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ENTERED

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Date: SEP 27 2013
Refer To: EP2013-0183

John Kieling, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Well Reconfiguration of CdV-R-15-3 Field Summary Report

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the Well Reconfiguration of CdV-R-15-3 Field Summary Report.

If you have any questions, please contact John McCann at (505) 665-1091(jmccann@lanl.gov) or Woody Woodworth at (505) 665-5820 (lance.woodworth@nnsa.doe.gov).

Sincerely,

Daniel R Cox for JM

Jeff Mousseau, Associate Director
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Sincerely,

Daniel S. Schwab for

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36019

JM/PM/CD/JM:vt

Enclosures: Two hard copies with electronic files – Well Reconfiguration of CdV-R-15-3 Field Summary Report (LA-UR-13-27283)

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LA-UR-13-27283
September 2013
EP2013-0183

Well Reconfiguration of CdV-R-15-3 Field Summary Report

Los Alamos
NATIONAL LABORATORY

Prepared by the Environmental Programs Directorate

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EP2013-0183

Well Reconfiguration of CdV-R-15-3
Field Summary Report

September 2013

Responsible project manager:

Printed Name	Signature	Title	Organization	Date
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Responsible LANS representative:

Printed Name	Signature	Title	Organization	Date
Jeff Mousseau	for JM	Associate Director	Environmental Programs	9/24/13

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Acronyms and Abbreviations

amsl	above mean sea level
bgs	below ground surface
GGRL	Geochemistry and Geomaterials Research Laboratory (LANL)
gpm	gallons per minute
hp	horsepower
I.D.	inside diameter
IDW	investigation-derived waste
LANL	Los Alamos National Laboratory
NAD	North American Datum
NMED	New Mexico Environment Department
NTU	nephelometric turbidity unit
O.D.	outside diameter
PVC	polyvinyl chloride
RPF	Records Processing Facility
SOP	standard operating procedure
TA	technical area
WCSF	waste characterization strategy form

1.0 INTRODUCTION

This report provides a summary of field activities associated with the reconfiguration of monitoring well CdV-R-15-3 at Los Alamos National Laboratory (LANL or the Laboratory). The report is written in accordance with the requirements for well completion reports in Section IV.A.3.e.iv of the March 1, 2005 (revised 2012), Compliance Order on Consent (Consent Order). Plans for the reconfiguration were presented in the "Work Plan to Reconfigure Well CdV-R-15-3" (LANL 2012, 232343) that was approved by the New Mexico Environment Department (NMED) in an approval with modifications letter dated December 21, 2012 (NMED 2012, 521745).

The primary objective of the work was to reconfigure CdV-R-15-3 from a multiscreen well into a single-screen well equipped for sampling. Three dry well screen intervals remain above the retained screen 4 interval.

Field activities for the reconfiguration of CdV-R-15-3 occurred between July 13 and July 30, 2013. Field activities performed as part of the reconfiguration included removing two packers isolating screens 5 and 6, abandoning the lower well screens, redeveloping screen 4, purging and sampling, and installing a dedicated sampling system.

The information presented in this report was compiled from field reports and daily activity summaries. Records, including field reports, field logs, and survey information, are on file at the Laboratory's Records Processing Facility (RPF). This report contains brief descriptions of field activities and supporting figures, and tables associated with the well reconfiguration.

2.0 WELL RECONFIGURATION

Well CdV-R-15-3 is located on the mesa above Cañon de Valle in Technical Area 15 (TA-15) (Figure 2.0-1). The well was installed to evaluate transport pathways, including the deep perched and regional saturated zones that potentially carry contamination from Consolidated Unit 16-021(c)-99 at TA-16 (LANL 2012, 213573). The borehole was drilled using standard air-rotary drilling methods to a total depth of 1722 ft below ground surface (bgs) and completed with six pipe-based wire-wrapped screens (Kopp et al. 2002, 073179). Pertinent well information is as follows:

- 4.5-in.–inside diameter (I.D.) stainless-steel casing
- Screen 1, 617.7–624.5 ft bgs (dry)
- Screen 2, 800.8–807.8 ft bgs (dry)
- Screen 3, 964.8–980.9 ft bgs (dry)
- Screen 4, 1235.1–1278.9 ft bgs
- Screen 5, 1348.4–1355.3 ft bgs
- Screen 6, 1637.9–1644.8 ft bgs
- Depth to water for screen 4 is 1244 ft bgs, standing approximately 9 ft below the top of the screen

Figure 2.0-2 presents the CdV-R-15-3 monitoring well construction and disposition before reconfiguration activities started.

Testing of screen 4 indicates the screen is capable of producing 9.1 gallons per minute (gpm) at 0.7 ft of drawdown for a specific capacity of 12.2 gpm/ft (LANL 2011, 205233).

2.1 Packer Removal

Two sliding-end inflatable packers had been installed between the screen intervals on 2-in. drop pipe to prevent cross-flow between screens 4 and 5 and between screens 5 and 6. The packers were located at depths of 1293 ft bgs and 1376 ft bgs, respectively. The packers were in place and inflated as required. The packers were removed from the well on July 13, 2013.

2.2 Lower Well Screen Abandonment

Following packer removals, a hybrid tremie pipe consisting of 150 ft of 2-in. schedule 40 polyvinyl chloride (PVC) pipe on the bottom and 1360 ft of steel BQ-size core pipe (above the PVC) was installed in the well on July 14, 2013. (Note: BQ is a specific core rod diameter.) A cross-over coupling was used to join the compositionally different pipes. A 45-degree bevel was cut on the leading edge of the PVC, and a stainless-steel centralizer was installed on the bottom of the PVC section. Before it was backfilled, the bottom of the well was measured at 1676.2 ft bgs. The bottom of the well was filled with 10/20 filter-grade sand to a depth of 1525.4 ft bgs, after which 20/40 filter-grade sand was installed to a depth of 1508.7 ft bgs. A total of 104 gal. of neat cement was installed above the 20/40 sand by pumping through the tremie pipe. A total of 25 gal. of chase water was pumped through the tremie pipe to clear the upper (steel) portion of the pipe. The volume of chase water was determined as the volume of the tremie pipe over the distance between the top of cement target (1385 ft bgs) and the measured static water level in the well (1245.03 ft bgs). The lower sand backfill and the installation of the cement interval took place on July 14, 2013.

The technical approach for the cementing work at CdV-R-15-3 included cementing in place the lower PVC section of the tremie pipe. This approach resulted in the least possible amount of time the well screens were in open communication. This approach also minimized the upper screen's exposure to fugitive cement grout because the tremie pipe had not been separated and removed until the following work shift.

The cement was allowed to cure for 24 h before the tremie pipe was rotated clockwise to cause the PVC to fail and break off at the top of the cement. A total of 20 ft of PVC was recovered after the tremie pipe was removed, and 130 ft of PVC remain embedded in the cement. The tremie pipe was broken off on July 15, 2013, and the top of the cement interval was measured at 1364.6 ft bgs on July 16, 2013. The abandoned portion of the tremie pipe is located at 1364.6 to 1494.6 ft bgs.

A submersible pump was installed in the well to purge any cement-impacted water before the upper sand backfill was emplaced. Pumping from immediately above the cement seal was conducted for 46 min at 7.0 gpm. Approximately 326 gal. was purged before the pump was removed on July 17, 2013. One sample was collected for analysis at LANL's Geochemistry and Geomaterials Research Laboratory (GGRL). Table 2.2-1 presents a summary of samples collected during the well reconfiguration at CdV-R-15-3. Appendix A presents analytical results for the samples collected.

The tremie pipe was installed in the well and 10/20 filter-grade sand was emplaced from 1364.6 to 1340.4 ft bgs, after which 20/40 filter-grade sand was emplaced from 1340.4 to 1335.1 ft bgs. The tremie pipe was removed from the well before continuing with the upper cement seal. The upper cement seal was installed with a 4-in. dump bailer. A total of 5 ft of washed gravel was installed from 1335.1 to 1330 ft bgs to provide a hard substrate for the dump bailer's glass sealing disc to break upon. The dump bailer was run in the well to emplace 1.7 ft^3 of neat cement above the washed gravel. Installation of the intermediate

sand intervals and upper cement seal took place on July 18, 2013. The top of the upper cement seal was measured at 1325.8 ft bgs on July 19, 2013, at nearly 11 ft below the target depth of 1315 ft bgs. Cement loss is attributed to the highly permeable washed-gravel interval below. The decision was made to install additional cement to reach the target depth, but the previously installed cement was not hard enough to break the dump bailer's sealing disc. An additional 2 ft of washed gravel was installed between 1325.8 and 1323.6 ft bgs before 1.2 ft^3 of neat cement was installed with the dump bailer. The cement seal was completed on July 19, 2013. The top of the upper cement seal was measured at 1312.6 ft bgs on July 20, 2013, before the tremie pipe was installed. The 10/20 filter-grade sand was installed between 1312.6 and 1299.4 ft bgs. The tremie pipe was removed, and a k-packer constructed of stainless steel and Viton was installed above the upper sand backfill. The top of the k-packer was measured at 1298.4 ft bgs. Backfilling the well was completed, and the k-packer was installed on July 20, 2013.

The cement was mixed and the sand backfill was emplaced with potable water from the Los Alamos County municipal supply source near the Los Alamos County Eco Station on East Jemez Road.

Well reconfiguration details and the final disposition of CdV-R-15-3 are presented on Figure 2.2.1. Backfill material volumes for the respective intervals are presented in Table 2.2-2.

Previous cross-flow estimates at CdV-R-15-3 indicate the combined inflow of screens 4 and 5 into screen 6 was on the order of 1.3 gpm. The packers were deflated at 08:50 on July 13, 2013, and the cement seal was installed at 15:35 on July 14, 2013. The duration between packer deflation and cement installation was 1845 min, resulting in a total cross-flow volume into the screen 6 interval of approximately 2400 gal. during reconfiguration activities. Previous cross-flow estimates between screen 4 and screen 5, when screen 6 was isolated, were negligible.

2.3 Redevelopment, Purging, and Sampling Activities

Following reconfiguration, redevelopment was performed per the work plan on screen 4 between July 20 and July 29, 2013 (LANL 2012, 232343; NMED 2012, 521745). Redevelopment activities consisted of swabbing and bailing and then pumping throughout the screen interval with a submersible pump.

A 4.25-in.–outside diameter (O.D.), 1-in.-thick nylon disc attached to a weighted steel rod was used for swabbing. The wireline conveyed tool was drawn repeatedly across the screened interval, causing a surging action across the screen interval and filter pack. A 4.0-in.- O.D. by 21.0-ft-long carbon-steel bailer with a total capacity of 12 gal. was used for bailing. The bailer was lowered by wireline and repeatedly filled, withdrawn from the well, and emptied into a container. Approximately 120 gal. of groundwater was removed during bailing activities. Swabbing and bailing took approximately 2 h on July 20, 2013. Water-quality parameters were not recorded during swabbing and bailing.

After swabbing and bailing, a 5 horsepower (hp) submersible pump inside a pump shroud was installed in the well. Initially, 8 h of pump development was prescribed for the retained screen 4 interval. The pump was raised throughout the screen interval from bottom to top in 2-ft increments for 10- to 15-min intervals between the screen bottom at 1279 and 1251 ft bgs. The pumping level was encountered at 1251 ft bgs, and no discrete pumping was conducted above that depth. The pump was repositioned in the sump at 1294 ft bgs, and purging continued for the remainder of the 8-h pumping duration. Because the purge water pH levels were elevated, the pump development duration was extended an additional 8 d to July 29, 2013. Samples were collected for analysis at GGRL during pump development. Appendix A presents the analytical results for the samples collected.

Elevated pH levels were measured in purge water immediately after the reconfiguration and development, indicating the surging action of the development may have pushed cement-impacted water out into the filter pack and formation around screen 4. Initial field parameters collected during the pumping phase of development provide evidence of the potential cement impact with pH as high as 11.3. In addition, a field-screening sample submitted to GGRL showed elevated calcium and sodium, both of which are indicators for residual cement influences.

A decision was made to conduct additional pumping at CdV-R-15-3 with the dedicated sampling system. Daily pumping was conducted during the period from August 16 to August 21, 2013. During this period, a total of 19,231 gal. was purged from CdV-R-15-3 screen 4. Field parameters were measured hourly, and time-series samples were collected for analyses of filtered metals at GGRL. Measured pH concentrations during this pumping period typically ranged from 7.6 to 8.4. The final field parameters were measured on August 21, 2013, with a final pH reading of 8.03 standard units, and a dissolved oxygen reading of 7.19. Analytical results and field water-quality parameters for the full 6 d of additional pumping are shown in Appendix A.

Table 2.3-1 summarizes the volumes purged and the water-quality parameters measured during development and additional pumping. Approximately 31,834 gal. of groundwater was purged with the submersible pump during the initial development activities, and an another 19,232 gal. of groundwater was purged during the additional pumping activities for a total estimated purge volume of 51,066 gal.

3.0 DEDICATED SAMPLING SYSTEM INSTALLATION

The dedicated sampling system for CdV-R-15-3 was installed on July 30, 2013. The pumping system utilizes an environmentally retrofitted 4-in. 5 hp Grundfos submersible pump installed in a stainless-steel pump shroud. The bottom of the pump shroud (the pump intake) is set below the screened interval at 1290.4 ft bgs. The pump column is constructed of 1-in. threaded/coupled, schedule 80, passivated stainless-steel pipe. A weep hole was installed at the bottom of the uppermost pipe joint to protect the pump column from freezing. To measure water levels in the well, two 1-in.-I.D. schedule 80, flush threaded PVC pipes have been installed to sufficient depth to set a dedicated transducer and to provide access for manual water-level measurements. The PVC transducer tubes are equipped with 0.75-ft sections of 0.010-in. slot screen with a threaded end cap on the bottom of each tube. An In-Situ Level Troll 500 30-psig transducer is installed in one of the PVC tubes to monitor the water level in the well's screened interval.

Details of the sampling system for CdV-R-15-3 are provided in Figures 3.0-1 and 3.0-2.

