trip blank
FTR	field triplicate
INB	equipment blank taken during installation and not associated with a sampling event
ITB	trip blank taken during installation and not associated with a sampling event
NA	not applicable
PEB	performance evaluation blank

Acronyms and Abbreviations (continued)

Acronym, Abbreviation, or Symbol	Description
Field QC Type Codes (continued)	
PEK	performance evaluation known
REG	regular
RES	resample
SS	special sampling event, data unique
SS-EQB	equipment blank of special sampling event, data unique
SS-FB	field blank of special sampling event, data unique
SS-FD	field duplicate of special sampling event, data unique
SS-FTB	field trip blank of special sampling event, data unique
Analytical Suite Codes	
DIOX/FUR, Diox/Fur	dioxins and furans
DRO	diesel range organics
Geninorg, GENINORG, General Chemistry	general inorganics
GRO	gasoline range organics
HERB	herbicides
HEXP	high explosives
INORGANIC	inorganics
ISOTOPE, Isotope	isotope ratios
LCMS/MS	liquid chromatography mass spectrometry/mass spectrometry
METALS, Metals	metals
PEST/PCB, PESTPCB	pesticides and PCBs
RAD, Rad	radiochemistry
SVOC, SVOA	semivolatile organic compounds
VOC, VOA	volatile organic compounds
Detect Flag and Best Value Flag Codes	
N	no
Y	yes
Lab Codes	
ALTC	Alta Analytical Laboratory, Inc., San Diego, CA
ARSL	American Radiation Services, Inc.
CFA	Cape Fear Analytical, LLC, Wilmington, NC
C-INC	Isotope and Nuclear Chemistry Division (LANL)
COAST	Coastal Science Laboratories, Austin, TX
CST	Chemical Sciences and Technology Division (LANL)
EES6	Hydrology, Geochemistry, and Geology Group (LANL)
ESE	Environmental Sciences & Engineering, Inc., Gainesville, FL
FLD	measurement taken in field
GEL	General Engineering Laboratories, Inc.

Acronyms and Abbreviations (continued)

Acronym, Abbreviation, or Symbol	Description
Lab Codes (continued)	
GELC	General Engineering Laboratories, Inc., Charleston, SC
GEO	Geochron Laboratories, Boston, MA
HENV	Health and Environmental Laboratory (Johnson Controls, Northern New Mexico)
HUFFMAN	Huffman Laboratories, Inc., Golden, CO
KA	KEMRON Environmental Services, Inc., Vienna, VA
LVLI	Lionville Laboratory, Inc., Philadelphia, PA
PARA	Paragon Analytics, Inc., Salt Lake City, UT
PEC	Pacific Ecorisk Laboratories, Fairfield, CA
QESL	Quanterra Environmental Services, St. Louis, MO
QST	QST Environmental, Newberry, FL
RECRAP	RECRA Labnet, Lionville, PA
RFWC	Roy F. Weston, Inc., West Chester, PA
SGSW	Paradigm Analytical Laboratories, Inc., Wilmington, NC
SILENS	Stable Isotope Laboratory, Woods Hole, MA
STL2, STR	Severn Trent Laboratories, Inc., Richland, WA (historical)
STLA	Severn Trent Laboratories, Inc., Los Angeles, CA
STSL	Severn Trent Laboratories, Inc., St. Louis, MO
SwRI	Southwest Research Institute, San Antonio, TX
UAZ	University of Arizona, Tucson
UIL	University of Illinois, Urbana-Champaign
UMTL	University of Miami Tritium Lab

