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1.0 INTRODUCTION

Pursuant to Section IV.A.2 of the Compliance Order on Consent (the Consent Order), Los Alamos National Laboratory (LANL or the Laboratory) is providing this annual update to the General Facility Information (GFI) in a format similar to the report submitted in 2010. This annual update includes an explanatory document and a set of plates.

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.

2.0 SCOPE

The requirements presented in Section IV.A.2 of the Consent Order are provided verbatim:

> The Respondents shall submit to the Department the following information. These submittals are one-time submittals, unless new information becomes available. In that case, the affected submittals shall be updated and resubmitted annually:
>
> 1. Facility-wide topographic map;
> 2. Facility-wide geologic maps, surface geology, and structure contour maps;
> 3. Maps and tables indicating the surveyed coordinates and locations of all existing springs, wells, and surface water gaging stations;
> 4. Fault and high-fracture density zone maps;
> 5. Maps presenting the discharge points of seeps and springs, with tables indicating estimated flow, associated stratigraphic units, and discharge point elevations;
> 6. Alluvial groundwater maps depicting known saturated aquifer thickness and extent and suspected extent of contamination;
> 7. Perched-intermediate groundwater maps presenting aquifer thickness and flow direction data, and known and suspected vertical and lateral extents of contamination;
> 8. Regional groundwater maps depicting measured groundwater elevations and known flow direction(s);
> 9. The Facility's existing Hydrogeologic Atlas, including water-level contour map of regional aquifer and known radii-of-effects from pumping of municipal supply wells;
> 10. Diagrams using representative data showing groundwater flow regimes as indicated by water chemistry (e.g., Stiff, Piper diagrams) for all groundwater zones; and
> 11. Periodic water level data presented graphically and in tabular format.
>
> The information shall be submitted to the Department in hardcopy and CD-ROM beginning 30 days after the effective date of this Consent Order, and no later than March 31 of each subsequent calendar year.

This annual report includes only those items that have been updated in calendar year 2010. Table 2.0-1 describes the items included in this annual update.

3.0 DESCRIPTION OF ITEMS INCLUDED IN THE ANNUAL UPDATE

The following sections describe the submittal for each of the requirements provided in this annual update.

3.1 Requirement 1: Facility-Wide Topographic Map

The Laboratory boundaries changed slightly in 2010 when a strip of land bordering NM 4 was transferred to Los Alamos County. Therefore, Plate 1 is a new topographic map showing the Laboratory within its boundaries.

3.2 Requirement 2: Facility-Wide Geologic Maps, Surface Geology, and Structure Contour Maps

The most recent Hydrogeologic Site Atlas was published in June 2009 (LANL 2009, 106589). The update provided in Appendix C contains new information for calendar year 2010 regarding drill hole contact data for wells newly completed in 2010 and new information regarding the regional water table. Drill hole contact data for wells constructed before 2010 was not revised in 2010 so no update of that information is provided.

3.3 Requirement 3: Maps and Tables Indicating the Surveyed Coordinates and Locations of All Existing Springs, Wells, and Surface-Water Gaging Stations

Plates 2, 3, and 4—for the locations of springs, surface-water gaging stations, and water-supply wells, respectively—and Appendix A are provided to meet this requirement.

Springs

Plate 2 shows the surveyed locations of springs on Laboratory property and sampled off-site springs.

The U.S. Environmental Protection Agency (EPA) defines seepage as “[p]ercolation of water through the soil from unlined canals, ditches, laterals, watercourses, or water storage facilities,” and it defines a spring as “[g]round water seeping out of the earth where the water table intersects the ground surface” (available at http://www.epa.gov/OCEPAterms/sterms.html). The collection of coordinate-location data for seeps and springs at the Laboratory has historically not distinguished between these features and has classified all water-discharge points from the earth or soil as springs. These spring locations were reviewed by subject matter experts (including the NMED-DOE Oversight Bureau) for appropriateness of the location survey method, validity of horizontal coordinate values, classification of seeps/springs, periodic migration of the point of discharge, and consistency in site naming and identification. The point locations were overlain with a digital elevation model to collect the discharge-point elevation and with publicly available geologic maps to obtain the associated stratigraphic unit. A unique feature identification value (the label, as reported in Table A-1 in Appendix A) is provided to link the feature data to Water Quality Database tables containing information, including spring water flow rate, effluent pH, specific conductance, dissolved oxygen, temperature, oxidation-reduction potential, and chemical constituents. Plate 2 and Table A-1 also satisfy Requirement 5 (maps presenting the discharge points of seeps and springs, with tables indicating estimated flow, associated stratigraphic units, and discharge point elevations).

The seeps and springs feature data presented in Appendix A (Table A-1) and shown on Plate 2 were taken from the NMED-DOE Oversight Bureau's data set, which is the Laboratory's official data set for springs.

Surface-Water Gaging Stations

Plate 3 shows the surveyed locations of surface-water gaging stations and base-flow stations at the Laboratory. Appendix A (Table A-2) presents the data used to develop this map.

The surface-water feature data presented in Appendix A were derived from the Laboratory's Water Quality Database.

Monitoring and Supply Wells

Plate 4 shows the surveyed locations of groundwater-monitoring wells and water-supply wells. Appendix A (Table A-3) presents the data used to develop this map. The data contain locations and unique descriptive feature attributes for monitoring and supply wells at the Laboratory. The data were compiled from various sources, including field survey, global positioning system units, a historical Laboratory document (Purtymun 1995, 045344), and various technical well reports.

3.4 Requirement 4: Fault and High-Fracture Density Zone Maps

No fault or high-fracture density zone maps were produced during calendar year 2010 that changed the overall understanding of faults or fracture systems at the Laboratory since the report by Gardner et al. (2008, 104727), which was included in the 2009 GFI report. The data are newly presented in a more recent report (Lewis et al. 2009, 111708).

3.5 Requirement 5: Maps Presenting the Discharge Points of Seeps and Springs, with Tables Indicating Estimated Flow, Associated Stratigraphic Units, and Discharge Point Elevations

Requirement 5 is addressed in section 3.3 of this report, shown on Plate 2, and detailed in Appendix A, Table A-1.

3.6 Requirement 6: Alluvial Groundwater Maps Depicting Known Saturated Aquifer Thickness and Extent and Suspected Extent of Contamination

Plate 5 is provided as an update to Map 10-0001-3 of the 2010 GFI report (LANL 2010, 109084). Alluvial wells WCO-1r and WCO-3r were constructed in 2010.

Filtered analytical data collected after January 1, 2010, and received by January 1, 2011, were evaluated to update the maps in this report. Plate 5 shows locations where the 2010 data indicated analytes with concentrations above Consent Order screening levels. If more than one result for an analyte exceeded a screening level in 2010, the highest concentration is shown. Appendix B contains the supporting data with values above the Consent Order screening levels. The data can also be found at http://www.lanl.gov/environment/all/racer.shtml.

Subject matter experts used this most recent water-quality data and their knowledge of the alluvial systems at the Laboratory to identify general areas where concentrations of analytes are known or suspected (i.e., expected) to exceed screening levels. The data presented for each location on the map should be used only to describe alluvial aquifer thickness at a single point; limited information is available

to link the lateral extent of alluvial groundwater from one location to another. Furthermore, the concentrations of analytes in alluvial groundwater are known only at locations where alluvial wells exist. Although the analytical chemical data used as a basis for this map are quantitative, extrapolation of contamination between and beyond measurement points is speculative, especially at the lateral extent of contamination in alluvial groundwater. Plate 5 represents the best current understanding of known areas of contamination but is not intended to be exact.

The Laboratory's understanding of the extent of contamination will continue to change over time as new data become available. Investigation reports for some of the canyons provide additional information about extent and thickness of alluvium. For example, Figure 7.0-1 of the Sandia Canyon investigation report (LANL 2009, 107453) presents the extent and thickness of alluvium in Sandia Canyon. Figure 7.2-1 of the Pajarito Canyon investigation report (LANL 2009, 106939) presents the extent and thickness of alluvium in Pajarito Canyon. The Pajarito Canyon investigation report states that the primary alluvial groundwater body in Pajarito Canyon extends east from below the confluence with Twomile Canyon to approximately where regional well R-23 is located, a distance of 4.4 mi. Spatially restricted bodies of alluvial groundwater are also present west of the Twomile Canyon confluence and extend upcanyon to springs in the south fork of Pajarito Canyon (Upper Starmer Spring) and Pajarito Canyon above the south fork confluence (Homestead Spring).

In the North Canyons area, the hydrologic conditions of Bayo Canyon are such that the canyon can be classified as a dry canyon (Birdsell et al. 2005, 092048). Among other characteristics, dry canyons head on the Pajarito Plateau and have relatively small catchment areas (less than 13 km^2) (LANL 2009, 107416). In contrast, the hydrologic conditions of Rendija and Guaje canyons are such that the canyons are classified as naturally wet canyons (Birdsell et al. 2005, 092048). Thick packets of canyon-floor alluvium are less common beneath Rendija Canyon than beneath other large canyons on the plateau, and they occur predominantly near the confluence with Guaje Canyon. In Guaje Canyon below the confluence with Rendija Canyon, alluvium is somewhat thicker (10 to 40 ft) (LANL 2009, 107416) (see Figures 7.2-2 through 7.2-4 of the North Canyons investigation report for conceptual hydrogeologic cross-sections showing extent and thickness of alluvium).

Figure 7.2-9 of the Mortandad Canyon investigation report (LANL 2006, 094161) is an isopach map showing thickness variations in the alluvium from the confluence of Mortandad and Ten Site canyons to the eastern Laboratory boundary. Alluvium is generally thin in the upper Mortandad Canyon hydrologic segment (3 ft at MCO-0.6 and 5.9 ft at MCA-1 [see Plate 4 of this report for locations]). Alluvium in the Effluent Canyon hydrologic segment is generally less than 3 to 6 ft thick whereas alluvium is 5.4 ft thick in the wetlands at MCA-4. Alluvium is generally thin in the western half of the middle Mortandad Canyon hydrologic segment, but becomes progressively thicker from approximately the center of the segment to the confluence with Ten Site Canyon to the east (see Figure 7.2-9 of the Mortandad Canyon investigation report [LANL 2006, 094161]). For example, alluvium is about 6 ft thick at MCA-5, 29 ft thick at MCB-5, and 60 ft thick at RES-2 near the confluence with Ten Site Canyon. Alluvium is relatively thin in the western half of the Ten Site Canyon hydrologic segment. In the eastern part of the Ten Site Canyon hydrologic segment, the alluvium becomes thicker. At well TSCO-6 the alluvium is 21.3 ft thick, and at R-33 the alluvium is 66 ft thick (see Figure 7.2-9 of the Mortandad Canyon investigation report [LANL 2006, 094161). Alluvium reaches its maximum thickness in the lower Mortandad Canyon hydrologic segment (see Figure 7.2-9 of the Mortandad Canyon investigation report [LANL 2006, 094161]). In the lower Mortandad Canyon segment the thickness of alluvium varies from 69.5 to 112.5 ft (see Figure 3.2-1 and Plate 1 of the Mortandad Canyon investigation report [LANL 2006, 094161]).

Figure 7.2-1 of the Cañada del Buey investigation report (LANL 2009, 107497) shows a conceptual hydrogeologic cross-section for Cañada del Buey and illustrates many of the features of the dry canyon conceptual model.

Alluvium in the canyon floor appears to be dry, based on data from alluvial wells CDBO-1, CDBO-2, CDBO-3, CDBO-4, CDBO-5, CDBO-8, and CDBO-9, which are completed at depths of 12 to 34 ft (LANL 1999, 064617).

3.7 Requirement 7: Perched-Intermediate Groundwater Maps Presenting Aquifer Thickness and Flow Direction Data, and Known and Suspected Vertical and Lateral Extents of Contamination

Plate 6 provides an update to Map 10-0001-4 of the 2010 GFI report (LANL 2010, 109084). New intermediate wells TW-2Ar, CdV-16-4ip, CdV-37-1i, and R-27i have been added to this report. Filtered analytical data obtained after January 1, 2010, and received by January 1, 2011, were used to update this map. Key validated analytes above Consent Order screening levels are shown on the map as point-source information. If more than one result for an analyte exceeded a screening level in 2010, the highest concentration is shown. Appendix B contains the supporting data that are also available at http://www.lanl.gov/environment/all/racer.shtml.

The levels of contamination in intermediate groundwater are known where intermediate wells exist; limited data are currently available that demonstrate the presence of connections between intermediate groundwater zones, thus precluding flow-direction data and aquifer thickness for most perched-intermediate groundwater zones. In general, the data presented for each location on the map should be used to describe groundwater conditions at a single point; information is not available to link the chemistry or the lateral extent of intermediate groundwater from one location to another.

An exception where information exists about perched-intermediate groundwater connectivity is in Sandia Canyon. A zone of perched-intermediate groundwater occurs within the Puye Formation on top of the Cerros del Rio basalt between wells SCI-1 and SCC-4 in Sandia Canyon (Plate 4), where the Puye Formation was approximately 25 ft to 1 ft thick, respectively, when the wells were drilled (LANL 2009, 107453). A second perched-intermediate zone is penetrated by well SCI-2 (Plate 4) within fractured lavas and interflow breccias in the lower part of the Cerros del Rio basalt. The thickness of the perched zone is uncertain but ranges between 45 and 100 ft (LANL 2009, 107453). Also, a perched groundwater zone, approximately 4 ft thick, was encountered in the Puye Formation below the Cerros del Rio basalt when well R-42 was drilled (LANL 2009, 105026).

Perched-intermediate groundwater is present within fractured lavas of the Cerros del Rio basalt and sands, silts, and gravels of the underlying Puye Formation at monitoring well R-12 near the eastern Laboratory boundary (Plate 4). The hydrogeologic setting and elevation of the perched groundwater at well R-12 are similar to perched groundwater found at well R-9 in Los Alamos Canyon; perched groundwater at R-9 and R-12 is thought not to be contiguous with perched groundwater at wells SCI-1 or SCI-2 (Koch and Schmeer 2009, 105181; LANL 2009, 107453).

During drilling of well R-10a, intermediate-perched groundwater was encountered between the 330 and 370 ft depth in silts and arkosic sands sandwiched between thick massive lavas of the Cerros del Rio basalt. The water level in this zone was 304 ft, indicating that the groundwater was confined (LANL 2009, 107453). (Well R-10a and its companion well R-10 were completed in the regional aquifer.)

Perched-intermediate groundwater was not encountered at regional wells R-11, R-35a, R-35b, R-36, R-28, R-44, or R-45, indicating that the perched zones at wells SCI-1 and SCI-2 are not connected with

R-12 and R-10/R-10a. The inferred connection between the perched-intermediate systems at wells R-10/R-10a and R-12 is based on their similar settings within the Cerros del Rio basalt, their similar groundwater elevations, and their relatively close proximity (LANL 2009, 107453).

3.8 Requirement 8: Regional Groundwater Maps Depicting Measured Groundwater Elevations and Known Flow Direction(s)

Although not a requirement, Plate 7 is provided to complement Plates 5 and 6 by showing analytes detected at concentrations above screening levels or standards in regional aquifer groundwater. Regional aquifer wells R-3, R-29, R-30, R-48, R-50, R-51, R-52, R-53, R-54, R-55, R-56, R-57, and R-60 were completed in 2010. If more than one result for an analyte exceeded a screening level in 2010, the highest concentration is shown. Appendix B contains the supporting data with values above the Consent Order screening levels. The data can also be found at http://www.lanl.gov/environment/all/racer.shtml.

Plate 8 is a regional groundwater map that shows measured groundwater elevations and potentiometric contours from which flow directions can be inferred.

3.9 Requirement 9: The Facility's Existing Hydrogeologic Atlas, Including Water-Level Contour Map of Regional Aquifer and Known Radii-of-Effects from Pumping of Municipal Supply Wells

The 2009 Hydrogeologic Site Atlas (LANL 2009, 106589) was provided as a standalone document in June 2009. Updates to the regional water-table elevation map are shown on Plate 8 and are described in Appendix C. Also included in Appendix C is a description of the known radii of effects from pumping of municipal supply wells. The direction of groundwater flow in the regional aquifer is also indicated on the map. Explanatory text regarding the generation of this map is included in Appendix C.

3.10 Requirement 10: Diagrams Using Representative Data Showing Groundwater Flow Regimes as Indicated by Water Chemistry for All Groundwater Zones

Filtered analytical data from sampling year 2010 were obtained from the Laboratory's most recent water-quality data set and were used to create Stiff diagrams (using AquaChem version 5.0) to geometrically represent point-source water quality. The Stiff diagrams shown on Plates 9 through 11 are placed next to each well location. The Stiff plots are displayed using one of three color schemes: orange, green, and blue diagrams help to distinguish among the alluvial, intermediate, and regional groundwater flow regimes, respectively. The Stiff diagrams presented on Plates 9 through 11 were selected to show the newer wells and to represent a variety of locations.

The Stiff diagrams presented for each location on the map describe general groundwater hydrochemistry at a single point in space and time. Although the data used to generate the Stiff diagrams are quantitative, the horizontal axis presents the data in equivalents. The hydrochemical data are provided in Appendix D (also available at http://www.lanl.gov/environment/all/racer.shtml).

3.11 Requirement 11: Periodic Water-Level Data Presented Graphically and in Tabular Format

Plate 12 shows groundwater levels in the alluvial aquifer, and Plate 13 shows water-level data obtained from the perched intermediate aquifer. Plate 14 shows water-level data obtained from wells completed in the regional aquifer. The selected locations plotted are mainly the same as those depicted on the Stiff diagrams (Plates 9 through 11). The time-variant plots in these maps were generated from data available as of December 2010 in the water-quality database using automated transducer records and manual or

sampling measurements showing piezometric levels in the alluvial, perched intermediate, and regional groundwater zones. Plots colored yellow (alluvial), green (intermediate), and blue (regional) correspond to the groundwater zones discussed in section 3.10. The same time-variant plots, including plots for locations with multiple groundwater zones, are provided in Appendix E-1, and all of the water-level plots are included as Attachment E1-1 on the CD accompanying this document. The data used to generate these graphs are provided in Appendix E-2.

The plots presented on the map represent point-source data specific to a particular location and time. Appendix C provides a discussion about the factors that must be considered when using these water-level data to delineate equipotentiometric surfaces within the aquifer. The primary purpose of these maps is to illustrate the variability of hydraulic head with depth over time throughout the Laboratory.

4.0 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.

Birdsell, K.H., B.D. Newman, D.E. Broxton, and B.A. Robinson, 2005. "Conceptual Models of Vadose Zone Flow and Transport beneath the Pajarito Plateau, Los Alamos, New Mexico," *Vadose Zone Journal,* Vol. 4, pp. 620–636. (Birdsell et al. 2005, 092048)

Gardner, J.N., E.S. Schultz-Fellenz, F.A. Caporuscio, C.J. Lewis, R.E. Kelley, and M.K. Greene, October 2008. "Geology and Structure of the Chemistry and Metallurgy Research Facility Replacement Site, Los Alamos National Laboratory, New Mexico," Los Alamos National Laboratory report LA-14378, Los Alamos, New Mexico. (Gardner et al. 2008, 104727)

Koch, R.J., and S. Schmeer, March 2009. "Groundwater Level Status Report for 2008, Los Alamos National Laboratory," Los Alamos National Laboratory report LA-14397-PR, Los Alamos, New Mexico. (Koch and Schmeer 2009, 105181)

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LANL (Los Alamos National Laboratory), March 2010. "2010 General Facility Information," Los Alamos National Laboratory document LA-UR-10-1363, Los Alamos, New Mexico. (LANL 2010, 109084)

Lewis, C.L., J.N. Gardner, E.S. Schultz-Fellenz, A. Lavine, and S.L. Reneau, June 2009. "Fault Interaction and Along-Strike Variation in Throw in the Pajarito Fault System, Rio Grande Rift, New Mexico," *Geosphere,* Vol. 5, No. 3, pp. 252–269. (Lewis et al. 2009, 111708)

Purtymun, W.D., January 1995. "Geologic and Hydrologic Records of Observation Wells, Test Holes, Test Wells, Supply Wells, Springs, and Surface Water Stations in the Los Alamos Area," Los Alamos National Laboratory report LA-12883-MS, Los Alamos, New Mexico. (Purtymun 1995, 045344)

Table 2.0-1
General Facility Information Requirements

Section IV.A.2 Requirement Number	Description	Provided in This Annual Update
1	Facility-wide topographic map	Plate 1 contains an updated topographic map.
2	Facility-wide geologic maps, surface geology, and structure contour maps	The Hydrogeologic Site Atlas has not been updated since 2009. Drill hole contact data for new wells are provided in Appendix C.
3	Maps and tables indicating the surveyed coordinates and locations of all existing springs, wells, and surface-water gaging stations	See Plates 2, 3, and 4 (springs, gaging stations, and wells, respectively) and Appendix A.
4	Fault and high-fracture density zone maps	No update is necessary because the information has not changed.
5	Maps presenting the discharge points of seeps and springs, with tables indicating estimated flow, associated stratigraphic units, and discharge-point elevations	See Requirement 3 and Appendix A.
6	Alluvial groundwater maps depicting known saturated aquifer thickness and extent and suspected extent of contamination	See Plate 5 and Appendix B.
7	Perched intermediate groundwater maps presenting aquifer thickness and flow direction data and known and suspected vertical and lateral extents of contamination	See Plate 6 and Appendix B.
8	Regional groundwater maps depicting measured groundwater elevations and known flow direction(s)	See Plate 7 and Appendix B. Flow directions are discussed in Appendix C.
9	The facility's existing Hydrogeologic Site Atlas, including water-level contour map of regional aquifer and known radii of effects from pumping of municipal supply wells	See Plate 8 and Appendix C.
10	Diagrams using representative data showing groundwater flow regimes as indicated by water chemistry (e.g., Stiff diagrams) for all groundwater zones	See Plates 9 through 11 and Appendix D.
11	Periodic water-level data presented graphically and in tabular format	See Plates 12 through 14 and Appendix E.

Appendix A

Data Sets for Requirements #3 and #5

Table A-1
Locations of Springs at Los Alamos National Laboratory

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Unnamed	NHD20157 082	1670030	1750974	±168.5 ft of true position	5681.1	na[a]	2.4 ft, average resolution	Qc, colluvium	na	na	na
Unnamed	NHD20157 024	1594671	1774740	±168.5 ft of true position	9481.3	na	2.4 ft, average resolution	na	na	na	na
Allvseep 100E16-2659	NMEDDOEOB 2004 076	1616812.08	1765035.06	Unknown	7294.5	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	na	na
American	NMEDDOEOB 2004 127	1601080.9	1760073.01	±16 ft	8269.3	na	2.4 ft, average resolution	na	Intermediate	6–12 (estimated)	4 (estimated)
Ancha	NMEDDOEOB 2004 007	1669351.76	1750112.4	±16 ft	5699.5	na	4.7 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	0–4 (estimated)	<2 (estimated)
Ancho[b]	NMEDDOEOB 2004 037	1647208.26	1737200.304	±16 ft	5656	na	2.4 ft, average resolution	Tcb2, basalt flows (Pliocene)	Regional	150–200 (estimated)	8 (estimated)
Anderson[b]	NMEDDOEOB 2004 080	1615965.26	1771449.02	±16 ft	7422.6	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	1.73 (measured)	<2 (estimated)
Apache	NMEDDOEOB 2004 140	1598799.05	1755428.59	±16 ft	8247	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	17 (estimated)	10 (estimated)
Armstead	NMEDDOEOB 2004 136	1599839.29	1762691.49	±16 ft	8210	na	2.4 ft, average resolution	na	Intermediate	4–8 (estimated)	<2 (estimated)
Barbara[b]	NMEDDOEOB 2004 147	1593101.22	1754219.24	±16 ft	7734.4	na	2.4 ft, average resolution	Tvt2, Tschicoma Formation (Miocene-Pliocene)	Intermediate	na	na

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Basalt[b]	NMEDDOEOB 2004 028	1656440.295	1770853.108	±16 ft	6011	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	na	30–100 (estimated	30 (estimated)
Bryan	NMEDDOEOB 2004 088	1614096.66	1767940.87	±16 ft	7411.7	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	8–12 (estimated)	8 (estimated)
Buck 1	NMEDDOEOB 2004 009	1669149.68	1750935.42	±16 ft	5709.6	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	na	na	na
Buck 2	NMEDDOEOB 2004 008	1669338.09	1750042.56	±16 ft	5710.8	na	4.7 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	na	na	na
Bulldog[b]	NMEDDOEOB 2004 083	1614808.72	1767195.69	±16 ft	7394.7	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	40–50 (estimated)	10 (estimated)
Burning Ground[b]	NMEDDOEOB 2004 085	1614268	1764633	Unknown	7417.3	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	na	na
Campsite Springs[b]	NMEDDOEOB 2004 111	1603673.95	1796416.85	±16 ft	8601.5	na	2.4 ft, average resolution	Tvt2, Tschicoma Formation (Miocene-Pliocene)	Intermediate	150–200 (estimated)	75 (estimated)
Cañada	NMEDDOEOB 2004 002	1671968.278	1748829.761	±16 ft	na	5790.8	10 m, resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	Regional	<2 (estimated)	<2 (estimated)
CC-0.04	NMEDDOEOB 2004 110	1603756.06	1796629.43	±16 ft	8603	na	2.4 ft, average resolution	Ttr, Rendija lavas (Tertiary)	na	8–12 (estimated)	8 (estimated)
CdV-0.8	NMEDDOEOB 2004 071	1621704	1760855	Unknown	6987.1	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	0–8 (estimated)	4 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
CdV-5.0[b]	NMEDDOEOB 2004 120	1601806.342	1767986.45	±16 ft	8406.6	na	2.4 ft, average resolution	Tvt2, Tschicoma Formation (Miocene-Pliocene) and/or Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	8–12 (estimated)	4 (estimated)
CdV-5.29	NMEDDOEOB 2004 138	1599482.17	1769730.42	±16 ft	8556.8	na	2.4 ft, average resolution	na	na	2–4 (estimated)	<2 (estimated)
CdV-5.76	NMEDDOEOB 2004 141	1597382.87	1771371.03	±16 ft	8806.4	na	2.4 ft, average resolution	na	na	2–4 (estimated)	<2 (estimated)
CdV-5.97	NMEDDOEOB 2004 142	1596469.15	1771945.34	±16 ft	8920.8	na	2.4 ft, average resolution	na	na	2–4 (estimated)	<2 (estimated)
CdV-6.05	NMEDDOEOB 2004 143	1596083.34	1772183.15	±16 ft	8966.5	na	2.4 ft, average resolution	na	na	10–16 (estimated)	4 (estimated)
Charlie's[b]	NMEDDOEOB 2004 094	1613558.58	1767804.51	±16 ft	7455.8	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	4–5 (estimated)	4 (estimated)
CV Spring 1	ER2002-0593 002	1604144	1766462	Unknown	8168.7	na	2.4 ft, average resolution	Tphd, hornblende dacite of Cerro Grande, Tschicoma Formation (Pliocene)	na	na	na
CV Spring 2	ER2002-0593 003	1604344	1766562	Unknown	8183.7	na	2.4 ft, average resolution	Tphd, hornblende dacite of Cerro Grande, Tschicoma Formation (Pliocene)	na	na	na