4.0 GEODETIC SURVEY

A New Mexico licensed professional land surveyor conducted a geodetic survey on July 15, 2013 (Table 4.0-1). The survey data collected conform to LANL's Information Architecture project standards IA-CB02, "GIS Horizontal Spatial Reference System," and IA-D802, "Geospatial Positioning Accuracy Standard for A/E/C and Facility Management." All coordinates are expressed relative to the New Mexico State Plane Coordinate System Central Zone (North American Datum [NAD] 83); elevation is expressed relative to feet above mean sea level (amsl) using the National Geodetic Vertical Datum of 1929. Survey points include ground-surface elevation near the concrete pad, the top of the brass cap in the concrete pad, the top of the well casing, and the top of the protective casing for the CdV-R-15-3 monitoring well.

5.0 DEVIATIONS FROM WORK PLAN

The in situ abandonment of the PVC portion of the tremie pipe within the cement seal was not part of the NMED-approved work plan (LANL 2012, 232343; NMED 2012, 521745).

The placement of the upper cement seal was to be accomplished with a single downhole trip with the dump bailer. However, placement of the intermediate interval of washed gravel and second downhole trip with the dump bailer was necessitated to meet the upper cement target depth.

6.0 WASTE MANAGEMENT

All investigation-derived waste (IDW) generated during well reconfiguration activities will be managed in accordance with the applicable standard operating procedures (SOP). The SOP incorporates the requirements of all applicable U.S. Environmental Protection Agency and NMED regulations, U.S. Department of Energy orders, and LANL requirements. The SOP applicable to the characterization and management of IDW is

- SOP-10021, Characterization and Management of Environmental Program Waste.

A waste characterization strategy form (WCSF) has been prepared and approved per requirements of SOP-10021. The WCSF provides detailed information on IDW characterization methods, management, containerization, and potential volumes.

Fluids (i.e., redevelopment and decontamination waters) and contact waste (e.g., gloves, paper towels, plastic, and/or glass sample bottles) were the primary waste streams generated during well reconfiguration activities. The fluids produced will be sampled and analyzed for the suite of constituents listed in the WCSF. The contact waste will be characterized using the data of the environmental media (i.e., groundwater) with which it came into contact.

Fluids produced during well reconfiguration activities were containerized, and the fluids will be sampled and evaluated for compliance with the New Mexico Water Quality Control Commission Regulation 3103 groundwater standards and applicable Resource Conservation and Recovery Act regulatory limits before any water is released. Decisions regarding the release of water will be made in accordance with the 2006 notice of intent decision tree for drilling, development, rehabilitation, and sampling purge water. The decontamination water, contact waste, and any other IDW will be managed in accordance with the approved WCSF.

7.0 REFERENCES AND MAP DATA SOURCES

7.1 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 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.

Kopp, B., A. Crowder, M. Everett, D. Vaniman, D. Hickmott, W. Stone, N. Clayton, S. Pearson, and D. Larssen, April 2002. "Well CdV-R-15-3 Completion Report," Los Alamos National Laboratory report LA-13906-MS, Los Alamos, New Mexico. (Kopp et al. 2002, 073179)

LANL (Los Alamos National Laboratory), August 2011. "Reliability Assessment of Multiscreened Westbay Wells," Los Alamos National Laboratory document LA-UR-11-4445, Los Alamos, New Mexico. (LANL 2011, 205233)

LANL (Los Alamos National Laboratory), March 2012. "Technical Area 16 Well Network Evaluation and Recommendations," Los Alamos National Laboratory document LA-UR-12-1082, Los Alamos, New Mexico. (LANL 2012, 213573)

LANL (Los Alamos National Laboratory), November 2012. "Work Plan to Reconfigure Well CdV-R-15-3," Los Alamos National Laboratory document LA-UR-12-26362, Los Alamos, New Mexico. (LANL 2012, 232343)

NMED (New Mexico Environment Department), December 21, 2012. "Approval with Modifications, Work Plan to Reconfigure Well CdV-R-15-3," New Mexico Environment Department letter to P. Maggiore (DOE-LASO) and J.D. Mousseau (LANL) from J.E. Kieling (NMED-HWB), Santa Fe, New Mexico. (NMED 2012, 521745)

7.2 Map Data Sources

Point Feature Locations of the Environmental Restoration Project Database; Los Alamos National Laboratory, Waste and Environmental Services Division, EP2008-0109; 14 March 2012.

Hypsography, 100 and 20 Foot Contour Interval; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program; 1991.

Surface Drainages, 1991; Los Alamos National Laboratory, ENV Environmental Remediation and Surveillance Program, ER2002-0591; 1:24,000 Scale Data; Unknown publication date.

Paved Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Dirt Road Arcs; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Structures; Los Alamos National Laboratory, KSL Site Support Services, Planning, Locating and Mapping Section; 06 January 2004; as published 28 May 2009.

Technical Area Boundaries; Los Alamos National Laboratory, Site Planning & Project Initiation Group, Infrastructure Planning Division; 4 December 2009.