Analytical Laboratory Qualifier Codes

Code	Description
*	(Inorganic)—Duplicate analysis (relative percent difference [RPD]) not within control limits.
B	(Organic) —Analyte was present in the blank and the sample. (Inorganic) —Reported value was obtained from a reading that was less than the contract-required detection limit (CRDL) but greater than or equal to the instrument detection limit (IDL).
BJ	See B code and see J code.
BJP	See B code, see J code, and see P code.
BPX	(B) (Organic)—This analyte was detected in the associated laboratory method blank and the sample. (B) (Inorganic)—The result for this analyte was greater than the IDL but less than the CRDL. (P) (Pesticides/PCBs)—The quantitative results for this analyte between the primary and secondary gas chromatography (GC) columns were greater than 25% difference. (P) (SW-846 EPA Method 8310, High-Pressure Liquid Chromatography, [HPLC] Results)—The quantitative results for this analyte between the primary and secondary HPLC columns or primary and secondary HPLC detectors were greater than 40% difference. (X) (Organic/Inorganic)—The result for this analyte should be regarded as not detected.
D	The result for this analyte was reported from a dilution.
DJ	See D code and see J code.
DNA	Did not analyze because equipment was broken.
E	(Organic) Analyte exceeded the concentration range. (Inorganic) The serial dilution was exceeded.
E*	See E code and see * code.
EJ	See E code and see J code.
EJ*	See E code, see J code, and see * code.
EJN	(E) (Organic)—The result for this analyte exceeded the upper range of the instrument initial calibration curve. (E) (Inorganic) (inductively coupled plasma atomic [optical] emission spectroscopy [ICPAES])—The result for this analyte in the serial dilution analysis was outside acceptance criteria. (E) (Inorganic) (graphite furnace atomic absorption [GFAA])—The result for this analyte failed one or more Control Laboratory Program (CLP) acceptance criteria as explained in the case narrative. (J) (Organic/General Inorganics)—The result for this analyte was greater than the method detection limit (MDL) but less than the practical quantitation limit (PQL). (N) (Organic)—The reported analyte is a tentatively identified compound (TIC). (N) (Inorganic)—The result for this analyte in the matrix spike (MS) sample was outside acceptance criteria.
EN	See E code and see N code.
EN*	(E) (Organic)—The result for this analyte exceeded the upper range of the instrument initial calibration curve. (E) (Inorganic) (ICPAES)—The result for this analyte in the serial dilution analysis was outside acceptance criteria. (E) (Inorganic) (GFAA)—The result for this analyte failed one or more CLP acceptance criteria as explained in the case narrative. (N) (Organic)—The reported analyte is a TIC. (N) (Inorganic)—The result for this analyte in the MS sample was outside acceptance criteria. * (Inorganic)—The result for this analyte in the laboratory replicate analysis was outside acceptance criteria.
H	(Organic/Inorganic)—The required extraction or analysis holding time for this result was exceeded.

Analytical Laboratory Qualifier Codes (continued)

Code	Description
H*	(H) (Organic/Inorganic)—The required extraction or analysis holding time for this result was exceeded. * (Organic) and (Inorganic)—The result for this analyte in the laboratory control sample analysis was outside acceptance criteria.
HJ	See H code and see J code.
HJ*	(H) (Organic/Inorganic)—The required extraction or analysis holding time for this result was exceeded. (J) (Organic/General Inorganics)—The result for this analyte was greater than the MDL but less than the PQL. * (Inorganic)—The result for this analyte in the laboratory replicate analysis was outside acceptance criteria.
INS	(d15N)—The d15N of nitrate is a signature of the nitrate present in a sample. Therefore, nitrate has to be present to have a signature. A d15N value cannot be given to a blank because the blank does not have nitrate. This is different from most analytical methods, where a blank is run with the designator “nondetect” or “detected, but below detection limit.”
J	(Inorganic)—The associated numerical value is an estimated quantity. (Organic)—The associated numerical value is an estimated quantity.
J*	See J code and see * code.
JB	See J code and see B code
JN	See J code and see N code.
JN*	See J code, see N code, and see * code.
JP	See J code and see P code.
N	(Inorganic)—Spiked sample recovery was not within control limits.
N*	See N code and see * code.
N*E	See N code, see * code, and see E code.
NE	See N code and see E code.
P	Percent difference between the results on the two columns during the analysis differed by more than 40%.
PJ	See P code and see J code.
U	The material was analyzed for but was not detected above the level of the associated numeric value.
U*	See U code and see * code.
UD	See U code and see D code.
UE	See U code and see E code.
UE*	See U code, see E code, and see * code.
UEN	See U code, see E code, and see N code.
UH	See U code and see H code.

Analytical Laboratory Qualifier Codes (continued)

UH*	(U) (Organic/Inorganic)—The result for this analyte was not detected at the specified reporting limit. (H) (Organic/Inorganic)—The required extraction or analysis holding time for this result was exceeded. * (Inorganic)—The result for this analyte in the laboratory replicate analysis was outside acceptance criteria.
UI	(Rad) Gamma spectroscopy result should be regarded as an uncertain identification.
UN	EPA flag (Inorganic)—Compound was analyzed for but was not detected. Spiked sample recovery was not within control limits.
UN*	EPA flag (Inorganic)—See U code, see N code, and see * code.
UUI	(Rad) Gamma spectroscopy result should be regarded as an uncertain identification, and the analytical lab assigned these gamma spectroscopy results as not detected.
X	The analytical laboratory suspects the result is a nondetect despite positive quantification results.