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Dave	NMEDDOEOB 2004 102	1606402.577	1752242.584	±16 ft	7074.3	na	2.4 ft, average resolution	Tphd, hornblende dacite of Cerro Grande, Tschicoma Formation (Pliocene)	na	6 (estimated)	6 (estimated)
Doe	NMEDDOEOB 2004 052	1642347.12	1733725.61	±16 ft	5547.9	na	2.4 ft, average resolution	Tcbm, basalt and interlayered phreatomagmatic deposits (Pliocene)	Regional	4–6 (estimated)	<2 (estimated)
DP	NMEDDOEOB 2004 059	1636477.58	1773651.18	Unknown	6896.4	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Alluvial	0–15 (estimated)	10 (estimated)
DP-0.0	NMEDDOEOB 2004 058	1637615.31	1772979.79	Unknown	6614.2	na	2.4 ft, average resolution	Qal, alluvium (mostly Holocene)	na	<2 (estimated)	<2 (estimated)
Fish Ladder[b]	NMEDDOEOB 2004 075	1616851	1763184	Unknown	7352.2	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	4–8 (estimated)	<2 (estimated)
FR-10.01	NMEDDOEOB 2004 145	1593468.27	1754075.73	±16 ft	7718	na	2.4 ft, average resolution	Qbo, lower Bandelier Tuff, Otowi Member (Pleistocene)	na	9 (estimated)	4 (estimated)
FR-6.6	NMEDDOEOB 2004 097	1611144.238	1749737.356	±16 ft	6839.6	na	2.4 ft, average resolution	Qal, alluvium (mostly Holocene)	na	4 (estimated)	4 (estimated)
FR-7.7	NMEDDOEOB 2004 100	1606915.939	1752186.83	±16 ft	7037.8	na	2.4 ft, average resolution	Tphd, hornblende dacite of Cerro Grande, Tschicoma Formation (Pliocene)	na	15 (estimated)	6 (estimated)
FR-8.1	NMEDDOEOB 2004 112	1603298.462	1752631.098	±16 ft	7213.2	na	2.4 ft, average resolution	Qbt(?), upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	<2 (estimated)	<2 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
FR-8.4	NMEDDOEOB 2004 125	1601158.559	1751863.082	±16 ft	7299.5	na	2.4 ft, average resolution	Qbo, lower Bandelier Tuff, Otowi Member (Pleistocene)	na	<2 (estimated)	<2 (estimated)
FR-9.6	NMEDDOEOB 2004 144	1594580.06	1752805.09	±16 ft	7630.2	na	2.4 ft, average resolution	Qls, landslide (Quaternary)	na	<2 (estimated)	<2 (estimated)
FR-9.9	NMEDDOEOB 2004 146	1593448.86	1753950.8	±16 ft	7704.4	na	2.4 ft, average resolution	Qbo, lower Bandelier Tuff, Otowi Member (Pleistocene)	na	3–5 (estimated)	3 (estimated)
Garvey	NMEDDOEOB 2004 091	1613744.15	1767903.64	±16 ft	7450.7	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	<2 (estimated)	<2 (estimated)
GU-0.01	NMEDDOEOB 2004 013	1666463.109	1777215.241	±16 ft	5654.8	na	2.4 ft, average resolution	Qtp, piedmont alluvium (Holocene)	Alluvial	0–15 (estimated)	6 (estimated)
GU-13.4	NMEDDOEOB 2004 104	1605129.59	1795587.76	±16 ft	8492.2	na	2.4 ft, average resolution	Ttr, Rendija lavas (Tertiary)	na	8–12 (estimated)	8 (estimated)
GU-13.6	NMEDDOEOB 2004 106	1604400.87	1796189.73	±16 ft	8564.7	na	2.4 ft, average resolution	Ttr, Rendija lavas (Tertiary)	na	<2 (estimated)	<2 (estimated)
GU-13.8	NMEDDOEOB 2004 117	1602681.327	1796734.161	±16 ft	8673.4	na	2.4 ft, average resolution	na	na	<2 (estimated)	<2 (estimated)
GU-13.85	NMEDDOEOB 2004 115	1602687.395	1796566.725	±16 ft	8667.8	na	2.4 ft, average resolution	na	na	10–14 (estimated)	10 (estimated)
GU-14.0	NMEDDOEOB 2004 118	1602290.137	1796617.797	±16 ft	8702.2	na	2.4 ft, average resolution	na	na	15–20 (estimated)	4 (estimated)
Guaje Spring 1	NMEDDOEOB 2004 131	1600653.518	1797624.575	±16 ft	8839	na	2.4 ft, average resolution	na	na	100 (estimated)	10 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Guaje Spring 2	NMEDDOEOB 2004 132	1600495.653	1795990.476	±16 ft	8819.6	na	2.4 ft, average resolution	na	na	150 (estimated)	40 (estimated)
GUNT-0.20	NMEDDOEOB 2004 122	1601420.227	1797452.945	±16 ft	8798.7	na	2.4 ft, average resolution	na	na	10–14 (estimated)	10 (estimated)
GUNT-0.24	NMEDDOEOB 2004 124	1601249.216	1797626.345	±16 ft	8817.2	na	2.4 ft, average resolution	na	na	<2 (estimated)	<2 (estimated)
GUSF-0.3	NMEDDOEOB 2004 130	1600706.001	1796071.929	±16 ft	8801.6	na	2.4 ft, average resolution	na	na	<2 (estimated)	<2 (estimated)
GUSF-0.4	NMEDDOEOB 2004 135	1600236.871	1795912.037	±16 ft	8836.1	na	2.4 ft, average resolution	na	na	3–5 (estimated)	<2 (estimated)
Hamilton Bend	NMEDDOEOB 2004 050	1642643	1776209	±16 ft	6493.4	na	2.4 ft, average resolution	Qtp5, piedmont alluvium (Holocene to Late Pleistocene[?])	na	0–8 (estimated)	<2 (estimated)
Hanlon	NMEDDOEOB 2004 081	1615437.49	1771631.48	±16 ft	7481.9	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–2 (estimated)	<2 (estimated)
Hollow	NMEDDOEOB 2004 070	1622326	1762412	Unknown	7156.8	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	<2 (estimated)	<2 (estimated)
Homestead[b]	NMEDDOEOB 2004 087	1614176.32	1768659.27	±16 ft	7440.1	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	10–30 (estimated)	6 (estimated)
Indian	NMEDDOEOB 2004 011	1667390.37	1777251.42	Unknown	5660.6	na	2.4 ft, average resolution	Qtp5, piedmont alluvium (Holocene to Late Pleistocene[?])	na	2–6 (estimated)	4 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Josie	NMEDDOEOB 2004 086	1614227.03	1767981.42	±16 ft	7411.6	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–4 (estimated)	4 (estimated)
Katz's	NMEDDOEOB 20050701 01	1648958.919	1736628.561	Unknown	na	5474	Unknown	Colluvium derived from Tp formation	na		
Kieling[b]	NMEDDOEOB 2004 084	1614502.26	1767223.06	±16 ft	7417.4	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	8–20 (estimated)	8 (estimated)
La Mesita[b]	NMEDDOEOB 2004 003	1671887.79	1772266.86	±16 ft	5549.6	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	30–50 (estimated)	8 (estimated)
LA-12.6	NMEDDOEOB 2004 103	1606240.73	1780669.97	±16 ft	7966.5	na	2.4 ft, average resolution	Qal, alluvium (Quaternary)	na	8–12 (estimated)	6 (estimated)
LA-13.8	NMEDDOEOB 2004 137	1599734.37	1781437.13	Unknown	8876.7	na	2.4 ft, average resolution	na	na	12–18 (estimated)	<2 (estimated)
LA-5.19	NMEDDOEOB 2004 045	1643975.751	1771875.755	±16 ft	6471.1	na	2.4 ft, average resolution	Qa 3(?), alluvial deposit (Holocene)	Intermediate	0–18 (estimated)	4 (estimated)
Los Alamos[b]	NMEDDOEOB 2004 024	1657368.09	1771080.46	±16 ft	5976.8	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	Intermediate	2–4 (estimated)	<2 (estimated)
Martin[b]	NMEDDOEOB 2004 082	1614837	1761965	Unknown	7442.7	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	0–20 (measured)	<2 (estimated)
Otowi	NMEDDOEOB 2004 001	1672317.503	1773647.958	±16 ft	5492.2	na	2.4 ft, average resolution	Qa3, alluvial deposit (Holocene)	Alluvial	4–10 (estimated)	4 (estimated)
Pajarito Ski Chair	NMEDDOEOB 2004 116	1602684.305	1779176.594	±16 ft	8982.9	na	2.4 ft, average resolution	na	na	na	na

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Pajarito Ski Shop	NMEDDOEOB 2004 139	1599397.343	1780625.405	±16 ft	9221.3	na	2.4 ft, average resolution	na	na	na	na
PBTR-0.71	NMEDDOEOB 2004 079	1616088.78	1781785.31	Unknown	7529.2	na	2.4 ft, average resolution	Qbt, upper Bandelier, Tshirege Member (Quaternary)	Intermediate	<2 (estimated)	<2 (estimated)
PC[b]	NMEDDOEOB 2004 128	1601022.14	1772943.43	±16 ft	8789.6	na	2.4 ft, average resolution	Tvt2, Tschicoma Formation (Miocene-Pliocene)	Intermediate	20–40 (estimated)	10 (estimated)
PC1	NMEDDOEOB 2004 121	1601495.89	1773149	±16 ft	8699.4	na	2.4 ft, average resolution	na	na	2–4 (estimated)	<2 (estimated)
PC2	NMEDDOEOB 2004 123	1601397.36	1773142.24	±16 ft	8716.2	na	2.4 ft, average resolution	na	na	2–4 (estimated)	<2 (estimated)
Perkins	NMEDDOEOB 2004 092	1613734.08	1767897.77	±16 ft	7446.4	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–4 (estimated)	<2 (estimated)
Peter[b]	NMEDDOEOB 2004 093	1613674	1764863	Unknown	7439.5	na	2.4 ft, average resolution	Qbt(?), upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	0–10 (estimated)	<2 (estimated)
Pine Rock[b]	NMEDDOEOB 20050701 02	1659730.303	1757513.502	Unknown	na	6075	Unknown	Ta, Pleistocene(?) and Pliocene lacustrine deposits	na	na	na
Reservoir	NMEDDOEOB 2004 101	1606859.97	1779056.92	±16 ft	7844	na	2.4 ft, average resolution	Qal, alluvium (Quaternary)	na	80–100 (estimated	10 (estimated)
Sacred[b,c]	NMEDDOEOB 2004 006	1669915.437	1780252.86	Unknown	5634.2	na	4.7 ft, average resolution	Tcar, Chamita Formation, upper Santa Fe Group (Middle to Late Miocene)	Intermediate[c]	30–50 (estimated)	6 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Sandia[b,c]	NMEDDOEOB 2004 015	1663153.545	1761836.2	±16 ft	5682.8	na	2.4 ft, average resolution	Tcar, Chamita Formation, upper Santa Fe Group (Middle to Late Miocene)	Intermediate[c]	60 (estimated)	<2 (estimated)
Skate	NMEDDOEOB 2004 074	1617127.82	1776078.03	Unknown	7312.9	na	2.4 ft, average resolution	Qbt, upper Bandelier, Tshirege Member (Quaternary)	na	3–5 (estimated)	4 (estimated)
SM-30	ER2002-0593 045	1616519.894	1773124.025	Unknown	7411.2	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–2 (estimated)	<2 (estimated)
SM-30A	ER2002-0593 046	1616498.114	1772856.123	Unknown	7389.1	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–2 (estimated)	<2 (estimated)
Spring 1[b,c]	NMEDDOEOB 2004 010	1667772.279	1767986.085	±16 ft	5622	na	2.4 ft, average resolution	Tcar, Chamita Formation, upper Santa Fe Group (Middle to Late Miocene)	Intermediate[c]	40 (estimated)	<2 (estimated)
Spring 10	NMEDDOEOB 2004 057	1638008.43	1728240.08	±16 ft	5368.8	na	4.7 ft, average resolution	na	Regional	<2 (estimated)	<2 (estimated)
Spring 2[b]	NMEDDOEOB 2004 012	1667216.958	1766472.822	±16 ft	5585	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	20 (estimated)	<2 (estimated)
Spring 2A	NMEDDOEOB 2004 016	1662644	1754862	±328 ft	5517.2	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	na	na
Spring 2B	WQH SPR ULI 14111	1661936	1754700	±0 ft	5432.9	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	<2 (estimated)	<2 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Spring 3[b]	NMEDDOEOB 2004 020	1661216.24	1753718.34	±16 ft	5534.6	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	60–80 (estimated)	6 (estimated)
Spring 3A[b]	NMEDDOEOB 2004 019	1661229.5	1753534.16	±16 ft	5511.6	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	131–133 (measured)	100 (estimated)
Spring 3AA[b]	NMEDDOEOB 2004 021	1660966.8	1751344.95	±16 ft	5459.7	na	2.4 ft, average resolution	Qls, Landslide deposit (Holocene to Late Pliocene)	Regional	<2 (estimated)	<2 (estimated)
Spring 3B	NMEDDOEOB 2004 018	1661354	1749814	±328 ft	5457.8	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	0–10 (estimated)	8 (estimated)
Spring 3C	NMEDDOEOB 2004 022	1658441.84	1748762.52	±16 ft	5421.8	na	2.4 ft, average resolution	Qls(?), landslide deposit (Holocene to Late Pliocene)	Regional	16–20 (estimated)	18 (estimated)
Spring 4[b]	NMEDDOEOB 2004 023	1657414.67	1748291.71	±16 ft	5426.6	na	2.4 ft, average resolution	Qls(?), landslide deposit (Holocene to Late Pliocene)	Regional	184 (measured)	180 (estimated)
Spring 4A[b]	NMEDDOEOB 2004 030	1656064.01	1748068.89	±16 ft	5617.1	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	924 (measured)	50 (estimated)
Spring 4AA[b]	NMEDDOEOB 2004 029	1656115.51	1748461.51	±16 ft	5634.2	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	15–20 (estimated)	10 (estimated)
Spring 4B[b]	NMEDDOEOB 2004 026	1656962.59	1748270.68	±16 ft	5506.2	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	10 (estimated)	<2 (estimated)
Spring 4C[b]	NMEDDOEOB 2004 025	1657251.15	1748374.13	±16 ft	5463.8	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	80 (estimated)	60 (estimated)
Spring 4D	NMEDDOEOB 2004 027	1656650.056	1746334.817	±16 ft	5416.4	na	2.4 ft, average resolution	Qls(?), landslide deposit (Holocene to Late Pliocene)	na	<2 (estimated)	<2 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Spring 5[b]	NMEDDOEOB 2004 033	1655026.92	1743190.17	±16 ft	5554.4	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	44 (measured)	20 (estimated)
Spring 5A	NMEDDOEOB 2004 032	1655489.13	1741920.45	±16 ft	5414.6	na	2.4 ft, average resolution	Qls(?), landslide deposit (Holocene to Late Pliocene)	Regional	10 (estimated)	<2 (estimated)
Spring 5AA	NMEDDOEOB 2004 035	1651144	1742562	±328 ft	5787.4	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	na	na	0 (pooled)(estimated)
Spring 5B[b]	NMEDDOEOB 2004 034	1651802.897	1738172.63	±16 ft	5393.2	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	25–35 (estimated)	15 (estimated)
Spring 5C	NMEDDOEOB 2004 031	1655911.944	1742125.492	±16 ft	5411.3	na	2.4 ft, average resolution	Qa2(?), alluvial and lacustrine deposit (Holocene and Late Pleistocene)	na	<2 (estimated)	<2 (estimated)
Spring 6[b]	WQH SPR ULI 2941	1648882	1735517	±300 ft	5380.9	na	2.4 ft, average resolution	Tcar, Chamita Formation, upper Santa Fe Group (Middle to Late Miocene)	Regional	40–50 (estimated)	20 (estimated)
Spring 6A[b]	NMEDDOEOB 2004 038	1647047.11	1734368.47	±16 ft	5370.7	na	2.4 ft, average resolution	Tb4, Cerros del Rio basalt (Pliocene)	Regional	50–70 (estimated)	18 (estimated)
Spring 6AA	NMEDDOEOB 2004 040	1646733.018	1734352.815	±16 ft	5368.9	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	na	120–180 (estimated)	120 (estimated)
Spring 6AAA	NMEDDOEOB 2004 041	1646632.745	1734336.373	±16 ft	5374.7	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	Regional	10–100 (estimated)	50 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Spring 7[b]	WQH SPR ULI 2961	1645317	1733782	±15 ft	5366.7	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	na	6–10 (estimated)	<2 (estimated)
Spring 8	NMEDDOEOB 2004 044	1644664	1733615.96	±16 ft	5366.4	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	Regional	6–10 (estimated)	<2 (estimated)
Spring 8A[b]	NMEDDOEOB 2004 046	1643802.216	1734004.86	Unknown	5472.4	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	20–30 (estimated)	4 (estimated)
Spring 8B	NMEDDOEOB 2004 048	1643464.945	1733751.985	Unknown	5458.7	na	2.4 ft, average resolution	Qls, landslide deposit (Holocene to Late Pliocene)	Regional	<2 (estimated)	<(estimated)
Spring 9[b]	WQH SPR ULI 3011	1643134.734	1733631.205	Unknown	5460.3	na	2.4 ft, average resolution	Tb4, Cerros del Rio basalt (Pliocene)	Regional	30–40 (estimated)	8 (estimated)
Spring 9A[b]	NMEDDOEOB 2004 051	1642542.55	1733606.12	±16 ft	5563.1	na	2.4 ft, average resolution	Tb4, Cerros del Rio basalt (Pliocene)	Regional	30–50 (estimated)	12 (estimated)
Spring 9B[b]	NMEDDOEOB 2004 054	1642129	1732281	±16 ft	5500.4	na	2.4 ft, average resolution	Tb4, Cerros del Rio basalt (Pliocene)	Regional	<2 (estimated)	<2 (estimated)
Spring 9BB	NMEDDOEOB 2004 056	1641424.91	1732332.73	Unknown	6139.4	na	2.4 ft, average resolution	Tcba, basaltic andesite and related flows (Pliocene)	na	na	na
Spring 9C	NMEDDOEOB 2004 053	1642164.239	1731520.068	±16 ft	5403.4	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	na	<2 (estimated)	<2 (estimated)
Spring 9D	NMEDDOEOB 2004 055	1642082	1731021	Unknown	5363.6	na	2.4 ft, average resolution	Qc, colluvial deposit (Holocene to Middle Pleistocene)	Regional	<2 (estimated)	<2 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Starmer[b]	NMEDDOEOB 2004 090	1613806.09	1767878.8	±16 ft	7446.5	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	20–50 (estimated)	10 (estimated)
Stone	NMEDDOEOB 2004 105	1604647.36	1760047.17	±16 ft	7793.3	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	4–12 (estimated)	4 (estimated)
SWSC Spring	ER2002-0593 036	1613900.587	1764757.192	Unknown	7433.6	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–65 (measured)	<2 (estimated)
TA-18	NMEDDOEOB 20050701 04	1634208.51	1760732.94	Unknown	na	6763.6	Unknown	Qal, alluvium (mostly Holocene)	Allluvial	na	na
Threemile	NMEDDOEOB 20050701 05	1631925.84	1761621.639	Unknown	na	6846	Unknown	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	na	na
TS-1.42	NMEDDOEOB 2004 066	1626815	1768810	Unknown	7173.9	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	<2 (estimated)	<2 (estimated)
TW-1.72	NMEDDOEOB 20050701 06	1618788.678	1771125.871	Unknown	na	7401	Unknown	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Alluvial	na	na
Upper Starmer	NMEDDOEOB 2004 095	1613443.63	1767779.07	±16 ft	7467.1	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	0–15 (estimated)	4 (estimated)
WA-6.25	NMEDDOEOB 2004 067	1624989.87	1757503.12	Unknown	6796.2	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	2–6 (estimated)	4 (estimated)

Table A-1 (continued)

Spring	Label	Easting (ft)	Northing (ft)	Positional Accuracy	Elevation (NGVD29, ft)	Elevation (NAVD88, ft)	Elevation Accuracy	Geology	Groundwater Zone	Total Flow (L/m)	Flow at Sample Point (L/m)
Warner Spring	NMEDDOEOB 2004 004	1670018	1775728	±3280 ft	5562.1	na	2.4 ft, average resolution	Qc, colluvium (Holocene to Middle Pleistocene)	Intermediate	na	na
Water Canyon Gallery[b]	NMEDDOEOB 2004 108	1604172.61	1762507.18	±16 ft	7948.2	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	Intermediate	na	na
WC Seeps below SR501	NMEDDOEOB 2004 098	1608230.198	1760269.42	±16 ft	7500	na	2.4 ft, average resolution	Qbt, upper Bandelier Tuff, Tshirege Member (Pleistocene)	na	na	na
Young	NMEDDOEOB 2004 099	1608157.39	1777653.32	±16 ft	7731.8	na	2.4 ft, average resolution	Ttp, Pajarito lavas, Tshicoma Formation (Tertiary)	Alluvial	8–12 (estimated)	4 (estimated)

[a] na = The information is not available.

[b] The spring was sampled in 2010, and the water-quality database provides the 2010 data.

[c] The spring was designated as originating from the intermediate groundwater zone in the Groundwater Background Investigation Report, Revision 4 (LANL 2010, 110535) because of its chemistry, even though the New Mexico Environment Department–Oversight Bureau database designates it as originating from the regional aquifer.

Table A-2
Base-Flow Locations at Los Alamos National Laboratory

Location	X, Easting (ft)	Y, Northing (ft)	Type
Acid above Pueblo	1624431.601	1778790.921	Base flow
Ancho at Rio Grande	1649388.585	1736081.938	Base flow
Between E252 and Water at Beta	1614898.555	1759033.165	Base flow
Canada del Buey above SR-4	1651676.7	1756415.2	Base flow
Canon de Valle below MDA P	1616017.769	1764811.076	Base flow
DP above Los Alamos Canyon	1637555.718	1773169.199	Base flow
DP above TA-21	1630683.66	1775660.775	Base flow
E-1FW	1624936.69	1770255.21	Base flow
Frijoles at Rio Grande	1638399.197	1730081.155	Base flow
Los Alamos above DP Canyon	1637449.1	1772912.232	Base flow
Los Alamos above low-head weir	1648209.644	1770891.744	Base flow
Los Alamos above Rio Grande	1670298.54	1776310.43	Base flow
Los Alamos below LA Weir	1649964.333	1770905.634	Base flow
Los Alamos Canyon near Otowi Bridge	1670293.12	1776213.77	Base flow
M-1W	1620400.01	1771894.4	Base flow
Middle Sandia Canyon at terminus of persistent base flow	1632841.85	1771148.11	Base flow
Mortandad above Ten Site	1633074.678	1769370.925	Base flow
Mortandad at Rio Grande	1663811.37	1756721.714	Base flow
Pajarito 0.5 mi above SR-501	1608244	1771991.008	Base flow
Pajarito above Twomile	1625793.513	1766185.42	Base flow
Pajarito at Rio Grande	1656707.981	1747432.055	Base flow
Pajarito below confluences of South and North Anchor East Basin	1616274	1767204	Base flow
Potrillo above SR-4	1645357.1	1751314.3	Base flow
Pueblo above Acid	1624411.282	1778877.63	Base flow
Pueblo above SR-502	1650203.53	1772265.447	Base flow
Pueblo above WWTP	1640357.933	1776341.758	Base flow
Pueblo below grade control structure	1650902.66	1772289.42	Base flow
Rio de los Frijoles at Bandelier	1634678.6	1738080.2	Base flow
Rio Grande at Frijoles	1639439.326	1729568.933	Base flow
Rio Grande at Otowi Bridge	1672583.27	1773877.49	Base flow
Sandia below Wetlands	1622687.147	1773067.617	Base flow
Sandia Canyon east of Power Plant	1619897.581	1773754.221	Base flow
Sandia right fork at Power Plant	1620124.03	1773840.385	Base flow
Sandia Tributary behind MRF	1621696	1773405	Base flow
Sandia Tributary below Sigma	1620385	1772964	Base flow
South Fork of Acid Canyon	1623467.575	1777746.088	Base flow

Table A-2 (continued)

Location	X, Easting (ft)	Y, Northing (ft)	Type
South Fork of Sandia Canyon at E122	1620114.1	1773924.5	Base flow
TS-1W	1626917.72	1768878.39	Base flow
Two Mile Canyon below TA-59	1620990	1770485	Base flow
Twomile above Pajarito	1626782.28	1766733.695	Base flow
Water above SR-501	1607279.987	1760451.049	Base flow
Water at Beta	1625302.12	1757575	Base flow

Table A-3
Locations of Monitoring Wells and Supply Wells at Los Alamos National Laboratory