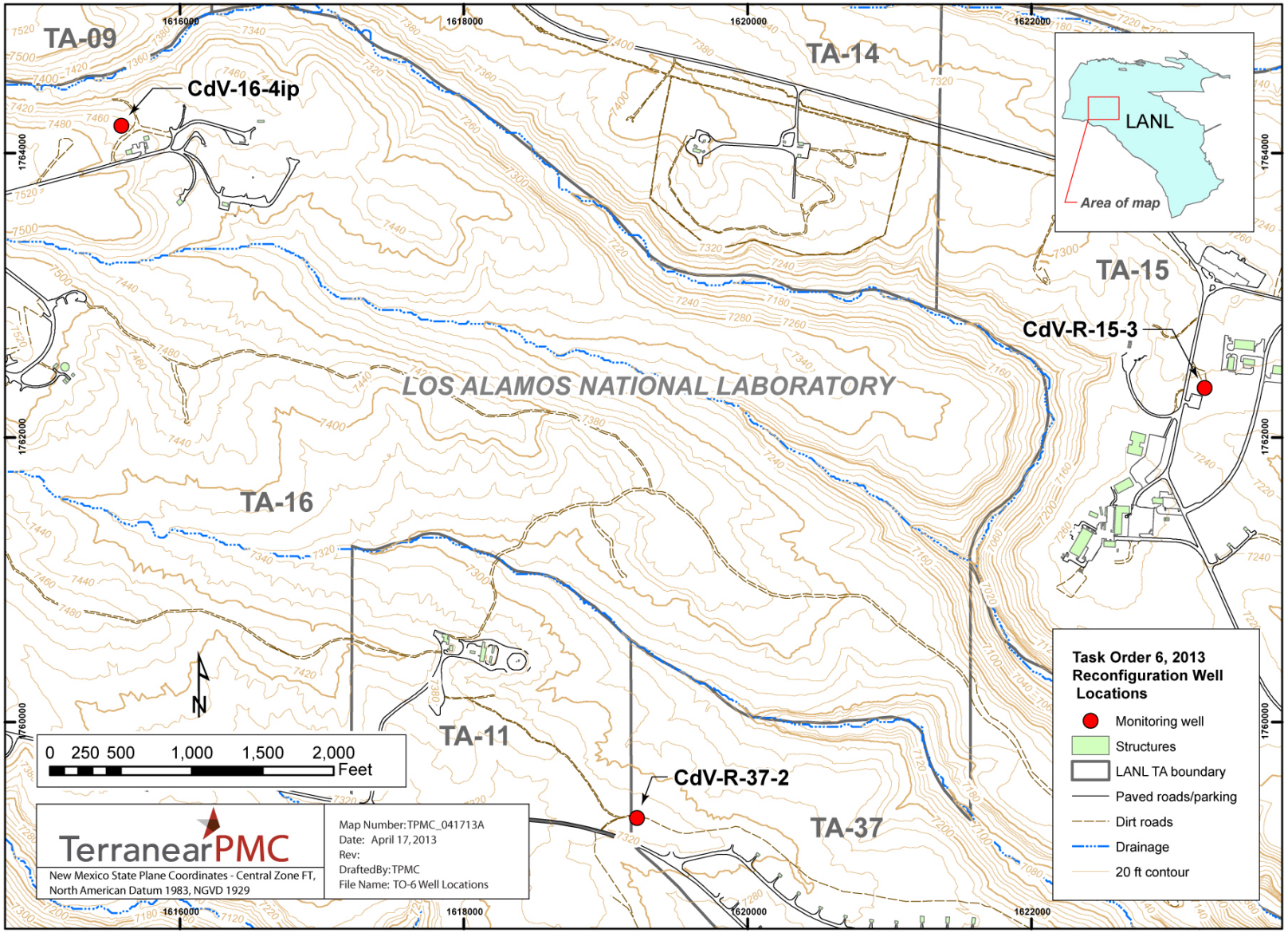

Figure 2.0-1 Location of well CdV-R-15-3

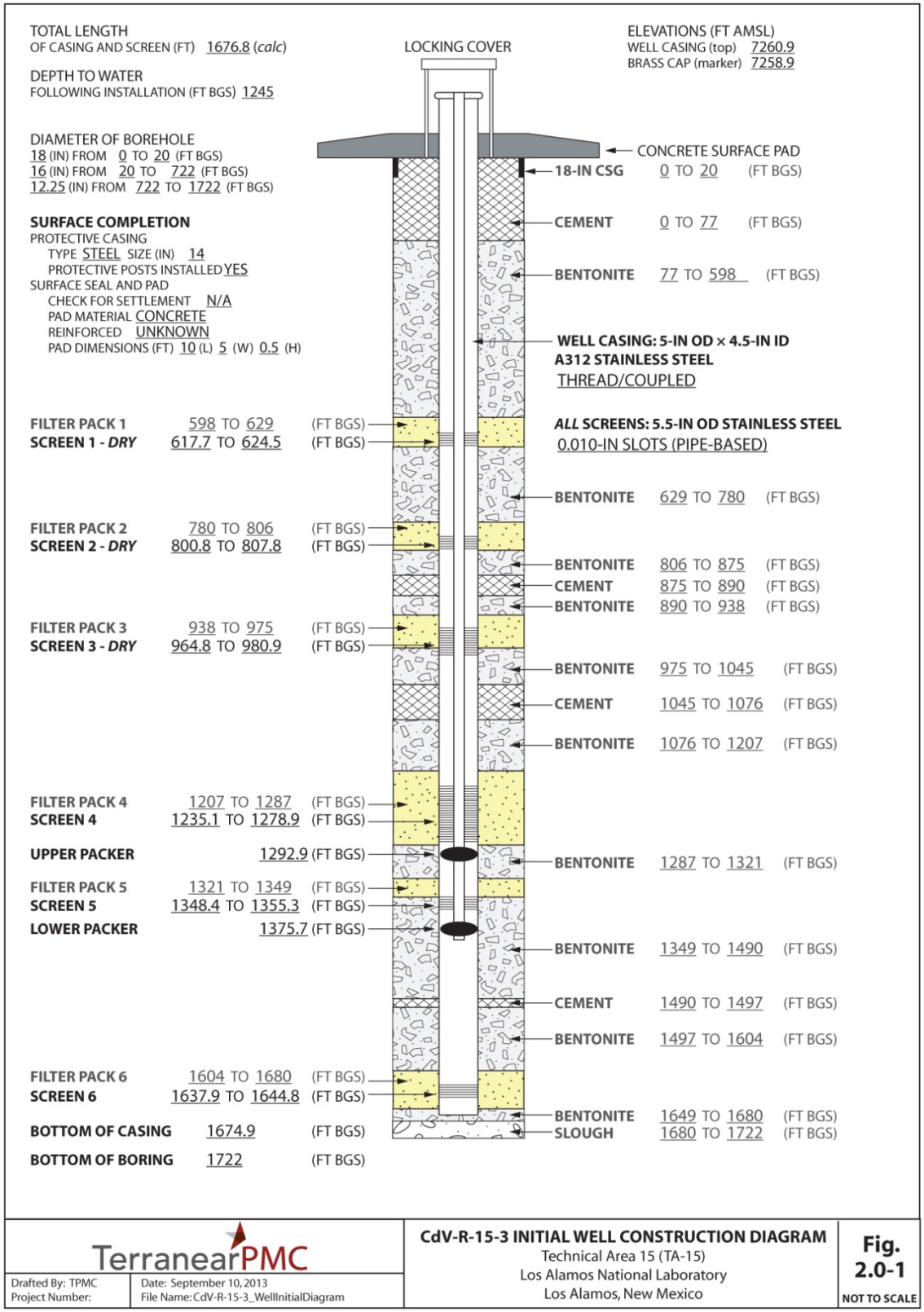

Figure 2.0-2 Initial well construction diagram of monitoring well CdV-R-15-3

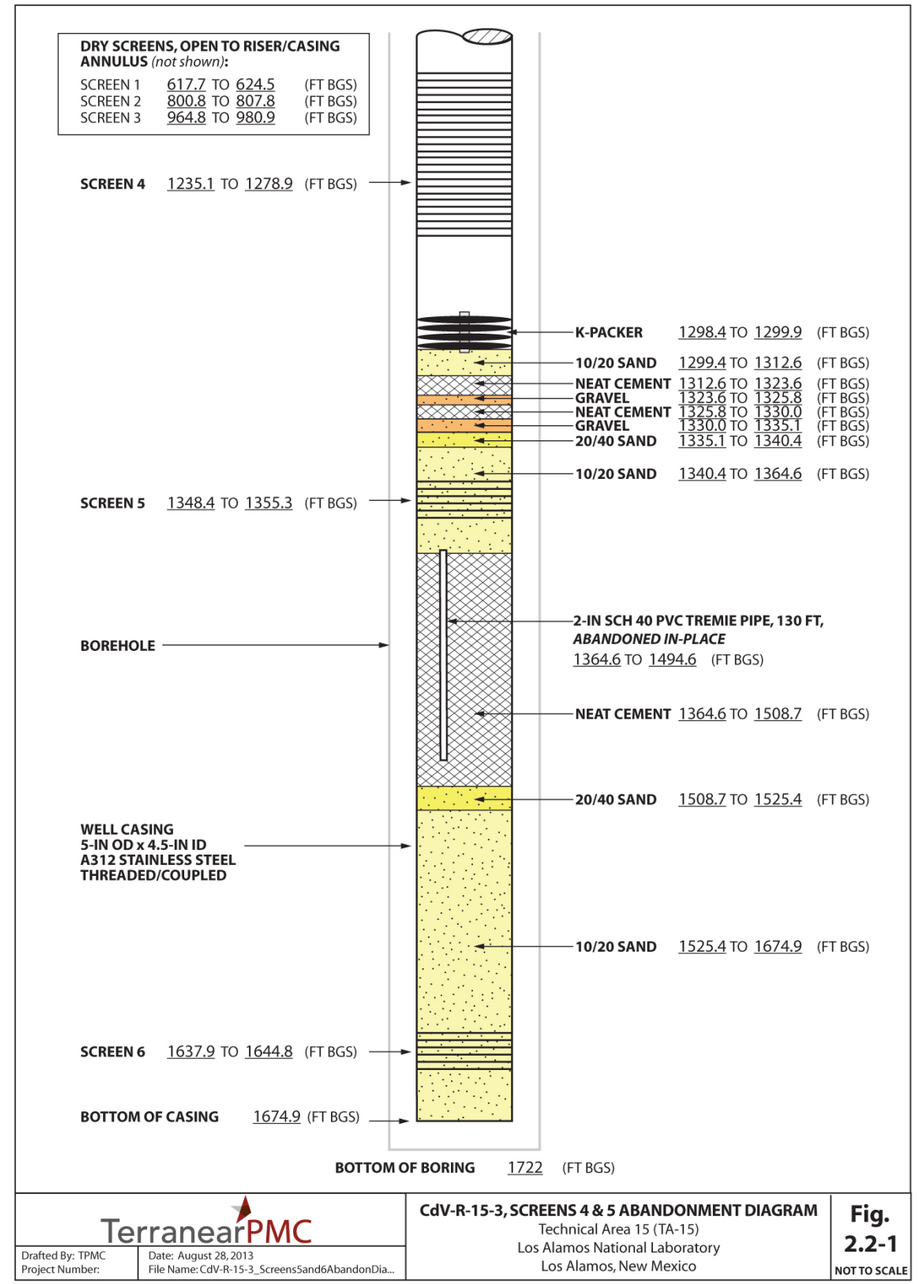

Figure 2.2-1 Backfill diagram of monitoring well CdV-R-15-3

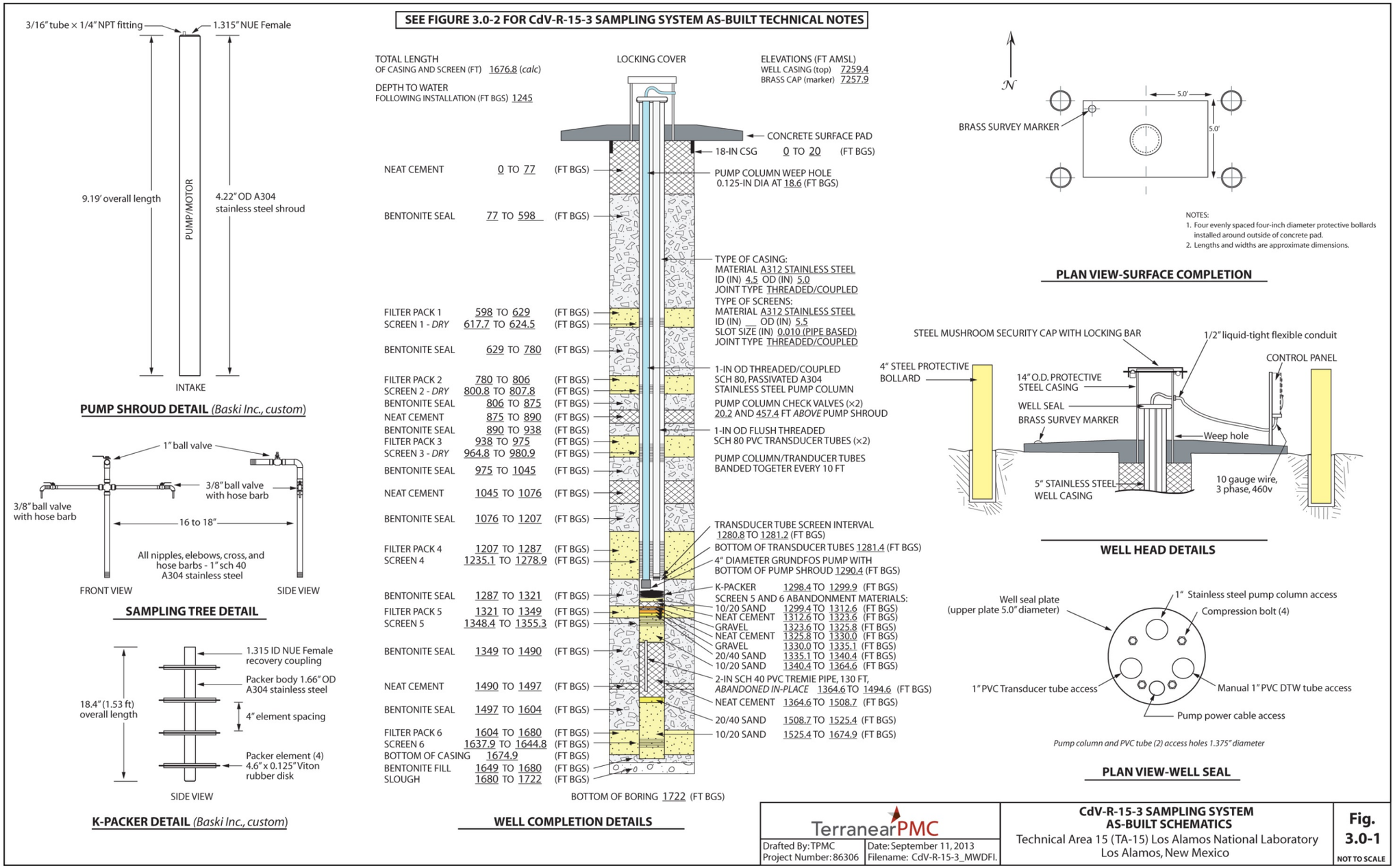

Figure 3.0-1 As-built schematics of monitoring well CdV-R-15-3 sampling system

CdV-R-15-3 SAMPLING SYSTEM AS-BUILT TECHNICAL NOTES:

SURVEY INFORMATION*

Brass Marker
Northing: 1762349.41 ft
Easting: 1623220.54 ft
Elevation: 7257.9 ft AMSL

Well Casing (top of stainless steel)
Northing: 1762347.58 ft
Easting: 1623221.71 ft
Elevation: 7259.4 ft AMSL

SAMPLING SYSTEM MATERIALS AND PRODUCT LIST

Pump: Grundfos, 10S50-1125CBM, environmental retrofit

Pump motor: Franklin Electric, 5HP, 3-phase, 460V

Motor cable: 10g, 3 lead with ground, double jacket

Discharge column: 1-in, threaded and coupled, sch 80, pickled and passivated A304 stainless steel

Check valves (x2): Flomatic, 1-in female x female, 303 stainless steel, mod. 4201LSS2, 400 psi

Couplings: A304 stainless steel deep well couplings

Gauge tubes (x2): 1-in, flush-threaded, sch 80 PVC, each with 0.50–0.75-ft (long), 0.010-inch slot screens, female bottom caps

Banding: 5/8-in. or 3/4-in 201 stainless steel with 201 stainless steel buckles

Well seal: Maas Midwest Manufacturing 5.0-in dia top plate x 1/2 inch steel, 4 access holes, custom

Thread compound: Jet Lube, V2

Sampling Tree: A304 sch 40 stainless steel 1-in nipples, elbows, cross, bushings, hose barbs, and Apollo ball valves 1-in (76-105-01A) and (x2) 3/8-in (76-102-01A)

AQUIFER TESTING

Constant Rate Pumping Test
Specific Capacity: 12.24 gpm/ft
Performed on: 05/11/2011

DEDICATED SAMPLING SYSTEM

Pump (Shrouded)
Make: Grundfos
Model: 10S50-1125CBM
S/N: B96A45812-P11233824
Environmental retrofit

Motor
Make: Franklin Electric
Model: 2343278602
S/N: 13C14-26-00760C
5 hp, 3-phase, 460V

Pump Shroud
A304 stainless steel, 4.22-in x 0.0120-in wall tube, Baski Inc. custom

Pump Column
1-in threaded/coupled sch 80, pickled and passivated A304 stainless steel tubing

Transducer Tubes
2 × 1-in flush threaded schd. 80 PVC tubing, each with 0.75-ft (long), 0.010-in slot screens located above the pump shroud

Transducer
Make: In-Situ, Inc.
Model: Level TROLL 500
30 psig range (vented)
S/N: 345962

NOTES:
* NEW (8/15/13) Coordinates based on New Mexico State Plane Grid Coordinates, Central Zone (NAD83); Elevation expressed in feet amsl using the National Geodetic Vertical Datum of 1929.

TerranearPMC	CdV-R-15-3 SAMPLING SYSTEM AS-BUILT TECHNICAL NOTES	Fig. 3.0-2
Drafted By: TPMC Project Number: 86306	Date: August 28, 2013 Filename: CdV-R-15-3_SampSysTechnicalNotesFIN	Technical Arera 15 (TA-15) Los Alamos National Laboratory Los Alamos, New Mexico	NOT TO SCALE

Figure 3.0-2 Technical notes for as-built sampling system for monitoring well CdV-R-15-3

Table 2.2-1
Summary of Groundwater Samples Collected during Reconfiguration of Well CdV-R-15-3

Location ID	Sample ID	Date Collected	Screen	Analysis*
Chase Water Purge After Cementing				
CdV-R-15-3	CAWA-13-36213	7/17/13; 1225h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-36218	7/17/13; 1225h	Screen 4	MET
4-hour Redevelopment Samples (1293.9 ft bgs)				
CdV-R-15-3	CAWA-13-36214	7/21/13; 1455h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-36219	7/21/13; 1455h	Screen 4	MET
8-hour Redevelopment Samples (1293.9 ft bgs)				
CdV-R-15-3	CAWA-13-36215	7/21/13; 1900h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-36220	7/21/13; 1900h	Screen 4	MET
Extended Redevelopment Pumping Samples (1293.9 ft bgs)				
CdV-R-15-3	CAWA-13-36216	7/22/13; 1500h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-36221	7/22/13; 1500h	Screen 4	MET
CdV-R-15-3	CAWA-13-36217	7/24/13; 1215h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-36222	7/24/13; 1215h	Screen 4	MET
CdV-R-15-3	CAWA-13-39341	7/25/13; 1835h	Screen 4	HEXP, ALK, ANIONS, TOC
CdV-R-15-3	CAWA-13-39336	7/25/13; 1835h	Screen 4	MET
Bailer Sample (1250 – 1270 ft bgs)				
CdV-R-15-3	CAWA-13-39409	7/29/13; 1440h	Screen 4	ALK, ANIONS, CATIONS
Sampling System Rinsate Samples (Equipment Blank)				
CdV-R-15-3	CAWA-13-36223	7/29/13; 1600h	1” SS Drop Pipe	VOC, SVOC
CdV-R-15-3	CAWA-13-36224	7/29/13; 1610h	Pump & Motor	VOC, SVOC
CdV-R-15-3	CAWA-13-36225	7/29/13; 1620h	Pump Shroud	VOC, SVOC
CdV-R-15-3	CAWA-13-36226	8/16/13; 0940h	First Water	VOC, SVOC
Extended Redevelopment Pumping Samples with Dedicated Sampling System				
CdV-R-15-3	CAWA-13-40545	8/16/2013; 0948h	Screen 4	MET
CdV-R-15-3	CAWA-13-40546	8/16/2013; 1118h	Screen 4	MET
CdV-R-15-3	CAWA-13-40547	8/16/2013; 1248h	Screen 4	MET
CdV-R-15-3	CAWA-13-40548	8/16/2013; 1418h	Screen 4	MET
CdV-R-15-3	CAWA-13-40549	8/16/2013; 1548h	Screen 4	MET
CdV-R-15-3	CAWA-13-40550	8/16/2013; 1718h	Screen 4	MET
CdV-R-15-3	CAWA-13-40551	8/16/2013; 1848h	Screen 4	MET
CdV-R-15-3	CAWA-13-40552	8/17/2013; 0804h	Screen 4	MET
CdV-R-15-3	CAWA-13-40553	8/17/2013; 1404h	Screen 4	MET
CdV-R-15-3	CAWA-13-40554	8/18/2013; 0747h	Screen 4	MET
CdV-R-15-3	CAWA-13-40555	8/18/2013; 1347h	Screen 4	MET
CdV-R-15-3	CAWA-13-40556	8/19/2013; 0759h	Screen 4	MET
CdV-R-15-3	CAWA-13-40557	8/19/2013; 1359h	Screen 4	MET

Table 2.2-1 (continued)

Location ID	Sample ID	Date Collected	Screen	Analysis
CdV-R-15-3	CAWA-13-40558	8/20/2013; 0751h	Screen 4	MET
CdV-R-15-3	CAWA-13-40559	8/20/2013; 1351h	Screen 4	MET
CdV-R-15-3	CAWA-13-40560	8/21/2013; 0743h	Screen 4	MET
CdV-R-15-3	CAWA-13-40561	8/21/2013; 1439h	Screen 4	MET

Analysis abbreviations: ALK = alkalinity, ANIONS = positive (+) ions, CATIONS = negative (–) ions, HEXP = high explosives, MET = metals, SVOC = semi-volatile organics, TOC = total organic carbon, VOC = volatile organics.