Secondary Validation Flag Codes

Code	Description
A	The contractually required supporting documentation for this datum is absent.
I	The calculated sums are considered incomplete because of the lack of one or more congener results.
J	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual.
J-	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential negative bias.
J+	The analyte is classified as detected, but the reported concentration value is expected to be more uncertain than usual with a potential positive bias.
JN-	Presumptive evidence of the presence of the material is at an estimated quantity with a suspected negative bias.
JN+	Presumptive evidence of the presence of the material is at an estimated quantity with a suspected positive bias.
N	There is presumptive evidence of the presence of the material.
NJ	(Organic) Analyte has been tentatively identified, and the associated numerical value is estimated based upon a 1:1 response factor to the nearest eluting internal standard.
NQ	No validation qualifier flag is associated with this result, and the analyte is classified as detected.
PM	Manual review of raw data is recommended to determine if the observed noncompliances with quality acceptance criteria adversely impact data use.
R	The reported sample result is classified as rejected because of serious noncompliances regarding quality control (QC) acceptance criteria. The presence or absence of the analyte cannot be verified based on routine validation alone.
U	The analyte is classified as not detected.
UJ	The analyte is classified as not detected, with an expectation that the reported result is more uncertain than usual.

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.74	—	—	0.01	SU	Y	H	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.78	—	—	0.01	SU	Y	H	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.64	—	—	0.01	SU	Y	H	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.84	—	—	0.01	SU	Y	H	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.88	—	—	0.01	SU	Y	H	J-	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	7.57	—	—	0.01	SU	Y	H	J-	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	55.8	—	—	0.725	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	56.1	—	—	0.725	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	53.6	—	—	0.725	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	58.5	—	—	0.725	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	57	—	—	0.73	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	530	—	—	0.73	mg/L	Y	—	R	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Antimony	Sb	Y	5.26	—	—	1	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Antimony	Sb	Y	3.48	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Antimony	Sb	Y	3.35	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Antimony	Sb	Y	4.47	—	—	1	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Antimony	Sb	Y	3.06	—	—	1	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Antimony	Sb	Y	3.77	—	—	1	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	24	—	—	1	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	22.8	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Barium	Ba	Y	22	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	22.6	—	—	1	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	23.6	—	—	1	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	22.7	—	—	1	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.7	—	—	0.05	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.2	—	—	0.05	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.1	—	—	0.05	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.3	—	—	0.05	mg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.7	—	—	0.05	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.7	—	—	0.05	mg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.76	—	—	0.067	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.77	—	—	0.067	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.78	—	—	0.067	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.71	—	—	0.067	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.75	—	—	0.066	mg/L	Y	—	J+	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.73	—	—	0.066	mg/L	Y	—	NQ	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	4.86	—	—	2	µg/L	Y	J	J	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.41	—	—	2	µg/L	Y	J	J	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.5	—	—	2	µg/L	Y	J	J	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.01	—	—	2	µg/L	Y	J	J	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.72	—	—	2	µg/L	Y	J	J	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	6.03	—	—	2	µg/L	Y	J	J	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.149	—	—	0.033	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.169	—	—	0.033	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.175	—	—	0.033	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.169	—	—	0.033	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.149	—	—	0.033	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.156	—	—	0.033	mg/L	Y	—	NQ	11-3027	CAMO-11-24658	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	40.7	—	—	0.453	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	39.2	—	—	0.453	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	38.8	—	—	0.453	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	39.7	—	—	0.453	mg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	40.6	—	—	0.45	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	41.4	—	—	0.45	mg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.38	—	—	0.11	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.34	—	—	0.11	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.28	—	—	0.11	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.38	—	—	0.11	mg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.39	—	—	0.11	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.6	—	—	0.11	mg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.05	—	—	0.165	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	0.849	—	—	0.165	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	