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
03-B-13	Single	21.5	1616691.691	1773317.07	Intermediate	Monitoring Well
18-BG-1	Single	10	1634152.9	1762575.36	Alluvial	Monitoring Well
18-BG-4	Single	2.5	1633510	1760760	Alluvial	Monitoring Well
18-MW-11	Single	27	1636001.69	1761139.83	Alluvial	Monitoring Well
18-MW-17	Single	12	1637778.2	1759717.1	Alluvial	Monitoring Well
18-MW-18	Single	12.5	1639925	1758247.2	Alluvial	Monitoring Well
18-MW-8	Single	8	1634714.26	1760658.14	Alluvial	Monitoring Well
18-MW-9	Single	6	1635949.81	1760893.56	Alluvial	Monitoring Well
39-DM-6	Single	50	1637094	1747228	Alluvial	Monitoring Well
39-UM-3	Single	44	1637032	1747663	Alluvial	Monitoring Well
3MAO-2	Single	14.7	1633782.476	1760716.452	Alluvial	Monitoring Well
APCO-1	Single	4.7	1649209.62	1773020.12	Alluvial	Monitoring Well
Black Mesa Well	Single	na*	1680202	1784504	Regional	Supply Well
Buckman 1	Single	258	1667390	1759277	Regional	Supply Well
Buckman 2	Single	234	1668098	1757125	Regional	Supply Well
Buckman 3	Single	206	1670170	1756160	Regional	Supply Well
Buckman 4	Single	454	1670232	1753965	Regional	Supply Well
Buckman 5	Single	244	1670350	1751784	Regional	Supply Well
Buckman 6	Single	291	1672118	1753368	Regional	Supply Well
Buckman 7	Single	698	1669537	1758824	Regional	Supply Well
Buckman 8	Single	380	1665597	1758418	Regional	Supply Well
Buckman NW	Single	na	1722797.05	1714961.17	Regional	Supply Well
CDBO-1	Single	5.1	1637968.59	1760943.96	Alluvial	Monitoring Well
CDBO-2	Single	5.9	1638119.02	1761103.11	Alluvial	Monitoring Well
CDBO-3	Single	4.4	1640677.11	1759611.02	Alluvial	Monitoring Well
CDBO-4	Single	4.1	1645474.9	1758546.9	Alluvial	Monitoring Well
CDBO-5	Single	7	1633583.37	1765818.37	Alluvial	Monitoring Well
CDBO-6	Single	34	1636209.25	1764759.75	Alluvial	Monitoring Well
CDBO-7	Single	29	1637400	1763301	Alluvial	Monitoring Well
CDBO-8	Single	3	1639294	1762366	Alluvial	Monitoring Well
CDBO-9	Single	19	1642119.12	1759702.87	Alluvial	Monitoring Well
CDV-16-02655	Single	2.3	1611299.088	1764153.134	Alluvial	Monitoring Well
CDV-16-02656	Single	3	1613634.46	1764932.79	Alluvial	Monitoring Well
CDV-16-02657	Single	0.4	1613813.19	1764850.1	Alluvial	Monitoring Well
CDV-16-02658	Single	1.9	1615071.38	1764469.56	Alluvial	Monitoring Well
CDV-16-02659	Single	1.7	1616712.08	1765035.06	Alluvial	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
CdV-16-1(i)	Single	624	1615078.2	1764415.2	Intermediate	Monitoring Well
CdV-16-2(i)r	Single	850	1616673.24	1764219.4	Intermediate	Monitoring Well
CDV-16-4ip	P1A	820	1615587.07	1764195.74	Intermediate	Monitoring Well
CDV-16-4ip	P2A	1110	1615587.07	1764195.74	Intermediate	Monitoring Well
CDV-16-611921	Single	6.3	1615097.97	1764439.62	Alluvial	Monitoring Well
CDV-16-611923	Single	3.2	1615123.85	1764472.96	Alluvial	Monitoring Well
CDV-16-611934	Single	2	1615161.27	1764438.71	Alluvial	Monitoring Well
CDV-16-611936	Single	2	1615341.62	1764525.59	Alluvial	Monitoring Well
CDV-16-611937	Single	3	1615397.2	1764511.88	Alluvial	Monitoring Well
CDV-16-611938	Single	3	1615492.23	1764529.67	Alluvial	Monitoring Well
CDV-37-1(i)	Single	632	1624592.3	1757798.61	Intermediate	Monitoring Well
CDV-MW-1	Single	na	1611299.09	1764153.13	Alluvial	Monitoring Well
CDV-MW-2	Single	na	1613634.46	1764932.79	Alluvial	Monitoring Well
CDV-MW-3	Single	na	1613813.19	1764850.1	Alluvial	Monitoring Well
CDV-MW-4	Single	na	1615071.38	1764469.56	Alluvial	Monitoring Well
CDV-MW-5	Single	na	1616712.08	1765035.06	Alluvial	Monitoring Well
CdV-R-15-3	MP4A	1254.4	1623221	1762349.2	Regional	Monitoring Well
CdV-R-15-3	MP5A	1350.1	1623221	1762349.2	Regional	Monitoring Well
CdV-R-15-3	MP6A	1640.1	1623221	1762349.2	Regional	Monitoring Well
CdV-R-37-2	MP1A	934.6	1619218.96	1759327.28	Intermediate	Monitoring Well
CdV-R-37-2	MP2A	1200.3	1619218.96	1759327.28	Regional	Monitoring Well
CdV-R-37-2	MP3A	1359.3	1619218.96	1759327.28	Regional	Monitoring Well
CdV-R-37-2	MP4A	1550.6	1619218.96	1759327.28	Regional	Monitoring Well
Don Juan Playhouse Well	Single	na	1675966	1774595	Regional	Supply Well
Eastside Artesian Well	Single	na	1673860	1775705	Regional	Supply Well
FCO-1	Single	2.4	1642409	1751177	Alluvial	Monitoring Well
FLC-16-25278	Single	1.6	1618820.88	1762605.72	Alluvial	Monitoring Well
FLC-16-25279	Single	2.7	1617679.48	1762856.43	Alluvial	Monitoring Well
FLC-16-25280	Single	2.6	1616646.29	1763365.1	Alluvial	Monitoring Well
G-1A	Single	272	1655240.87	1784353.25	Regional	Supply Well
G-2A	Single	565	1651973.83	1786166.25	Regional	Supply Well
G-3A	Single	590	1649661.54	1786585.25	Regional	Supply Well
G-4A	Single	655	1647318.22	1787112.89	Regional	Supply Well
G-5A	Single	746.6	1644877.213	1789635.996	Regional	Supply Well
Halladay House Well	Single	na	1670392.12	1774846.5	Regional	Supply Well
J. Martinez House Well	Single	na	1675261	1783737	Regional	Supply Well
LA-2	Single	105	1666924.25	1777219.12	Regional	Supply Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
LA-5	Single	440	1659826.25	1772533.12	Regional	Supply Well
LADP-3	Single	316	1632989	1773469.1	Intermediate	Monitoring Well
LADP-5	Single	na	1634648.96	1774600.47	Intermediate	Monitoring Well
LAO-0.3	Single	5.9	1624799	1774511.6	Alluvial	Monitoring Well
LAO-0.6	Single	8	1626748.1	1774332.9	Alluvial	Monitoring Well
LAO-0.7	Single	15	1627212.25	1774260.37	Alluvial	Monitoring Well
LAO-1	Single	8	1629395	1773956.37	Alluvial	Monitoring Well
LAO-1.6g	Single	10.47	1636083.42	1772557.63	Alluvial	Monitoring Well
LAO-1.8	Single	8	1635446.25	1772661.37	Alluvial	Monitoring Well
LAO-2	Single	7	1637607.75	1773095.87	Alluvial	Monitoring Well
LAO-3a	Single	4.7	1637980.87	1773099.75	Alluvial	Monitoring Well
LAO-4	Single	14	1640752	1772729.5	Alluvial	Monitoring Well
LAO-4.5	Single	10	1643659.12	1772087.62	Alluvial	Monitoring Well
LAO-4.5c	Single	13.3	1643547.37	1772076.5	Alluvial	Monitoring Well
LAO-5	Single	5	1646202.25	1771424.12	Alluvial	Monitoring Well
LAO-6	Single	6	1646222.12	1771329.5	Alluvial	Monitoring Well
LAO-6a	Single	4.2	1646221.62	1771344	Alluvial	Monitoring Well
LAO-B	Single	11.84	1615148.8	1775170.4	Alluvial	Monitoring Well
LAO-C	Single	3	1622157.87	1775249.75	Alluvial	Monitoring Well
LAOI(a)-1.1	Single	295.2	1629427.38	1773924.51	Intermediate	Monitoring Well
LAOI-3.2	Single	153.3	1637642.1	1773066.93	Intermediate	Monitoring Well
LAOI-3.2a	Single	181.4	1637619.97	1773100.91	Intermediate	Monitoring Well
LAOI-7	Single	240	1644788.53	1771584.11	Intermediate	Monitoring Well
LAUZ-1	Single	5.35	1633435.13	1774809.81	Alluvial	Monitoring Well
LLAO-1b	Single	11.32	1659738.7	1772381.65	Alluvial	Monitoring Well
LLAO-4	Single	5.24	1671820.23	1774468.01	Alluvial	Monitoring Well
MCA-1	Single	2.4	1626586.5	1770410.77	Alluvial	Monitoring Well
MCA-2	Single	45	1634097.23	1768585.88	Alluvial	Monitoring Well
MCA-4	Single	3.3	1625945.5	1770129.55	Alluvial	Monitoring Well
MCA-5	Single	1.75	1627354.17	1770233.59	Alluvial	Monitoring Well
MCO-0.6	Single	1.05	1623987.8	1771179.5	Alluvial	Monitoring Well
MCO-12	Single	88	1640326.32	1768206.21	Alluvial	Monitoring Well
MCO-13	Single	87	1641174.29	1767501.88	Alluvial	Monitoring Well
MCO-2	Single	2	1625919.25	1770135.12	Alluvial	Monitoring Well
MCO-3	Single	2	1627362.5	1770236.75	Alluvial	Monitoring Well
MCO-4B	Single	8.9	1632036.37	1769697	Alluvial	Monitoring Well
MCO-5	Single	21	1632466.12	1769538	Alluvial	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
MCO-6	Single	27	1633635.37	1769012.75	Alluvial	Monitoring Well
MCO-6.8	Single	na	na	na	Alluvial	Monitoring Well
MCO-6B	Single	22	1633630.5	1768983.62	Alluvial	Monitoring Well
MCO-7	Single	39	1634517.87	1768509.87	Alluvial	Monitoring Well
MCO-7.5	Single	35	1635454.87	1768440.5	Alluvial	Monitoring Well
MCO-7A	Single	34.8	1634503.5	1768509.25	Alluvial	Monitoring Well
MCO-9	Single	45	1638056.24	1768370.63	Alluvial	Monitoring Well
MCOI-1	Single	815	1628044.5	1769957.4	Intermediate	Monitoring Well
MCOI-10	Single	na	1635356.6	1767640.9	Intermediate	Monitoring Well
MCOI-4	Single	499	1634128.53	1768542.01	Intermediate	Monitoring Well
MCOI-5	Single	689	1635247.94	1768300.46	Intermediate	Monitoring Well
MCOI-6	Single	686	1635345.65	1768428.06	Intermediate	Monitoring Well
MCOI-8	Single	665	1633329.74	1769214.4	Intermediate	Monitoring Well
MSC-16-06293	Single	2	1615809.67	1761331.78	Alluvial	Monitoring Well
MSC-16-06294	Single	2.5	1617848.171	1761298.779	Alluvial	Monitoring Well
MSC-16-06295	Single	1.5	1618630.671	1761004.778	Alluvial	Monitoring Well
MT-1	Single	39	1635262.86	1768493.96	Alluvial	Monitoring Well
MT-2	Single	44	1636019.79	1768544.59	Alluvial	Monitoring Well
MT-3	Single	44	1635980.95	1768657.83	Alluvial	Monitoring Well
MT-4	Single	54	1636558.75	1768634.37	Alluvial	Monitoring Well
New Community Well	Single	na	1680050.75	1782919.25	Regional	Supply Well
O-1	Single	1017	1649396.25	1772232.12	Regional	Supply Well
O-4	Single	1115	1637337.37	1772995.12	Regional	Supply Well
Otowi House Well	Single	na	1672418	1774580	Regional	Supply Well
Pajarito Well (Pump 1)	Single	na	1676281.75	1785718.12	Regional	Supply Well
PAO-1	Single	5.89	1624165.85	1778988.716	Alluvial	Monitoring Well
PAO-2	Single	6.06	1625040.9	1778710	Alluvial	Monitoring Well
PAO-3	Single	5.62	1637747.7	1776856.31	Alluvial	Monitoring Well
PAO-4	Single	1.97	1646090.28	1775098.35	Alluvial	Monitoring Well
PCAO-5	Single	14.7	1627159.639	1765953.139	Alluvial	Monitoring Well
PCAO-6	Single	8	1627610.363	1765888.716	Alluvial	Monitoring Well
PCAO-7a	Single	9.7	1636938.564	1760549.162	Alluvial	Monitoring Well
PCAO-7b1	Single	44	1636831.469	1760490.097	Alluvial	Monitoring Well
PCAO-7b2	Single	10	1636846.446	1760481.058	Alluvial	Monitoring Well
PCAO-7c	Single	9.7	1636706.724	1760335.386	Alluvial	Monitoring Well
PCAO-8	Single	9.7	1643865.518	1756372.085	Alluvial	Monitoring Well
PCAO-9	Single	6	1645540.814	1755980.245	Alluvial	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
PCI-2	Single	512	1627648.27	1765872.63	Intermediate	Monitoring Well
PCO-1	Single	4	1637919.25	1759990.62	Alluvial	Monitoring Well
PCO-2	Single	1.5	1641700.37	1757442.75	Alluvial	Monitoring Well
PCO-3	Single	5.7	1646088.62	1755489.37	Alluvial	Monitoring Well
PM-1	Single	945	1647734.25	1768112.12	Regional	Supply Well
PM-2	Single	1004	1636697.5	1760406.37	Regional	Supply Well
PM-3	Single	956	1642590	1769530	Regional	Supply Well
PM-4	Single	1260	1635623	1764740	Regional	Supply Well
PM-5	Single	1440	1632110	1767790	Regional	Supply Well
POI-4	Single	159	1649432.46	1772587.08	Intermediate	Monitoring Well
PRB-MW-01	Single	na	1632194.71	1769698.88	Alluvial	Monitoring Well
PRB-MW-02	Single	na	1632251.516	1769661.804	Alluvial	Monitoring Well
R-1	Single	1031.1	1632354.13	1769600.84	Regional	Monitoring Well
R-10	P1A	874	1653465.92	1764766.46	Regional	Monitoring Well
R-10	P2A	1042	1653465.92	1764766.46	Regional	Monitoring Well
R-10a	Single	690	1653411.63	1764782.29	Regional	Monitoring Well
R-11	Single	855	1639959.31	1769353.57	Regional	Monitoring Well
R-12	P1A	459	1647424.2	1767913.4	Intermediate	Monitoring Well
R-12	P2A	504.5	1647424.2	1767913.4	Intermediate	Monitoring Well
R-13	Single	958.3	1640991.66	1766994.17	Regional	Monitoring Well
R-14	Single	1200.6	1629855.01	1768953.12	Regional	Monitoring Well
R-15	Single	958.6	1635308.6	1768272.5	Regional	Monitoring Well
R-16	P2A	863.4	1659283.61	1756710.97	Regional	Monitoring Well
R-16	P4A	1237	1659283.61	1756710.97	Regional	Monitoring Well
R-16r	Single	600	1659289.39	1756730.68	Regional	Monitoring Well
R-17	P1A	1057	1627795.96	1765861.23	Regional	Monitoring Well
R-17	P2A	1124	1627795.96	1765861.23	Regional	Monitoring Well
R-18	Single	1358	1617254.37	1766545.47	Regional	Monitoring Well
R-19	MP1A	844.2	1629918.4	1760252.1	Intermediate	Monitoring Well
R-19	MP2A	909.3	1629918.4	1760252.1	Intermediate	Monitoring Well
R-19	MP3A	1190.7	1629918.4	1760252.1	Regional	Monitoring Well
R-19	MP4A	1412.9	1629918.4	1760252.1	Regional	Monitoring Well
R-19	MP5A	1586.1	1629918.4	1760252.1	Regional	Monitoring Well
R-19	MP6A	1730.1	1629918.4	1760252.1	Regional	Monitoring Well
R-19	MP7A	1834.7	1629918.4	1760252.1	Regional	Monitoring Well
R-2	Single	918	1629519.57	1778281.56	Regional	Monitoring Well
R-20	P1A	904.6	1637835.4	1759694.51	Regional	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
R-20	P2A	1147.1	1637835.4	1759694.51	Regional	Monitoring Well
R-21	Single	888.8	1641284.17	1759143.06	Regional	Monitoring Well
R-22	MP1A	907.1	1645324.4	1757111.1	Regional	Monitoring Well
R-22	MP2A	962.8	1645324.4	1757111.1	Regional	Monitoring Well
R-22	MP3A	1273.5	1645324.4	1757111.1	Regional	Monitoring Well
R-22	MP4A	1378	1645324.4	1757111.1	Regional	Monitoring Well
R-22	MP5A	1448.2	1645324.4	1757111.1	Regional	Monitoring Well
R-23	Single	816	1647913.6	1755165.37	Regional	Monitoring Well
R-23i	P1A	400.3	1647898.02	1755148.04	Intermediate	Monitoring Well
R-23i	P2A	470.2	1647898.02	1755148.04	Intermediate	Monitoring Well
R-23i	P3A	524	1647898.02	1755148.04	Intermediate	Monitoring Well
R-24	Single	825	1643554.46	1777591.35	Regional	Monitoring Well
R-25	MP1A	754.8	1615178.42	1764060.5	Intermediate	Monitoring Well
R-25	MP2A	891.8	1615178.42	1764060.5	Intermediate	Monitoring Well
R-25	MP3A	1063.4	1615178.42	1764060.5	Intermediate	Monitoring Well
R-25	MP4A	1192.4	1615178.42	1764060.5	Intermediate	Monitoring Well
R-25	MP5A	1303.4	1615178.42	1764060.5	Regional	Monitoring Well
R-25	MP6A	1406.3	1615178.42	1764060.5	Regional	Monitoring Well
R-25	MP7A	1606	1615178.42	1764060.5	Regional	Monitoring Well
R-25	MP8A	1796	1615178.42	1764060.5	Regional	Monitoring Well
R-25b	Single	750	1615125.598	1764074.699	Intermediate	Monitoring Well
R-25c	Single	1039.6	1615073.719	1764083.071	Regional	Monitoring Well
R-26	MP1A	659.3	1610267.23	1764721.12	Intermediate	Monitoring Well
R-26 PZ-2	R-26 PZ-2	150	1610201.96	1764660.61	Intermediate	Monitoring Well
R-27	Single	852	1629230.52	1756296.28	Regional	Monitoring Well
R-27i	Single	619	1629129.03	1756302.42	Intermediate	Monitoring Well
R-28	Single	934.3	1638988.73	1768358.57	Regional	Monitoring Well
R-29	Single	1170	1626779.91	1755383.32	Regional	Monitoring Well
R-3	Single	974.5	1649037.61	1772598.75	Regional	Monitoring Well
R-30	Single	1140	1626287.74	1753921.18	Regional	Monitoring Well
R-31	MP2A	532.2	1637353.8	1745648.4	Regional	Monitoring Well
R-31	MP3A	670.3	1637353.8	1745648.4	Regional	Monitoring Well
R-31	MP4A	830.9	1637353.8	1745648.4	Regional	Monitoring Well
R-31	MP5A	1011.3	1637353.8	1745648.4	Regional	Monitoring Well
R-32	Single	867.5	1640797.67	1757730.25	Regional	Monitoring Well
R-33	P1A	995.5	1633401.71	1768532.65	Regional	Monitoring Well
R-33	P2A	1112.4	1633401.71	1768532.65	Regional	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
R-34	Single	883.7	1643595.82	1764028.77	Regional	Monitoring Well
R-35a	Single	1013.1	1642326.53	1769310.85	Regional	Monitoring Well
R-35b	Single	825.4	1642234.745	1769322.98	Regional	Monitoring Well
R-36	Single	766.9	1643907.07	1767736.64	Regional	Monitoring Well
R-37	P1A	929.3	1637828.13	1762616.71	Intermediate	Monitoring Well
R-37	P2A	1026	1637828.13	1762616.71	Regional	Monitoring Well
R-38	Single	821.2	1640998.66	1760235.07	Regional	Monitoring Well
R-39	Single	859	1644995.98	1756488.99	Regional	Monitoring Well
R-3i	Single	215.2	1649196.45	1772599.19	Intermediate	Monitoring Well
R-4	Single	792.9	1639287.98	1776530.28	Regional	Monitoring Well
R-40	R-40i	649.7	1636628.23	1760801.14	Intermediate	Monitoring Well
R-40	P1A	751.6	1636628.23	1760801.14	Intermediate	Monitoring Well
R-40	P2A	849.3	1636628.23	1760801.14	Regional	Monitoring Well
R-41	P2A	965.3	1645217.12	1757745.55	Regional	Monitoring Well
R-42	Single	931.8	1637709.96	1768775.73	Regional	Monitoring Well
R-43	P1A	903.9	1637236.21	1769614.7	Regional	Monitoring Well
R-43	P2A	969.1	1637236.21	1769614.7	Regional	Monitoring Well
R-44	P1A	895	1640061.34	1767109.85	Regional	Monitoring Well
R-44	P2A	985.3	1640061.34	1767109.85	Regional	Monitoring Well
R-45	P1A	880	1640249.62	1768017.72	Regional	Monitoring Well
R-45	P2A	974.9	1640249.62	1768017.72	Regional	Monitoring Well
R-46	Single	1340	1627433.85	1768183.02	Regional	Monitoring Well
R-47i	Single	840	1619250.01	1763907.91	Intermediate	Monitoring Well
R-48	Single	1500	1615980.5	1762434.9	Regional	Monitoring Well
R-49	P1A	845	1643900.9	1756401.85	Regional	Monitoring Well
R-49	P2A	905.6	1643900.9	1756401.85	Regional	Monitoring Well
R-5	MP1A	329.5	1646707	1773063	Intermediate	Monitoring Well
R-5	MP4A	860.9	1646707	1773063	Regional	Monitoring Well
R-50	P1A	1077	1638666.13	1767087.32	Regional	Monitoring Well
R-50	P2A	1185	1638666.13	1767087.32	Regional	Monitoring Well
R-51	P1A	914.96	1634685.79	1761983.36	Regional	Monitoring Well
R-51	P2A	1030.96	1634685.79	1761983.36	Regional	Monitoring Well
R-52	P1A	1035.2	1636988.93	1762825.71	Regional	Monitoring Well
R-52	P2A	1107	1636988.93	1762825.71	Regional	Monitoring Well
R-53	P1A	849.2	1640109.61	1759860.57	Regional	Monitoring Well
R-53	P2A	959.7	1640109.61	1759860.57	Regional	Monitoring Well
R-54	P1A	830	1638803.48	1759602.87	Regional	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
R-54	P2A	915	1638803.48	1759602.87	Regional	Monitoring Well
R-55	P1A	860	1647083.52	1757272.15	Regional	Monitoring Well
R-55	P2A	994.4	1647083.52	1757272.15	Regional	Monitoring Well
R-56	P1A	945	1640450	1759075	Regional	Monitoring Well
R-56	P2A	1046.6	1640450	1759075	Regional	Monitoring Well
R-57	P1A	910	1645109	1757337.71	Regional	Monitoring Well
R-57	P2A	971.5	1645109	1757337.71	Regional	Monitoring Well
R-6	Single	1205	1636011.02	1773884.07	Regional	Monitoring Well
R-60	Single	1330	1626734.38	1768514.75	Regional	Monitoring Well
R-6i	Single	602	1635992.34	1773889.89	Intermediate	Monitoring Well
R-7	MP1A	378	1631666	1773653	Intermediate	Monitoring Well
R-7	MP3A	915.1	1631666	1773653	Regional	Monitoring Well
R-8	MP1A	711.1	1641139.01	1772554.62	Regional	Monitoring Well
R-8	MP2A	825	1641139.01	1772554.62	Regional	Monitoring Well
R-9	Single	684	1648236.5	1770847.1	Regional	Monitoring Well
R-9i	MP1A	198.8	1648202.7	1770837.8	Intermediate	Monitoring Well
R-9i	MP2A	278.8	1648202.7	1770837.8	Intermediate	Monitoring Well
Sanchez House Well	Single	na	1678977	1789115.37	Regional	Supply Well
SCA-1	Single	1.3	1622482.45	1773264.59	Alluvial	Monitoring Well
SCA-1-DP	Single	2.16	1622482.45	1773264.59	Alluvial	Monitoring Well
SCA-2	Single	10.3	1636114.63	1770283.36	Alluvial	Monitoring Well
SCA-3	Single	27.6	1637200.75	1769917.84	Alluvial	Monitoring Well
SCA-4	Single	37	1638260.55	1769567.21	Alluvial	Monitoring Well
SCA-5	Single	55	1639878.16	1769726.4	Alluvial	Monitoring Well
SCI-1	Single	358.4	1636822.89	1770298.16	Intermediate	Monitoring Well
SCI-2	Single	548	1637155.34	1769651.16	Intermediate	Monitoring Well
SCO-1	Single	9.3	1642297.62	1769502.25	Alluvial	Monitoring Well
SCO-2	Single	9.4	1647259	1767864	Alluvial	Monitoring Well
TA-53i	Single	600	1635850.97	1771320.08	Intermediate	Monitoring Well
Test Well 1 (Plugged and abandoned in 2010)	Single	632	1650041.5	1772076.87	Regional	Monitoring Well
Test Well 1A (Plugged and abandoned in 2010)	Single	215	1650056.87	1772065.87	Intermediate	Monitoring Well
Test Well 2 (Plugged and abandoned in 2010)	Single	768	1634231.12	1777267.87	Regional	Monitoring Well
Test Well 2A (Plugged and abandoned in 2010)	Single	123	1634184.87	1777288.12	Intermediate	Monitoring Well
Test Well 3	Single	805	1637727.5	1773138.12	Regional	Monitoring Well

Table A-3 (continued)

Location	Port Name	Port Depth (ft)	X, Easting (ft)	Y, Northing (ft)	Zone	Well Type
Test Well 4 (Plugged and abandoned in 2010)	Single	1195	1624028.12	1777680.12	Regional	Monitoring Well
Test Well DT-10	Single	1078.4	1628988.5	1754448.75	Regional	Monitoring Well
Test Well DT-5A	Single	1172	1625310	1754789.37	Regional	Monitoring Well
Test Well DT-9	Single	819	1628993.62	1751492.62	Regional	Monitoring Well
TMO-1	Single	3.5	1626830.562	1766161.133	Alluvial	Monitoring Well
TSCA-6	Single	16.2	1632954.6	1768471.44	Alluvial	Monitoring Well
TSWB-6	Single	25	1633383.09	1768490.75	Alluvial	Monitoring Well
TW-2Ar	Single	102	1634129.9	1777349.11	Intermediate	Monitoring Well
WCO-1 (Plugged and abandoned in 2010)	Single	24.4	1632758.75	1755069.12	Alluvial	Monitoring Well
WCO-1r	Single	6	1632736.78	1755106.26	Alluvial	Monitoring Well
WCO-2	Single	13.5	1636870.37	1753228.37	Alluvial	Monitoring Well
WCO-3 (Plugged and abandoned in 2010)	Single	7.4	1640212.5	1750620.25	Alluvial	Monitoring Well
WCO-3r	Single	4.7	1640114.9	1750476.7	Alluvial	Monitoring Well
Westside Artesian Well	Single	na	1680503	1792766	Regional	Supply Well

*na = Not available.

REFERENCE

The following list includes all documents cited in this appendix. 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 New Mexico Environment Department 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), August 2010. "Groundwater Background Investigation Report, Revision 4," Los Alamos National Laboratory document LA-UR-10-4827, Los Alamos, New Mexico. (LANL 2010, 110535)

Appendix B

Data Sets for Requirements #6, #7, and #8

Table B-1
Radionuclide Aquifer Contaminants above Standards or Screening Levels

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Minimum Detectable Activity	Unit	DOE[b] Drinking Water DCG[c] Screening Level	EPA[d] Maximum Contaminant Level	EPA Secondary Drinking Water-Level Screening Level	NMWQCC[e] Groundwater Standard
Guaje Canyon (includes Barrancas and Rendija Canyons)	Water Supply	G-1A	SINGLE	272	05/18/10	GROSSA	UF[f]	CS[g]	—[h]	41.4	3	pCi/L	—	15	—	—
Guaje Canyon (includes Barrancas and Rendija Canyons)	Water Supply	G-1A	SINGLE	272	05/18/10	GROSSA	UF	RE[i]	—	50.2	7.5	pCi/L	—	15	—	—
Upper Los Alamos Canyon (includes DP Canyon)	Water Supply	O-4	SINGLE	1115	05/19/10	Ra-228	UF	CS	—	11.8	0.77	pCi/L	4	5	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-3	SINGLE	2	02/02/10	Sr-90	UF	CS	—	29.3	0.7	pCi/L	—	8	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	GROSSB	UF	CS	FD[j]	136	2.9	pCi/L	—	—	50	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	GROSSB	UF	CS	—	127	3	pCi/L	—	—	50	—

Table B-1 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Minimum Detectable Activity	Unit	DOE[b] Drinking Water DCG[c] Screening Level	EPA[d] Maximum Contaminant Level	EPA Secondary Drinking Water-Level Screening Level	NMWQCC[e] Groundwater Standard
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	Sr-90	UF	CS	FD	61.6	0.45	pCi/L	40	8	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	Sr-90	UF	CS	—	48.2	0.48	pCi/L	40	8	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	07/06/10	GROSSB	UF	CS	—	94.2	2.8	pCi/L	—	—	50	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	07/06/10	Sr-90	UF	CS	—	41.9	0.44	pCi/L	40	8	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	07/07/10	GROSSB	UF	CS	—	114	2.5	pCi/L	—	—	50	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	07/07/10	Sr-90	UF	CS	—	37.9	0.42	pCi/L	—	8	—	—

Table B-1 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Minimum Detectable Activity	Unit	DOE[b] Drinking Water DCG[c] Screening Level	EPA[d] Maximum Contaminant Level	EPA Secondary Drinking Water-Level Screening Level	NMWQCC[e] Groundwater Standard
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Water Supply	PM-5	SINGLE	1440	05/19/10	Ra-228	UF	CS	—	6.58	0.84	pCi/L	4	5	—	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02655	SINGLE	2.3	04/13/10	GROSSA	UF	CS	—	15.8	2.9	pCi/L	—	15	—	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	754.8	09/21/10	U	F[k]	CS	—	43.7	—	µg/L	30	30	—	30

[a] QC = Quality control.

[b] DOE = Department of Energy (U.S.).

[c] DCG = Derived Concentration Guide (DOE).

[d] EPA = Environmental Protection Agency (U.S.).

[e] NMWQCC = New Mexico Water Quality Control Commission.

[f] UF = Unfiltered.

[g] CS = Client sample.

[h] — = Not applicable.

[i] RE = Reanalysis.

[j] FD = Field duplicate.

[k] F = Filtered.