Table 2.2-2
CdV-R-15-3 Monitoring Well Lower Well Screen Abandonment Materials

Material	Interval (ft bgs)	Emplaced Volume (ft^3)	Calculated Volume (ft^3)
Lower 10/20 filter-grade sand interval	1525.4–1674.9	16	16.5
Lower 20/40 filter-grade sand interval	1508.7–1525.4	1.75	1.8
Lower cement interval	1364.6–1508.7	13.9	15.9
Mid10/20 filter-grade sand interval	1340.4–1364.6	3.25	2.7
Mid 20/40 filter-grade sand interval	1335.1–1340.4	0.5	0.6
Washed gravel interval (lower)	1330.0–1335.1	0.7	0.6
Cement interval (lower)	1325.8–1330.0	1.7	1.9
Washed gravel interval (upper)	1323.6–1325.8	0.13	0.2
Cement interval (upper)	1312.6–1323.6	1.0	1.2
Upper 10/20 filter-grade sand interval	1299.4–1312.6	0.83	1.5

Table 2.3-1
Purge Volumes and Field Parameters during Well Redevelopment at CdV-R-15-3

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU*)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
Well Re-Development									
7/21/13	11.30	20.36	6.54	27.6	226.1	1.381	50.3	96	96
	11.19	17.20	6.74	48.7	257.6	0.960	47.1	96	191
	11.28	17.79	6.75	61.5	265.4	0.814	30.1	96	287
	11.21	17.93	6.53	84.6	288.5	0.742	23.6	96	382
	11.18	18.36	6.36	106.2	310.1	0.686	10.3	96	478
	11.13	18.58	6.25	127.9	331.8	0.633	6.7	96	573
	11.05	18.66	6.17	145.8	349.7	0.563	3.9	96	669
	10.92	18.67	6.19	164.5	368.4	0.486	3.1	96	764
	10.77	18.69	6.18	181.5	385.4	0.404	2.9	96	860
	10.77	18.65	6.21	192.3	396.2	0.422	2.7	96	955
	10.80	18.77	6.17	195.0	398.9	0.419	2.6	96	1051
	10.36	19.00	6.80	227.2	431.1	0.393	2.3	96	1146
	10.75	18.77	7.01	210.1	414.0	0.379	2.3	96	1242
	10.29	18.62	6.87	239.2	443.1	0.363	4.5	96	1337
	10.22	17.59	7.53	234.9	438.8	0.307	20.6	96	1433
	10.48	17.81	7.21	228.5	432.4	0.279	9.9	96	1528
	11.12	18.71	7.08	181.9	385.8	0.940	13.3	96	1624
	10.97	18.91	6.80	207.3	411.2	0.533	2.0	96	1719
	10.00	18.65	6.71	233.6	437.5	0.266	1.2	96	1815
	10.21	19.07	6.66	273.4	477.3	0.255	1.1	96	1910
	9.74	18.41	6.57	314.7	518.6	0.233	1.3	96	2006
	9.77	18.40	6.59	313.1	517.0	0.232	0.9	96	2101
	9.88	18.24	6.63	301.2	505.1	0.224	1.4	96	2197
	10.03	17.99	6.60	281.5	485.4	0.215	0.9	96	2292
	10.18	17.96	6.58	252.5	456.4	0.210	0.9	96	2388
	10.17	18.06	6.52	234.5	438.4	0.203	0.8	96	2483
	10.14	18.11	6.46	226.4	430.3	0.198	0.7	96	2579
	10.02	17.79	6.43	225.5	429.4	0.194	0.8	96	2674
	10.10	17.99	6.43	213.1	417.0	0.191	0.7	96	2770
	9.94	17.53	6.41	216.1	420.0	0.188	0.7	96	2865
	9.99	17.46	6.42	202.9	411.8	0.184	0.7	96	2961
	10.02	17.49	6.42	195.5	404.4	0.182	0.8	96	3056

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
7/22/13	10.80	18.23	6.45	37.8	241.7	0.253	0.7	108	3164
	10.40	19.27	6.38	72.2	276.1	0.202	0.4	108	3272
	10.02	19.18	6.33	114.5	318.4	0.188	0.4	108	3380
	9.97	19.32	6.34	141.6	345.5	0.181	0.4	108	3489
	9.86	19.78	6.34	170.5	374.4	0.177	0.3	108	3597
	9.75	19.96	6.34	198.6	402.5	0.174	0.4	108	3705
	9.69	20.47	6.30	221.3	425.2	0.172	0.2	108	3813
	9.71	39.32	4.87	23.0	221.5	0.169	0.3	108	3921
	8.83	17.53	6.10	184.5	388.4	0.163	1.8	108	4029
	9.20	18.49	6.14	210.2	414.1	0.162	2.6	108	4137
	9.66	19.59	6.48	209.7	413.6	0.175	0.7	108	4246
	9.59	20.39	6.39	222.5	426.4	0.171	0.1	108	4354
	9.41	20.27	6.38	240.8	444.7	0.167	0.4	108	4462
	9.33	20.41	6.37	256.5	460.4	0.165	0.3	108	4570
	9.25	20.43	6.38	271.7	475.6	0.164	0.1	108	4678
	9.11	20.01	6.42	291.6	495.5	0.163	0.2	108	4786
	9.00	20.36	6.37	308.3	512.2	0.162	0.2	108	4894
	8.60	19.02	6.41	338.2	542.1	0.161	0.3	108	5003
	8.94	18.87	6.40	319.4	523.3	0.160	0.3	108	5111
	9.16	18.84	6.40	300.7	504.6	0.160	0.2	108	5219
	8.96	17.48	6.42	307.1	516.0	0.159	0.5	108	5327
	9.28	17.39	6.41	269.6	478.5	0.158	0.4	108	5435
	9.49	17.71	6.42	238.6	442.5	0.158	0.3	108	5543
	9.52	17.97	6.42	222.9	426.8	0.158	0.3	108	5651
	9.51	18.04	6.42	215.1	419.0	0.157	0.4	108	5760
	9.52	18.09	6.42	210.2	414.1	0.157	0.3	108	5868
	9.52	18.19	6.43	208.2	412.1	0.157	0.3	108	5976
	9.51	18.20	6.43	209.0	412.9	0.156	0.3	108	6084

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
	10.01	18.07	6.61	99.2	303.1	0.159	1.1	112	6196
	9.83	18.28	6.57	116.3	320.2	0.157	0.5	112	6309
	9.73	18.58	6.51	131.3	335.2	0.156	0.5	112	6421
	9.67	19.26	6.46	147.6	351.5	0.155	0.4	112	6533
	9.54	19.55	6.44	176.0	379.9	0.154	0.4	112	6645
	9.38	19.77	6.46	213.3	417.2	0.153	0.3	112	6758
	9.27	19.79	6.45	246.8	450.7	0.153	0.5	112	6870
	9.19	19.96	6.43	270.0	473.9	0.152	2.0	112	6982
	9.19	19.71	6.57	279.5	483.4	0.153	1.2	112	7095
	8.44	18.88	6.43	333.0	536.9	0.150	0.9	112	7207
	8.84	19.15	6.47	321.0	524.9	0.151	0.6	112	7319
	8.79	19.28	6.46	330.4	534.3	0.151	0.7	112	7432
	8.74	19.46	6.48	338.8	542.7	0.150	0.7	112	7544
	8.71	19.77	6.65	343.8	547.7	0.150	1.1	112	7656
	8.57	19.76	6.70	356.0	559.9	0.150	0.2	112	7768
	8.57	19.79	6.63	359.0	562.9	0.148	1.8	112	7881
	8.59	19.62	6.56	357.8	561.7	0.148	0.3	112	7993
	8.63	19.78	6.57	355.1	559.0	0.147	0.4	112	8105
7/23/13	8.54	19.66	6.44	358.9	562.8	0.145	0.6	112	8218
	8.55	19.84	6.46	358.9	562.8	0.145	0.4	112	8330
	8.51	20.15	6.42	360.2	564.1	0.143	0.6	112	8442
	8.11	19.23	6.46	385.3	589.2	0.144	0.1	112	8555
	8.18	18.70	6.46	381.5	585.4	0.144	0.3	112	8667
	8.52	18.47	6.44	356.6	560.5	0.144	0.7	112	8779
	8.80	18.54	6.40	329.2	533.1	0.144	0.4	112	8891
	8.95	18.61	6.41	300.7	504.6	0.144	1.1	112	9004
	9.00	18.34	6.40	280.4	484.3	0.144	0.5	112	9116
	9.06	18.21	6.42	262.1	466.0	0.144	0.3	112	9228
	9.12	18.19	6.43	249.1	453.0	0.143	1.2	112	9341
	9.12	18.05	6.43	240.6	444.5	0.143	0.3	112	9453
	9.11	17.78	6.23	235.0	438.9	0.143	0.4	112	9565
	9.14	17.75	6.25	227.9	431.8	0.143	4.5	112	9678
	9.19	17.86	6.18	220.3	424.2	0.143	0.4	112	9790
	9.22	18.00	6.24	215.0	418.9	0.143	0.3	112	9902
	9.24	18.08	6.20	196.7	400.6	0.142	0.4	112	10,014
	9.24	18.11	6.25	198.2	402.1	0.142	0.3	112	10,127
	9.22	18.08	6.26	201.6	405.5	0.142	1.4	112	10,239

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
	9.44	17.52	5.47	114.4	318.3	0.145	7.5	99	10,338
	9.63	19.29	5.76	106.7	310.6	0.139	3.0	99	10,437
	9.48	19.34	5.72	130.8	334.7	0.140	0.7	99	10,536
	9.30	19.27	5.85	164.4	368.3	0.141	0.5	99	10,636
	9.30	19.58	5.98	188.9	392.8	0.141	0.9	99	10,735
	8.37	18.47	6.38	158.6	362.5	0.141	2.7	99	10,834
	8.58	18.22	7.05	244.2	448.1	0.140	0.7	99	10,933
	11.33	18.63	6.79	122.6	326.5	1.599	348.1	99	11,032
	10.00	25.50	6.05	173.5	372.0	0.003	0.4	99	11,131
	9.11	19.31	6.87	273.2	477.1	0.174	18.5	99	11,230
	9.31	19.30	6.82	285.5	489.4	0.184	16.2	99	11,329
	9.81	19.32	6.78	268.9	472.8	0.224	29.5	99	11,429
	9.23	19.06	6.76	311.2	515.1	0.179	13.0	99	11,528
	9.21	19.37	6.73	308.8	512.7	0.162	5.2	99	11,627
	8.72	19.26	6.70	321.7	525.6	0.153	4.0	99	11,726
	8.85	19.38	6.68	320.2	524.1	0.150	3.1	99	11,825
	8.86	19.45	6.66	321.2	525.1	0.148	2.6	99	11,924
	8.76	19.43	6.63	322.6	526.5	0.145	1.9	99	12,023
7/24/13	9.24	19.34	6.62	300.3	504.2	0.174	7.7	99	12,123
	8.92	19.28	6.61	312.4	516.3	0.146	1.3	99	12,222
	8.84	19.06	6.50	308.4	512.3	0.145	3.0	99	12,321
	8.99	19.03	6.53	288.2	492.1	0.143	1.3	99	12,420
	8.87	18.78	6.51	288.5	492.4	0.143	5.4	99	12,519
	8.95	19.01	6.57	276.2	480.1	0.141	1.0	99	12,618
	8.99	19.16	6.48	275.6	479.5	0.141	0.6	99	12,717
	9.04	19.48	6.44	272.3	476.2	0.141	0.8	99	12,817
	9.12	20.01	6.41	263.9	467.8	0.141	0.9	99	12,916
	9.17	21.31	6.44	256.7	460.6	0.142	0.3	99	13,015
	9.18	23.77	6.41	247.1	445.6	0.143	0.5	99	13,114
	9.14	24.25	6.38	247.7	446.2	0.144	0.6	99	13,213
	9.07	23.80	9.29	250.7	449.2	0.143	18.3	99	13,312
	9.46	22.33	6.35	223.1	427.0	0.177	8.6	99	13,411
	9.22	21.11	6.39	225.7	429.6	0.157	3.2	99	13,510
	9.10	20.63	6.42	229.3	433.2	0.148	2.4	99	13,610
	9.18	20.48	6.45	220.4	424.3	0.146	1.4	99	13,709
	9.19	20.45	6.46	214.9	418.8	0.144	1.1	99	13,808
	9.07	19.86	6.47	193.6	397.5	0.142	2.8	99	13,907

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
7/25/13	8.93	14.53	3.06	164.1	373.0	0.132	47.1	100	14,007
	9.82	16.28	5.67	129.5	338.4	0.148	4.1	100	14,107
	9.60	17.85	6.03	144.4	348.3	0.142	2.1	100	14,208
	9.47	18.35	6.13	156.8	360.7	0.140	1.4	100	14,308
	9.36	18.58	6.21	167.7	371.6	0.138	0.8	100	14,408
	9.31	18.55	6.26	173.1	377.0	0.137	0.8	100	14,508
	9.29	18.56	6.25	178.6	382.5	0.138	0.7	100	14,609
	9.24	18.76	6.30	185.3	389.2	0.137	0.5	100	14,709
	9.17	18.64	6.29	192.7	396.6	0.136	0.8	100	14,809
	9.12	18.57	6.30	198.9	402.8	0.135	0.7	100	14,909
	9.05	18.53	6.32	213.1	417.0	0.136	0.5	100	15,010
	9.06	18.45	6.34	220.9	424.8	0.135	0.5	100	15,110
	9.05	18.38	6.33	224.0	427.9	0.135	0.5	100	15,210
	9.05	18.58	6.33	233.1	437.0	0.136	0.5	100	15,310
	9.05	18.51	6.35	233.0	436.9	0.136	0.5	100	15,411
	8.97	18.60	6.36	233.1	437.0	0.144	0.9	100	15,511
	9.29	18.59	6.35	233.4	437.3	0.143	10.4	100	15,611
	9.16	18.54	6.35	241.1	445.0	0.137	0.9	100	15,711
	9.07	18.51	6.37	245.1	449.0	0.136	0.8	100	15,812
	9.03	18.46	6.37	249.3	453.2	0.135	0.8	100	15,912
	9.00	18.41	6.38	251.4	455.3	0.135	0.8	100	16,012
	8.95	18.45	6.38	260.0	463.9	0.134	0.7	100	16,112
	8.96	18.44	6.37	261.4	465.3	0.134	0.6	100	16,213
	8.95	18.55	6.37	264.9	468.8	0.134	0.6	100	16,313
	8.96	18.55	6.38	265.0	468.9	0.134	0.7	100	16,413
	8.84	18.60	6.39	285.3	489.2	0.133	0.5	100	16,513
	8.78	18.52	6.40	288.0	491.9	0.134	0.5	100	16,614
	8.69	18.52	6.40	294.4	498.3	0.133	0.5	100	16,714
	8.60	18.51	6.39	294.0	497.9	0.133	0.4	100	16,814
	8.50	18.60	6.39	299.9	503.8	0.133	0.4	100	16,914
	8.47	18.59	6.39	299.3	503.2	0.133	0.4	100	17,015
	8.28	18.16	6.40	299.8	503.7	0.132	0.6	100	17,115
	8.41	18.19	6.39	300.6	504.5	0.132	0.6	100	17,215
	8.60	18.24	6.40	286.0	489.9	0.132	0.5	100	17,315
	8.69	18.30	6.40	279.3	483.2	0.133	0.5	100	17,416
	8.81	18.24	6.41	269.0	472.9	0.132	0.5	100	17,516
	8.80	18.25	6.41	265.8	469.7	0.132	0.5	100	17,616
	8.84	18.14	6.41	261.3	465.2	0.132	0.5	100	17,716