0.96	—	—	0.165	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.02	—	—	0.165	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.04	—	—	0.17	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.06	—	—	0.17	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	0.838	—	—	0.5	µg/L	Y	J	J	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	0.804	—	—	0.5	µg/L	Y	J	J	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Nickel	Ni	Y	0.766	—	—	0.5	µg/L	Y	J	J	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	0.636	—	—	0.5	µg/L	Y	J	J	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.02	—	—	0.5	µg/L	Y	J	J	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.6	—	—	0.5	µg/L	Y	J	J	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.314	—	—	0.017	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.37	—	—	0.017	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.37	—	—	0.017	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.362	—	—	0.085	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.405	—	—	0.05	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	N	0.385	—	—	0.05	mg/L	Y	—	U	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.99	—	—	0.05	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.99	—	—	0.05	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Potassium	K	Y	1.96	—	—	0.05	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.95	—	—	0.05	mg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.96	—	—	0.05	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	2	—	—	0.05	mg/L	Y	—	J	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	77.4	—	—	0.053	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	75.8	—	—	0.053	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	74.2	—	—	0.053	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	74.2	—	—	0.053	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	76.7	—	—	0.053	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	76.6	—	—	0.053	mg/L	Y	—	NQ	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.62	—	—	0.1	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	10.6	—	—	0.1	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Sodium	Na	Y	10.3	—	—	0.1	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.74	—	—	0.1	mg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.91	—	—	0.1	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	10.2	—	—	0.1	mg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	123	—	—	1	uS/cm	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	121	—	—	1	uS/cm	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	122	—	—	1	uS/cm	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	121	—	—	1	uS/cm	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	116	—	—	1	uS/cm	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	118	—	—	1	uS/cm	Y	—	NQ	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	46	—	—	1	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	47	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Strontium	Sr	Y	45.9	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	44.2	—	—	1	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	47	—	—	1	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	45.2	—	—	1	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.75	—	—	0.133	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.92	—	—	0.133	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.94	—	—	0.133	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.82	—	—	0.133	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.92	—	—	0.1	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	1.81	—	—	0.1	mg/L	Y	—	J+	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	103	—	—	3.4	mg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	110	—	—	3.4	mg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	47.1	—	—	3.4	mg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	06/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	106	—	—	3.4	mg/L	Y	—	NQ	12-1335	CAMO-12-17132	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	124	—	—	3.4	mg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	08/03/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	137	—	—	3.4	mg/L	Y	—	NQ	11-3027	CAMO-11-24658	GELC
R-46	1340	05/21/13	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	Y	0.0416	—	—	0.033	mg/L	Y	J	J	2013-873	CAMO-13-30615	GELC
R-46	1340	11/16/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.033	mg/L	Y	U	U	2013-353	CAMO-13-24278	GELC
R-46	1340	11/16/12	WG	UF	INIT	FD	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	Y	1.01	—	—	0.033	mg/L	Y	—	NQ	2013-353	CAMO-13-24271	GELC
R-46	1340	06/01/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	U	12-1335	CAMO-12-17127	GELC
R-46	1340	11/08/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	U	12-296	CAMO-12-1530	GELC
R-46	1340	08/03/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.0781	—	—	0.035	mg/L	Y	J	U	11-3026	CAMO-11-24656	GELC
R-46	1340	05/21/13	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	1.95	—	—	0.33	mg/L	Y	—	NQ	2013-873	CAMO-13-30615	GELC
R-46	1340	11/16/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	1.56	—	—	0.33	mg/L	Y	—	NQ	2013-353	CAMO-13-24278	GELC
R-46	1340	11/16/12	WG	UF	INIT	FD	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	1.57	—	—	0.33	mg/L	Y	—	NQ	2013-353	CAMO-13-24271	GELC
R-46	1340	06/01/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.869	—	—	0.33	mg/L	Y	J	J	12-1335	CAMO-12-17127	GELC
R-46	1340	11/08/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	1.13	—	—	0.33	mg/L	Y	—	NQ	12-296	CAMO-12-1530	GELC