Table B-2
Chemical Quality Species Aquifer Contaminants above Standards or Screening Levels

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	SINGLE	602	01/08/10	ClO4	F[e]	—[f]	CS[g]	6.72	0.5	µg/L	—	—	4
Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	R-6i	SINGLE	602	08/19/10	ClO4	F	—	CS	6.17	0.5	µg/L	—	—	4
Upper Los Alamos Canyon (includes DP Canyon)	Intermediate	LAOI-3.2	SINGLE	153.3	08/23/10	ClO4	F	—	CS	4.61	0.5	µg/L	—	—	4
Sandia Canyon	Alluvial	SCA-1-DP	MULTI	2.16	01/25/10	Cl(-1)	F	—	CS	263	3.3	mg/L	—	250	250
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	07/02/10	Cl(-1)	F	—	CS	616	6.6	mg/L	—	250	250
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	07/02/10	TDS[h]	F	—	CS	1560	4.8	mg/L	—	1000	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Cl(-1)	F	—	CS	3300	66	mg/L	—	250	250
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Cl(-1)	F	FD[i]	CS	2750	66	mg/L	—	250	250
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	7/1/2010	Cl(-1)	F	—	CS	263	3.3	mg/L	—	250	250
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	F(-1)	F	—	CS	8.75	0.33	mg/L	4	1.6	1.6

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	F(-1)	F	FD	CS	8.48	0.33	mg/L	4	1.6	1.6
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	1/29/2010	TDS	F	—	CS	6180	2.4	mg/L	—	1000	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	TDS	F	FD	CS	6060	2.4	mg/L	—	1000	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	ClO4	F	FD	CS	9.1	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	07/06/10	ClO4	F	—	CS	8.72	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-4B	SINGLE	8.9	05/14/10	ClO4	F	—	CS	7.07	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	07/06/10	ClO4	F	—	CS	8.27	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-5	SINGLE	21	01/27/10	ClO4	F	—	CS	5.57	0.5	µg/L	—	—	4

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	07/07/10	ClO4	F	—	CS	7.31	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	01/27/10	ClO4	F	—	CS	6.04	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-6	SINGLE	27	05/11/10	ClO4	F	—	CS	4.61	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7	SINGLE	39	07/07/10	ClO4	F	—	CS	8.21	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7	SINGLE	39	05/11/10	ClO4	F	—	CS	7.54	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7	SINGLE	39	01/28/10	ClO4	F	—	CS	7.26	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	01/28/10	ClO4	F	—	CS	11.7	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	07/08/10	ClO4	F	FD	CS	11	1	µg/L	—	—	4

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	01/28/10	ClO4	F	FD	CS	10.9	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-7.5	SINGLE	35	07/08/10	ClO4	F	—	CS	10.9	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-3	SINGLE	44	07/09/10	ClO4	F	—	CS	23.3	2.5	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MT-3	SINGLE	44	02/03/10	ClO4	F	—	CS	14.1	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	07/07/10	ClO4	F	—	CS	58.5	5	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	05/04/10	ClO4	F	—	CS	51.7	5	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-4	SINGLE	499	01/26/10	ClO4	F	—	CS	50.2	5	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-5	SINGLE	689	07/07/10	ClO4	F	—	CS	97.6	10	µg/L	15	—	4

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-5	SINGLE	689	05/03/10	ClO4	F	—	CS	91.9	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-5	SINGLE	689	01/25/10	ClO4	F	—	CS	84.5	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	ClO4	F	—	CS	83.6	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	ClO4	F	FD	CS	81.9	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	07/06/10	ClO4	F	—	CS	81.4	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	05/11/10	ClO4	F	FD	CS	79.2	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	05/11/10	ClO4	F	—	CS	78.6	10	µg/L	15	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	NO3+NO2-N	F	—	CS	11.6	0.25	mg/L	10	10	10

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[d] Screening Level
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	NO3+NO2-N	F	FD	CS	11.5	0.25	mg/L	10	10	10
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	05/11/10	NO3+NO2-N	F	—	CS	10.9	0.25	mg/L	10	10	10
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	05/11/10	NO3+NO2-N	F	FD	CS	10.7	0.25	mg/L	10	10	10
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	958.6	07/14/10	ClO4	F	—	CS	7.29	1	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	958.6	05/17/10	ClO4	F	—	CS	7.02	0.5	µg/L	—	—	4
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-15	SINGLE	958.6	02/11/10	ClO4	F	—	CS	6.97	0.5	µg/L	—	—	4
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	PCAO-9	SINGLE	6	06/03/10	Cl(-1)	F	—	CS	590	3.3	mg/L	—	250	250
Pajarito Canyon (includes Twomile and Threemile Canyons)	Alluvial	PCAO-9	SINGLE	6	06/03/10	TDS	F	—	CS	1740	2.4	mg/L	—	1000	1000

Table B-2 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Field QC[a] Type Code	Lab Sample Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard	NMED GW CONS[p] Screening Level
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	PCI-2	SINGLE	512	08/02/10	NO3+NO2-N	F	—	CS	810	25	mg/L	10	10	10
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	PCI-2	SINGLE	512	08/02/10	NO3+NO2-N	F	FD	CS	735	5	mg/L	10	10	10
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-20	MULTI	904.6	08/03/10	NO3+NO2-N	F	—	CS	748	13	mg/L	10	10	10

[a] QC = Quality control.

[b] EPA = Environmental Protection Agency (U.S.).

[c] NMWQCC = New Mexico Water Quality Control Commission.

[d] NMED GW CONS = Compliance Order on Consent.

[e] F = Filtered.

[f] — = Not applicable.

[g] CS = Client sample.

[h] TDS = Total dissolved solids.

[i] FD = Field duplicate.

Table B-3

Metal Species Aquifer Contaminants above Standards or Screening Levels

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC [a] Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard
Sandia Canyon	Alluvial	SCA-1-DP	MULTI	2.16	01/25/10	Mn	F[d]	CS[e]	—[f]	870	2	µg/L	—	200
Sandia Canyon	Alluvial	SCA-1-DP	MULTI	2.16	05/13/10	Mn	F	CS	—	410	2	µg/L	—	200
Sandia Canyon	Intermediate	SCI-2	SINGLE	548	02/08/10	Cr	F	CS	—	615	25	µg/L	100	50
Sandia Canyon	Intermediate	SCI-2	SINGLE	548	02/08/10	Cr	F	CS	—	553	2.5	µg/L	100	50
Sandia Canyon	Intermediate	SCI-2	SINGLE	548	07/15/10	Cr	F	CS	—	545	2.5	µg/L	100	50
Sandia Canyon	Intermediate	SCI-2	SINGLE	548	05/06/10	Cr	F	CS	—	526	2.5	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	07/02/10	Fe	F	CS	—	49500	30	µg/L	—	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-0.6	SINGLE	1.05	07/02/10	Mn	F	CS	—	7800	2	µg/L	—	200
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Ba	F	CS	FD[g]	2360	1	µg/L	2000	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Ba	F	CS	—	2350	1	µg/L	2000	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	07/01/10	Fe	F	CS	—	1030	30	µg/L	—	1000
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	07/01/10	Mn	F	CS	—	694	2	µg/L	—	200
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Mn	F	CS	FD	463	2	µg/L	—	200
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Alluvial	MCO-2	SINGLE	2	01/29/10	Mn	F	CS	—	461	2	µg/L	—	200

Table B-3 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	07/06/10	Cr	F	CS	—	55.6	2.5	µg/L	—	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	Cr	F	CS	FD	51.1	2.5	µg/L	—	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	01/26/10	Cr	F	CS	—	50.2	2.5	µg/L	—	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-42	SINGLE	931.8	02/10/10	Cr	F	CS	—	1240	50	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-42	SINGLE	931.8	07/13/10	Cr	F	CS	—	1240	50	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-42	SINGLE	931.8	02/10/10	Cr	F	CS	—	894	25	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-42	SINGLE	931.8	05/13/10	Cr	F	CS	—	850	2.5	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-28	SINGLE	934.3	07/14/10	Cr	F	CS	—	472	50	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-28	SINGLE	934.3	05/13/10	Cr	F	CS	—	342	2.5	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-28	SINGLE	934.3	02/03/10	Cr	F	CS	—	321	2.5	µg/L	100	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-50	MULTI	1077	03/06/10	Cr	F	CS	—	69.7	2.5	µg/L	—	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-50	MULTI	1077	07/02/10	Cr	F	CS	—	55.2	2.5	µg/L	—	50

Table B-3 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-50	MULTI	1077	05/27/10	Cr	F	CS	—	53.8	2.5	µg/L	—	50
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-50	MULTI	1077	05/27/10	Cr	F	CS	—	52.9	2.5	µg/L	—	50
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	06/08/10	Fe	F	CS	—	1430	30	µg/L	—	1000
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	649.7	03/03/10	Fe	F	CS	—	1420	30	µg/L	—	1000
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	649.7	07/28/10	Fe	F	CS	—	1210	30	µg/L	—	1000
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	649.7	03/03/10	Mn	F	CS	—	398	2	µg/L	—	200
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	649.7	07/28/10	Mn	F	CS	—	366	2	µg/L	—	200
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	751.6	06/04/10	Sb	F	CS	—	8.64	0.5	µg/L	6	—
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	R-40	MULTI	751.6	06/04/10	Sb	F	RE[h]	—	7.5	0.5	µg/L	6	—
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-54	MULTI	830	07/27/10	Fe	F	CS	—	1940	30	µg/L	—	1000
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-54	MULTI	830	07/27/10	Mn	F	CS	—	216	2	µg/L	—	200
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02655	SINGLE	2.3	04/13/10	Al	F	CS	—	23700	68	µg/L	—	5000

Table B-3 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02655	SINGLE	2.3	04/13/10	Be	UF[i]	CS	—	4.01	1	µg/L	4	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02655	SINGLE	2.3	04/13/10	Fe	F	CS	—	15900	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02655	SINGLE	2.3	04/13/10	Pb	UF	CS	—	19	0.5	µg/L	15	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	SINGLE	3	04/16/10	Ba	F	CS	FD	4890	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02656	SINGLE	3	04/16/10	Ba	F	CS	—	4770	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02657	SINGLE	0.4	04/16/10	Ba	F	CS	—	4370	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02658	SINGLE	1.9	04/12/10	Ba	F	CS	—	6630	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	SINGLE	1.7	09/09/10	Ba	F	CS	—	6740	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	SINGLE	1.7	04/12/10	Ba	F	CS	—	5400	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25280	SINGLE	2.6	04/05/10	Al	F	CS	—	16700	68	µg/L	—	5000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25280	SINGLE	2.6	04/05/10	Fe	F	CS	—	10600	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25279	SINGLE	2.7	04/05/10	Al	F	CS	—	14600	68	µg/L	—	5000

Table B-3 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC[a] Type Code	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25279	SINGLE	2.7	04/05/10	Fe	F	CS	—	9730	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25278	SINGLE	1.6	04/07/10	Al	F	CS	—	15600	68	µg/L	—	5000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25278	SINGLE	1.6	04/07/10	Fe	F	CS	—	10500	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06293	SINGLE	2	04/07/10	B	F	CS	—	929	15	µg/L	—	750
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06295	SINGLE	1.5	09/14/10	Fe	F	CS	—	6390	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	MSC-16-06295	SINGLE	1.5	09/14/10	Mn	F	CS	—	1270	2	µg/L	—	200
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	CDV-5.0 SPRING	SPRING	—	04/12/10	Fe	F	CS	—	1380	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Peter Spring	SPRING	—	04/19/10	Ba	F	CS	—	2010	1	µg/L	2000	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Fish Ladder Spring	SPRING	—	04/14/10	Fe	F	CS	—	2340	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	SPRING	—	09/14/10	B	F	CS	—	1440	15	µg/L	—	750
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	SPRING	—	04/13/10	B	F	CS	—	1240	15	µg/L	—	750
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Water Canyon Gallery	SPRING	—	04/12/10	Fe	F	CS	—	1500	30	µg/L	—	1000

Table B-3 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Analyte	Field Preparation Code	Lab Sample Type Code	Field QC [a] Type Code	Result	Method Detection Limit	Unit	EPA [b] Maximum Contaminant Level	NMWQCC [c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	754.8	09/21/10	Ni	F	CS	—	454	0.5	µg/L	—	200
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	CdV-R-15-3	MULTI	1350.1	08/04/10	Mn	F	CS	—	313	2	µg/L	—	200
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	CdV-R-37-2	MULTI	1200.3	08/11/10	Fe	F	CS	—	13100	30	µg/L	—	1000
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	CdV-R-37-2	MULTI	1200.3	08/11/10	Mn	F	CS	—	967	2	µg/L	—	200
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-29	SINGLE	1170	09/23/10	Mn	F	CS	—	214	2	µg/L	—	200
Ancho Canyon	Regional	Test Well DT-9	SINGLE	819	04/23/10	Pb	UF	CS	—	20.1	0.5	µg/L	15	—
White Rock Canyon and Rio Grande	Regional Spring	Spring 4C	SPRING	—	03/24/10	Fe	F	CS	—	1280	30	µg/L	—	1000

[a] QC = Quality control.

[b] EPA = Environmental Protection Agency (U.S.).

[c] NMWQCC = New Mexico Water Quality Control Commission.

[d] F = Filtered.

[e] CS = Client sample.

[f] — = Not applicable.

[g] FD = Field duplicate.

[h] RE = Reanalysis.

[i] UF = Unfiltered.

Table B-4
Organic Species Aquifer Contaminants above Standards or Screening Levels

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Sandia Canyon	Regional	R-36	SINGLE	766.9	02/04/10	—[d]	UF[e]	CS[f]	SVOA[g]	Bis(2-ethylhexyl)phthalate	6.38	2.1	µg/L	6	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-5	SINGLE	689	07/07/10	—	UF	CS	VOA[h]	Methylene Chloride	6.97	3	µg/L	5	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Intermediate	MCOI-6	SINGLE	686	05/11/10	FD[i]	UF	CS	SVOA	Benzo(a)pyrene	0.245	0.21	µg/L	0.2	0.029	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-46	SINGLE	1340	02/05/10	—	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	35.4	2.1	µg/L	6	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-46	SINGLE	1340	07/01/10	—	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	13.6	2.1	µg/L	6	—	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-55	SINGLE	994.4	09/14/10	—	UF	CS	SVOA	Benzo(b)fluoranthene	0.42	0.23	µg/L	—	0.29	—
Mortandad Canyon (includes Ten Site Canyon and Cañada del Buey)	Regional	R-55	SINGLE	994.4	09/14/10	—	UF	CS	SVOA	Indeno(1,2,3-cd)pyrene	0.466	0.23	µg/L	—	0.29	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	06/08/10	—	UF	CS	SVOA	Dioxane[1,4-]	919	42	µg/L	—	61	—
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	06/08/10	—	UF	DL[j]	VOA	Dichloroethene[1,1-]	5.9	0.6	µg/L	—	—	5
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	06/08/10	—	UF	CS	VOA	Dichloroethene[1,1-]	5.02	0.3	µg/L	—	—	5
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	06/08/10	—	UF	DL	VOA	Trichloroethane[1,1,1-]	176	0.65	µg/L	—	—	60
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	03-B-13	SINGLE	21.5	08/12/10	—	UF	CS	VOA	Trichloroethane[1,1,1-]	62.9	0.33	µg/L	—	—	60
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	PCI-2	SINGLE	512	08/02/10	FD	UF	CS	SVOA	Benzo(a)pyrene	0.293	0.2	µg/L	0.2	0.029	—
Pajarito Canyon (includes Twomile and Threemile Canyons)	Intermediate	PCI-2	SINGLE	512	08/02/10	FD	UF	CS	SVOA	Pentachlorophenol	7.01	2	µg/L	1	5.6	—
Pajarito Canyon (includes Twomile and Threemile Canyons)	Regional	R-54	MULTI	830	02/15/10	—	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	11.2	2	µg/L	6	—	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02657	SINGLE	0.4	04/16/10	—	UF	DL	HEXP[k]	RDX[l]	10.8	2.6	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02658	SINGLE	1.9	04/12/10	—	UF	CS	HEXP	RDX	6.87	0.1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	SINGLE	1.7	04/12/10	—	UF	DL	HEXP	RDX	18	0.52	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	CDV-16-02659	SINGLE	1.7	09/09/10	—	UF	DL	HEXP	RDX	12.7	0.1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Alluvial	FLC-16-25280	SINGLE	2.6	04/05/10	—	UF	DL	VOA	Tetrachloroethene	127	0.6	µg/L	5	1.1	20
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	SWSC Spring	SPRING	—	04/09/10	—	UF	DL	HEXP	RDX	60.5	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	SWSC Spring	SPRING	—	09/10/10	—	UF	DL	HEXP	RDX	22.5	0.52	µg/L	—	6.1	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	SPRING	—	04/09/10	—	UF	DL	HEXP	RDX	38.1	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	SPRING	—	04/09/10	FD	UF	DL	HEXP	RDX	34.6	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Burning Ground Spring	SPRING	—	09/10/10	—	UF	CS	HEXP	RDX	12.5	0.1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	SPRING	—	09/14/10	—	UF	DL	HEXP	RDX	100	1.3	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate Spring	Martin Spring	SPRING	—	04/13/10	—	UF	DL	HEXP	RDX	77.8	1.3	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25b	SINGLE	750	09/08/10	—	UF	CS	HEXP	RDX	6.44	0.1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25b	SINGLE	750	04/21/10	—	UF	CS	HEXP	RDX	6.22	0.1	µg/L	—	6.1	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	754.8	09/21/10	—	UF	CS	HEXP	RDX	26.2	0.52	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	891.8	09/21/10	—	UF	DL	HEXP	RDX	18.5	0.26	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	891.8	04/06/10	—	UF	CS	HEXP	RDX	8.77	0.1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	1192.4	09/21/10	—	UF	DL	HEXP	RDX	20.6	0.26	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	R-25	MULTI	1192.4	04/07/10	—	UF	DL	HEXP	RDX	15.9	0.26	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	SINGLE	624	09/13/10	—	UF	DL	HEXP	RDX	32.2	0.52	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	SINGLE	624	04/16/10	—	UF	DL	HEXP	RDX	28.5	0.52	µg/L	—	6.1	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-1(i)	SINGLE	624	04/16/10	FD	UF	DL	HEXP	RDX	24.1	0.52	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-16-4ip	MULTI	820	08/31/10	—	UF	DL	HEXP	RDX	265	5.2	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-16-4ip	MULTI	1110	09/18/10	—	UF	DL	HEXP	RDX	167	2.6	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-2(i)r	SINGLE	850	04/01/10	—	UF	DL	HEXP	RDX	56.9	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-2(i)r	SINGLE	850	09/07/10	—	UF	DL	HEXP	RDX	52.1	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CdV-16-2(i)r	SINGLE	850	09/07/10	FD	UF	DL	HEXP	RDX	51.2	1	µg/L	—	6.1	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-37-1(i)	SINGLE	632	02/08/10	—	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	13	2.9	µg/L	6	—	—

Table B-4 (continued)

Watershed	Zone	Location	Well Class	Port Depth (ft)	Date	Field QC[a] Type Code	Field Preparation Code	Lab Sample Type Code	Analytical Suite Code	Analyte	Result	Method Detection Limit	Unit	EPA[b] Maximum Contaminant Level	EPA Regional Tap Screening Level	NMWQCC[c] Groundwater Standard
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Intermediate	CDV-37-1(i)	SINGLE	632	02/08/10	FD	UF	CS	SVOA	Bis(2-ethylhexyl)phthalate	11.6	2.3	µg/L	6	—	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-48	SINGLE	1500	02/17/10	FTB	UF	CS	VOA	Methylene Chloride	5.64	3	µg/L	5	—	—
Water Canyon (includes Cañon de Valle, Potrillo, and Fence Canyons)	Regional	R-27	SINGLE	852	09/14/10	—	UF	CS	SVOA	Indeno(1,2,3-cd)pyrene	0.4	0.22	µg/L	—	0.29	—

[a] QC = Quality control.

[b] EPA = Environmental Protection Agency (U.S.).

[c] NMWQCC = New Mexico Water Quality Control Commission.

[d] — = Not applicable.

[e] UF = Unfiltered.

[f] CS = Client sample.

[g] SVOA = Semivolatile organic analysis.

[h] VOA = Semivolatile organic analysis.

[i] FD = Field duplicate.

[j] DL = Detection limit.

[k] HEXP = High explosives.

[l] RDX = Hexahydro-1,3,5-trinitro-1,3,5-triazine.

Appendix C

Mapping of the Regional Water-Table Elevation
(Requirements #2 and #9)

C-1.0 INTRODUCTION

The regional aquifer beneath Los Alamos National Laboratory (LANL or the Laboratory) is a complex hydrogeological system. The top of the aquifer is predominantly under phreatic (water-table) conditions. However, areas of localized confinement are caused by local-scale hydrogeological conditions (for example, near wells R-4, R-24, and R-39). In general, the top of the regional aquifer (regional zone of saturation) is defined by the elevation of the regional water table. In the areas of local confinement, a regional piezometric surface represents the elevation of hydraulic heads in the confined zones. In general, the regional piezometric surface can be considered to represent a spatial continuation of the water table in the confined areas. Because the regional aquifer is predominantly under phreatic conditions, the term “regional water table” will be used for the entire aquifer even though in some areas the term piezometric surface is more appropriate.

Groundwater flow directions and fluxes that control contaminant transport in the aquifer are generally dictated by the shape of the regional water table (Freeze and Cherry 1979, 088742, Chapter 5; Vesselinov 2004, 090040). The general shape of the regional water table is predominantly controlled by the areas of regional recharge to the west (the flanks of Sierra de los Valles and the Pajarito fault zone) and discharge to the east (the Rio Grande and the White Rock Canyon Springs). At more local scales, the structure of the regional phreatic flow is also expected to be influenced by (1) local infiltration zones (e.g., beneath wet canyons); (2) heterogeneity and anisotropy in the aquifer properties; and (3) discharge zones (municipal water-supply wells and springs).

C-2.0 WATER-LEVEL DATA

Information about the elevation of the regional water table is available from water-level data observed at monitoring wells and discharge elevation of springs. Monitoring-well water-level data are predominantly applied to map the elevation of the regional water table; spring discharge elevations are used in the vicinity of White Rock Canyon to provide additional constraints on the water-table elevation. Elevations of selected springs interpreted to discharge regional aquifer near the White Rock Canyon are applied to estimate the elevation of the regional water table near the Rio Grande; some of the springs considered in the water-table contouring are Indian, Otowi, Sacred, Sandia, 1, 2A, 3A, 3B, 3C, 4, 4D, 5A, 5B, 5C, 6, 6A, 6AA, 6AAA, 7, 8, 9D, 9, and 10.

Existing hydrogeological information suggests that the elevation of the regional water table is higher than the water level observed in the water-supply wells because of vertical hydraulic disconnection between the deep and shallow aquifer zones. This effect is observed at locations where monitoring wells are near the municipal water-supply wells; for example, the nonpumping water levels at PM-3 are lower than water levels at R-35b, the nonpumping water levels at PM-2 are lower than water levels at R-40 screen 2, the nonpumping water levels at O-4 are lower than water levels at TW-3, and O-1 water levels are lower than R-3 water levels (Koch and Schmeer 2010, 108926). As a result, the water-level data from the municipal water-supply wells are not applied in the contouring of the regional water-table elevations.

Water-table elevations vary in time as a result of transient effects that include (1) pumping of the water-supply wells and (2) large- and small-scale variability in aquifer recharge. For example, a long-term water decline of about 0.5–1 ft/yr is observed in the regional water levels throughout the aquifer beneath the Pajarito Plateau; the decline may be caused by long-term changes in the aquifer recharge and discharge conditions. The water-supply pumping causes seasonal fluctuations less than 1–3 ft, depending on the distances between the monitoring and supply wells and local hydrodynamic conditions. Differences in the depths and lengths of well screens further complicate the interpretation of the transients in the water-level

data. The water levels in the recently drilled wells need to equilibrate after they are disturbed by drilling, development, and pump testing before representative water-level measurements can be obtained; typically, water-level equilibrium occurs within a month of well development (depending on the local hydrogeological conditions). Because of the long-term and seasonal changes described above, the water-level data and the respective water-table maps are time-dependent and representative of specific periods of time. Based on analysis of 2010 water-level data, the September 2010 time frame is considered to be most appropriate to estimate the regional water-table elevations because it includes information from many new wells drilled in the summer of 2010. The average monthly water-level data for September 2010 are predominantly used to construct the water-table map (Plate 8) discussed below.

Representative water levels for 60 regional aquifer wells are presented in Table C-1. For some wells, water-level data are not available for September 2010 (Table C-1), and alternative representative measurements from other time periods have been used instead. The interpretation of water-level data not representative for the same period of time is a source of uncertainty in the mapping process. The interpretation of the water-level data is also complicated by (1) the general trend of decreased hydraulic heads (water levels) with depth, (2) the depth of monitoring well screens below the water table, and (3) local hydrogeologic conditions, including aquifer heterogeneity, described below,

1. Some screens are substantially below the top of regional saturation (more than 60 ft); as a result, the collected water-level data may not be representative of the actual water-table elevations (R-3, R-10a, R-13, R-18, R-20, R-21, R-24, R-26, R-32, R-34, and R-48; Table C-1).
2. Some screens are long (more than 50 ft) and may represent composite water levels within the aquifer (DT wells, R-8, R-13, and R-15; Table C-1).
3. Some screens are within zones that have confined or partially confined conditions and represent piezometric surface elevations (for example, R-4, R-24, and R-39).
4. Well R-25 is drilled in a complicated hydrogeological setting near a zone of aquifer recharge. The well intersects a thick zone of groundwater saturation within the vadose zone. As a result, it is uncertain which of the R-25 screens (4 or 5) defines the regional water-table elevation in that area. In the analyses below, it is assumed that water-level data from screen 5 represent the regional water table.
5. Water-table screens are located in various hydrostratigraphic units, including sedimentary and volcanic rocks with contrasting hydrogeologic properties (Table C-2; Table C-3 explains the stratigraphic unit abbreviations). Consequently, the structure of the regional water table is probably influenced by groundwater flow through hydrostratigraphic units with very different properties. For example, lavas occur at or near the regional water table at R-5, R-9, and R-12 (Miocene basalts, Tb2) and at DT-5A, DT-9, DT-10, R-20, R-22, R-29, R-30, R-31, R-32, R-39, and, R-49 (Cerros del Rio basalts, Tb4). The lavas potentially cause three-dimensional groundwater flow regimes that are difficult to deduce from the available data.
6. Hydrodynamic properties (including hydraulic conductivity) of the regional aquifer in the vicinity of the monitoring wells are estimated using aquifer tests in completed monitoring wells. Aquifer properties are also evaluated based on observed water-level transients caused by (1) drilling and well construction of nearby wells, (2) pumping tests, and (3) municipal water-supply pumping (cf., Harp and Vesselinov 2010, 111220). Spatial analyses of aquifer permeability data suggest that the regional aquifer is highly heterogeneous; the existing data about aquifer properties have not been applied directly to analyze the impact of aquifer heterogeneity on the regional structure of the water table and groundwater flow.

Related to issue 5 above, the regional water levels observed at R-9 and at the former R-12 regional screen are substantially lower than water levels observed at nearby wells (the regional screen at R-12, screen 3, was abandoned in December 2007 and was replaced by R-36). Well R-9 is screened within Santa Fe Group basalts (Tb2) that, based on the available information, are expected to be in poor hydraulic connection with the rest of the regional aquifer. Similar hydrogeological conditions may have been observed at the abandoned regional screen (screen 3) of R-12. Monitoring wells R-9 and R-12 are located near water-supply well PM-1. However, water levels at regional screens of R-9 and R-12 do not respond to daily or seasonal variation in pumping from PM-1. For a comparison, PM-1 pumping has been detected at screen 4 of monitoring well R-5 and the deeply located screen at R-3; PM-1 pumping is not detected at screen 3 of R-5 (Koch and Schmeer 2010, 108926). Screen 4 of R-5 and R-3 and the single screen of R-9 are located at similar elevations; however, R-5 and R-3 are located much farther from PM-1 than R-9 and R-12. This analysis indicates the low hydraulic heads observed at R-9 and R-12 may represent a compartmentalized zone within the basalts of the Santa Fe Group that is in poor hydraulic connection with the rest of the aquifer. As a result, R-9 water-level data are not applied in the contouring process discussed below.