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
7/25/13 (cont.)	8.85	18.07	6.41	254.4	458.3	0.132	0.5	100	17,817
	8.88	18.11	6.41	249.2	453.1	0.132	0.6	100	17,917
	8.89	18.11	6.42	244.2	448.1	0.131	0.5	100	18,017
7/26/13	8.70	12.74	2.61	158.4	367.3	0.126	67.3	107	18,124
	8.97	12.80	2.54	154.3	363.2	0.145	59.1	107	18,232
	9.79	15.50	4.25	145.3	354.2	0.141	3.5	107	18,339
	9.82	15.55	4.51	159.0	367.9	0.146	4.3	107	18,447
	9.36	17.69	5.93	138.3	342.2	0.134	1.5	107	18,554
	9.35	17.76	5.85	150.1	354.0	0.138	2.1	107	18,662
	9.18	17.92	6.10	143.4	347.3	0.133	2.9	107	18,769
	9.23	17.98	6.03	161.0	364.9	0.137	1.4	107	18,877
	9.08	17.99	6.19	151.3	355.2	0.132	0.7	107	18,984
	9.16	18.07	6.09	157.1	361.0	0.136	1.1	107	19,091
	9.03	18.02	6.23	159.8	363.7	0.131	0.7	107	19,199
	9.12	18.10	6.13	166.1	370.0	0.135	1.0	107	19,306
	8.96	18.07	6.26	175.5	379.4	0.131	0.6	107	19,414
	9.09	18.16	6.17	168.8	372.7	0.134	1.1	107	19,521
	8.92	18.11	6.27	191.0	394.9	0.130	0.5	107	19,629
	9.07	18.20	6.18	170.9	374.8	0.134	0.9	107	19,736
	8.87	18.11	6.30	214.4	418.3	0.130	0.5	107	19,843
	9.03	18.21	6.19	174.9	378.8	0.134	0.9	107	19,951
	8.84	18.16	6.31	230.0	433.9	0.130	0.4	107	20,058
	9.01	18.24	6.20	179.3	383.2	0.134	0.9	107	20,166
	8.70	18.08	6.23	244.5	448.4	0.129	2.2	107	20,273
	8.84	18.15	6.27	244.3	448.2	0.129	1.0	107	20,381
	8.74	18.06	6.31	250.6	454.5	0.129	0.7	107	20,488
	8.76	17.98	6.30	249.3	453.2	0.129	0.8	107	20,596
	8.88	17.81	6.62	254.3	458.2	0.132	20.2	107	20,703
	8.79	17.80	6.69	254.5	458.4	0.129	2.7	107	20,810
	8.83	17.97	6.58	250.1	454.0	0.129	1.4	107	20,918
	8.83	18.10	6.57	247.3	451.2	0.129	1.2	107	21,025
	8.84	18.36	6.53	245.7	449.6	0.129	1.1	107	21,133
	8.41	18.27	6.46	315.0	518.9	0.129	2.0	107	21,240
	8.36	18.47	6.46	324.5	528.4	0.128	1.2	107	21,348
	8.17	18.16	6.45	321.4	525.3	0.128	0.8	107	21,455
	8.29	18.08	6.45	308.2	512.1	0.128	0.9	107	21,562
	8.47	18.06	6.44	294.6	498.5	0.128	0.8	107	21,670
	8.51	18.00	6.44	291.1	495.0	0.128	0.6	107	21,777

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
7/26/13 (cont.)	8.72	17.48	6.35	263.4	472.3	0.127	1.4	107	21,885
	8.76	17.61	6.36	253.3	457.2	0.127	1.1	107	21,992
	8.76	17.57	6.36	243.2	447.1	0.127	0.9	107	22,100
	8.73	17.54	6.38	240.0	443.9	0.127	0.7	107	22,207
	8.79	17.56	6.36	234.8	438.7	0.127	0.7	107	22,315
	8.77	17.58	6.38	234.4	438.3	0.127	0.9	107	22,422
7/27/13	9.08	15.72	2.47	159.6	368.5	0.128	20.2	140	22,562
	9.03	17.55	5.45	156.5	360.4	0.130	2.1	140	22,702
	9.10	18.03	5.70	165.5	369.4	0.129	1.3	140	22,842
	8.99	18.08	5.85	176.6	380.5	0.129	1.0	140	22,982
	8.94	18.13	5.94	186.6	390.5	0.128	0.8	140	23,122
	8.92	18.13	5.96	189.8	393.7	0.128	0.8	140	23,262
	8.75	18.28	5.93	234.7	438.6	0.128	4.5	140	23,402
	8.66	18.31	5.99	264.9	468.8	0.127	0.8	140	23,541
	8.55	18.34	6.08	292.8	496.7	0.127	0.7	140	23,681
	8.42	18.32	6.13	299.2	503.1	0.127	0.8	140	23,821
	8.37	18.34	6.14	295.7	499.6	0.127	0.7	140	23,961
	8.35	18.35	6.15	295.8	499.7	0.127	0.5	140	24,101
	8.49	18.46	6.01	285.7	489.6	0.127	6.2	140	24,241
	8.56	18.50	6.05	280.7	484.6	0.126	0.6	140	24,381
	8.55	18.51	6.09	281.2	485.1	0.126	0.5	140	24,521
	8.59	18.49	6.12	277.4	481.3	0.126	0.4	140	24,661
	8.62	18.51	6.16	274.5	478.4	0.126	0.6	140	24,801
	8.63	18.55	6.15	273.4	477.3	0.126	0.5	140	24,941
	9.12	18.27	6.60	219.5	423.4	0.135	25.1	140	25,081
	8.44	18.42	6.64	285.9	489.8	0.127	0.9	140	25,221
	8.21	18.42	6.55	299.1	503.0	0.126	0.7	140	25,361
	7.90	18.39	6.48	312.0	515.9	0.126	1.1	140	25,500
	7.98	18.19	6.44	313.4	517.3	0.126	0.7	140	25,640
	8.22	18.21	6.42	295.6	499.5	0.126	0.2	140	25,780
	8.42	18.05	6.43	283.5	487.4	0.126	0.4	140	25,920
	8.55	18.03	6.37	270.4	474.3	0.125	0.3	140	26,060
	8.60	18.01	6.38	261.3	465.2	0.126	0.5	140	26,200
	8.60	17.91	6.36	258.4	462.3	0.125	0.6	140	26,340

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
7/28/13	9.05	15.47	2.53	146.3	355.2	0.127	10.9	200	26,540
	9.17	17.57	5.62	139.0	342.9	0.129	1.5	200	26,740
	8.94	17.88	5.94	145.9	349.8	0.127	0.8	200	26,941
	8.84	17.99	6.03	146.4	350.3	0.126	0.6	200	27,141
	8.79	18.08	6.14	167.1	371.0	0.126	0.5	200	27,341
	8.73	18.18	6.16	188.9	392.8	0.125	0.4	200	27,541
	8.72	18.23	6.19	206.9	410.8	0.125	0.5	200	27,741
	8.66	18.25	6.19	220.1	424.0	0.125	0.4	200	27,941
	8.47	17.91	6.21	248.3	452.2	0.125	0.4	200	28,142
	8.62	18.09	6.22	250.5	454.4	0.125	0.4	200	28,342
	8.63	18.16	6.23	282.1	486.0	0.125	0.3	200	28,542
	8.63	18.14	6.25	259.4	463.3	0.125	0.4	200	28,742
	8.62	18.16	6.25	250.4	454.3	0.125	0.4	200	28,942
	8.56	17.95	6.26	262.6	466.5	0.124	0.4	200	29,142
	8.64	18.27	6.25	263.1	467.0	0.124	0.4	200	29,343
	8.56	17.94	6.28	274.7	478.6	0.124	0.4	200	29,543
	8.63	18.05	6.27	265.9	469.8	0.124	0.5	200	29,743
	8.58	17.84	6.29	261.3	465.2	0.124	0.3	200	29,943
	8.61	17.84	6.30	251.8	455.7	0.124	0.4	200	30,143
	8.51	17.82	6.30	248.5	452.4	0.124	0.4	200	30,343
	8.59	17.81	6.30	244.0	447.9	0.125	0.4	200	30,544
	8.60	17.91	6.29	242.1	446.0	0.124	0.4	200	30,744
	8.59	17.91	6.31	242.3	446.2	0.124	0.3	200	30,944
7/29/13	8.95	15.44	3.11	136.9	345.8	0.126	14.4	223	31,167
	9.09	17.52	5.48	141.0	344.9	0.127	1.3	223	31,389
	8.83	17.87	5.93	142.3	346.2	0.125	0.7	223	31,612
	8.75	17.98	6.04	144.9	348.8	0.125	0.5	223	31,834
8/17/13	8.63	16.99	7.01	182.8	391.7	0.124	1.8	3462	35,296
	8.39	17.23	7.00	277.1	486.0	0.123	1.5	364	35,659
	8.18	17.21	7.04	350.6	559.5	0.123	1.6	364	36,023
	8.45	17.15	7.01	341.2	550.1	0.123	1.4	364	36,386
	8.27	17.57	6.97	362.9	566.8	0.123	1.2	364	36,750
	7.94	17.66	7.01	405.4	609.3	0.123	1.3	364	37,113
	7.57	17.57	6.99	431.6	635.5	0.122	0.5	364	37,477
	7.95	17.40	7.02	420.2	629.1	0.122	1.8	364	37,840
	8.35	17.37	7.01	375.0	583.9	0.122	1.5	364	38,204
	8.40	17.19	7.03	362.7	571.6	0.122	1.5	364	38,567

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
8/18/13	8.36	15.94	6.82	159.6	368.5	0.123	2.3	307	38,874
	8.49	16.85	7.08	164.8	373.7	0.125	2.1	307	39,181
	8.45	17.03	7.09	213.1	422.0	0.123	2.2	307	39,488
	8.37	17.15	7.10	290.0	498.9	0.122	1.8	307	39,795
	8.30	17.32	7.08	343.8	552.7	0.122	1.4	307	40,102
	8.19	17.24	7.09	379.4	588.3	0.122	1.3	307	40,408
	8.20	17.20	7.08	393.5	602.4	0.123	1.6	307	40,715
	8.46	16.22	7.11	311.5	520.4	0.122	2.0	307	41,022
	8.49	17.18	7.10	291.0	499.9	0.122	1.6	307	41,329
	8.44	17.20	7.09	303.9	512.8	0.121	1.5	307	41,636
	8.43	17.16	7.11	320.8	529.7	0.121	1.3	307	41,943
8/19/13	8.36	16.11	6.82	157.2	366.1	0.123	1.7	310	42,253
	8.41	16.31	7.10	164.4	373.3	0.124	2.1	310	42,563
	8.43	17.05	7.12	186.0	394.9	0.123	2.2	310	42,873
	8.41	17.22	7.14	225.5	434.4	0.122	2.2	310	43,183
	8.18	17.42	7.12	330.6	539.5	0.122	2.3	310	43,493
	7.96	17.15	7.14	401.2	610.1	0.122	2.1	310	43,803
	8.24	17.20	7.15	382.7	591.6	0.121	1.9	310	44,113
	8.26	17.19	7.14	368.8	577.7	0.122	2.9	310	44,423
	8.19	17.17	7.15	388.9	597.8	0.122	1.4	310	44,733
	8.20	17.33	7.14	389.1	598.0	0.121	1.2	310	45,043
	8.23	17.20	7.14	385.6	594.5	0.121	1.1	310	45,353
8/20/13	8.44	15.94	6.85	151.1	360.0	0.123	1.7	302	45,655
	8.40	16.73	7.14	160.2	369.1	0.123	1.8	302	45,958
	8.43	16.94	7.15	172.3	381.2	0.122	2.0	302	46,260
	8.42	17.14	7.18	199.3	408.2	0.122	2.0	302	46,562
	8.35	17.18	7.17	145.6	354.5	0.122	1.8	302	46,865
	8.23	17.27	7.17	294.9	503.8	0.122	1.7	302	47,167
	7.86	17.34	7.17	399.8	608.7	0.122	1.8	302	47,470
	7.81	17.26	7.16	422.0	630.9	0.121	1.5	302	47,772
	8.32	15.26	7.17	194.8	403.7	0.121	1.6	302	48,074
	8.39	16.99	7.17	221.9	430.8	0.122	1.7	302	48,377
	8.35	17.09	7.17	245.7	454.6	0.121	1.6	302	48,679

Table 2.3-1 (continued)

Date	pH	Temp (°C)	Dissolved Oxygen (mg/L)	Oxidation-Reduction Potential (mV)	Eh (mV)	Specific Conductivity (µS/cm)	Turbidity (NTU)	Purge Volume between Samples (gal.)	Cumulative Purge Volume (gal.)
8/21/13	8.47	16.14	6.84	152.3	361.2	0.122	1.5	298	48,977
	8.43	16.74	7.18	167.8	376.7	0.123	1.3	298	49,276
	8.41	16.91	7.18	183.5	392.4	0.122	1.4	298	49,574
	8.37	17.01	7.19	210.3	419.2	0.122	1.1	298	49,873
	8.32	17.11	7.18	257.5	466.4	0.122	1.2	298	50,171
	8.23	17.13	7.19	322.1	531.0	0.122	1.1	298	50,469
	8.04	17.20	7.18	386.3	595.2	0.122	1.1	298	50,768
	8.03	17.20	7.19	403.3	612.2	0.121	1.2	298	51,066

*NTU =Nephelometric turbidity unit.

Table 4.0-1
CdV-R-15-3 Survey Coordinates

Identification	Northing	Easting	Elevation
CdV-R-15-3 brass cap embedded in pad	1762349.41	1623220.54	7257.94
CdV-R-15-3 ground surface near pad	1762351.10	1623219.41	7257.76
CdV-R-15-3 top of stainless-steel well casing	1762347.58	1623221.71	7259.41
CdV-R-15-3 top of 10-in. protective casing	1762347.27	1623221.34	7261.07

Note: All coordinates are expressed as New Mexico State Plane Coordinate System Central Zone (NAD 83); elevation is expressed in feet amsl using the National Geodetic Vertical Datum of 1929.