R-46	1340	08/03/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.902	—	—	0.33	mg/L	Y	J	J	11-3026	CAMO-11-24656	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.426	—	—	0.067	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.465	—	—	0.067	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Uranium	U	Y	0.497	—	—	0.067	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.499	—	—	0.067	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.483	—	—	0.067	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.434	—	—	0.067	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	8.81	—	—	1	µg/L	Y	—	NQ	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	8.5	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Vanadium	V	Y	7.99	—	—	1	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	7.63	—	—	1	µg/L	Y	—	NQ	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	7.81	—	—	1	µg/L	Y	—	NQ	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	7.93	—	—	1	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-46	1340	05/21/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Zinc	Zn	Y	7.82	—	—	3.3	µg/L	Y	J	J	2013-873	CAMO-13-30619	GELC
R-46	1340	11/16/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Zinc	Zn	Y	6.22	—	—	3.3	µg/L	Y	J	J	2013-353	CAMO-13-24282	GELC
R-46	1340	11/16/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Zinc	Zn	Y	15	—	—	3.3	µg/L	Y	—	NQ	2013-353	CAMO-13-24272	GELC
R-46	1340	05/21/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Zinc	Zn	N	5.36	—	—	3.3	µg/L	Y	J	U	12-1309	CAMO-12-14077	GELC
R-46	1340	11/08/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Zinc	Zn	Y	4.13	—	—	3.3	µg/L	Y	J	J	12-296	CAMO-12-1529	GELC
R-46	1340	05/17/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Zinc	Zn	Y	10.5	—	—	3.3	µg/L	Y	—	NQ	11-2424	CAMO-11-10731	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.16	—	—	0.01	SU	Y	H	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.15	—	—	0.01	SU	Y	H	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.38	—	—	0.01	SU	Y	H	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.29	—	—	0.01	SU	Y	H	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.55	—	—	0.01	SU	Y	H	J-	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:150.1	Acidity or Alkalinity of a solution	pH	Y	8.1	—	—	0.01	SU	Y	H	J-	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	58.4	—	—	0.725	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	60.1	—	—	0.725	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	61.6	—	—	0.725	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	64.2	—	—	0.725	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	62	—	—	0.73	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:310.1	Alkalinity-CO3+HCO3	ALK-CO3+HCO3	Y	63.8	—	—	0.73	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	Y	0.0569	—	—	0.017	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	N	0.05	—	—	0.017	mg/L	Y	U	U	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	N	0.05	—	—	0.017	mg/L	Y	U	U	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	Y	0.0215	—	—	0.017	mg/L	Y	J	J	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	N	0.05	—	—	0.016	mg/L	Y	U	UJ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:350.1	Ammonia as Nitrogen	NH3-N	N	0.05	—	—	0.016	mg/L	Y	U	U	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	30.1	—	—	1	µg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	25.8	—	—	1	µg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	26.1	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Barium	Ba	Y	26.4	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	28.8	—	—	1	µg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Barium	Ba	Y	30.2	—	—	1	µg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	Y	0.116	—	—	0.067	mg/L	Y	J	J	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	N	0.2	—	—	0.067	mg/L	Y	U	U	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	N	0.2	—	—	0.067	mg/L	Y	U	U	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	N	0.2	—	—	0.067	mg/L	Y	U	U	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	N	0.2	—	—	0.066	mg/L	Y	U	U	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Bromide	Br(-1)	N	0.2	—	—	0.066	mg/L	Y	U	U	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	10.4	—	—	0.05	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	11	—	—	0.05	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	11	—	—	0.05	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Calcium	Ca	Y	11.1	—	—	0.05	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	12.7	—	—	0.05	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Calcium	Ca	Y	12.5	—	—	0.05	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.81	—	—	0.067	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.89	—	—	0.067	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.87	—	—	0.067	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.88	—	—	0.067	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.89	—	—	0.066	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Chloride	Cl(-1)	Y	1.9	—	—	0.066	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	6.48	—	—	2	µg/L	Y	J	J	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.44	—	—	2	µg/L	Y	J	J	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	4.23	—	—	2	µg/L	Y	J	J	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Chromium	Cr	Y	4.53	—	—	2	µg/L	Y	J	J	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	Y	5.86	—	—	2	µg/L	Y	J	J	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Chromium	Cr	N	8.06	—	—	2	µg/L	Y	J	U	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.149	—	—	0.033	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.177	—	—	0.033	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.184	—	—	0.033	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.174	—	—	0.033	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.168	—	—	0.033	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Fluoride	F(-1)	Y	0.174	—	—	0.033	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	40.6	—	—	0.453	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	43.2	—	—	0.453	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	42.7	—	—	0.453	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	43	—	—	0.453	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	46.9	—	—	0.45	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SM:A2340B	Hardness	HARDNESS	Y	47	—	—	0.45	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.53	—	—	0.11	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.84	—	—	0.11	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.68	—	—	0.11	