C-3.0 WATER-LEVEL CONTOURING

The process of water-table contouring is theoretically constrained by conformity rules (Freeze and Cherry 1979, 088742): (1) the contour lines should be perpendicular to the flowpaths and (2) the length and the width of the flownet cells formed by the contour lines between two adjacent flowpaths should have the same ratios. These rules are theoretically valid only for the case of two-dimensional (lateral) groundwater flow in a uniform, isotropic aquifer with no recharge/discharge sources within flownet cells. Deviations from the conformity rules are caused by three-dimensional flow effects, aquifer heterogeneity and anisotropy, and groundwater recharge/discharge points/zones within flownet cells. Here, the regional water-table map is contoured by attempting to satisfy four goals simultaneously: (1) to match the water-level data at the monitoring wells; (2) to account for issues of data representativeness (confined versus unconfined hydrodynamic conditions at the screens, submergence of the screen below the regional water table, water-level transients); (3) to preserve flownet conformity; and (4) to account for conceptual models of groundwater flow in the regional aquifer. Because of the existing uncertainties in the data and knowledge about the site, alternative conceptual-model assumptions pertaining to the regional groundwater flow were evaluated in making the map. The actual contouring is performed using a combination of manual and automated techniques; the automated contouring is done using the Minimum Curvature method. The obtained water-table contour map is presented in Plate 8. Previous versions of the regional water-table map are presented in various Laboratory reports (LANL 2005, 091139; LANL 2006, 093570; LANL 2006, 093196; LANL 2007, 095364; LANL 2008, 101932; LANL 2009, 105632; LANL 2009, 106589; LANL 2009, 107453; LANL 2010, 109084; LANL 2010, 110852; LANL 2010, 111362; LANL 2010, 111506).

When compared with the previous General Facility Information (GFI) report (LANL 2010, 109084), this analysis includes water-level data for 13 new regional monitoring wells (R-3, R-41, R-29, R-30, R-50, R-51, R-52, R-53, R-54, R-55, R-56, R-57, and R-60). The water-table map presented in Plate 8 is generally similar to the water-table map presented in Plate 6 of the previous GFI report (LANL 2010, 109084). The major differences are observed (1) east of R-3 and (2) in the vicinity of R-32 and R-22 near Pajarito Canyon. These differences are discussed further below.

The 2010 analyses assumed that the elevated water levels observed at R-10a and R-16 propagate to the north (Plate 8 and LANL 2010, 109084). The new data observed at R-3 potentially suggest that the water levels are expected to be lower north of R-10a and east of R-3. It is plausible that the elevated water levels at R-10a and R-16 are caused by (1) local infiltration recharge of the regional aquifer along

Sandia Canyon and/or (2) highly stratified sediments with anisotropic hydrogeologic properties causing preferentially lateral groundwater flow.

Because of various complications in the interpretation of the water-level data, the water-table contour map in Plate 8 does not match exactly the observed data. Table C-1 lists the deviations between observed and predicted water levels (based on the modeled water-table map). Most of the differences are minor and are within 3 ft. The most notable differences are obtained for locations at which the water-level data are uncertain: R-3, R-9, R-18, R-25, R-41, R-48, and R-57. It should be noted that the R-3 well screen is designed to monitor groundwater entering the louvers at supply well O-1 and is submerged about 311 ft beneath the water level. The water level at R-3 may not be representative of the regional water-table elevation because of vertical stratification of the regional aquifer and the general trend of decreasing water levels with depth. For this reason, the water table is contoured to be about 10 ft higher than the observed R-3 water level.

The existing water-level data and the water-table contour map (Plate 8) indicate potential mounding of the regional water table near wells R-42, R-8, and R-36. The water level at R-36 is higher than the water levels at the wells that are potentially upgradient (to the west of R-36) such as R-43, R-42, R-28, R-11, R-44, R-45, and R-13. A possible explanation for this observation is local recharge of the regional aquifer along Sandia Canyon, although the primary zone of canyon-floor recharge beneath Sandia Canyon is believed to occur west of R-36. Well R-42 water level appears to be about 0.3 ft higher than the water level at R-43, screen 1, which is potentially upgradient (to the west) of R-42. This head difference may be caused by localized recharge near R-42. The water level at R-8, screen 1 is about 20 ft higher than any of the nearby wells, and most probably indicates local recharge along the Los Alamos Canyon. Previous versions of the regional water-table map (LANL 2006, 093570; LANL 2006, 093196; LANL 2007, 095364; LANL 2008, 101932) also represented local mounding from recharge along Los Alamos Canyon around TW-1 (near municipal supply well O-1 on Plate 8). Since 2006, no water-level data have been available for the water table at TW-1. As a result, the current map presented on Plate 8 does not show mounding in this area. TW-1 was plugged and abandoned in 2010 (LANL 2010, 109270). Video logging of the well before plugging showed intermediate perched water flowing into the well, indicating that comingling with shallower perched groundwater influenced the recent water levels from TW-1.

The existing water-level data suggest the water table is relatively flat in the area near R-43, R-35b, R-44, R-45, and R-13 (Plate 8), and the water levels in this area are within a few feet of one another. The contour map cannot represent the detail of the gradient in this area given the map scale. However, the general flow direction appears to be to the east-southeast (LANL 2009, 107453). The cause for this flattening of the regional water table in this area is uncertain. The low gradient in this area may be related to (1) the relatively high permeability of Puye Formation and Miocene pumiceous sediments, (2) anisotropy of the regional aquifer, (3) localized aquifer recharge along the canyons above the regional aquifer, and/or (4) nearby water-supply pumping. In the latter case, the flattening of the gradients may be caused by a local cone of depression because of pumping upgradient from this area (at PM-5 and O-4). However, the transients in the water levels observed at the nearby monitoring wells (e.g., R-28, R-11, R-36, R-35b, R-42, and R-43) do not appear to be substantially affected by the water-supply pumping at the nearby production wells (PM-3, PM-5, PM-2, PM-4, and O-4) (LANL 2009, 107453).

Water-level data represented by the contour map indicate that the occurrence of thick lavas in the upper part of the aquifer between R-32 and R-22 may cause increased hydraulic gradients near the regional water table in this area (Plate 8). The higher gradients may be the result of lower transmissive properties of lavas compared with more permeable sediments (Puye Formation, Santa Fe Group, fluvial deposits, and lavas). The hydrogeologic properties of the lavas may also be responsible for diverting the phreatic groundwater flow to the northeast near R-40, R-37, and R-38. The increased lateral hydraulic gradients may also be an indication of recharge in lower Pajarito Canyon that causes local mounding in the lavas,

which are expected to be of low storativity compared with the Puye Formation and Santa Fe Group sediments. In this area, water levels observed in the Cerros del Rio basalt appear to be higher than those observed in the sediments beneath the basalts. This phenomenon can be seen in R-22 (head difference ~60 ft), R-20 (~30 ft), R-32 (~4 ft), and R-49 (~24 ft) and between wells R-57 and R-41 (~60 ft) based on comparison of water levels observed at screens placed in the basalts and the sediments beneath the basalts. The water-level contrast indicates the possibility of relatively poor hydraulic connection between the basalts and sediments beneath them. This stratification of the regional aquifer may be caused by low-permeability zones within the basalts or low-permeability strata at the contact between the basalts and the sediments.

In the area between R-32 and R-22 (Plate 8), the regional water table is located within the Cerros del Rio lavas and in underlying Pliocene clastic sedimentary deposits (interbedded Puye Formation and Totavi Lentil). The measured water levels may represent confined or semiconfined hydrogeologic conditions for much of the area because upper well screens at R-38, R-40, R-54, and R-21 are located within Pliocene clastic sedimentary deposits, but the water levels are within the overlying Cerros del Rio lavas, except for wells R-20 and R-53. The uppermost regional screen of R-20 is placed in scoria deposits associated with Cerros del Rio lavas, and the water level is at the base of the massive lavas. At R-53, the upper screen and water level are both with Pliocene sedimentary deposits.

The northeastward direction of the regional groundwater flow in the area of R-40, R-52, R-37, and R-38 (Plate 8) may indicate a complex three-dimensional flow structure in the aquifer that is potentially influenced by hydrostratigraphy, aquifer recharge, and/or water-supply pumping in the deep sections of the regional aquifer. Local infiltration and aquifer recharge along Pajarito Canyon south of R-40 and/or the lateral propagation of large-scale mountain-front aquifer recharge occurring to the west of R-40 may cause the northeastern groundwater flow in the regional aquifer in the area of R-40, R-52, R-37, and R-38; this conceptual model is supported by the existing perched zones in this area. It is also plausible that the shape of regional water table near wells R-40, R-52, R-37, and R-38 is influenced by the water-supply pumping in PM-2 and PM-4; existing water-level data suggest the water elevation at R-54 is higher than at R-20, which may be a result of the PM-2 pumping (Plate 8; Table C-1). Based on preliminary water-level data collected at R-54, the lower screen has a higher head than the upper screen when PM-2 is not pumping. As discussed above, the presence of the low permeability Cerros del Rio lavas (Tb4) below the regional water table in the area between R-32 and R-22 may act as a hydrogeologic barrier that diverts flow northeastward in the area of R-40, R-52, R-37, and R-38 (Plate 8). The impact of this hydrogeologic barrier on the groundwater flow may have been observed during the pumping tests conducted in R-53, R-56, and R-38; the drawdown transients measured during the pumping tests conducted at these wells are impacted by boundary effects (LANL 2009, 105298; LANL 2010, 110516; LANL 2010, 111512).

Based on the expected structure of the regional groundwater flow, it was anticipated that R-41 and R-57 have similar water levels (e.g., 2009 version of the water table map; LANL 2009, 105632). However, the R-41 water level is about 60 ft lower than the water levels observed about 600 ft to the south at R-57 and R-22; R-41 screen 2 and R-57 screen 1 are screened at similar elevations, but R-41 is within the Totavi sands and gravels, and R-57 is within Cerros del Rio dacite lava. The R-41 water level (5699 ft above mean sea level [amsl]) is almost equivalent with the preliminary water level measured at the new well R-55 (5699 ft amsl), about 2000 ft east of R-41. The R-41 water level is also similar to water levels observed in R-22 screen 3 (5699 ft amsl), which is located within the Chamita Formation and at an elevation about 400 ft deeper.

Three hydrogeological conceptual models can be proposed to explain the R-41 water-level data. The first conceptual model is that R-41 is in a localized area that is hydraulically disconnected from the rest of the

regional aquifer. This conceptual model is somewhat consistent with the interpretation of the pumping-test data collected during the development of R-41; the observed drawdown transients suggest R-41 is screened in a spatially limited (bounded) zone of saturation. In this case, the interpretation of the R-41 data is similar to the analysis of the R-9 and R-12 data presented above.

The second conceptual model is that the aquifer zones screened at R-22/R-57 and R-41, respectively, are in two different flow domains of the regional aquifer that are hydraulically disconnected because of lateral changes in geology (e.g., sedimentary deposits versus lavas). Geologic logs for wells in the vicinity of R-41 show the rocks in this area are heterogeneous and considerable lateral variability occurs over short distances. The heterogeneity and lateral variability of the rock units may explain the differences in water levels between R-41 and R-57 if the aquifer is compartmentalized by juxtaposing lithologies of strongly contrasting hydraulic properties.

The third conceptual model is that the R-41 saturated zone is not disconnected from the rest of the aquifer, and the observed water level is from complexities in the groundwater flow. In this case, the flow complexity may be caused by spatial extent of the basalts and/or Totavi Lentil riverine deposits within the regional aquifer. The lavas' extent within the regional aquifer terminates between R-57 and R-41. Because of the heterogeneity of the basalt, the discharge of groundwater accumulated in the basalts may be spatially nonuniform, which may be the cause for the differences in the R-41 and R-57 water levels. In addition, the riverine deposits appear to be highly permeable, and their spatial extent within the regional aquifer is predominantly to the east of R-22. As a result, the highly permeable Totavi Lentil riverine deposits may be capable of sustaining high lateral groundwater flow rates that cause a sharp decline in the elevation of the regional water table to the east of R-22, much like the water-level decline observed at R-41. In this conceptual model, it is also possible the basalts and riverine deposits create a complex three-dimensional groundwater flow structure. In this case, the relatively thick Totavi Lentil riverine deposits may facilitate vertical groundwater flow from the shallow into the deep zone of the regional aquifer after the regional groundwater flow in the basalts is discharged into the more permeable aquifer sediments near R-41. This conceptualization is somewhat supported by the similarity in the water levels in R-41 and R-22 screen 3 (~5699 ft amsl). It is also supported by relatively high values for the vertical component of the hydraulic gradient in the wells east of R-22. However, this conceptual model is not supported by other observations: (1) despite their coarse-grained nature, the sediments at the top of the aquifer at R-41 contain considerable silt and do not appear to be very permeable; and (2) highly permeable Totavi Lentil riverine deposits are observed at R-57, but their occurrence does not result in lower water levels at R-57 screen 1 and R-22 screens 1 and 2. It is also plausible that the actual hydrogeologic conditions are some combination of conceptual elements from all the models described above. Additional data and hydrogeological analyses can be applied to reduce the conceptual uncertainty associated with the regional groundwater flow as additional data are gathered at these newly completed wells.

The water-table map (Plate 8) is constructed assuming the first conceptual model discussed above is representative of the actual groundwater flow conditions. Therefore, the R-41 water level is not representative of the regional water table.

It is important to note the water-level data from R-3, R-55, R-56, R-57, and R-60 are preliminary, and new analyses based on more representative data may change the current water-table map.

C-4.0 NEW WELLS IN 2010

The coordinates and geologic contact information for 19 new wells are provided in Table C-2. The table also provides information about boreholes at Technical Area 21 (TA-21) and Material Disposal Area

(MDA) C (TA-50) that were installed in previous years but were not captured in the 2009 geologic framework model (Cole et al. 2010, 106101). As previously stated, stratigraphic contacts were not revised at any previously existing wells in 2010, so the most recent contact information for wells constructed before 2010 is in the 2009 geologic framework model report (Cole et al. 2010, 106101) and the 2009 GFI report (LANL 2009, 105632).

C-5.0 REFERENCES

The following list includes all documents cited in this appendix. 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 New Mexico Environment Department 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.

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Table C-1
Water-Level Data and Construction of Regional Monitoring Wells, Including Differences between Observed and Modeled Water-Level Elevations

Well	Screen	Surface Elevation (ft)	Screen Top (ft bgs[a])	Screen Bottom (ft bgs)	Screen Length (ft)	Geologic Unit[b]	Screen Top Elevation (ft)	Water Level Average (ft)	Representative Time Period	Top of Screen from Water Table (ft)	Differences between Observed and Contoured Water-Level Elevations (ft)	Comments
CdV-R-15-3	4	7258.9	1235.1	1278.9	43.8	Tpf	6023.8	6019.06	Jul-10	4.4	1.16	Screen straddles water table
CdV-R-37-2	2	7330.6	1188.7	1213.8	25.1	Tvt2	6141.9	6136.66	Jul-10	5	0.18	Screen straddles water table
DT-5A	Single	7143.9	1171.5	1788.5	617.0	Tb4	5972.4	5957.41	Sep-10	14.4	-0.14	Screen straddles water table
DT-9	Single	6935.0	819.0	1500.0	681.0	Tb4	6116	5914.47	Sep-10	201	-0.22	Screen straddles water table
DT-10	Single	7019.9	1078.4	1408.0	329.6	Tb4	5941.5	5918.08	Sep-10	23	0.77	Screen straddles water table
R-1	Single	6881.2	1031.1	1057.4	26.3	Tjfp	5850.1	5877.72	Sep-10	-28	1.99	Screen below water table
R-2	Single	6770.4	906.5	929.6	23.1	Tcar	5863.9	5869.12	Sep-10	-6.2	-0.36	Screen below water table
R-3	Single	6395.9	974.5	995.0	20.5	Tcar	5421.4	5732.39	Oct-10	0311.0	-9.73	Screen substantially below water table; recently installed well
R-4	Single	6577.5	792.9	816.0	23.1	Tcar	5784.6	5828.95	Sep-10	-46.2	-0.02	Screen below water table
R-5	3	6472.6	676.9	720.3	43.4	Tcar	5795.7	5765.35	Sep-10	29.6	-0.13	Screen straddles water table
R-6	Single	6995.8	1205.0	1228.0	23.0	Tcar	5790.8	5836.34	Sep-10	-47	2.00	Screen below water table
R-7	3	6779.2	895.5	937.4	41.9	Tjfp	5883.7	5876.29	Sep-10	6.9	-1.71	Screen straddles water table
R-8	1	6544.7	705.3	755.7	50.4	Tcar	5839.4	5851.06	Sep-10	-13.5	0.88	Screen below water table
R-9	Single	6382.8	683.0	748.5	65.5	Tb2	5699.8	5690.98	Sep-10	8.5	-69.53	Screen straddles water table
R-10a	Single	6363.7	690.0	700.0	10.0	Tcar	5673.7	5739.60	Sep-10	-66.4	0.15	Screen substantially below water table
R-11	Single	6673.7	855.0	877.9	22.9	Tjfp	5818.7	5835.82	Sep-10	-18.3	0.23	Screen below water table
R-13	Single	6673.1	958.3	1018.7	60.4	Tpf/Tjfp	5714.7	5834.39	Sep-10	-120.4	1.17	Screen substantially below water table
R-14	1	7062.1	1200.6	1233.2	32.6	Tpf/Tjfp	5861.5	5878.89	Sep-10	-17.9	0.28	Screen below water table
R-15	Single	6820.0	958.6	1020.3	61.7	Tpf/Tjfp	5861.4	5846.92	Sep-10	12.4	0.96	Screen straddles water table
R-16r	Single	6257.0	600.0	617.6	17.6	Tpt	5657	5692.10	Sep-10	-35.4	-0.08	Screen below water table
R-17	1	6921.5	1057.0	1080.0	23.0	Tpf	5864.5	5884.27	Sep-10	-20.1	0.00	Screen below water table
R-18	Single	7404.8	1358.0	1381.0	23.0	Tpf	6046.8	6116.75	Sep-10	-70.2	-5.11	Screen substantially below water table
R-19	3	7066.3	1171.4	1215.4	44.0	Tpf	5894.9	5887.11	Sep-10	7.5	-0.57	Screen straddles water table
R-20	1	6694.4	904.6	912.2	7.6	Tb4	5789.8	5863.05	Sep-10	-74.4	-0.74	Screen substantially below water table
R-21	Single	6656.2	888.8	906.8	18.0	Tpf	5767.4	5854.03	Sep-10	-86.9	-0.11	Screen substantially below water table
R-23	Single	6527.8	816.0	873.2	57.2	Tpt	5711.8	5696.62	Sep-10	14.7	0.59	Screen straddles water table
R-24	Single	6547.4	825.0	848.0	23.0	Tcar	5722.4	5826.09	Sep-10	-107.4	0.45	Screen substantially below water table
R-25	5	7516.1	1294.7	1304.7	10.0	Tpf	6221.4	6234.12	Sep-10	-12	7.54	Screen below water table
R-26	2	7641.7	1422.0	1445.0	23.0	Tpf	6219.7	6535.18	Jul-10	-312.8	3.55	Screen substantially below water table
R-27	Single	6713.7	852.0	875.0	23.0	Tpf	5861.7	5897.88	Sep-10	-36.8	-0.87	Screen below water table
R-28	Single	6728.6	934.3	958.1	23.8	Tpf/Tjfp	5794.3	5836.26	Sep-10	-43.1	-0.02	Screen below water table
R-29	Single	7100.8	1170.0	1180.0	10.0	Tpf	5930.8	5948.00	Sep-10	-17.25	0.65	Recently installed well
R-30	Single	7073.8	1140.0	1160.9	20.9	Tpf	5933.8	5948.27	Sep-10	-14.43	-0.77	Recently installed well
R-31	2	6362.5	515.0	545.7	30.7	Tb4	5847.5	5827.10	Sep-10	20.40	-0.79	Screen straddles water table

Table C-1 (continued)

Well	Screen	Surface Elevation (ft)	Screen Top (ft bgs[a])	Screen Bottom (ft bgs)	Screen Length (ft)	Geologic Unit[b]	Screen Top Elevation (ft)	Water Level Average (ft)	Representative Time Period	Top of Screen from Water Table (ft)	Differences between Observed and Contoured Water-Level Elevations (ft)	Comments
R-32	1	6637.6	867.5	875.2	7.7	Tpt	5770.1	5851.63	Sep-10	-81.50	0.00	Screen substantially below water table
R-33	1	6853.3	995.5	1018.5	23.0	Tjfp	5857.8	5870.47	Sep-10	-12.64	0.81	Screen below water table
R-34	Single	6630.0	883.7	906.6	22.9	Tjfp	5746.3	5832.84	Sep-10	-86.55	0.96	Screen substantially below water table
R-35b	Single	6625.2	825.4	848.5	23.1	Tpf	5799.8	5835.31	Sep-10	-35.50	0.34	Screen below water table
R-36	Single	6591.4	766.9	789.9	23.0	Tcar	5824.5	5839.58	Sep-10	-15.11	0.72	Screen below water table
R-37	2	6870.6	1026.0	1046.6	20.6	Tpf	5844.6	5855.12	Sep-10	-10.53	-0.63	Screen below water table
R-38	Single	6668.6	821.2	831.2	10.0	Tpf	5847.4	5857.40	Sep-10	-10.02	-0.31	Screen below water table
R-39	Single	6580.9	859.0	869.0	10.0	Tb4/Tpf	5721.9	5753.15	Sep-10	-31.29	-0.24	Screen below water table
R-40	2	6719.2	849.3	870.0	20.7	Tpf	5870.0	5864.43	Sep-10	5.54	-0.04	Screen straddles water table
R-41	2	6660.5	965.3	975.0	9.7	Tpt	5695.2	5699.25	Sep-10	-4.02	-4.51	Screen below water table
R-42	Single	6759.0	931.8	952.9	21.1	Tjfp	5827.2	5837.90	Sep-10	-10.68	0.18	Screen below water table
R-43	1	6732.7	903.9	924.6	20.7	Tcar	5828.8	5837.66	Sep-10	-8.91	-1.16	Screen below water table
R-44	1	6714.9	895.0	905.0	10.0	Tpf	5819.9	5834.93	Sep-10	-15.02	-0.63	Screen below water table
R-45	1	6704.0	880.0	890.0	10.0	Tpf	5824.0	5834.62	Sep-10	-10.60	0.24	Screen below water table
R-46	Single	7213.3	1340.0	1360.7	20.7	Tpf	5873.3	5884.73	Sep-10	-11.40	-1.71	Screen below water table
R-48	Single	7486.4	1500.0	1520.6	20.6	Tvt2	5986.4	6133.65	Sep-10	-147.25	-7.12	Screen substantially below water table
R-49	1	6584.5	845.0	855.0	10.0	Tb4 (dacite)	5739.5	5774.84	Sep-10	-35.30	-1.28	Screen below water table
R-50	1	6904.1	1077.0	1087.0	10.0	Tpf	5827.1	5836.45	Sep-10	-9.34	0.11	Recently installed well
R-51	1	6762.2	915.0	925.2	10.3	Tpf	5847.2	5871.20	Sep-10	-23.99	1.13	Recently installed well
R-52	1	6883.0	1035.2	1055.7	20.5	Tpf	5847.8	5864.68	Sep-10	-16.84	0.21	Recently installed well
R-53	1	6690.0	849.2	859.2	10.0	Tpf	5840.8	5860.07	Sep-10	-19.29	-1.70	Recently installed well
R-54	1	6679.9	830.0	840.0	10.0	Tpf	5849.9	5863.21	Sep-10	-13.36	-0.96	Recently installed well
R-55	1	6533.9	860.0	880.0	20.6	Tpt	5673.9	5699.30	Sep-10	-25.4	-2.45	Recently installed well
R-56	1	6780.9	945.0	965.6	20.6	Tpf	5835.9	5859.03	Aug-10	-23.1	-1.00	Recently installed well
R-57	1	6648.0	910.0	930.5	20.5	Tb4 (dacite)	5738.0	5757.87	Dec-10	-19.9	14.58	Recently installed well
R-60	Single	7225.0	1330.0	1350.9	20.9	Tpf	5895.0	5905.23	Dec-10	-10.23	-0.38	Recently installed well; ground surface elevation is approximate

Note: Negative differences between the observed and contoured water-level elevations overestimate the observed levels; positive differences underestimate the observed levels.

[a] bgs = Below ground surface.

[b] See Table C-3 for explanation of stratigraphic unit abbreviations.