Appendix A

CdV-R-15-3 Indicator Suite and Dedicated Sampling System Equipment Blank Analytical Results

Table A-1
Well CdV-R-15-3Indicator Suite Analytical Results Using Development Pump

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36218 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36219 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36220 07/21/2013 19:00
Acidity or Alklalinity of a Solution	EPA:150.1	8.33 SU[a]	—[b]	10.2 SU	—	9.50 SU	—
Alkalinity-CO_3	EPA:310.1	7.29 mg/L	—	75.2 mg/L	—	38.8 mg/L	—
Alkalinity-CO^3+HCO_3	EPA:310.1	85.2 mg/L	—	14.1 mg/L	—	28.7 mg/L	—
Aluminum	EPA:200.7	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Antimony	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Arsenic	EPA:200.8	—	1.26 µg/L	—	0.62 µg/L	—	0.78 µg/L
Barium	EPA:200.7	—	173 µg/L	—	41.2 µg/L	—	34.4 µg/L
Beryllium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Boron	EPA:200.7	—	16.7 µg/L	—	6.67 µg/L	—	8.39 µg/L
Bromide	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	0.01 mg/L (U)	—
Cadmium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Calcium	EPA:200.7	—	14.5 mg/L	—	20 mg/L	—	10.9 mg/L
Cesium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Chloride	EPA:300.0	1.58 mg/L	—	1.8 mg/L	—	1.65 mg/L	—
Chromium	EPA:200.8	—	6.38 µg/L	—	6.98 µg/L	—	5.04 µg/L
Cobalt	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Copper	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Fluoride	EPA:300.0	0.132 mg/L	—	0.188 mg/L	—	0.184 mg/L	—
Iron	EPA:200.7	—	288 µg/L	—	10 µg/L (U)	—	10 µg/L (U)
Lead	EPA:200.8	—	0.75 µg/L	—	0.2 µg/L (U)	—	0.2 µg/L (U)
Lithium	EPA:200.7	—	21.3 µg/L	—	20.6 µg/L	—	20.7 µg/L
Magnesium	EPA:200.7	—	3.36 mg/L	—	1.77 mg/L	—	2.33 mg/L
Manganese	EPA:200.7	—	1.02 µg/L	—	1 µg/L (U)	—	1 µg/L (U)
Mercury	EPA:200.8	—	0.05 µg/L (U)	—	0.05 µg/L (U)	—	0.05 µg/L (U)

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36218 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36219 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36220 07/21/2013 19:00
Molybdenum	EPA:200.8	—	1.65 µg/L	—	4.76 µg/L	—	2.8 µg/L
Nickel	EPA:200.8	—	1 µg/L (U)	—	1.02 µg/L	—	1 µg/L (U)
Nitrate	EPA:300.0	1.31 mg/L	—	1.39 mg/L	—	1.35 mg/L	—
Nitrite	EPA:300.0	0.0384 mg/L	—	0.01 mg/L (U)	—	0.01 mg/L (U)	—
Oxalate	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	0.01 mg/L (U)	—
Phosphorus, Orthophosphate (Expressed as PO_4)	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	0.01 mg/L (U)	—
Potassium	EPA:200.7	—	3.39 mg/L	—	3.63 mg/L	—	2.46 mg/L
Selenium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Silicon Dioxide	EPA:200.7	—	64.8 mg/L	—	60.7 mg/L	—	64.5 mg/L
Silver	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Sodium	EPA:200.7	—	10.4 mg/L	—	11.2 mg/L	—	10.2 mg/L
Strontium	EPA:200.7	—	59.2 µg/L	—	94.7 µg/L	—	64.3 µg/L
Sulfate	EPA:300.0	2.8 mg/L	—	12.9 mg/L	—	5.75 mg/L	—
Thallium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Tin	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	—	1 µg/L (U)
Titanium	EPA:200.7	—	2 µg/L (U)	—	2 µg/L (U)	—	2 µg/L (U)
Total Organic Carbon	SW-846:9060	0.257 mg/L	—	0.778 mg/L	—	0.2 mg/L (U)	—
Uranium	EPA:200.8	—	0.64 µg/L	—	0.2 µg/L (U)	—	0.46 µg/L
Vanadium	EPA:200.8	—	3.46 µg/L	—	4.69 µg/L	—	4.79 µg/L
Zinc	EPA:200.7	—	34.6 µg/L	—	9.35 µg/L	—	12.6 µg/L

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36221 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-36222 07/24/2013 12:15	CAWA-13-39336 07/25/2013 18:35	CAWA-13-39341 07/25/2013 18:35
Acidity or Alklalinity of a solution	EPA:150.1	9.39 SU	—	9.28 SU	—	—	8.80 SU
Alkalinity-CO_3	EPA:310.1	34.4 mg/L	—	33.6 mg/L	—	—	14.2 mg/L
Alkalinity-CO^3+HCO_3	EPA:310.1	46.2 mg/L	—	63.5 mg/L	—	—	84.3 mg/L
Aluminum	EPA:200.7	—	1 µg/L (U)	—	1 µg/L (U)	123 µg/L	—
Antimony	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Arsenic	EPA:200.8	—	0.76 µg/L	—	0.92 µg/L	0.6 µg/L	—
Barium	EPA:200.7	—	127 µg/L	—	191 µg/L	210 µg/L	—
Beryllium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Boron	EPA:200.7	—	11.4 µg/L	—	24.3 µg/L	65.3 µg/L	—
Bromide	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	—	0.01 mg/L (U)
Cadmium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Calcium	EPA:200.7	—	12.6 mg/L	—	19.2 mg/L	14.4 mg/L	—
Cesium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Chloride	EPA:300.0	1.6 mg/L	—	1.51 mg/L	—	—	1.45 mg/L
Chromium	EPA:200.8	—	4.45 µg/L	—	4.44 µg/L	5.12 µg/L	—
Cobalt	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Copper	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1.73 µg/L	—
Fluoride	EPA:300.0	0.169 mg/L	—	0.161 mg/L	—	—	0.139 mg/L
Iron	EPA:200.7	—	10.3 µg/L	—	21.6 µg/L	108 µg/L	—
Lead	EPA:200.8	—	0.2 µg/L (U)	—	0.2 µg/L (U)	0.2 µg/L (U)	—
Lithium	EPA:200.7	—	19.8 µg/L	—	19.2 µg/L	15.4 µg/L	—
Magnesium	EPA:200.7	—	2.44 mg/L	—	2.89 mg/L	3.12 mg/L	—
Manganese	EPA:200.7	—	1 µg/L (U)	—	1 µg/L (U)	2.54 µg/L	—
Mercury	EPA:200.8	—	0.05 µg/L (U)	—	0.05 µg/L (U)	0.05 µg/L (U)	—
Molybdenum	EPA:200.8	—	1.92 µg/L	—	1 µg/L (U)	1 µg/L (U)	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36221 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-36222 07/24/2013 12:15	CAWA-13-39336 07/25/2013 18:35	CAWA-13-39341 07/25/2013 18:35
Nickel	EPA:200.8	—	1 µg/L (U)	—	1.13 µg/L	1 µg/L (U)	—
Nitrate	EPA:300.0	1.4 mg/L	—	1.34 mg/L	—	—	1.38 mg/L
Nitrite	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	—	0.0683 mg/L
Oxalate	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	—	0.01 mg/L (U)
Phosphorus, Orthophosphate (Expressed as PO_4)	EPA:300.0	0.01 mg/L (U)	—	0.01 mg/L (U)	—	—	0.01 mg/L (U)
Potassium	EPA:200.7	—	2.11 mg/L	—	1.61 mg/L	1.35 mg/L	—
Selenium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Silicon Dioxide	EPA:200.7	—	65 mg/L	—	64.6 mg/L	60 mg/L	—
Silver	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Sodium	EPA:200.7	—	10.4 mg/L	—	10.2 mg/L	11 mg/L	—
Strontium	EPA:200.7	—	64.2 µg/L	—	67.7 µg/L	59.8 µg/L	—
Sulfate	EPA:300.0	4.15 mg/L	—	3.16 mg/L	—	—	2.43 mg/L
Thallium	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Tin	EPA:200.8	—	1 µg/L (U)	—	1 µg/L (U)	1 µg/L (U)	—
Titanium	EPA:200.7	—	2 µg/L (U)	—	2 µg/L (U)	2 µg/L (U)	—
Total Organic Carbon	SW-846:9060	0.2 mg/L (U)	—	0.2 mg/L (U)	—	—	0.2 mg/L (U)
Uranium	EPA:200.8	—	0.48 µg/L	—	0.51 µg/L	0.38 µg/L	—
Vanadium	EPA:200.8	—	4.44 µg/L	—	4.84 µg/L	4.25 µg/L	—
Zinc	EPA:200.7	—	14.8 µg/L	—	19.3 µg/L	6.42 µg/L	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
2,4-Diamino-6-nitrotoluene	SW-846:8321A_MOD	2.65 µg/L (U)	2.59 µg/L (U)	2.59 µg/L (U)	2.7 µg/L (U)	2.72 µg/L (U)	2.75 µg/L (U)
2,6-Diamino-4-nitrotoluene	SW-846:8321A_MOD	2.65 µg/L (U)	2.59 µg/L (U)	2.59 µg/L (U)	2.7 µg/L (U)	2.72 µg/L (U)	2.75 µg/L (U)
3,5-Dinitroaniline	SW-846:8321A_MOD	1.06 µg/L (U)	1.04 µg/L (U)	1.04 µg/L (U)	1.08 µg/L (U)	1.09 µg/L (U)	1.1 µg/L (U)
Acenaphthene	SW-846:8270C	—	—	—	—	—	—
Acenaphthylene	SW-846:8270C	—	—	—	—	—	—
Acetone	SW-846:8260B	—	—	—	—	—	—
Acetonitrile	SW-846:8260B	—	—	—	—	—	—
Acrolein	SW-846:8260B	—	—	—	—	—	—
Acrylonitrile	SW-846:8260B	—	—	—	—	—	—
Amino-2,6-dinitrotoluene[4-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Amino-4,6-dinitrotoluene[2-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Aniline	SW-846:8270C	—	—	—	—	—	—
Anthracene	SW-846:8270C	—	—	—	—	—	—
Atrazine	SW-846:8270C	—	—	—	—	—	—
Azobenzene	SW-846:8270C	—	—	—	—	—	—
Benzene	SW-846:8260B	—	—	—	—	—	—
Benzidine	SW-846:8270C	—	—	—	—	—	—
Benzo(a)anthracene	SW-846:8270C	—	—	—	—	—	—
Benzo(a)pyrene	SW-846:8270C	—	—	—	—	—	—
Benzo(b)fluoranthene	SW-846:8270C	—	—	—	—	—	—
Benzo(g,h,i)perylene	SW-846:8270C	—	—	—	—	—	—
Benzo(k)fluoranthene	SW-846:8270C	—	—	—	—	—	—
Benzoic Acid	SW-846:8270C	—	—	—	—	—	—
Benzyl Alcohol	SW-846:8270C	—	—	—	—	—	—
Bis(2-chloroethoxy)methane	SW-846:8270C	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Bis(2-chloroethyl)ether	SW-846:8270C	—	—	—	—	—	—
Bis(2-ethylhexyl)phthalate	SW-846:8270C	—	—	—	—	—	—
Bromobenzene	SW-846:8260B	—	—	—	—	—	—
Bromochloromethane	SW-846:8260B	—	—	—	—	—	—
Bromodichloromethane	SW-846:8260B	—	—	—	—	—	—
Bromoform	SW-846:8260B	—	—	—	—	—	—
Bromomethane	SW-846:8260B	—	—	—	—	—	—
Bromophenyl-phenylether[4-]	SW-846:8270C	—	—	—	—	—	—
Butanol[1-]	SW-846:8260B	—	—	—	—	—	—
Butanone[2-]	SW-846:8260B	—	—	—	—	—	—
Butylbenzene[n-]	SW-846:8260B	—	—	—	—	—	—
Butylbenzene[sec-]	SW-846:8260B	—	—	—	—	—	—
Butylbenzene[tert-]	SW-846:8260B	—	—	—	—	—	—
Butylbenzylphthalate	SW-846:8270C	—	—	—	—	—	—
Carbon Disulfide	SW-846:8260B	—	—	—	—	—	—
Carbon Tetrachloride	SW-846:8260B	—	—	—	—	—	—
Chloro-1,3-butadiene[2-]	SW-846:8260B	—	—	—	—	—	—
Chloro-1-propene[3-]	SW-846:8260B	—	—	—	—	—	—
Chloro-3-methylphenol[4-]	SW-846:8270C	—	—	—	—	—	—
Chloroaniline[4-]	SW-846:8270C	—	—	—	—	—	—
Chlorobenzene	SW-846:8260B	—	—	—	—	—	—
Chlorodibromomethane	SW-846:8260B	—	—	—	—	—	—
Chloroethane	SW-846:8260B	—	—	—	—	—	—
Chloroform	SW-846:8260B	—	—	—	—	—	—
Chloromethane	SW-846:8260B	—	—	—	—	—	—
Chloronaphthalene[2-]	SW-846:8270C	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Chlorophenol[2-]	SW-846:8270C	—	—	—	—	—	—
Chlorophenyl-phenyl[4-] Ether	SW-846:8270C	—	—	—	—	—	—
Chlorotoluene[2-]	SW-846:8260B	—	—	—	—	—	—
Chlorotoluene[4-]	SW-846:8260B	—	—	—	—	—	—
Chrysene	SW-846:8270C	—	—	—	—	—	—
Dibenz(a,h)anthracene	SW-846:8270C	—	—	—	—	—	—
Dibenzofuran	SW-846:8270C	—	—	—	—	—	—
Dibromo-3-Chloropropane[1,2-]	SW-846:8260B	—	—	—	—	—	—
Dibromoethane[1,2-]	SW-846:8260B	—	—	—	—	—	—
Dibromomethane	SW-846:8260B	—	—	—	—	—	—
Dichlorobenzene[1,2-]	SW-846:8260B	—	—	—	—	—	—
Dichlorobenzene[1,2-]	SW-846:8270C	—	—	—	—	—	—
Dichlorobenzene[1,3-]	SW-846:8260B	—	—	—	—	—	—
Dichlorobenzene[1,3-]	SW-846:8270C	—	—	—	—	—	—
Dichlorobenzene[1,4-]	SW-846:8260B	—	—	—	—	—	—
Dichlorobenzene[1,4-]	SW-846:8270C	—	—	—	—	—	—
Dichlorobenzidine[3,3'-]	SW-846:8270C	—	—	—	—	—	—
Dichlorodifluoromethane	SW-846:8260B	—	—	—	—	—	—
Dichloroethane[1,1-]	SW-846:8260B	—	—	—	—	—	—
Dichloroethane[1,2-]	SW-846:8260B	—	—	—	—	—	—
Dichloroethene[1,1-]	SW-846:8260B	—	—	—	—	—	—
Dichloroethene[cis-1,2-]	SW-846:8260B	—	—	—	—	—	—
Dichloroethene[trans-1,2-]	SW-846:8260B	—	—	—	—	—	—
Dichlorophenol[2,4-]	SW-846:8270C	—	—	—	—	—	—
Dichloropropane[1,2-]	SW-846:8260B	—	—	—	—	—	—
Dichloropropane[1,3-]	SW-846:8260B	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Dichloropropane[2,2-]	SW-846:8260B	—	—	—	—	—	—
Dichloropropene[1,1-]	SW-846:8260B	—	—	—	—	—	—
Dichloropropene[cis-1,3-]	SW-846:8260B	—	—	—	—	—	—
Dichloropropene[trans-1,3-]	SW-846:8260B	—	—	—	—	—	—
Diethyl Ether	SW-846:8260B	—	—	—	—	—	—
Diethylphthalate	SW-846:8270C	—	—	—	—	—	—
Dimethyl Phthalate	SW-846:8270C	—	—	—	—	—	—
Dimethylphenol[2,4-]	SW-846:8270C	—	—	—	—	—	—
Di-n-butylphthalate	SW-846:8270C	—	—	—	—	—	—
Dinitro-2-methylphenol[4,6-]	SW-846:8270C	—	—	—	—	—	—
Dinitrobenzene[1,3-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Dinitrophenol[2,4-]	SW-846:8270C	—	—	—	—	—	—
Dinitrotoluene[2,4-]	SW-846:8270C	—	—	—	—	—	—
Dinitrotoluene[2,4-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Dinitrotoluene[2,6-]	SW-846:8270C	—	—	—	—	—	—
Dinitrotoluene[2,6-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Di-n-octylphthalate	SW-846:8270C	—	—	—	—	—	—
Dinoseb	SW-846:8270C	—	—	—	—	—	—
Dioxane[1,4-]	SW-846:8270C	—	—	—	—	—	—
Diphenylamine	SW-846:8270C	—	—	—	—	—	—
Ethyl Methacrylate	SW-846:8260B	—	—	—	—	—	—
Ethylbenzene	SW-846:8260B	—	—	—	—	—	—
Fluoranthene	SW-846:8270C	—	—	—	—	—	—
Fluorene	SW-846:8270C	—	—	—	—	—	—
Hexachlorobenzene	SW-846:8270C	—	—	—	—	—	—
Hexachlorobutadiene	SW-846:8260B	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Hexachlorobutadiene	SW-846:8270C	—	—	—	—	—	—
Hexachlorocyclopentadiene	SW-846:8270C	—	—	—	—	—	—
Hexachloroethane	SW-846:8270C	—	—	—	—	—	—
Hexanone[2-]	SW-846:8260B	—	—	—	—	—	—
HMX	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Indeno(1,2,3-cd)pyrene	SW-846:8270C						
Iodomethane	SW-846:8260B	—	—	—	—	—	—
Isobutyl alcohol	SW-846:8260B	—	—	—	—	—	—
Isophorone	SW-846:8270C	—	—	—	—	—	—
Isopropylbenzene	SW-846:8260B	—	—	—	—	—	—
Isopropyltoluene[4-]	SW-846:8260B	—	—	—	—	—	—
Methacrylonitrile	SW-846:8260B	—	—	—	—	—	—
Methyl Methacrylate	SW-846:8260B	—	—	—	—	—	—
Methyl tert-Butyl Ether	SW-846:8260B	—	—	—	—	—	—
Methyl-2-pentanone[4-]	SW-846:8260B	—	—	—	—	—	—
Methylene Chloride	SW-846:8260B	—	—	—	—	—	—
Methylnaphthalene[1-]	SW-846:8270C	—	—	—	—	—	—
Methylnaphthalene[2-]	SW-846:8270C	—	—	—	—	—	—
Methylphenol[2-]	SW-846:8270C	—	—	—	—	—	—
Methylphenol[4-]	SW-846:8270C	—	—	—	—	—	—
Naphthalene	SW-846:8260B	—	—	—	—	—	—
Naphthalene	SW-846:8270C	—	—	—	—	—	—
Nitroaniline[2-]	SW-846:8270C	—	—	—	—	—	—
Nitroaniline[3-]	SW-846:8270C	—	—	—	—	—	—
Nitroaniline[4-]	SW-846:8270C	—	—	—	—	—	—
Nitrobenzene	SW-846:8270C	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Nitrobenzene	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Nitrophenol[2-]	SW-846:8270C	—	—	—	—	—	—
Nitrophenol[4-]	SW-846:8270C	—	—	—	—	—	—
Nitrosodiethylamine[N-]	SW-846:8270C	—	—	—	—	—	—
Nitrosodimethylamine[N-]	SW-846:8270C	—	—	—	—	—	—
Nitroso-di-n-butylamine[N-]	SW-846:8270C	—	—	—	—	—	—
Nitroso-di-n-propylamine[N-]	SW-846:8270C	—	—	—	—	—	—
Nitrosopyrrolidine[N-]	SW-846:8270C	—	—	—	—	—	—
Nitrotoluene[2-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Nitrotoluene[3-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Nitrotoluene[4-]	SW-846:8321A_MOD	0.529 µg/L (U)	0.518 µg/L (U)	0.518 µg/L (U)	0.541 µg/L (U)	0.543 µg/L (U)	0.549 µg/L (U)
Oxybis(1-chloropropane)[2,2'-]	SW-846:8270C	—	—	—	—	—	—
Pentachlorobenzene	SW-846:8270C	—	—	—	—	—	—
Pentachlorophenol	SW-846:8270C	—	—	—	—	—	—
PETN	SW-846:8321A_MOD	0.529 µg/L (U)	0.518 µg/L (U)	0.518 µg/L (U)	0.541 µg/L (U)	0.543 µg/L (U)	0.549 µg/L (U)
Phenanthrene	SW-846:8270C	—	—	—	—	—	—
Phenol	SW-846:8270C	—	—	—	—	—	—
Propionitrile	SW-846:8260B	—	—	—	—	—	—
Propylbenzene[1-]	SW-846:8260B	—	—	—	—	—	—
Pyrene	SW-846:8270C	—	—	—	—	—	—
Pyridine	SW-846:8270C	—	—	—	—	—	—
RDX	SW-846:8321A_MOD	0.116 µg/L (J)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Styrene	SW-846:8260B	—	—	—	—	—	—
TATB	SW-846:8321A_MOD	1.06 µg/L (U)	1.04 µg/L (U)	1.04 µg/L (U)	1.08 µg/L (U)	1.09 µg/L (U)	1.1 µg/L (U)
Tetrachlorobenzene[1,2,4,5]	SW-846:8270C	—	—	—	—	—	—
Tetrachloroethane[1,1,1,2-]	SW-846:8260B	—	—	—	—	—	—