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.69	—	—	0.11	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.69	—	—	0.11	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Magnesium	Mg	Y	3.83	—	—	0.11	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.02	—	—	0.165	µg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.2	—	—	0.165	µg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.26	—	—	0.165	µg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.23	—	—	0.165	µg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.19	—	—	0.17	µg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Molybdenum	Mo	Y	1.91	—	—	0.17	µg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.08	—	—	0.5	µg/L	Y	J	J	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.11	—	—	0.5	µg/L	Y	J	J	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.26	—	—	0.5	µg/L	Y	J	J	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.3	—	—	0.5	µg/L	Y	J	J	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	1.25	—	—	0.5	µg/L	Y	J	J	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Nickel	Ni	Y	3.17	—	—	0.5	µg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.367	—	—	0.017	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.394	—	—	0.017	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.391	—	—	0.085	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.378	—	—	0.085	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.382	—	—	0.05	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:353.2	Nitrate-Nitrite as Nitrogen	NO3+NO2-N	Y	0.39	—	—	0.05	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.83	—	—	0.05	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.69	—	—	0.05	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.79	—	—	0.05	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Potassium	K	Y	1.79	—	—	0.05	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	1.87	—	—	0.05	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Potassium	K	Y	2.01	—	—	0.05	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	71	—	—	0.053	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	74.5	—	—	0.053	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	72	—	—	0.053	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	72.8	—	—	0.053	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	70.5	—	—	0.053	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Silicon Dioxide	SiO2	Y	76.3	—	—	0.053	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.98	—	—	0.1	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.96	—	—	0.1	mg/L	Y	E	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.63	—	—	0.1	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.87	—	—	0.1	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	9.82	—	—	0.1	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Sodium	Na	Y	10.9	—	—	0.1	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	131	—	—	1	uS/cm	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	129	—	—	1	uS/cm	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	131	—	—	1	uS/cm	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	132	—	—	1	uS/cm	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	136	—	—	1	uS/cm	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:120.1	Specific Conductance	SPEC_CONDC	Y	131	—	—	1	uS/cm	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	51.7	—	—	1	µg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	50.3	—	—	1	µg/L	Y	E	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	51.1	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Strontium	Sr	Y	51.6	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	56.4	—	—	1	µg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Strontium	Sr	Y	56.9	—	—	1	µg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2	—	—	0.133	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2.2	—	—	0.133	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2.09	—	—	0.133	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2.08	—	—	0.133	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2.31	—	—	0.1	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:300.0	Sulfate	SO4(-2)	Y	2.33	—	—	0.1	mg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	114	—	—	3.4	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	123	—	—	3.4	mg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	116	—	—	3.4	mg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	129	—	—	3.4	mg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	123	—	—	3.4	mg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:160.1	Total Dissolved Solids	TDS	Y	134	—	—	3.4	mg/L	Y	—	J	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	Y	0.0957	—	—	0.033	mg/L	Y	J	J	2013-814	CAMO-13-30616	GELC
R-60	1330	11/01/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.0882	—	—	0.035	mg/L	Y	J	U	2013-265	CAMO-13-24279	GELC
R-60	1330	05/31/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	U	12-1333	CAMO-12-14046	GELC
R-60	1330	05/31/12	WG	UF	INIT	FD	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	U	12-1333	CAMO-12-14039	GELC
R-60	1330	11/22/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	UJ	12-418	CAMO-12-1522	GELC
R-60	1330	07/26/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	EPA:351.2	Total Kjeldahl Nitrogen	TKN	N	0.1	—	—	0.035	mg/L	Y	U	UJ	11-2940	CAPA-11-23020	GELC
R-60	1330	05/07/13	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.467	—	—	0.33	mg/L	Y	J	J	2013-814	CAMO-13-30616	GELC
R-60	1330	11/01/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	N	1	—	—	0.33	mg/L	Y	U	U	2013-265	CAMO-13-24279	GELC
R-60	1330	05/31/12	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.652	—	—	0.33	mg/L	Y	J	J	12-1333	CAMO-12-14046	GELC
R-60	1330	05/31/12	WG	UF	INIT	FD	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.347	—	—	0.33	mg/L	Y	J	J	12-1333	CAMO-12-14039	GELC
R-60	1330	11/22/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.433	—	—	0.33	mg/L	Y	J	J	12-418	CAMO-12-1522	GELC
R-60	1330	07/26/11	WG	UF	INIT	REG	GENERAL CHEMISTRY	SW-846:9060	Total Organic Carbon	TOC	Y	0.735	—	—	0.33	mg/L	Y	J	J	11-2940	CAPA-11-23020	GELC