Table C-2
Contact Depths Identified in the New Drill Holes for Calendar Year 2010

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt4	0	50	7463.91	7413.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt3t	50	112	7413.91	7351.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt3	112	180	7351.91	7283.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt2	180	315	7283.91	7148.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt1v	315	330	7148.91	7133.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbt1g	330	340	7133.91	7123.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qct	340	628	7123.91	6835.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbof	628	792	6835.91	6671.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Qbog	792	800	6671.91	6663.91	LANL 2011, 111608	
CdV-16-4ip	1615587.07	1764195.74	7463.91	Tpf	800	1153.7	6663.91	6310.21	LANL 2011, 111608	
CdV-37-1i	1624592.30	1757798.61	6826.49	Qal	0	40	6826.49	6786.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Qbt1g	40	200	6786.49	6626.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Qct	200	275	6626.49	6551.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Qbof	275	520	6551.49	6306.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Qbog	520	537	6306.49	6289.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Tpf	537	689	6289.49	6137.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Tb4	689	740	6137.49	6086.49	LANL 2010, 109428	
CdV-37-1i	1624592.30	1757798.61	6826.49	Tpf	740	803	6086.49	6023.49	LANL 2010, 109428	
R-3	1649037.61	1772598.75	6395.88	Qal	0	30	6395.88	6365.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tpf	30	53	6365.88	6342.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tb4	53	246	6342.88	6149.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tpf	246	460	6149.88	5935.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tcar	440	460	5955.88	5935.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tb2	460	530	5935.88	5865.88	LANL 2010, 111326	
R-3	1649037.61	1772598.75	6395.88	Tcar	530	1077.7	5865.88	5318.18	LANL 2010, 111326	
R-27i	1629129.03	1756302.42	6717.97	Qal	0	25	6717.97	6692.97	LANL 2009, 108903	
R-27i	1629129.03	1756302.42	6717.97	Qbt1g	25	100	6692.97	6617.97	LANL 2009, 108903	
R-27i	1629129.03	1756302.42	6717.97	Qct	100	355	6617.97	6362.97	LANL 2009, 108903	
R-27i	1629129.03	1756302.42	6717.97	Qbof	355	525	6362.97	6192.97	LANL 2009, 108903	
R-27i	1629129.03	1756302.42	6717.97	Qbog	525	533	6192.97	6184.97	LANL 2009, 108903	
R-27i	1629129.03	1756302.42	6717.97	Tpf	533	633	6184.97	6084.97	LANL 2009, 108903	
R-29	1626779.91	1755383.32	7100.75	Qal	0	10	7100.75	7090.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbt4	10	85	7090.75	7015.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbt3	85	185	7015.75	6915.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbt2	185	275	6915.75	6825.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbt1v	275	375	6825.75	6725.75	LANL 2010, 110478	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
R-29	1626779.91	1755383.32	7100.75	Qbt1g	375	550	6725.75	6550.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qct	550	653	6550.75	6447.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbof	653	893	6447.75	6207.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Qbog	893	904	6207.75	6196.75	LANL 2010, 110478	
R-29	1626779.91	1755383.32	7100.75	Tpf	904	1248	6196.75	5852.75	LANL 2010, 110478	
R-30	1626287.74	1753921.18	7073.84	Qal	0	5	7073.84	7068.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbt4	5	65	7068.84	7008.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbt3	65	165	7008.84	6908.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbt2	165	260	6908.84	6813.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbt1v	260	350	6813.84	6723.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbt1g	350	532	6723.84	6541.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qct	532	638	6541.84	6435.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbof	638	880	6435.84	6193.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Qbog	880	897	6193.84	6176.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Tpf	897	1090	6176.84	5983.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Tb4	1090	1110	5983.84	5963.84	LANL 2010, 110518	
R-30	1626287.74	1753921.18	7073.84	Tpf	1110	1196	5963.84	5877.84	LANL 2010, 110518	
R-47i	1619250.01	1763907.91	7358.41	Qu	0	5	7358.41	7353.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbt4	5	20	7353.41	7338.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbt3	20	155	7338.41	7203.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbt2	155	260	7203.41	7098.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbt1v	260	309	7098.41	7049.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbt1g	309	347	7049.41	7011.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qct	347	583	7011.41	6775.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbof	583	761	6775.41	6597.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Qbog	761	769	6597.41	6589.41	LANL 2010, 109188	
R-47i	1619250.01	1763907.91	7358.41	Tpf	769	1350.5	6589.41	6007.91	LANL 2010, 109188	
R-48	1615977.33	1762436.24	7486.78	Qbt4	0	70	7486.78	7416.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbt3t	70	88	7416.78	7398.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbt3	88	207	7398.78	7279.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbt2	207	310	7279.78	7176.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbt1v	310	345	7176.78	7141.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbt1g	345	359	7141.78	7127.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qct	359	430	7127.78	7056.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbof	430	894	7056.78	6592.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Qbog	894	900	6592.78	6586.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-48	1615977.33	1762436.24	7486.78	Tpf	900	995	6586.78	6491.78	LANL 2010, 108778	formerly CdV-16-3(i)