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Tetrachloroethane[1,1,2,2-]	SW-846:8260B	—	—	—	—	—	—
Tetrachloroethene	SW-846:8260B	—	—	—	—	—	—
Tetrachlorophenol[2,3,4,6-]	SW-846:8270C	—	—	—	—	—	—
Tetryl	SW-846:8321A_MOD	0.529 µg/L (U)	0.518 µg/L (U)	0.518 µg/L (U)	0.541 µg/L (U)	0.543 µg/L (U)	0.549 µg/L (U)
Toluene	SW-846:8260B	—	—	—	—	—	—
Trichloro-1,2,2-trifluoroethane[1,1,2-]	SW-846:8260B	—	—	—	—	—	—
Trichlorobenzene[1,2,3-]	SW-846:8260B	—	—	—	—	—	—
Trichlorobenzene[1,2,4-]	SW-846:8260B	—	—	—	—	—	—
Trichlorobenzene[1,2,4-]	SW-846:8270C	—	—	—	—	—	—
Trichloroethane[1,1,1-]	SW-846:8260B	—	—	—	—	—	—
Trichloroethane[1,1,2-]	SW-846:8260B	—	—	—	—	—	—
Trichloroethene	SW-846:8260B	—	—	—	—	—	—
Trichlorofluoromethane	SW-846:8260B	—	—	—	—	—	—
Trichlorophenol[2,4,5-]	SW-846:8270C	—	—	—	—	—	—
Trichlorophenol[2,4,6-]	SW-846:8270C	—	—	—	—	—	—
Trichloropropane[1,2,3-]	SW-846:8260B	—	—	—	—	—	—
Trimethylbenzene[1,2,4-]	SW-846:8260B	—	—	—	—	—	—
Trimethylbenzene[1,3,5-]	SW-846:8260B	—	—	—	—	—	—
Trinitrobenzene[1,3,5-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)

Table A-1 (cont.)

Parameter Name	Analytical Method	CAWA-13-36213 07/17/2013 12:25	CAWA-13-36214 07/21/2013 14:55	CAWA-13-36215 07/21/2013 19:00	CAWA-13-36216 07/22/2013 15:00	CAWA-13-36217 07/24/2013 12:15	CAWA-13-39341 07/25/2013 18:35
Trinitrotoluene[2,4,6-]	SW-846:8321A_MOD	0.265 µg/L (U)	0.259 µg/L (U)	0.259 µg/L (U)	0.27 µg/L (U)	0.272 µg/L (U)	0.275 µg/L (U)
Tris (o-cresyl) phosphate	SW-846:8321A_MOD	1.06 µg/L (U)	1.04 µg/L (U)	1.04 µg/L (U)	1.08 µg/L (U)	1.09 µg/L (U)	1.1 µg/L (U)
Vinyl acetate	SW-846:8260B	—	—	—	—	—	—
Vinyl Chloride	SW-846:8260B	—	—	—	—	—	—
Xylene[1,2-]	SW-846:8260B	—	—	—	—	—	—
Xylene[1,3-]+Xylene[1,4-]	SW-846:8260B	—	—	—	—	—	—

Notes: U = The analyte was analyzed for but was not detected. J = The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis.

[a] SU = Standard unit.

[b] — = Not analyzed.

Table A-2
Well CdV-R-15-3 Indicator Suite Analytical Results for Extended Development Using Dedicated Sampling System

Parameter Name	Analytical Method	CAWA-13-39409 07/29/2013 14:40	CAWA-13-40545 08/16/2013 9:48	CAWA-13-40546 08/16/2013 11:18	CAWA-13-40547 08/16/2013 12:48	CAWA-13-40548 08/16/2013 14:18	CAWA-13-40549 08/16/2013 15:48
Acidity or Alklalinity of a solution	EPA:150.1	8.71 SU	—*	—	—	—	—
Alkalinity-CO_3	EPA:310.1	17.1 mg/L	—	—	—	—	—
Alkalinity-CO_3+HCO_3	EPA:310.1	69 mg/L	—	—	—	—	—
Aluminum	EPA:200.7	6.57 µg/L	9.61 µg/L	15.7 µg/L	20.7 µg/L	18.7 µg/L	17.4 µg/L
Antimony	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Arsenic	EPA:200.8	0.8 µg/L	0.91 µg/L	0.93 µg/L	0.92 µg/L	0.83 µg/L	0.8 µg/L
Barium	EPA:200.7	387 µg/L	20.2 µg/L	20.2 µg/L	20 µg/L	20.1 µg/L	20.4 µg/L
Beryllium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Boron	EPA:200.7	59.3 µg/L	29.9 µg/L	18 µg/L	13.6 µg/L	10 µg/L	9.13 µg/L
Bromide	EPA:300.0	0.01 mg/L (U)	—	—	—	—	—
Cadmium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Calcium	EPA:200.7	14.4 mg/L	13 mg/L	12.8 mg/L	12.4 mg/L	12.2 mg/L	11.9 mg/L
Cesium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloride	EPA:300.0	7.83 mg/L	—	—	—	—	—
Chromium	EPA:200.8	5.21 µg/L	5.77 µg/L	5.27 µg/L	4.8 µg/L	4.89 µg/L	4.87 µg/L
Cobalt	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Copper	EPA:200.8	1.44 µg/L	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Fluoride	EPA:300.0	0.146 mg/L	—	—	—	—	—
Iron	EPA:200.7	61.7 µg/L	38.7 µg/L	17.9 µg/L	15.8 µg/L	14.1 µg/L	15 µg/L
Lead	EPA:200.8	0.25 µg/L	0.2 µg/L (U)	0.2 µg/L (U)	0.2 µg/L (U)	0.2 µg/L (U)	0.2 µg/L (U)
Lithium	EPA:200.7	15.1 µg/L	16.6 µg/L	16.2 µg/L	16 µg/L	15.6 µg/L	14.5 µg/L
Magnesium	EPA:200.7	3.57 mg/L	3.15 mg/L	3.08 mg/L	3.13 mg/L	3.07 mg/L	3.08 mg/L
Manganese	EPA:200.7	1 µg/L (U)	1.35 µg/L	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)

Table A-2 (continued)