MDA C Monitoring Group Analytical Results and Results from the Four Previous Monitoring Events if Available

Location	Depth (ft)	Date	Field Matrix	Field Prep	Lab Sample Type	Field QC Type	Suite	Method	Analyte	Analyte Code	Detect Flag	Result	1-sigma TPU	MDA	MDL	Unit	Best Value Flag	Lab Qual	2nd Qual	Request	Sample	Lab
R-60	1330	05/07/13	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	Y	0.0613	—	—	0.017	mg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	N	0.0274	—	—	0.017	mg/L	Y	J	U	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	Y	0.0283	—	—	0.017	mg/L	Y	J	J	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	Y	0.0427	—	—	0.017	mg/L	Y	J	J	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	Y	0.0481	—	—	0.015	mg/L	Y	J	J	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	GENERAL CHEMISTRY	EPA:365.4	Total Phosphate as Phosphorus	PO4-P	Y	0.124	—	—	0.015	mg/L	Y	—	J	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	UF	INIT	REG	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	1.026	0.679	2.18	—	pCi/L	Y	U	U	2013-816	CAMO-13-30616	ARSL
R-60	1330	11/01/12	WG	UF	INIT	REG	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	-0.213	0.655	2.247	—	pCi/L	Y	U	U	2013-265ARS	CAMO-13-24279	ARSL
R-60	1330	05/31/12	WG	UF	INIT	REG	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	0.193	0.683	2.304	—	pCi/L	Y	U	U	12-1341	CAMO-12-14046	ARSL
R-60	1330	05/31/12	WG	UF	INIT	FD	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	0.919	0.717	2.33	—	pCi/L	Y	U	U	12-1341	CAMO-12-14039	ARSL
R-60	1330	11/22/11	WG	UF	INIT	REG	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	-1.03	0.66	2.26	—	pCi/L	Y	U	U	12-419	CAMO-12-1522	ARSL
R-60	1330	07/26/11	WG	UF	INIT	REG	RAD	Generic:Low_Level_Tritium	Tritium	H-3	N	-0.0966	0.7406	2.5438	—	pCi/L	Y	U	U	11-2942	CAPA-11-23020	ARSL
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.524	—	—	0.067	µg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.582	—	—	0.067	µg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.534	—	—	0.067	µg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6020	Uranium	U	Y	0.571	—	—	0.067	µg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	Y	0.533	—	—	0.067	µg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6020	Uranium	U	N	0.688	—	—	0.067	µg/L	Y	—	U	11-2941	CAPA-11-23018	GELC
R-60	1330	05/07/13	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	7.1	—	—	1	µg/L	Y	—	NQ	2013-814	CAMO-13-30620	GELC
R-60	1330	11/01/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	8.72	—	—	1	µg/L	Y	—	NQ	2013-265	CAMO-13-24283	GELC
R-60	1330	05/31/12	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	8.65	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14049	GELC
R-60	1330	05/31/12	WG	F	INIT	FD	INORGANIC	SW-846:6010B	Vanadium	V	Y	8.32	—	—	1	µg/L	Y	—	NQ	12-1333	CAMO-12-14040	GELC
R-60	1330	11/22/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	9.24	—	—	1	µg/L	Y	—	NQ	12-418	CAMO-12-1524	GELC
R-60	1330	07/26/11	WG	F	INIT	REG	INORGANIC	SW-846:6010B	Vanadium	V	Y	9.04	—	—	1	µg/L	Y	—	NQ	11-2941	CAPA-11-23018	GELC