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
R-48	1615977.33	1762436.24	7486.78	Tvt2	995	1705	6491.78	5781.78	LANL 2010, 108778	formerly CdV-16-3(i)
R-50	1638666.13	1767087.31	6904.11	Qu	0	4	6904.11	6900.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qbt2	4	45	6900.11	6859.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qbt1v	45	150	6859.11	6754.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qbt1g	150	230	6754.11	6674.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qct	230	247	6674.11	6657.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qbof	247	505	6657.11	6399.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Qbog	505	525	6399.11	6379.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Tpf	525	545	6379.11	6359.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Tb4	545	890	6359.11	6014.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Tpf	890	1155	6014.11	5749.11	LANL 2010, 109980	
R-50	1638666.13	1767087.31	6904.11	Tjfp	1155	1224.5	5749.11	5679.61	LANL 2010, 109980	
R-51	1634685.79	1761983.36	6762.17	Qal	0	75	6762.17	6687.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Qbt1g	75	141	6687.17	6621.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Qct	141	175	6621.17	6587.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Qbof	175	495	6587.17	6267.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Qbog	495	513	6267.17	6249.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Tpf	513	545	6249.17	6217.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Tb4	545	818	6217.17	5944.17	LANL 2010, 109949	
R-51	1634685.79	1761983.36	6762.17	Tpf	818	1054.3	5944.17	5707.87	LANL 2010, 109949	
R-52	1636988.93	1762825.71	6883.04	Qal	0	10	6883.04	6873.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qbt2	10	35	6873.04	6848.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qbt1v	35	140	6848.04	6743.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qbt1g	140	225	6743.04	6658.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qct	225	250	6658.04	6633.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qbof	250	530	6633.04	6353.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Qbog	530	540	6353.04	6343.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Tpf	540	550	6343.04	6333.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Tb4	550	925	6333.04	5958.04	LANL 2010, 110533	
R-52	1636988.93	1762825.71	6883.04	Tpf	925	1175	5958.04	5708.04	LANL 2010, 110533	
R-53	1640109.61	1759860.57	6689.98	Qal	0	6	6689.98	6683.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Qbt1v	6	18	6683.98	6671.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Qbt1g	18	130	6671.98	6559.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Qct	130	150	6559.98	6539.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Qbof	150	242	6539.98	6447.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Qbog	242	258	6447.98	6431.98	LANL 2010, 110516	
R-53	1640109.61	1759860.57	6689.98	Tb4	258	830	6431.98	5859.98	LANL 2010, 110516	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
R-53	1640109.61	1759860.57	6689.98	Tpf	830	1015	5859.98	5674.98	LANL 2010, 110516	
R-54	1638803.48	1759602.87	6679.85	Qal	0	14	6679.85	6665.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Qbt1g	14	159	6665.85	6520.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Qct	159	180	6520.85	6499.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Qbof	180	335	6499.85	6344.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Qbog	335	350	6344.85	6329.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Tb4	350	735	6329.85	5944.85	LANL 2010, 109828	
R-54	1638803.48	1759602.87	6679.85	Tpf	735	944.5	5944.85	5735.35	LANL 2010, 109828	
R-55	1647083.52	1757272.15	6533.86	Qal	0	12	6533.86	6521.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Qbt1g	12	40	6521.86	6493.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Qbof	40	43	6493.86	6490.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Qbog	43	54	6490.86	6479.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Tpf	54	80	6479.86	6453.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Tb4	80	685	6453.86	5848.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Tpt	685	890	5848.86	5643.86	LANL 2011, 111611	
R-55	1647083.52	1757272.15	6533.86	Tcar	890	1035.2	5643.86	5498.66	LANL 2011, 111611	
R-56	1640507.31	1759044.73	6780.88	Qal	0	2	6780.88	6778.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qbt2	2	57	6778.88	6723.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qbt1v	57	135	6723.88	6645.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qbt1g	135	265	6645.88	6515.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qct	265	320	6515.88	6460.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qbof	320	380	6460.88	6400.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Qbog	380	395	6400.88	6385.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Tpf	395	425	6385.88	6355.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Tb4	425	945	6355.88	5835.88	LANL 2010, 111512	
R-56	1640507.31	1759044.73	6780.88	Tpf	945	1087	5835.88	5693.88	LANL 2010, 111512	
R-57	1645108.00	1757337.71	6648.04	Qal	0	2	6648.04	6646.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qbt2	2	40	6646.04	6608.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qbt1v	40	56	6608.04	6592.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qbt1g	56	100	6592.04	6548.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qct	100	106	6548.04	6542.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qbof	106	170	6542.04	6478.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Qbog	170	175	6478.04	6473.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Tb4	175	950	6473.04	5698.04	LANL 2010, 111310	
R-57	1645108.00	1757337.71	6648.04	Tpt	950	1081.6	5698.04	5566.44	LANL 2010, 111310	
R-60	1626734.38	1768514.75	7228.17	Qu	0	10	7228.17	7218.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qbt3	10	100	7218.17	7128.17	LANL 2011, 111798	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
R-60	1626734.38	1768514.75	7228.17	Qbt2	100	180	7128.17	7048.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qbt1v	180	245	7048.17	6983.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qbt1g	245	345	6983.17	6883.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qct	345	450	6883.17	6778.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qbof	450	622	6778.17	6606.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Qbog	622	636	6606.17	6592.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Tt2	636	880	6592.17	6348.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Tpf	880	1393	6348.17	5835.17	LANL 2011, 111798	
R-60	1626734.38	1768514.75	7228.17	Tjfp	1393	1418	5835.17	5810.17	LANL 2011, 111798	
TW-2Ar	1634129.90	1777349.11	6651.67	Qal	0	11	6651.67	6640.67	LANL 2010, 110096	
TW-2Ar	1634129.90	1777349.11	6651.67	Qbof	11	40	6640.67	6611.67	LANL 2010, 110096	
TW-2Ar	1634129.90	1777349.11	6651.67	Qbog	40	64	6611.67	6587.67	LANL 2010, 110096	
TW-2Ar	1634129.90	1777349.11	6651.67	Tpf	64	157.2	6587.67	6494.47	LANL 2010, 110096	
WCO-1r	1632736.78	1755106.26	6617.12	Qal	0	17	6617.12	6600.12	LANL 2011, 111796	
WCO-1r	1632736.78	1755106.26	6617.12	Qbt1g	17	30	6600.12	6587.12	LANL2011, 111796	
WCO-3r	1640114.87	1750476.65	6437.17	Qal	0	11	6437.17	6426.17	LANL2011, 111796	
WCO-3r	1640114.87	1750476.65	6437.17	Qbt1g	11	26	6426.17	6411.17	LANL2011, 111796	
WCO-3r	1640114.87	1750476.65	6437.17	Tpf	26	27.5	6411.17	6409.67	LANL2011, 111796	
WCO-3r	1640114.87	1750476.65	6437.17	Tb4	27.5	29.5	6409.67	6407.67	LANL2011, 111796	
21-02518	1631255.91	1774706.72	7165.63	Qu	0	7.5	7165.63	7158.13	LANL 2007, 098942	
21-02518	1631255.91	1774706.72	7165.63	Qbt3	7.5	75	7158.13	7090.63	LANL 2007, 098942	
21-02519	1631399.17	1774645.47	7164.14	Qu	0	10	7164.14	7154.14	LANL 2007, 098942	
21-02519	1631399.17	1774645.47	7164.14	Qbt3	10	75	7154.14	7089.14	LANL 2007, 098942	
21-02520	1631379.26	1774588.57	7161.50	Qu	0	10	7161.50	7151.50	LANL 2007, 098942	
21-02520	1631379.26	1774588.57	7161.50	Qbt3	10	75	7151.50	7086.50	LANL 2007, 098942	
21-02521	1631290.31	1774573.76	7161.02	Qu	0	11.5	7161.02	7149.52	LANL 2007, 098942	
21-02521	1631290.31	1774573.76	7161.02	Qbt3	11.5	75	7149.52	7086.02	LANL 2007, 098942	
21-02522	1631233.73	1774654.97	7163.53	Qu	0	10	7163.53	7153.53	LANL 2007, 098942	
21-02522	1631233.73	1774654.97	7163.53	Qbt3	10	75	7153.53	7088.53	LANL 2007, 098942	
21-02523	1631442.98	1774550.05	7159.87	Qu	0	0.5	7159.87	7159.37	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbt3	0.5	95	7159.37	7064.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbt2	95	165	7064.87	6994.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbt1vu	165	225	6994.87	6934.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbt1g	225	297.7	6934.87	6862.17	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbtt	297.7	300	6862.17	6859.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qct	300	332	6859.87	6827.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Qbof	332	685	6827.87	6474.87	LANL 2008, 103423	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-02523	1631442.98	1774550.05	7159.87	Qbog	685	707	6474.87	6452.87	LANL 2008, 103423	
21-02523	1631442.98	1774550.05	7159.87	Tpf	707	710	6452.87	6449.87	LANL 2008, 103423	
21-05051	1632692.44	1774503.29	7140.58	Qu	0	11.8	7140.58	7128.78	LANL 2004, 085641	
21-05051	1632692.44	1774503.29	7140.58	Qbt3	11.8	111	7128.78	7029.58	LANL 2004, 085641	
21-05051	1632692.44	1774503.29	7140.58	Qbt2	111	150	7029.58	6990.58	LANL 2004, 085641	
21-05052	1632620.49	1774554.02	7141.99	Qu	0	10	7141.99	7131.99	LANL 2004, 085641	
21-05052	1632620.49	1774554.02	7141.99	Paleochannel	10	27.5	7131.99	7114.49	LANL 2004, 085641	
21-05052	1632620.49	1774554.02	7141.99	Qbt3	27.5	96.5	7114.49	7045.49	LANL 2004, 085641	
21-05052	1632620.49	1774554.02	7141.99	Qbt2	96.5	150	7045.49	6991.99	LANL 2004, 085641	
21-05053	1632743.16	1774458.54	7140.70	Qu	0	12.5	7140.70	7128.20	LANL 2004, 085641	
21-05053	1632743.16	1774458.54	7140.70	Qbt3	12.5	90	7128.20	7050.70	LANL 2004, 085641	
21-05054	1632808.88	1774413.73	7140.18	Qu	0	11	7140.18	7129.18	LANL 2004, 085641	
21-05054	1632808.88	1774413.73	7140.18	Qbt3	11	60	7129.18	7080.18	LANL 2004, 085641	
21-05056	1632874.84	1774460.31	7133.94	Qu	0	9.5	7133.94	7124.44	LANL 2004, 085641	
21-05056	1632874.84	1774460.31	7133.94	Qbt3	9.5	50	7124.44	7083.94	LANL 2004, 085641	
21-05057	1632706.72	1774542.06	7137.79	Qu	0	22.5	7137.79	7115.29	LANL 2004, 085641	
21-05057	1632706.72	1774542.06	7137.79	Paleochannel	22.5	25	7115.29	7112.79	LANL 2004, 085641	
21-05057	1632706.72	1774542.06	7137.79	Qbt3	25	50	7112.79	7087.79	LANL 2004, 085641	
21-05058	1632637.54	1774625.73	7137.15	Qu	0	18.1	7137.15	7119.05	LANL 2004, 085641	
21-05058	1632637.54	1774625.73	7137.15	Qbt3	18.1	50	7119.05	7087.15	LANL 2004, 085641	
21-05059	1632883.35	1774402.73	7136.96	Qu	0	8.3	7136.96	7128.66	LANL 2004, 085641	
21-05059	1632883.35	1774402.73	7136.96	Paleochannel	8.3	36.4	7128.66	7100.56	LANL 2004, 085641	
21-05059	1632883.35	1774402.73	7136.96	Qbt3	36.4	50	7100.56	7086.96	LANL 2004, 085641	
21-05060	1632790.52	1774379.57	7141.92	Qu	0	6.9	7141.92	7135.02	LANL 2004, 085641	Angled borehole, angle not specified
21-05060	1632790.52	1774379.57	7141.92	Qbt3	6.9	145	7135.02	6996.92	LANL 2004, 085641	Angled borehole, angle not specified
21-05060	1632790.52	1774379.57	7141.92	Qbt2	145	175	6996.92	6966.92	LANL 2004, 085641	Angled borehole, angle not specified
21-05061	1632732.63	1774603.83	7133.93	Qu	0	10	7133.93	7123.93	LANL 2004, 085641	Angled borehole 35°
21-05061	1632732.63	1774603.83	7133.93	Qbt3	10	115	7123.93	7018.93	LANL 2004, 085641	Angled borehole 35°
21-05061	1632732.63	1774603.83	7133.93	Qbt2	115	190	7018.93	6943.93	LANL 2004, 085641	Angled borehole 35°
21-05062	1632779.14	1774557.89	7133.36	Qu	0	6	7133.36	7127.36	LANL 2004, 085641	Angled borehole 30°
21-05062	1632779.14	1774557.89	7133.36	Qbt3	6	82.5	7127.36	7050.86	LANL 2004, 085641	Angled borehole 30°
21-05063	1632631.08	1774505.25	7142.66	Qu	0	7.5	7142.66	7135.16	LANL 2004, 085641	
21-05063	1632631.08	1774505.25	7142.66	Qbt3	7.5	97.5	7135.16	7045.16	LANL 2004, 085641	
21-05063	1632631.08	1774505.25	7142.66	Qbt2	97.5	110.5	7045.16	7032.16	LANL 2004, 085641	
21-05064	1632764.50	1774403.14	7141.78	Qu	0	14.2	7141.78	7127.58	LANL 2004, 085641	
21-05064	1632764.50	1774403.14	7141.78	Qbt3	14.2	50	7127.58	7091.78	LANL 2004, 085641	
21-05065	1632734.72	1774611.19	7132.36	Qu	0	9.5	7132.36	7122.86	LANL 2004, 085641	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-05065	1632734.72	1774611.19	7132.36	Qbt3	9.5	50	7122.86	7082.36	LANL 2004, 085641	
21-05071	1632889.45	1774414.91	7135.81	Qu	0	8	7135.81	7127.81	LANL 2004, 085641	
21-05071	1632889.45	1774414.91	7135.81	Paleochannel	8	34.3	7127.81	7101.51	LANL 2004, 085641	
21-05071	1632889.45	1774414.91	7135.81	Qbt3	34.3	105	7101.51	7030.81	LANL 2004, 085641	
21-05071	1632889.45	1774414.91	7135.81	Qbt2	105	200	7030.81	6935.81	LANL 2004, 085641	
21-05073	1632803.31	1774519.40	7134.25	Qu	0	3.8	7134.25	7130.45	LANL 2004, 085641	
21-05073	1632803.31	1774519.40	7134.25	MDA bed	3.8	12	7130.45	7122.25	LANL 2004, 085641	
21-05073	1632803.31	1774519.40	7134.25	Qbt3	12	70	7122.25	7064.25	LANL 2004, 085641	
21-05074	1632842.59	1774523.15	7132.29	Qu	0	6	7132.29	7126.29	LANL 2004, 085641	
21-05074	1632842.59	1774523.15	7132.29	Qbt3	6	50	7126.29	7082.29	LANL 2004, 085641	
21-05075	1632707.74	1774585.32	7135.84	Qu	0	15	7135.84	7120.84	LANL 2004, 085641	
21-05075	1632707.74	1774585.32	7135.84	Qbt3	15	70	7120.84	7065.84	LANL 2004, 085641	
21-10838	1633945.80	1774309.60	7118.81	Qu	0	2.5	7118.81	7116.31	LANL 2006, 092589	
21-10838	1633945.80	1774309.60	7118.81	Qbt3	2.5	75	7116.31	7043.81	LANL 2006, 092589	
21-10839	1633979.79	1774306.55	7120.16	Qu	0	5.5	7120.16	7114.66	LANL 2006, 092589	
21-10839	1633979.79	1774306.55	7120.16	Qbt3	5.5	75	7114.66	7045.16	LANL 2006, 092589	
21-10840	1634008.95	1774310.94	7120.87	Qu	0	10	7120.87	7110.87	LANL 2006, 092589	
21-10840	1634008.95	1774310.94	7120.87	Qbt3	10	75	7110.87	7045.87	LANL 2006, 092589	
21-10840	1634008.95	1774310.94	7120.87	Qbt3	10	75	7110.87	7045.87	LANL 2006, 092589	
21-10841	1634066.87	1774310.46	7120.80	Qu	0	10	7120.80	7110.80	LANL 2006, 092589	
21-10841	1634066.87	1774310.46	7120.80	Qbt3	10	75	7110.80	7045.80	LANL 2006, 092589	
21-10842	1634104.53	1774315.41	7119.59	Qu	0	10	7119.59	7109.59	LANL 2006, 092589	
21-10842	1634104.53	1774315.41	7119.59	Qbt3	10	75	7109.59	7044.59	LANL 2006, 092589	
21-10843	1634135.39	1774323.45	7117.65	Qu	0	5	7117.65	7112.65	LANL 2006, 092589	
21-10843	1634135.39	1774323.45	7117.65	Qbt3	5	75	7112.65	7042.65	LANL 2006, 092589	
21-10844	1634089.16	1774332.43	7118.77	Qu	0	4	7118.77	7114.77	LANL 2006, 092589	
21-10844	1634089.16	1774332.43	7118.77	Qbt3	4	75	7114.77	7043.77	LANL 2006, 092589	
21-10845	1633999.34	1774329.45	7119.85	Qu	0	5.5	7119.85	7114.35	LANL 2006, 092589	
21-10845	1633999.34	1774329.45	7119.85	Qbt3	5.5	75	7114.35	7044.85	LANL 2006, 092589	
21-24524	1631322.59	1774639.93	7166.86	Qu	0	3.5	7166.86	7163.36	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbt3	3.5	95	7163.36	7071.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbt2	95	170	7071.86	6996.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbt1vu	170	250	6996.86	6916.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbt1g	250	299	6916.86	6867.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbtt	299	306	6867.86	6860.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qct	306	360	6860.86	6806.86	LANL 2007, 098942	
21-24524	1631322.59	1774639.93	7166.86	Qbof	360	670	6806.86	6496.86	LANL 2010, 111513	
21-24524	1631322.59	1774639.93	7166.86	Qbog	670	700	6496.86	6466.86	LANL 2010, 111513	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-24524	1631322.59	1774639.93	7166.86	Tpf	700	721	6466.86	6445.86	LANL 2010, 111513	
21-24525	1631291.42	1774752.31	7167.40	Qu	0	15	7167.40	7152.40	LANL 2007, 098942	
21-24525	1631291.42	1774752.31	7167.40	Qbt3	15	40	7152.40	7127.40	LANL 2007, 098942	
21-24526	1631377.10	1774773.93	7161.05	Qu	0	9	7161.05	7152.05	LANL 2007, 098942	
21-24526	1631377.10	1774773.93	7161.05	Qbt3	9	40	7152.05	7121.05	LANL 2007, 098942	
21-24527	1631443.55	1774749.65	7167.09	Qu	0	8.5	7167.09	7158.59	LANL 2007, 098942	
21-24527	1631443.55	1774749.65	7167.09	Qbt3	8.5	40	7158.59	7127.09	LANL 2007, 098942	
21-24528	1631363.62	1774737.84	7167.45	Qu	0	29.5	7167.45	7137.95	LANL 2007, 098942	
21-24528	1631363.62	1774737.84	7167.45	Qbt3	29.5	40	7137.95	7127.45	LANL 2007, 098942	
21-24531	1631348.63	1774700.12	7159.54	Qu	0	2	7159.54	7157.54	LANL 2007, 098942	
21-24531	1631348.63	1774700.12	7159.54	Qbt3	2	80	7157.54	7079.54	LANL 2007, 098942	
21-24532	1631432.89	1774769.37	7165.65	Qu	0	22	7165.65	7143.65	LANL 2007, 098942	
21-24532	1631432.89	1774769.37	7165.65	Qbt3	22	40	7143.65	7125.65	LANL 2007, 098942	
21-24533	1631438.18	1774586.21	7160.56	Qu	0	2	7160.56	7158.56	LANL 2007, 098942	
21-24533	1631438.18	1774586.21	7160.56	Qbt3	2	85	7158.56	7075.56	LANL 2007, 098942	
21-24534	1631461.61	1774573.36	7159.83	Qu	0	1.5	7159.83	7158.33	LANL 2007, 098942	
21-24534	1631461.61	1774573.36	7159.83	Qbt3	1.5	40	7158.33	7119.83	LANL 2007, 098942	
21-24535	1631308.35	1774523.53	7153.56	Qu	0	2	7153.56	7151.56	LANL 2007, 098942	
21-24535	1631308.35	1774523.53	7153.56	Qbt3	2	80	7151.56	7073.56	LANL 2007, 098942	
21-24538	1631303.74	1774499.12	7150.93	Qu	0	3.5	7150.93	7147.43	LANL 2007, 098942	
21-24538	1631303.74	1774499.12	7150.93	Qbt3	3.5	55	7147.43	7095.93	LANL 2007, 098942	
21-24539	1631189.07	1774680.21	7178.26	Qu	0	4.5	7178.26	7173.76	LANL 2007, 098942	
21-24539	1631189.07	1774680.21	7178.26	Qbt3	4.5	80	7173.76	7098.26	LANL 2007, 098942	
21-24540	1631170.06	1774688.56	7159.60	Qu	0	1.5	7159.60	7158.10	LANL 2007, 098942	
21-24540	1631170.06	1774688.56	7159.60	Qbt3	1.5	40	7158.10	7119.60	LANL 2007, 098942	
21-24541	1631192.65	1774607.63	7162.13	Qu	0	10	7162.13	7152.13	LANL 2007, 098942	
21-24541	1631192.65	1774607.63	7162.13	Qbt3	10	80	7152.13	7082.13	LANL 2007, 098942	
21-24542	1631243.46	1774740.13	7166.41	Qu	0	10	7166.41	7156.41	LANL 2007, 098942	
21-24542	1631243.46	1774740.13	7166.41	Qbt3	10	40	7156.41	7126.41	LANL 2007, 098942	
21-24772	1634038.31	1774306.42	7121.85	Qu	0	3	7121.85	7118.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbt3	3	95	7118.85	7026.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbt2	95	172	7026.85	6949.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbt1vu	172	260	6949.85	6861.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbt1g	260	322	6861.85	6799.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbtt	322	327	6799.85	6794.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qct	327	351	6794.85	6770.85	LANL 2006, 092589	
21-24772	1634038.31	1774306.42	7121.85	Qbof	351	360	6770.85	6761.85	LANL 2006, 092589	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-24774	1634045.81	1774248.15	7124.31	Qu	0	12.5	7124.31	7111.81	LANL 2006, 092589	
21-24774	1634045.81	1774248.15	7124.31	Qbt3	12.5	95	7111.81	7029.31	LANL 2006, 092589	
21-24774	1634045.81	1774248.15	7124.31	Qbt2	95	115	7029.31	7009.31	LANL 2006, 092589	
21-24775	1634154.67	1774347.84	7122.52	Qu	0	18	7122.52	7104.52	LANL 2006, 092589	
21-24775	1634154.67	1774347.84	7122.52	Qbt3	18	95	7104.52	7027.52	LANL 2006, 092589	
21-24775	1634154.67	1774347.84	7122.52	Qbt2	95	120	7027.52	7002.52	LANL 2006, 092589	
21-24777	1634052.37	1774364.70	7111.26	Qu	0	15	7111.26	7096.26	LANL 2006, 092589	
21-24777	1634052.37	1774364.70	7111.26	Qbt3	15	95	7096.26	7016.26	LANL 2006, 092589	
21-24777	1634052.37	1774364.70	7111.26	Qbt2	95	120	7016.26	6991.26	LANL 2006, 092589	
21-24778	1633921.63	1774300.16	7117.84	Qu	0	3.5	7117.84	7114.34	LANL 2006, 092589	
21-24778	1633921.63	1774300.16	7117.84	Qbt3	3.5	100	7114.34	7017.84	LANL 2006, 092589	
21-24778	1633921.63	1774300.16	7117.84	Qbt2	100	120	7017.84	6997.84	LANL 2006, 092589	
21-24779	1634166.11	1774312.86	7113.03	Qu	0	20	7113.03	7093.03	LANL 2006, 092589	
21-24779	1634166.11	1774312.86	7113.03	Paleochannel	20	33	7093.03	7080.03	LANL 2006, 092589	
21-24779	1634166.11	1774312.86	7113.03	Qbt3	33	96	7080.03	7017.03	LANL 2006, 092589	
21-24779	1634166.11	1774312.86	7113.03	Qbt2	96	119	7017.03	6994.03	LANL 2006, 092589	
21-24780	1634095.60	1774433.42	7105.24	Qu	0	1.5	7105.24	7103.74	LANL 2006, 092589	
21-24780	1634095.60	1774433.42	7105.24	Qbt3	1.5	90	7103.74	7015.24	LANL 2006, 092589	
21-24780	1634095.60	1774433.42	7105.24	Qbt2	90	120	7015.24	6985.24	LANL 2006, 092589	
21-24781	1634133.59	1774253.70	7123.59	Qu	0	12.5	7123.59	7111.09	LANL 2006, 092589	
21-24781	1634133.59	1774253.70	7123.59	Qbt3	12.5	100	7111.09	7023.59	LANL 2006, 092589	
21-24781	1634133.59	1774253.70	7123.59	Qbt2	100	120	7023.59	7003.59	LANL 2006, 092589	
21-25262	1632695.79	1774454.35	7142.70	Qu	0	10.9	7142.70	7131.80	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbt3	10.9	109	7131.80	7033.70	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbt2	109	168	7033.70	6974.70	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbt1vu	168	245	6974.70	6897.70	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbt1g	245	333.2	6897.70	6809.50	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qct	333.2	375.8	6809.50	6766.90	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbof	375.8	670	6766.90	6472.70	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Qbog	670	693.7	6472.70	6449.00	LANL 2009, 108012	
21-25262	1632695.79	1774454.35	7142.70	Tpf	693.7	695.1	6449.00	6447.60	LANL 2009, 108012	
21-25263	1632709.01	1774621.60	7134.80	Qu	0	9.1	7134.80	7125.70	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbt3	9.1	101.5	7125.70	7033.30	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbt2	101.5	180	7033.30	6954.80	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbt1vu	180	229	6954.80	6905.80	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbt1g	229	330	6905.80	6804.80	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbtt	330	332.3	6804.80	6802.50	LANL 2006, 094151	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-25263	1632709.01	1774621.60	7134.80	Qct	332.3	350.7	6802.50	6784.10	LANL 2006, 094151	
21-25263	1632709.01	1774621.60	7134.80	Qbof	350.7	354	6784.10	6780.80	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qu	0	1.1	7125.80	7124.70	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbt3	1.1	95	7124.70	7030.80	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbt2	95	175.5	7030.80	6950.30	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbt1vu	175.5	225.3	6950.30	6900.50	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbt1g	225.3	324.6	6900.50	6801.20	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbtt	324.6	325.8	6801.20	6800.00	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qct	325.8	353.2	6800.00	6772.60	LANL 2006, 094151	
21-25264	1632895.98	1774509.59	7125.80	Qbof	353.2	354	6772.60	6771.80	LANL 2006, 094151	
21-25355	1632783.01	1774388.91	7141.80	Qu	0	9.7	7141.80	7132.10	LANL 2006, 094151	
21-25355	1632783.01	1774388.91	7141.80	Qbt3	9.7	40	7132.10	7101.80	LANL 2006, 094151	
21-25356	1632808.41	1774371.34	7141.80	Qu	0	10	7141.80	7131.80	LANL 2006, 094151	
21-25356	1632808.41	1774371.34	7141.80	Qbt3	10	40	7131.80	7101.80	LANL 2006, 094151	
21-25357	1632837.69	1774351.88	7141.60	Qu	0	11.1	7141.60	7130.50	LANL 2006, 094151	
21-25357	1632837.69	1774351.88	7141.60	Qbt3	11.1	40	7130.50	7101.60	LANL 2006, 094151	
21-25358	1632771.35	1774366.68	7143.00	Qu	0	6.8	7143.00	7136.20	LANL 2006, 094151	
21-25358	1632771.35	1774366.68	7143.00	Qbt3	6.8	40	7136.20	7103.00	LANL 2006, 094151	
21-25359	1632748.29	1774404.84	7142.60	Qu	0	10.4	7142.60	7132.20	LANL 2006, 094151	
21-25359	1632748.29	1774404.84	7142.60	Qbt3	10.4	40	7132.20	7102.60	LANL 2006, 094151	
21-25360	1632705.08	1774443.93	7142.60	Qu	0	10.9	7142.60	7131.70	LANL 2006, 094151	
21-25360	1632705.08	1774443.93	7142.60	Qbt3	10.9	40	7131.70	7102.60	LANL 2006, 094151	
21-25361	1632618.12	1774598.26	7136.90	Qu	0	4.8	7136.90	7132.10	LANL 2006, 094151	
21-25361	1632618.12	1774598.26	7136.90	Qbt3	4.8	40	7132.10	7096.90	LANL 2006, 094151	
21-25362	1632618.48	1774650.83	7136.80	Qu	0	8.4	7136.80	7128.40	LANL 2006, 094151	
21-25362	1632618.48	1774650.83	7136.80	Qbt3	8.4	40	7128.40	7096.80	LANL 2006, 094151	
21-25363	1632645.30	1774684.65	7137.40	Qu	0	8.1	7137.40	7129.30	LANL 2006, 094151	
21-25363	1632645.30	1774684.65	7137.40	Qbt3	8.1	40	7129.30	7097.40	LANL 2006, 094151	
21-25364	1632554.00	1774584.32	7143.30	Qu	0	15	7143.30	7128.30	LANL 2006, 094151	
21-25364	1632554.00	1774584.32	7143.30	Qbt3	15	30	7128.30	7113.30	LANL 2006, 094151	
21-25365	1632556.53	1774584.32	7143.20	Qu	0	15	7143.20	7128.20	LANL 2006, 094151	
21-25365	1632556.53	1774584.32	7143.20	Qbt3	15	30	7128.20	7113.20	LANL 2006, 094151	
21-25366	1632559.13	1774597.49	7143.20	Qu	0	15	7143.20	7128.20	LANL 2006, 094151	
21-25366	1632559.13	1774597.49	7143.20	Qbt3	15	30	7128.20	7113.20	LANL 2006, 094151	
21-25368	1633078.60	1774286.55	7135.90	Qu	0	2.7	7135.90	7133.20	LANL 2006, 094151	
21-25368	1633078.60	1774286.55	7135.90	Qbt3	2.7	29	7133.20	7106.90	LANL 2006, 094151	
21-25369	1633075.96	1774276.17	7136.50	Qu	0	3	7136.50	7133.50	LANL 2006, 094151	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-25369	1633075.96	1774276.17	7136.50	Qbt3	3	29	7133.50	7107.50	LANL 2006, 094151	
21-25370	1633071.81	1774264.22	7137.20	Qu	0	10	7137.20	7127.20	LANL 2006, 094151	
21-25370	1633071.81	1774264.22	7137.20	Qbt3	10	30	7127.20	7107.20	LANL 2006, 094151	
21-25371	1633067.47	1774250.66	7138.00	Qu	0	11.1	7138.00	7126.90	LANL 2006, 094151	
21-25371	1633067.47	1774250.66	7138.00	Qbt3	11.1	30	7126.90	7108.00	LANL 2006, 094151	
21-25372	1632795.68	1774552.40	7133.10	Qu	0	5.9	7133.10	7127.20	LANL 2006, 094151	
21-25372	1632795.68	1774552.40	7133.10	Qbt3	5.9	101.5	7127.20	7031.60	LANL 2006, 094151	
21-25372	1632795.68	1774552.40	7133.10	Qbt2	101.5	180.5	7031.60	6952.60	LANL 2006, 094151	
21-25372	1632795.68	1774552.40	7133.10	Qbt1vu	180.5	228	6952.60	6905.10	LANL 2006, 094151	
21-25372	1632795.68	1774552.40	7133.10	Qbt1g	228	279	6905.10	6854.10	LANL 2006, 094151	
21-25373	1632935.95	1774468.13	7126.90	Qu	0	0.9	7126.90	7126.00	LANL 2006, 094151	
21-25373	1632935.95	1774468.13	7126.90	Qbt3	0.9	97.5	7126.00	7029.40	LANL 2006, 094151	
21-25373	1632935.95	1774468.13	7126.90	Qbt2	97.5	175.5	7029.40	6951.40	LANL 2006, 094151	
21-25373	1632935.95	1774468.13	7126.90	Qbt1vu	175.5	226.3	6951.40	6900.60	LANL 2006, 094151	
21-25373	1632935.95	1774468.13	7126.90	Qbt1g	226.3	279	6900.60	6847.90	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Qu	0	2.9	7137.90	7135.00	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Paleochannel	2.9	22.5	7135.00	7115.40	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Qbt3	22.5	106.2	7115.40	7031.70	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Qbt2	106.2	172	7031.70	6965.90	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Qbt1vu	172	232.8	6965.90	6905.10	LANL 2006, 094151	
21-25374	1632701.91	1774546.82	7137.90	Qbt1g	232.8	279	6905.10	6858.90	LANL 2006, 094151	
21-25375	1632669.38	1774477.92	7142.10	Qu	0	10	7142.10	7132.10	LANL 2006, 094151	
21-25375	1632669.38	1774477.92	7142.10	Qbt3	10	112	7132.10	7030.10	LANL 2006, 094151	
21-25375	1632669.38	1774477.92	7142.10	Qbt2	112	163	7030.10	6979.10	LANL 2006, 094151	
21-25375	1632669.38	1774477.92	7142.10	Qbt1vu	163	240	6979.10	6902.10	LANL 2006, 094151	
21-25375	1632669.38	1774477.92	7142.10	Qbt1g	240	280	6902.10	6862.10	LANL 2006, 094151	
21-25376	1632660.83	1774653.88	7136.10	Qu	0	8.6	7136.10	7127.50	LANL 2006, 094151	
21-25376	1632660.83	1774653.88	7136.10	Qbt3	8.6	102	7127.50	7034.10	LANL 2006, 094151	
21-25376	1632660.83	1774653.88	7136.10	Qbt2	102	180.5	7034.10	6955.60	LANL 2006, 094151	
21-25376	1632660.83	1774653.88	7136.10	Qbt1vu	180.5	225.6	6955.60	6910.50	LANL 2006, 094151	
21-25376	1632660.83	1774653.88	7136.10	Qbt1g	225.6	283	6910.50	6853.10	LANL 2006, 094151	
21-25380	1632905.76	1774298.94	7141.70	Qu	0	10	7141.70	7131.70	LANL 2006, 094151	
21-25380	1632905.76	1774298.94	7141.70	Qbt3	10	100	7131.70	7041.70	LANL 2006, 094151	
21-25381	1632897.28	1774358.74	7140.70	Qu	0	10	7140.70	7130.70	LANL 2006, 094151	
21-25381	1632897.28	1774358.74	7140.70	Qbt3	10	100	7130.70	7040.70	LANL 2006, 094151	
21-25382	1633010.38	1774300.61	7139.10	Qu	0	11.5	7139.10	7127.60	LANL 2006, 094151	
21-25382	1633010.38	1774300.61	7139.10	Qbt3	11.5	100	7127.60	7039.10	LANL 2006, 094151	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-25383	1632944.61	1774246.39	7141.60	Qu	0	6.1	7141.60	7135.50	LANL 2006, 094151	
21-25383	1632944.61	1774246.39	7141.60	Qbt3	6.1	100	7135.50	7041.60	LANL 2006, 094151	
21-25384	1632993.55	1774402.92	7130.90	Qu	0	13.7	7130.90	7117.20	LANL 2006, 094151	
21-25384	1632993.55	1774402.92	7130.90	Qbt3	13.7	100	7117.20	7030.90	LANL 2006, 094151	
21-25388	1632954.11	1774436.41	7129.00	Qu	0	1.8	7129.00	7127.20	LANL 2006, 094151	
21-25388	1632954.11	1774436.41	7129.00	Qbt3	1.8	100	7127.20	7029.00	LANL 2006, 094151	
21-25389	1632920.83	1774381.73	7134.60	Qu	0	20	7134.60	7114.60	LANL 2006, 094151	
21-25389	1632920.83	1774381.73	7134.60	Qbt3	20	103	7114.60	7031.60	LANL 2006, 094151	
21-25390	1632764.48	1774354.21	7143.60	Qu	0	13.1	7143.60	7130.50	LANL 2006, 094151	
21-25390	1632764.48	1774354.21	7143.60	Qbt3	13.1	100	7130.50	7043.60	LANL 2006, 094151	
21-26480	1633426.13	1774300.75	7123.78	Qal	0	0.2	7123.78	7123.58	LANL 2006, 095046	
21-26480	1633426.13	1774300.75	7123.78	Qbt3	0.2	45	7123.58	7078.78	LANL 2006, 095046	
21-26481	1633336.27	1774144.99	7135.52	Qal	0	6.2	7135.52	7129.32	LANL 2006, 095046	
21-26481	1633336.27	1774144.99	7135.52	Qbt3	6.2	45	7129.32	7090.52	LANL 2006, 095046	
21-26482	1633667.67	1774053.96	7127.57	Qal	0	2.5	7127.57	7125.07	LANL 2006, 095046	
21-26482	1633667.67	1774053.96	7127.57	Qbt3	2.5	50	7125.07	7077.57	LANL 2006, 095046	
21-26484	1633281.33	1774385.95	7123.09	Qal	0	15	7123.09	7108.09	LANL 2006, 095046	
21-26484	1633281.33	1774385.95	7123.09	Paleochannel	15	27	7108.09	7096.09	LANL 2006, 095046	
21-26484	1633281.33	1774385.95	7123.09	Qbt3	27	45	7096.09	7078.09	LANL 2006, 095046	
21-26485	1633367.64	1774311.93	7125.23	Qu	0	0.5	7125.23	7124.73	LANL 2006, 095046	
21-26485	1633367.64	1774311.93	7125.23	Qbt3	0.5	45	7124.73	7080.23	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qu	0	5.5	7133.25	7127.75	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbt3	5.5	110	7127.75	7023.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbt2	110	175	7023.25	6958.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbt1vu	175	227	6958.25	6906.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbt1g	227	338	6906.25	6795.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbtt	338	342	6795.25	6791.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qct	342	353	6791.25	6780.25	LANL 2006, 095046	
21-26588	1633433.73	1774218.42	7133.25	Qbof	353	360	6780.25	6773.25	LANL 2006, 095046	
21-26589	1633195.42	1774355.29	7127.80	Qal	0	12	7127.80	7115.80	LANL 2006, 095046	Angled borehole 45°
21-26589	1633195.42	1774355.29	7127.80	Qbt3	12	140	7115.80	6987.80	LANL 2006, 095046	Angled borehole 45°
21-26590	1633227.78	1774346.84	7127.31	Qal	0	7	7127.31	7120.31	LANL 2006, 095046	Angled borehole 45°
21-26590	1633227.78	1774346.84	7127.31	Qbt3	7	140	7120.31	6987.31	LANL 2006, 095046	Angled borehole 45°
21-26591	1633452.64	1774259.80	7129.98	Qu	0	2	7129.98	7127.98	LANL 2006, 095046	
21-26591	1633452.64	1774259.80	7129.98	Qbt3	2	35	7127.98	7094.98	LANL 2006, 095046	
21-26592	1633521.43	1774244.62	7129.11	Qu	0	4	7129.11	7125.11	LANL 2006, 095046	
21-26592	1633521.43	1774244.62	7129.11	Qbt3	4	35	7125.11	7094.11	LANL 2006, 095046	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
21-26593	1633464.54	1774154.97	7133.60	Qu	0	4	7133.60	7129.60	LANL 2006, 095046	
21-26593	1633464.54	1774154.97	7133.60	Qbt3	4	35	7129.60	7098.60	LANL 2006, 095046	
21-26594	1633525.75	1774196.36	7131.24	Qu	0	3	7131.24	7128.24	LANL 2006, 095046	
21-26594	1633525.75	1774196.36	7131.24	Qbt3	3	35	7128.24	7096.24	LANL 2006, 095046	
21-26595	1633512.32	1774144.68	7132.82	Qu	0	6	7132.82	7126.82	LANL 2006, 095046	
21-26595	1633512.32	1774144.68	7132.82	Qbt3	6	35	7126.82	7097.82	LANL 2006, 095046	
21-26596	1633623.17	1774220.83	7128.30	Qu	0	5	7128.30	7123.30	LANL 2006, 095046	
21-26596	1633623.17	1774220.83	7128.30	Qbt3	5	35	7123.30	7093.30	LANL 2006, 095046	
21-26597	1633232.96	1633232.96	7138.06	Qu	0	2	7138.06	7136.06	LANL 2006, 095046	
21-26597	1633232.96	1633232.96	7138.06	Qbt3	2	85	7136.06	7053.06	LANL 2006, 095046	
21-26598	1633182.94	1774224.13	7138.11	Qu	0	7	7138.11	7131.11	LANL 2006, 095046	Angled borehole 45°
21-26598	1633182.94	1774224.13	7138.11	Qbt3	7	85	7131.11	7053.11	LANL 2006, 095046	Angled borehole 45°
21-603058	1632738.00	1774656.00	7134.80	Qbt3	0	92	7134.80	7042.80	LANL 2007, 100484	
21-603058	1632738.00	1774656.00	7134.80	Qbt2	92	170	7042.80	6964.80	LANL 2007, 100484	
21-603058	1632738.00	1774656.00	7134.80	Qbt1vu	170	220	6964.80	6914.80	LANL 2007, 100484	
21-603058	1632738.00	1774656.00	7134.80	Qbt1g	220	322	6914.80	6812.80	LANL 2007, 100484	
21-603058	1632738.00	1774656.00	7134.80	Qct	322	342	6812.80	6792.80	LANL 2007, 100484	
21-603058	1632738.00	1774656.00	7134.80	Qbof	342	354	6792.80	6780.80	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qu	0	6	7142.70	7136.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qbt3	6	110	7136.70	7032.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qbt2	110	168	7032.70	6974.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qbt1vu	168	245	6974.70	6897.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qbt1g	245	335	6897.70	6807.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qct	335	375	6807.70	6767.70	LANL 2007, 100484	
21-603059	1632693.00	1774418.50	7142.70	Qbof	375	390	6767.70	6752.70	LANL 2007, 100484	
21-607955	1632810.21	1774586.29	7128.63	Qbt3	0	90	7128.63	7038.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbt2	90	172	7038.63	6956.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbt1vu	172	222	6956.63	6906.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbt1g	222	305	6906.63	6823.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbtt	305	310	6823.63	6818.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qct	310	350	6818.63	6778.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbof	350	624	6778.63	6504.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Qbog	624	658	6504.63	6470.63	LANL 2009, 108012	
21-607955	1632810.21	1774586.29	7128.63	Tpf	658	966.5	6470.63	6162.13	LANL 2009, 108012	
50-09100	1626313.13	1768774.12	7229.11	Qu	0	5	7229.11	7224.11	LANL 2006, 094688	
50-09100	1626313.13	1768774.12	7229.11	Qbt3	5	88.5	7224.11	7140.61	LANL 2006, 094688	
50-09100	1626313.13	1768774.12	7229.11	Qbt2	88.5	150	7140.61	7079.11	LANL 2006, 094688	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-09100	1626313.13	1768774.12	7229.11	Qbt1vu	150	223	7079.11	7006.11	LANL 2006, 094688	
50-09100	1626313.13	1768774.12	7229.11	Qbt1vc	223	233	7006.11	6996.11	LANL 2006, 094688	
50-09100	1626313.13	1768774.12	7229.11	Qbt1g	233	313	6996.11	6916.11	LANL 2006, 094688	
50-09100	1626313.13	1768774.12	7229.11	Qbtt	313	316	6916.11	6913.11	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qu	0	4.1	7274.54	7270.44	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qbt3	4.1	117	7270.44	7157.54	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qbt2	117	190	7157.54	7084.54	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qbt1vu	190	235	7084.54	7039.54	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qbt1vc	235	248.5	7039.54	7026.04	LANL 2006, 094688	
50-10131	1625547.52	1768768.94	7274.54	Qbt1g	248.5	250	7026.04	7024.54	LANL 2006, 094688	
50-24766	1625979.42	1768830.73	7243.77	Qu	0	5.6	7243.77	7238.17	LANL 2006, 094688	
50-24766	1625979.42	1768830.73	7243.77	Qbt3	5.6	97.8	7238.17	7145.97	LANL 2006, 094688	
50-24766	1625979.42	1768830.73	7243.77	Qbt2	97.8	150	7145.97	7093.77	LANL 2006, 094688	
50-24767	1626471.33	1768751.83	7215.33	Qu	0	2.8	7215.33	7212.53	LANL 2006, 094688	
50-24767	1626471.33	1768751.83	7215.33	Qbt3	2.8	90	7212.53	7125.33	LANL 2006, 094688	
50-24767	1626471.33	1768751.83	7215.33	Qbt2	90	150	7125.33	7065.33	LANL 2006, 094688	
50-24768	1626687.21	1768716.38	7205.29	Qu	0	4.5	7205.29	7200.79	LANL 2006, 094688	
50-24768	1626687.21	1768716.38	7205.29	Qbt3	4.5	90	7200.79	7115.29	LANL 2006, 094688	
50-24768	1626687.21	1768716.38	7205.29	Qbt2	90	151.5	7115.29	7053.79	LANL 2006, 094688	
50-24770	1626454.18	1768610.04	7234.40	Qu	0	9.5	7234.40	7224.90	LANL 2006, 094688	
50-24770	1626454.18	1768610.04	7234.40	Qbt3	9.5	115	7224.90	7119.40	LANL 2006, 094688	
50-24770	1626454.18	1768610.04	7234.40	Qbt2	115	150	7119.40	7084.40	LANL 2006, 094688	
50-24771	1626333.11	1768634.18	7237.66	Qu	0	11.2	7237.66	7226.46	LANL 2006, 094688	
50-24771	1626333.11	1768634.18	7237.66	Qbt3	11.2	110	7226.46	7127.66	LANL 2006, 094688	
50-24771	1626333.11	1768634.18	7237.66	Qbt2	110	150	7127.66	7087.66	LANL 2006, 094688	
50-24773	1626239.21	1768652.35	7241.49	Qu	0	6	7241.49	7235.49	LANL 2006, 094688	
50-24773	1626239.21	1768652.35	7241.49	Qbt3	6	109	7235.49	7132.49	LANL 2006, 094688	
50-24773	1626239.21	1768652.35	7241.49	Qbt2	109	153	7132.49	7088.49	LANL 2006, 094688	
50-24782	1626095.45	1768670.85	7246.60	Qu	0	8.8	7246.60	7237.80	LANL 2006, 094688	
50-24782	1626095.45	1768670.85	7246.60	Qbt3	8.8	101	7237.80	7145.60	LANL 2006, 094688	
50-24782	1626095.45	1768670.85	7246.60	Qbt2	101	160	7145.60	7086.60	LANL 2006, 094688	
50-24783	1625976.99	1768686.30	7251.49	Qu	0	7	7251.49	7244.49	LANL 2006, 094688	
50-24783	1625976.99	1768686.30	7251.49	Qbt3	7	113	7244.49	7138.49	LANL 2006, 094688	
50-24783	1625976.99	1768686.30	7251.49	Qbt2	113	152.5	7138.49	7098.99	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qu	0	5	7279.77	7274.77	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qbt3	5	116.4	7274.77	7163.37	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qbt2	116.4	192.9	7163.37	7086.87	LANL 2006, 094688	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-24784	1625429.58	1768845.82	7279.77	Qbt1vu	192.9	237.5	7086.87	7042.27	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qbt1vc	237.5	250.8	7042.27	7028.97	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qbt1g	250.8	327	7028.97	6952.77	LANL 2006, 094688	
50-24784	1625429.58	1768845.82	7279.77	Qbtt	327	329.5	6952.77	6950.27	LANL 2009, 107389	
50-24784	1625429.58	1768845.82	7279.77	Qct	329.5	396.2	6950.27	6883.57	LANL 2009, 107389	
50-24784	1625429.58	1768845.82	7279.77	Qbof	396.2	452.5	6883.57	6827.27	LANL 2009, 107389	
50-24785	1625488.20	1768806.37	7277.93	Qu	0	4.1	7277.93	7273.83	LANL 2006, 094688	
50-24785	1625488.20	1768806.37	7277.93	Qbt3	4.1	117	7273.83	7160.93	LANL 2006, 094688	
50-24785	1625488.20	1768806.37	7277.93	Qbt2	117	190	7160.93	7087.93	LANL 2006, 094688	
50-24785	1625488.20	1768806.37	7277.93	Qbt1vu	190	235	7087.93	7042.93	LANL 2006, 094688	
50-24785	1625488.20	1768806.37	7277.93	Qbt1vc	235	248.5	7042.93	7029.43	LANL 2006, 094688	
50-24785	1625488.20	1768806.37	7277.93	Qbt1g	248.5	275	7029.43	7002.93	LANL 2006, 094688	
50-24796	1625670.69	1768789.56	7265.97	Qu	0	6	7265.97	7259.97	LANL 2006, 094688	
50-24796	1625670.69	1768789.56	7265.97	Qbt3	6	111	7259.97	7154.97	LANL 2006, 094688	
50-24796	1625670.69	1768789.56	7265.97	Qbt2	111	150	7154.97	7115.97	LANL 2006, 094688	
50-24797	1625843.35	1768789.56	7256.43	Qu	0	6.4	7256.43	7250.03	LANL 2006, 094688	
50-24797	1625843.35	1768789.56	7256.43	Qbt3	6.4	109	7250.03	7147.43	LANL 2006, 094688	
50-24797	1625843.35	1768789.56	7256.43	Qbt2	109	160	7147.43	7096.43	LANL 2006, 094688	
50-24799	1625950.84	1768770.12	7248.99	Qu	0	5.4	7248.99	7243.59	LANL 2006, 094688	
50-24799	1625950.84	1768770.12	7248.99	Qbt3	5.4	109.2	7243.59	7139.79	LANL 2006, 094688	
50-24799	1625950.84	1768770.12	7248.99	Qbt2	109.2	160	7139.79	7088.99	LANL 2006, 094688	
50-24801	1625946.49	1768708.38	7252.06	Qu	0	6.1	7252.06	7245.96	LANL 2006, 094688	
50-24801	1625946.49	1768708.38	7252.06	Qbt3	6.1	109.5	7245.96	7142.56	LANL 2006, 094688	
50-24801	1625946.49	1768708.38	7252.06	Qbt2	109.5	150	7142.56	7102.06	LANL 2006, 094688	
50-24802	1625933.91	1768629.48	7257.19	Qu	0	8.8	7257.19	7248.39	LANL 2006, 094688	
50-24802	1625933.91	1768629.48	7257.19	Qbt3	8.8	113.1	7248.39	7144.09	LANL 2006, 094688	
50-24802	1625933.91	1768629.48	7257.19	Qbt2	113.1	159.1	7144.09	7098.09	LANL 2006, 094688	
50-24803	1625919.05	1768572.31	7260.19	Qu	0	9.8	7260.19	7250.39	LANL 2006, 094688	
50-24803	1625919.05	1768572.31	7260.19	Qbt3	9.8	110.7	7250.39	7149.49	LANL 2006, 094688	
50-24803	1625919.05	1768572.31	7260.19	Qbt2	110.7	154.1	7149.49	7106.09	LANL 2006, 094688	
50-24804	1625891.61	1768501.41	7262.43	Qu	0	6.8	7262.43	7255.63	LANL 2006, 094688	
50-24804	1625891.61	1768501.41	7262.43	Qbt3	6.8	120	7255.63	7142.43	LANL 2006, 094688	
50-24804	1625891.61	1768501.41	7262.43	Qbt2	120	150	7142.43	7112.43	LANL 2006, 094688	
50-24810	1625908.76	1768476.26	7262.39	Qu	0	9	7262.39	7253.39	LANL 2006, 094688	
50-24810	1625908.76	1768476.26	7262.39	Qbt3	9	113.8	7253.39	7148.59	LANL 2006, 094688	
50-24810	1625908.76	1768476.26	7262.39	Qbt2	113.8	151.7	7148.59	7110.69	LANL 2006, 094688	
50-24811	1626176.32	1768420.23	7255.24	Qu	0	12.2	7255.24	7243.04	LANL 2006, 094688	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-24811	1626176.32	1768420.23	7255.24	Qbt3	12.2	114.1	7243.04	7141.14	LANL 2006, 094688	
50-24811	1626176.32	1768420.23	7255.24	Qbt2	114.1	150	7141.14	7105.24	LANL 2006, 094688	
50-24812	1626330.69	1768396.22	7247.32	Qu	0	6.4	7247.32	7240.92	LANL 2006, 094688	
50-24812	1626330.69	1768396.22	7247.32	Qbt3	6.4	110.9	7240.92	7136.42	LANL 2006, 094688	
50-24812	1626330.69	1768396.22	7247.32	Qbt2	110.9	150	7136.42	7097.32	LANL 2006, 094688	
50-24813	1626470.19	1768374.83	7243.20	Qu	0	4.1	7243.20	7239.10	LANL 2006, 094688	
50-24813	1626470.19	1768374.83	7243.20	Qbt3	4.1	119.2	7239.10	7124.00	LANL 2006, 094688	
50-24813	1626470.19	1768374.83	7243.20	Qbt2	119.2	180	7124.00	7063.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qbt1vu	180	234	7063.20	7009.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qbt1vc	234	248	7009.20	6995.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qbt1g	248	324	6995.20	6919.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qbtt	324	326	6919.20	6917.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qct	326	393	6917.20	6850.20	LANL 2009, 107389	
50-24813	1626470.19	1768374.83	7243.20	Qbof	393	636	6850.20	6607.20	LANL 2009, 107389	
50-24814	1626586.82	1768383.64	7240.30	Qu	0	4.8	7240.30	7235.50	LANL 2006, 094688	
50-24814	1626586.82	1768383.64	7240.30	Qbt3	4.8	106.6	7235.50	7133.70	LANL 2006, 094688	
50-24814	1626586.82	1768383.64	7240.30	Qbt2	106.6	150	7133.70	7090.30	LANL 2006, 094688	
50-24815	1626601.68	1768483.12	7235.67	Qu	0	10	7235.67	7225.67	LANL 2006, 094688	
50-24815	1626601.68	1768483.12	7235.67	Qbt3	10	118.3	7225.67	7117.37	LANL 2006, 094688	
50-24815	1626601.68	1768483.12	7235.67	Qbt2	118.3	150	7117.37	7085.67	LANL 2006, 094688	
50-24816	1625463.05	1768945.07	7279.67	Qu	0	22.5	7279.67	7257.17	LANL 2006, 094688	
50-24816	1625463.05	1768945.07	7279.67	Qbt3	22.5	111.4	7257.17	7168.27	LANL 2006, 094688	
50-24816	1625463.05	1768945.07	7279.67	Qbt2	111.4	173.5	7168.27	7106.17	LANL 2006, 094688	
50-24816	1625463.05	1768945.07	7279.67	Qbt1vu	173.5	225	7106.17	7054.67	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qu	0	6.4	7264.74	7258.34	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qbt3	6.4	104.8	7258.34	7159.94	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qbt2	104.8	172.2	7159.94	7092.54	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qbt1vu	172.2	239.4	7092.54	7025.34	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qbt1vc	239.4	248	7025.34	7016.74	LANL 2006, 094688	
50-24817	1625784.46	1768969.63	7264.74	Qbt1g	248	250	7016.74	7014.74	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qu	0	15.5	7271.07	7255.57	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qbt3	15.5	118.7	7255.57	7152.37	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qbt2	118.7	181.5	7152.37	7089.57	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qbt1vu	181.5	241.5	7089.57	7029.57	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qbt1vc	241.5	254.5	7029.57	7016.57	LANL 2006, 094688	
50-24819	1625568.24	1768566.25	7271.07	Qbt1g	254.5	275	7016.57	6996.07	LANL 2006, 094688	
50-24820	1626014.41	1768274.96	7258.36	Qu	0	3.7	7258.36	7254.66	LANL 2006, 094688	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-24820	1626014.41	1768274.96	7258.36	Qbt3	3.7	109	7254.66	7149.36	LANL 2006, 094688	
50-24820	1626014.41	1768274.96	7258.36	Qbt2	109	172.5	7149.36	7085.86	LANL 2006, 094688	
50-24820	1626014.41	1768274.96	7258.36	Qbt1vu	172.5	236	7085.86	7022.36	LANL 2006, 094688	
50-24820	1626014.41	1768274.96	7258.36	Qbt1vc	236	246.7	7022.36	7011.66	LANL 2006, 094688	
50-24820	1626014.41	1768274.96	7258.36	Qbt1g	246.7	602.5	7011.66	6655.86	LANL 2009, 107389	
50-24821	1626373.14	1768198.92	7240.69	Qu	0	4.7	7240.69	7235.99	LANL 2006, 094688	
50-24821	1626373.14	1768198.92	7240.69	Qbt3	4.7	106.2	7235.99	7134.49	LANL 2006, 094688	
50-24821	1626373.14	1768198.92	7240.69	Qbt2	106.2	167.2	7134.49	7073.49	LANL 2006, 094688	
50-24821	1626373.14	1768198.92	7240.69	Qbt1vu	167.2	217	7073.49	7023.69	LANL 2006, 094688	
50-24821	1626373.14	1768198.92	7240.69	Qbt1vc	217	237	7023.69	7003.69	LANL 2006, 094688	
50-24821	1626373.14	1768198.92	7240.69	Qbt1g	237	250	7003.69	6990.69	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qu	0	4.7	7227.41	7222.71	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qbt3	4.7	101.1	7222.71	7126.31	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qbt2	101.1	182	7126.31	7045.41	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qbt1vu	182	225	7045.41	7002.41	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qbt1vc	225	241.3	7002.41	6986.11	LANL 2006, 094688	
50-24822	1626758.15	1768436.53	7227.41	Qbt1g	241.3	315.7	6986.11	6911.71	LANL 2009, 107389	
50-24822	1626758.15	1768436.53	7227.41	Qbtt	315.7	320	6911.71	6907.41	LANL 2009, 107389	
50-24822	1626758.15	1768436.53	7227.41	Qct	320	386.7	6907.41	6840.71	LANL 2009, 107389	
50-24822	1626758.15	1768436.53	7227.41	Qbof	386.7	452.5	6840.71	6774.91	LANL 2009, 107389	
50-25451	1626136.08	1768024.26	7239.05	Qu	0	4.2	7239.05	7234.85	LANL 2006, 094688	
50-25451	1626136.08	1768024.26	7239.05	Qbt3	4.2	90	7234.85	7149.05	LANL 2006, 094688	
50-25451	1626136.08	1768024.26	7239.05	Qbt2	90	165	7149.05	7074.05	LANL 2006, 094688	
50-25451	1626136.08	1768024.26	7239.05	Qbt1vu	165	227.5	7074.05	7011.55	LANL 2006, 094688	
50-25451	1626136.08	1768024.26	7239.05	Qbt1vc	227.5	237.5	7011.55	7001.55	LANL 2006, 094688	
50-25451	1626136.08	1768024.26	7239.05	Qbt1g	237.5	300	7001.55	6939.05	LANL 2006, 094688	
50-25621	1626188.71	1768797.40	7236.62	Qu	0	5	7236.62	7231.62	LANL 2006, 094688	
50-25621	1626188.71	1768797.40	7236.62	Qbt3	5	60	7231.62	7176.62	LANL 2006, 094688	
50-603061	1626385.96	1769012.10	7218.89	Qu	0	9	7218.89	7209.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbt3	9	95	7209.89	7123.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbt2	95	165	7123.89	7053.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbt1vu	165	216.7	7053.89	7002.19	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbt1vc	216.7	240	7002.19	6978.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbt1g	240	312	6978.89	6906.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbtt	312	315	6906.89	6903.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qct	315	382	6903.89	6836.89	LANL 2009, 107389	
50-603061	1626385.96	1769012.10	7218.89	Qbof	382	452.5	6836.89	6766.39	LANL 2009, 107389	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-603062	1626950.74	1768620.04	7199.08	Qu	0	2	7199.08	7197.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbt3	2	84	7197.08	7115.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbt2	84	159	7115.08	7040.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbt1vu	159	210	7040.08	6989.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbt1vc	210	224	6989.08	6975.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbt1g	224	302	6975.08	6897.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbtt	302	305	6897.08	6894.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qct	305	372	6894.08	6827.08	LANL 2009, 107389	
50-603062	1626950.74	1768620.04	7199.08	Qbof	372	452.5	6827.08	6746.58	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qu	0	8	7230.89	7222.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbt3	8	99	7222.89	7131.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbt2	99	160	7131.89	7070.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbt1vu	160	217	7070.89	7013.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbt1vc	217	240	7013.89	6990.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbt1g	240	312	6990.89	6918.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbtt	312	315	6918.89	6915.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qct	315	382	6915.89	6848.89	LANL 2009, 107389	
50-603063	1626221.31	1768897.69	7230.89	Qbof	382	452.5	6848.89	6778.39	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qu	0	3	7192.89	7189.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbt3	3	81	7189.89	7111.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbt2	81	145	7111.89	7047.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbt1vu	145	206	7047.89	6986.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbt1vc	206	221	6986.89	6971.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbt1g	221	297	6971.89	6895.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbtt	297	299	6895.89	6893.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qct	299	367	6893.89	6825.89	LANL 2009, 107389	
50-603064	1626534.61	1768823.50	7192.89	Qbof	367	502.5	6825.89	6690.39	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qu	0	6.4	7264.44	7258.04	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbt3	6.4	104.8	7258.04	7159.64	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbt2	104.8	172.2	7159.64	7092.24	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbt1vu	172.2	239.4	7092.24	7025.04	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbt1vc	239.4	248	7025.04	7016.44	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbt1g	248	324.2	7016.44	6940.24	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbtt	324.2	326.7	6940.24	6937.74	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qct	326.7	393.4	6937.74	6871.04	LANL 2009, 107389	
50-603383	1625793.32	1768973.36	7264.44	Qbof	393.4	452.2	6871.04	6812.24	LANL 2009, 107389	
50-603467	1626022.62	1768273.75	7258.03	Qu	0	6	7258.03	7252.03	LANL 2009, 107389	Log labeled 50-603463