Parameter Name	Analytical Method	CAWA-13-39409 07/29/2013 14:40	CAWA-13-40545 08/16/2013 9:48	CAWA-13-40546 08/16/2013 11:18	CAWA-13-40547 08/16/2013 12:48	CAWA-13-40548 08/16/2013 14:18	CAWA-13-40549 08/16/2013 15:48
Mercury	EPA:200.8	0.05 µg/L (U)	0.09 µg/L	0.05 µg/L	0.05 µg/L (U)	0.06 µg/L	0.05 µg/L (U)
Molybdenum	EPA:200.8	1 µg/L (U)	1.61 µg/L	1.13 µg/L	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Nickel	EPA:200.8	1 µg/L (U)	1.7 µg/L	1.44 µg/L	1.31 µg/L	1.24 µg/L	1.18 µg/L
Nitrate	EPA:300.0	1.6 mg/L	—	—	—	—	—
Nitrite	EPA:300.0	0.01 mg/L (U)	—	—	—	—	—
Oxalate	EPA:300.0	0.01 mg/L (U)	—	—	—	—	—
Phosphorus, Orthophosphate (Expressed as PO_4)	EPA:300.0	0.0198 mg/L	—	—	—	—	—
Potassium	EPA:200.7	1.54 mg/L	1.69 mg/L	1.65 mg/L	1.58 mg/L	1.54 mg/L	1.54 mg/L
Selenium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Silicon Dioxide	EPA:200.7	71.7 mg/L	64.9 mg/L	65.1 mg/L	65.3 mg/L	63.9 mg/L	64.2 mg/L
Silver	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Sodium	EPA:200.7	12 mg/L	10.7 mg/L	11.1 mg/L	10.9 mg/L	10.5 mg/L	10.5 mg/L
Strontium	EPA:200.7	44.4 µg/L	60 µg/L	58.9 µg/L	58.4 µg/L	57.5 µg/L	57.2 µg/L
Sulfate	EPA:300.0	3.22 mg/L	—	—	—	—	—
Thallium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Tin	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Titanium	EPA:200.7	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)
Total Organic Carbon	SW-846:9060	—	—	—	—	—	—
Uranium	EPA:200.8	0.39 µg/L	0.58 µg/L	0.58 µg/L	0.56 µg/L	0.53 µg/L	0.53 µg/L
Vanadium	EPA:200.8	4.83 µg/L	5.49 µg/L	5.61 µg/L	5.46 µg/L	5.44 µg/L	5.36 µg/L
Zinc	EPA:200.7	5.14 µg/L	5.05 µg/L	6.59 µg/L	6.23 µg/L	4.7 µg/L	4.37 µg/L

Table A-2 (continued)

Parameter Name	Analytical Method	CAWA-13-40550 08/16/2013 17:18	CAWA-13-40551 08/16/2013 18:48	CAWA-13-40552 08/17/2013 8:04	CAWA-13-40553 08/17/2013 14:04	CAWA-13-40554 08/18/2013 7:47	CAWA-13-40555 08/18/2013 13:47
Acidity or Alklalinity of a solution	EPA:150.1	—	—	—	—	—	—
Alkalinity-CO_3	EPA:310.1	—	—	—	—	—	—
Alkalinity-CO_3+HCO_3	EPA:310.1	—	—	—	—	—	—
Aluminum	EPA:200.7	12.6 µg/L	16.6 µg/L	10.6 µg/L	30.2 µg/L	14.4 µg/L	29 µg/L
Antimony	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Arsenic	EPA:200.8	0.77 µg/L	0.84 µg/L	0.75 µg/L	0.73 µg/L	0.68 µg/L	0.66 µg/L
Barium	EPA:200.7	20.2 µg/L	20.7 µg/L	21.9 µg/L	20.9 µg/L	22 µg/L	21.9 µg/L
Beryllium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Boron	EPA:200.7	8.67 µg/L	8.12 µg/L	7.24 µg/L	7.11 µg/L	50.7 µg/L	51.4 µg/L
Bromide	EPA:300.0	—	—	—	—	—	—
Cadmium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Calcium	EPA:200.7	12.1 mg/L	12 mg/L	12.1 mg/L	11.7 mg/L	11.7 mg/L	12 mg/L
Cesium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloride	EPA:300.0	—	—	—	—	—	—
Chromium	EPA:200.8	4.82 µg/L	4.75 µg/L	4.99 µg/L	4.81 µg/L	4.89 µg/L	3.59 µg/L
Cobalt	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Copper	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Fluoride	EPA:300.0	—	—	—	—	—	—
Iron	EPA:200.7	10 µg/L (U)	12.1 µg/L	13.2 µg/L	18 µg/L	13.1 µg/L	15.2 µg/L
Lead	EPA:200.8	0.2 µg/L (U)	0.2 µg/L (U)	0.2 µg/L (U)	0.35 µg/L	0.2 µg/L (U)	0.2 µg/L (U)
Lithium	EPA:200.7	14.1 µg/L	14.1 µg/L	14.4 µg/L	13.6 µg/L	14.3 µg/L	14.4 µg/L
Magnesium	EPA:200.7	3.14 mg/L	3.14 mg/L	3.25 mg/L	3.18 mg/L	3.22 mg/L	3.16 mg/L
Manganese	EPA:200.7	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Mercury	EPA:200.8	0.05 µg/L (U)	0.09 µg/L	0.05 µg/L (U)	0.08 µg/L	0.05 µg/L (U)	0.05 µg/L (U)
Molybdenum	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1.38 µg/L	1 µg/L (U)	1 µg/L (U)

Table A-2 (continued)

Parameter Name	Analytical Method	CAWA-13-40550 08/16/2013 17:18	CAWA-13-40551 08/16/2013 18:48	CAWA-13-40552 08/17/2013 8:04	CAWA-13-40553 08/17/2013 14:04	CAWA-13-40554 08/18/2013 7:47	CAWA-13-40555 08/18/2013 13:47
Nickel	EPA:200.8	1.15 µg/L	1.05 µg/L	1.16 µg/L	1.08 µg/L	1.16 µg/L	1.01 µg/L
Nitrate	EPA:300.0	—	—	—	—	—	—
Nitrite	EPA:300.0	—	—	—	—	—	—
Oxalate	EPA:300.0	—	—	—	—	—	—
Phosphorus, Orthophosphate (Expressed as PO_4)	EPA:300.0	—	—	—	—	—	—
Potassium	EPA:200.7	1.56 mg/L	1.57 mg/L	1.51 mg/L	1.52 mg/L	1.56 mg/L	1.53 mg/L
Selenium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Silicon Dioxide	EPA:200.7	65.4 mg/L	65.5 mg/L	65.1 mg/L	64.6 mg/L	65 mg/L	59.8 mg/L
Silver	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Sodium	EPA:200.7	10.6 mg/L	10.4 mg/L	9.89 mg/L	10.4 mg/L	9.93 mg/L	9.82 mg/L
Strontium	EPA:200.7	56.8 µg/L	57 µg/L	58 µg/L	56.4 µg/L	57.6 µg/L	57.4 µg/L
Sulfate	EPA:300.0	—	—	—	—	—	—
Thallium	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Tin	EPA:200.8	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Titanium	EPA:200.7	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)
Total Organic Carbon	SW-846:9060	—	—	—	—	—	—
Uranium	EPA:200.8	0.52 µg/L	0.51 µg/L	0.48 µg/L	0.51 µg/L	0.48 µg/L	0.49 µg/L
Vanadium	EPA:200.8	5.32 µg/L	5.21 µg/L	5.24 µg/L	5.15 µg/L	5.35 µg/L	4.75 µg/L
Zinc	EPA:200.7	5.63 µg/L	10.8 µg/L	3.68 µg/L	5.25 µg/L	5.77 µg/L	4.54 µg/L

Notes: SU = Standard unit. U = The analyte was analyzed for but was not detected.
*— = Not analyzed.

Table A-3
Well CdV-R-15-3 Dedicated Sampling System Equipment Blank Analytical Results

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
2,4-Diamino-6-nitrotoluene	SW-846:8321A_MOD	—*	—	—
2,6-Diamino-4-nitrotoluene	SW-846:8321A_MOD	—	—	—
3,5-Dinitroaniline	SW-846:8321A_MOD	—	—	—
Acenaphthene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Acenaphthylene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Acetone	SW-846:8260B	10 µg/L (U)	10 µg/L (U)	10 µg/L (U)
Acetonitrile	SW-846:8260B	25 µg/L (U)	25 µg/L (U)	25 µg/L (U)
Acrolein	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Acrylonitrile	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Amino-2,6-dinitrotoluene[4-]	SW-846:8321A_MOD	—	—	—
Amino-4,6-dinitrotoluene[2-]	SW-846:8321A_MOD	—	—	—
Aniline	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Anthracene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Atrazine	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Azobenzene	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Benzene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Benzidine	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Benzo(a)anthracene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Benzo(a)pyrene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Benzo(b)fluoranthene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Benzo(g,h,i)perylene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Benzo(k)fluoranthene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Benzoic Acid	SW-846:8270C	20 µg/L (U)	11.4 µg/L (J)	20.2 µg/L (U)
Benzyl Alcohol	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Bis(2-chloroethoxy)methane	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Bis(2-chloroethyl)ether	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Bis(2-ethylhexyl)phthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Bromobenzene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Bromochloromethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Bromodichloromethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Bromoform	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Bromomethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Bromophenyl-phenylether[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Butanol[1-]	SW-846:8260B	50 µg/L (U)	50 µg/L (U)	50 µg/L (U)
Butanone[2-]	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Butylbenzene[n-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Butylbenzene[sec-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Butylbenzene[tert-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Butylbenzylphthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Carbon Disulfide	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Carbon Tetrachloride	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloro-1,3-butadiene[2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloro-1-propene[3-]	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Chloro-3-methylphenol[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Chloroaniline[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Chlorobenzene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chlorodibromomethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloroethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloroform	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chloromethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Chloronaphthalene[2-]	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Chlorophenol[2-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Chlorophenyl-phenyl[4-] Ether	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Chlorotoluene[2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chlorotoluene[4-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Chrysene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Dibenz(a,h)anthracene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Dibenzofuran	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dibromo-3-Chloropropane[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dibromoethane[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dibromomethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichlorobenzene[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichlorobenzene[1,2-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dichlorobenzene[1,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichlorobenzene[1,3-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dichlorobenzene[1,4-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichlorobenzene[1,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dichlorobenzidine[3,3'-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dichlorodifluoromethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloroethane[1,1-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloroethane[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloroethene[1,1-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloroethene[cis-1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloroethene[trans-1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichlorophenol[2,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dichloropropane[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Dichloropropane[1,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloropropane[2,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloropropene[1,1-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloropropene[cis-1,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Dichloropropene[trans-1,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Diethyl Ether	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Diethylphthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dimethyl Phthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dimethylphenol[2,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Di-n-butylphthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dinitro-2-methylphenol[4,6-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dinitrobenzene[1,3-]	SW-846:8321A_MOD	—	—	—
Dinitrophenol[2,4-]	SW-846:8270C	20 µg/L (U)	20.2 µg/L (U)	20.2 µg/L (U)
Dinitrotoluene[2,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dinitrotoluene[2,4-]	SW-846:8321A_MOD	—	—	—
Dinitrotoluene[2,6-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dinitrotoluene[2,6-]	SW-846:8321A_MOD	—	—	—
Di-n-octylphthalate	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dinoseb	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Dioxane[1,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Diphenylamine	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Ethyl Methacrylate	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Ethylbenzene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Fluoranthene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Fluorene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Hexachlorobenzene	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Hexachlorobutadiene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Hexachlorobutadiene	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Hexachlorocyclopentadiene	SW-846:8270C	10 µg/L (UJ)	10.1 µg/L (UJ)	10.1 µg/L (UJ)
Hexachloroethane	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Hexanone[2-]	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
HMX	SW-846:8321A_MOD	—	—	—
Indeno(1,2,3-cd)pyrene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Iodomethane	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Isobutyl alcohol	SW-846:8260B	50 µg/L (U)	50 µg/L (U)	50 µg/L (U)
Isophorone	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Isopropylbenzene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Isopropyltoluene[4-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Methacrylonitrile	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Methyl Methacrylate	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Methyl tert-Butyl Ether	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Methyl-2-pentanone[4-]	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Methylene Chloride	SW-846:8260B	10 µg/L (U)	10 µg/L (U)	10 µg/L (U)
Methylnaphthalene[1-]	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Methylnaphthalene[2-]	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Methylphenol[2-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Methylphenol[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Naphthalene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Naphthalene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Nitroaniline[2-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitroaniline[3-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitroaniline[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Nitrobenzene	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrobenzene	SW-846:8321A_MOD	—	—	—
Nitrophenol[2-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrophenol[4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrosodiethylamine[N-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrosodimethylamine[N-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitroso-di-n-butylamine[N-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitroso-di-n-propylamine[N-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrosopyrrolidine[N-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Nitrotoluene[2-]	SW-846:8321A_MOD	—	—	—
Nitrotoluene[3-]	SW-846:8321A_MOD	—	—	—
Nitrotoluene[4-]	SW-846:8321A_MOD	—	—	—
Oxybis(1-chloropropane)[2,2'-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Pentachlorobenzene	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Pentachlorophenol	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
PETN	SW-846:8321A_MOD	—	—	—
Phenanthrene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Phenol	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Propionitrile	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Propylbenzene[1-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Pyrene	SW-846:8270C	1 µg/L (U)	1.01 µg/L (U)	1.01 µg/L (U)
Pyridine	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
RDX	SW-846:8321A_MOD	—	—	—
Styrene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
TATB	SW-846:8321A_MOD	—	—	—
Tetrachlorobenzene[1,2,4,5]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Tetrachloroethane[1,1,1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Tetrachloroethane[1,1,2,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Tetrachloroethene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Tetrachlorophenol[2,3,4,6-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Tetryl	SW-846:8321A_MOD	—	—	—
Toluene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichloro-1,2,2-trifluoroethane[1,1,2-]	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Trichlorobenzene[1,2,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichlorobenzene[1,2,4-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichlorobenzene[1,2,4-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Trichloroethane[1,1,1-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichloroethane[1,1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichloroethene	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichlorofluoromethane	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trichlorophenol[2,4,5-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Trichlorophenol[2,4,6-]	SW-846:8270C	10 µg/L (U)	10.1 µg/L (U)	10.1 µg/L (U)
Trichloropropane[1,2,3-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trimethylbenzene[1,2,4-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trimethylbenzene[1,3,5-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Trinitrobenzene[1,3,5-]	SW-846:8321A_MOD	—	—	—
Trinitrotoluene[2,4,6-]	SW-846:8321A_MOD	—	—	—

Table A-3 (continued)

Parameter Name	Analytical Method	CAWA-13-36223 07/29/2013 16:00	CAWA-13-36224 07/29/2013 16:10	CAWA-13-36225 07/29/2013 16:20
Tris (o-cresyl) phosphate	SW-846:8321A_MOD	—	—	—
Vinyl acetate	SW-846:8260B	5 µg/L (U)	5 µg/L (U)	5 µg/L (U)
Vinyl Chloride	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Xylene[1,2-]	SW-846:8260B	1 µg/L (U)	1 µg/L (U)	1 µg/L (U)
Xylene[1,3-]+Xylene[1,4-]	SW-846:8260B	2 µg/L (U)	2 µg/L (U)	2 µg/L (U)

Notes: U = The analyte was analyzed for but was not detected. J = The analyte was positively identified, and the associated numerical value is estimated to be more uncertain than would normally be expected for that analysis.

*— = Not analyzed.