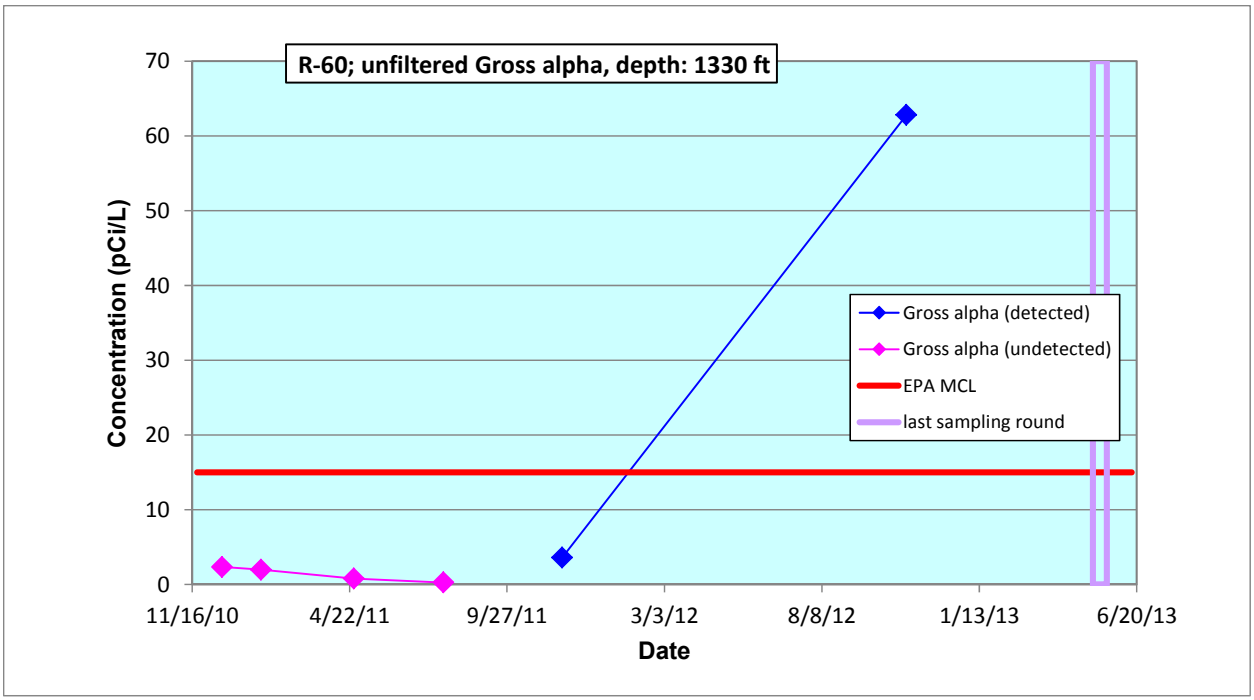
Appendix D

Groundwater Results Greater Than Half of Screening Levels

There are no results for this periodic monitoring event.

Appendix E

Analytical Chemistry Graphs of Screening-Level Exceedances


R-60; unfiltered Gross alpha, depth: 1330 ft
Concentration (pCi/L)
70
60
50
40
30
20
10
0
11/16/10
4/22/11
9/27/11
3/3/12
8/8/12
1/13/13
6/20/13
Date
Gross alpha (detected)
Gross alpha (undetected)
EPA MCL
last sampling round

Appendix F

Analytical Reports
(on CD included with this document)

CD Table of Contents

Chain of Custody	Category	Lab	Sample	Date	Location	Screen Top Depth (ft)	Screen Bottom Depth (ft)
2013-814	Inorganic	GELC[a]	CAMO-13-30616	05/07/13	R-60	1330	1350.9
2013-814	Inorganic	GELC	CAMO-13-30620	05/07/13	R-60	1330	1350.9
2013-814	Organic	GELC	CAMO-13-30616	05/07/13	R-60	1330	1350.9
2013-816	Rad[b]	ARSL[c]	CAMO-13-30616	05/07/13	R-60	1330	1350.9
2013-846	Organic	GELC	CAMO-13-30613	05/14/13	R-14 S1	1200.6	1233.2
2013-873	Inorganic	GELC	CAMO-13-30615	05/21/13	R-46	1340	1360.7
2013-873	Inorganic	GELC	CAMO-13-30619	05/21/13	R-46	1340	1360.7
2013-873	Organic	GELC	CAMO-13-30615	05/21/13	R-46	1340	1360.7

[a] GELC = General Engineering Laboratories, Inc., Charleston, SC.

[b] Rad = Radiochemistry (not gamma).

[c] ARSL = American Radiation Services, Inc.