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-603467	1626022.62	1768273.75	7258.03	Qbt3	6	111.3	7252.03	7146.73	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbt2	111.3	174	7146.73	7084.03	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbt1vu	174	238.3	7084.03	7019.73	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbt1vc	238.3	249	7019.73	7009.03	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbt1g	249	325.2	7009.03	6932.83	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbtt	325.2	327.7	6932.83	6930.33	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qct	327.7	394.4	6930.33	6863.63	LANL 2009, 107389	Log labeled 50-603463
50-603467	1626022.62	1768273.75	7258.03	Qbof	394.4	602.5	6863.63	6655.53	LANL 2009, 107389	Log labeled 50-603463
50-603468	1626367.52	1768206.41	7241.18	Qu	0	10.4	7241.18	7230.78	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbt3	10.4	111.9	7230.78	7129.28	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbt2	111.9	172.9	7129.28	7068.28	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbt1vu	172.9	222.7	7068.28	7018.48	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbt1vc	222.7	242.7	7018.48	6998.48	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbt1g	242.7	320.7	6998.48	6920.48	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qct	320.7	387.7	6920.48	6853.48	LANL 2009, 107389	
50-603468	1626367.52	1768206.41	7241.18	Qbof	387.7	452.5	6853.48	6788.68	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qu	0	11.3	7221.66	7210.36	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbt3	11.3	102.5	7210.36	7119.16	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbt2	102.5	182	7119.16	7039.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbt1vu	182	225	7039.66	6996.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbt1vc	225	240	6996.66	6981.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbt1g	240	316	6981.66	6905.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbtt	316	318	6905.66	6903.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qct	318	385	6903.66	6836.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbof	385	650	6836.66	6571.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Qbog	650	650	6571.66	6571.66	LANL 2009, 107389	
50-603470	1626601.07	1768582.76	7221.66	Tvt2	650	652.2	6571.66	6569.46	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qu	0	11.2	7237.48	7226.28	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbt3	11.2	110	7226.28	7127.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbt2	110	182.5	7127.48	7054.98	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbt1vu	182.5	235	7054.98	7002.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbt1vc	235	250	7002.48	6987.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbt1g	250	326	6987.48	6911.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbtt	326	329	6911.48	6908.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qct	329	395	6908.48	6842.48	LANL 2009, 107389	
50-603471	1626341.81	1768632.51	7237.48	Qbof	395	452.5	6842.48	6784.98	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qu	0	7	7251.09	7244.09	LANL 2009, 107389	

Table C-2 (continued)

Well Name	Easting (ft)	Northing (ft)	Brass Cap Elevation (ft)	Geologic Unit*	Upper Depth (ft)	Lower Depth (ft)	Upper Elevation (ft)	Lower Elevation (ft)	Data Source	Comments
50-603472	1625985.81	1768684.96	7251.09	Qbt3	7	113	7244.09	7138.09	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbt2	113	179.4	7138.09	7071.69	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbt1vu	179.4	239.9	7071.69	7011.19	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbt1vc	239.9	253.5	7011.19	6997.59	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbt1g	253.5	329.7	6997.59	6921.39	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbtt	329.7	332.2	6921.39	6918.89	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qct	332.2	398.9	6918.89	6852.19	LANL 2009, 107389	
50-603472	1625985.81	1768684.96	7251.09	Qbof	398.9	452.5	6852.19	6798.59	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qu	0	7.5	7262.21	7254.71	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbt3	7.5	103	7254.71	7159.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbt2	103	169	7159.21	7093.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbt1vu	169	233	7093.21	7029.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbt1vc	233	247	7029.21	7015.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbt1g	247	315	7015.21	6947.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbtt	315	318	6947.21	6944.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qct	318	385	6944.21	6877.21	LANL 2009, 107389	
50-603503	1625527.57	1768286.88	7262.21	Qbof	385	452.2	6877.21	6810.01	LANL 2009, 107389	

Note: Blank cells indicate not applicable.
*See Table C-3 for explanation of stratigraphic unit abbreviations.

Table C-3
Explanation of Stratigraphic Unit Abbreviations

Stratigraphic Unit	Abbreviation
Quaternary alluvium, undifferentiated	Qal
Alluvium—unsaturated	Qu
Alluvium— saturated	Qvf
Tshirege Member, unit 4	Qbt4
Tshirege Member, unit 3t	Qbt3t
Tshirege Member, unit 3	Qbt3
Tshirege Member, unit 2	Qbt2
Tshirege Member, unit 1, undifferentiated	Qbt1v
Tshirege Member, unit 1, upper vapor-phase portion	Qbt1vu
Tshirege Member, unit 1, colonnade vapor-phase portion	Qbt1vc
Tshirege Member, unit 1, glassy portion	Qbt1g
Tsankawi Pumice Bed	Qbtt
Tshirege Member of the Bandelier Tuff	Qbt
Cerro Toledo interval	Qct
Otowi Member of the Bandelier Tuff	Qbof

Guaje Pumice Bed of the Bandelier Tuff	Qbog
Cerros del Rio basalt: 2.0–4.5 Ma*	Tb4
Ancha Formation	QTa
Ancha Formation, ancestral Santa Fe River deposits	QTasr
Tschicoma Formation, Pajarito Mountain, Cerro Grande, and Caballo Mountain lobes	Tvt2
Tshicoma Formation, Rendija Canyon lobe	Tvt1
Puye Formation, fanglomerate	Tpf
Totavi Lentil	Tpt
Bearhead Rhyolite and fanglomerates	Tjfp
Keres Volcanics	Tvk
Chamita Formation, coarse-grained lithosome A	Tcac
Tesuque and Chamita Formations, finer-grained lithosome A	Ttca
Chamita Formation, transitional zone between Ttca and Tcar	Tcara
Bayo Canyon basalts: 8.2–9.3 Ma	Tb2
Chamita Formation, axial river gravels	Tcar
Guaje Canyon basalt: 11.6–3.1 Ma	Tb1
Chama-El Rito Member	Ttc
Tesuque Formation, lithosome S (coarse)	Ttsc
Tesuque Formation, lithosome S (fine)	Ttsf
Tesuque Formation, lithosome B	Ttb
Tesuque Formation, lower lithosome A	Ttal
Lower coarse-grained unit	Ttlc
Galisteo and older units	Bedr

Note: Stratigraphic unit abbreviations are a complete list from the 2009 geologic framework model (Cole et al., 2010, 106101, Table 2). Many of the units are listed in Tables C-1 and/or C-2.

*Ma = Megaannum (million years ago).

Appendix D

Hydrochemistry Data for Groundwater Flow Regimes
(Requirement #10)

Location	Port Depth (ft)	Zone	Sample ID	Collection Date	Ca mg/L	Cl mg/L	HCO3 mg/L	K mg/L	Mg mg/L	Na mg/L	NO3 mg/L	SO4 mg/L
18-BG-1	10	Alluvial	CAPA-10-24029	07/26/10	14	27.9	38.7	3.31	4.86	16.3	0.068	11.9
18-MW-11	27	Alluvial	CAPA-10-24032	07/30/10	17	34.9	41.5	3.7	5.24	16.8	0.456	11.9
18-MW-18	12.5	Alluvial	CAPA-10-24037	07/26/10	40	179	78.4	6.42	12.1	94.7	1.1	20.1
18-MW-8	8	Alluvial	CAPA-10-24039	07/29/10	18	29	44	3.46	5.12	18.3	0.35	14.2
3MAO-2	14.7	Alluvial	CAPA-10-17747	06/07/10	14	21	37.3	1.85	4.68	16.6	0.179	17.1
CDBO-6	34	Alluvial	CAPA-10-24063	08/02/10	17	25	56.5	2.07	3.63	22	0.065	8.77
CDV-16-02655	2.3	Alluvial	CAWA-10-15290	04/13/10	16	41.2	105	7.06	5.28	88.4	0.555	52.8
FLC-16-25278	1.6	Alluvial	CAWA-10-15287	04/07/10	6.7	3.78	12	4.08	3.03	5.78	0.057	6.63
LLAO-1b	11.32	Alluvial	CALA-10-25242	08/26/10	28	60.6	76.4	7.98	6.57	49.3	4.05	26.8
LLAO-4	5.24	Alluvial	CALA-10-25246	08/26/10	51	29.9	171	3.33	5.3	40.8	0.176	20.3
MCO-2	2	Alluvial	CAMO-10-9275	01/29/10	269	3300	54.6	206	61.4	1640	1.93	148
MCO-3	2	Alluvial	CAMO-10-9310	02/02/10	37	131	62	9.63	4.7	74.7	2.67	7.42
MCO-4B	8.9	Alluvial	CAMO-10-22806	07/06/10	49	137	84.7	14	3.93	67.4	0.58	14.1
MCO-5	21	Alluvial	CAMO-10-22810	07/06/10	42	123	84.2	14.9	3.87	59.1	0.765	12.8
MCO-6	27	Alluvial	CAMO-10-22813	07/07/10	39	87.6	102	14.5	3.35	60.7	1.06	10.6
MCO-7	39	Alluvial	CAMO-10-22817	07/07/10	24	51.3	121	17.3	4.94	55.7	1.34	9.33
MCO-7.5	35	Alluvial	CAMO-10-22819	07/08/10	22	53.9	125	12.8	5.51	61.9	1.54	9.78
MSC-16-06295	1.5	Alluvial	CAWA-10-25761	09/14/10	23	4.78	103	3.99	5.43	16.8	0.25	4.06
MT-3	44	Alluvial	CAMO-10-22824	07/09/10	19	52.3	128	11.5	4.64	69.1	2.39	12.3
PCAO-6	8	Alluvial	CAPA-10-17773	06/04/10	25	11.2	85.9	4.14	4.3	15.4	0.25	6.62
PCAO-7a	9.7	Alluvial	CAPA-10-12872	02/23/10	50	137	56.2	5.73	13.8	50.9	4.25	13.9
PCAO-8	9.7	Alluvial	CAPA-10-17778	06/08/10	63	203	53.3	7.2	18	69.9	0.185	24.9
PCAO-9	6	Alluvial	CAPA-10-17782	06/03/10	147	590	57.1	9.84	43.2	152	0.57	29.3
PCAO-2	1.5	Alluvial	CAPA-10-17566	06/02/10	43	137	58.1	5.91	11.7	56.2	0.25	22.4
SCA-1-DP	2.16	Alluvial	CASA-10-16720	05/13/10	17	65.9	142	25.5	4.64	82	0.097	1.69
SCA-2	10.3	Alluvial	CASA-10-16724	05/12/10	19	83.2	123	17.5	5.22	89.1	0.285	18.3
SCA-4	37	Alluvial	CASA-10-16729	05/10/10	27	132	92.5	4.66	6.22	102	1.29	23

Location	Port Depth (ft)	Zone	Sample ID	Collection Date	Ca mg/L	Cl mg/L	HCO3 mg/L	K mg/L	Mg mg/L	Na mg/L	NO3 mg/L	SO4 mg/L
TMO-1	3.5	Alluvial	CAPA-10-17784	06/02/10	42	122	36.3	7.7	8.33	36.8	0.098	13.6
Ancho at Rio Grande	—*	Base flow	CAWR-10-25407	09/28/10	13	2.49	70.4	2.26	3.28	11.1	0.076	2.13
Between E252 and Water at Beta	—	Base flow	CAWA-10-25689	09/24/10	13	11.6	57.8	3.97	4.21	14	0.25	4.43
Canon de Valle below MDA P	—	Base flow	CAWA-10-25691	09/07/10	21	18.5	73.4	3.37	5.64	17.1	0.25	6.04
E-1FW	—	Base flow	CAMO-10-9109	02/02/10	10	52	37.9	3.76	3.12	49.1	0.25	17.9
Frijoles at Rio Grande	—	Base flow	CAWR-10-14117	03/22/10	8.1	2.64	46.6	1.69	2.83	10.7	0.25	2.78
Los Alamos Canyon near Otowi Bridge	—	Base flow	CALA-10-9201	01/13/10	45	24.6	146	3.34	3.93	32.7	0.074	15.4
M-1W	—	Base flow	CAMO-10-22759	07/09/10	4.3	45.4	111	26.2	0.65	78.1	0.25	11.2
Middle Sandia Canyon at terminus of persistent base flow	—	Base flow	CASA-10-16693	05/05/10	19	90.1	114	17.8	5.07	84.2	0.091	17.9
Mortandad at Rio Grande	—	Base flow	CAWR-10-25460	09/27/10	32	55.1	131	17.9	8.22	61.7	4.4	34
Pajarito 0.5 mi above SR-501	—	Base flow	CAPA-10-24000	08/09/10	9	0.91	39.5	2.41	3.32	4.4	0.25	3.7
Pajarito above Twomile	—	Base flow	CAPA-10-17554	06/08/10	11	7.97	42.7	3.35	3.41	13.2	0.25	7.61
Pueblo above SR-502	—	Base flow	CAPU-10-9229	01/13/10	19	40.8	109	11.8	4.26	58.3	1.66	20
Rio de los Frijoles at Bandelier	—	Base flow	CAAN-10-25920	09/17/10	8.7	4.31	49.5	1.98	3.01	11.4	0.25	1.82
Rio Grande at Frijoles	—	Base flow	CAWR-10-25411	09/29/10	38	4.55	111	2.45	6.35	17.6	0.25	45.4
Sandia below Wetlands	—	Base flow	CASA-10-16687	05/13/10	18	61.1	101	12	5.22	65.3	0.21	12.6
Sandia right fork at Power Plant	—	Base flow	CASA-10-16681	05/07/10	22	87.6	96.5	13.1	6.59	70.3	0.58	12.9
South Fork of Sandia Canyon at E122	—	Base flow	CASA-10-16685	05/07/10	41	25.8	208	28.3	13.4	58	1.19	54.3
TS-1W	—	Base flow	CAMO-10-16709	05/03/10	25	12.9	1	2.97	3.38	10.9	0.109	2.46
Two Mile Canyon below TA-59	—	Base flow	CAPA-10-23998	08/06/10	14	100	50.5	12.2	3.68	72.8	0.25	12.1
Twomile above Pajarito	—	Base flow	CAPA-10-23994	08/11/10	18	60.7	48	5.09	4.2	40.2	0.25	10.4
Water above SR-501	—	Base flow	CAWA-10-25694	09/10/10	11	3.95	53.1	3.31	3.92	9.07	0.25	3.19
Water at Beta	—	Base flow	CAWA-10-14943	04/01/10	12	24.9	34.1	3.39	4.03	13.1	0.25	5.73
CdV-16-1(i)	624	Intermediate	CAWA-10-25806	09/13/10	13	6.82	56.8	2.5	5.45	12	0.842	8.87
CdV-16-2(i)r	850	Intermediate	CAWA-10-25776	09/07/10	8.7	1.96	47.4	0.24	2.18	12.3	0.52	3.37
CDV-37-1(i)	632	Intermediate	CAWA-10-25903	09/21/10	9.4	1.45	53.6	0.58	2.33	14.1	0.121	5.13
LAOI(a)-1.1	295.2	Intermediate	CALA-10-25216	08/19/10	6.8	1.29	47.7	7.48	1.53	9.77	0.35	2.96

Location	Port Depth (ft)	Zone	Sample ID	Collection Date	Ca mg/L	Cl mg/L	HCO3 mg/L	K mg/L	Mg mg/L	Na mg/L	NO3 mg/L	SO4 mg/L
LAOI-3.2	153.3	Intermediate	CALA-10-25219	08/23/10	18	14.2	79.5	6.64	4.72	17.9	2.12	3.66
LAOI-7	240	Intermediate	CALA-10-25226	08/26/10	17	28.5	54.9	5.38	7.6	11.8	0.312	10.9
MCOI-4	499	Intermediate	CAMO-10-22831	07/07/10	27	17.8	43.4	0.67	4.12	19.7	8.95	23
MCOI-5	689	Intermediate	CAMO-10-22834	07/07/10	20	6.52	53	0.51	3.73	14.2	5.28	15.2
PCI-2	512	Intermediate	CAPA-10-17848	06/07/10	8.4	1.31	50.7	0.33	2.12	11.3	0.102	1.69
R-12	459	Intermediate	CASA-10-16748	05/05/10	27	16.3	80.2	3.2	5.49	13.5	1.09	8.72
R-19	909.3	Intermediate	CAPA-10-17573	06/02/10	17	2.72	74.7	0.99	3.04	14.9	0.349	3.22
R-23i	400.3	Intermediate	CAPA-10-24088	08/09/10	26	19.4	90.5	3.69	9.33	14.3	0.455	12
R-23i	470.2	Intermediate	CAPA-10-24084	08/04/10	21	7.82	79.1	2.6	5.83	12	0.82	7.65
R-23i	524	Intermediate	CAPA-10-24087	08/04/10	21	8.25	76.5	2.59	5.82	10.9	0.91	7.42
R-25b	750	Intermediate	CAWA-10-25900	09/08/10	12	2.22	65.1	1.61	3.91	17.2	0.74	5.5
R-26	659.3	Intermediate	CAWA-10-24738	08/13/10	7.4	1.23	47.5	2.34	2.86	8.56	0.377	1.28
R-26 PZ-2	150	Intermediate	CAWA-10-15177	04/05/10	25	7.53	89.7	2.94	6.43	10.1	0.895	3.67
R-27i	619	Intermediate	CAWA-10-25904	09/20/10	8.4	1.38	47.9	0.9	2.4	9.45	0.058	1.97
R-37	929.3	Intermediate	CAPA-10-24067	08/05/10	25	4.57	98	1.95	5.82	16.4	0.492	9.29
R-40i	649.7	Intermediate	CAPA-10-24071	07/28/10	19	2.48	118	1.93	8.31	21.3	0.25	1.33
R-40	751.6	Intermediate	CAPA-10-24074	07/28/10	22	2.24	102	1.7	6.77	12.3	0.111	5.47
R-47i	840	Intermediate	CAWA-10-25907	09/23/10	9.6	2.82	57.8	0.56	2.35	17.1	0.483	8.65
R-6i	602	Intermediate	CALA-10-25227	08/19/10	22	16.3	68.7	0.66	3.98	20.2	3.88	8.53
R-9i	198.8	Intermediate	CALA-10-25200	08/23/10	21	42.2	62	4.53	7.41	24.8	0.096	12.8
SCI-1	358.4	Intermediate	CASA-10-22647	07/12/10	71	84.5	105	1.46	10.1	65.1	2.1	89.9
SCI-2	548	Intermediate	CASA-10-22651	07/15/10	63	57.3	77.3	3.31	14.7	21.3	4.78	87.5
TA-53i	600	Intermediate	CALA-10-25208	08/25/10	35	30.9	91.8	5.18	7.29	15.8	1.04	17
TW-2Ar	102	Intermediate	CAPU-10-25282	08/23/10	37	46	70.8	2.28	7.01	23.7	3.13	24.5
CdV-R-15-3	1640.1	Regional	CAWA-10-24759	08/04/10	9.9	1.5	59.5	1.91	3	12	0.05	1.85
CdV-R-37-2	1550.6	Regional	CAWA-10-24752	08/10/10	11	1.43	57	1.74	2.84	11.9	0.051	1.75
R-18	1358	Regional	CAPA-10-12806	03/11/10	10	1.17	52.2	1.17	3.38	8.88	0.625	1.9

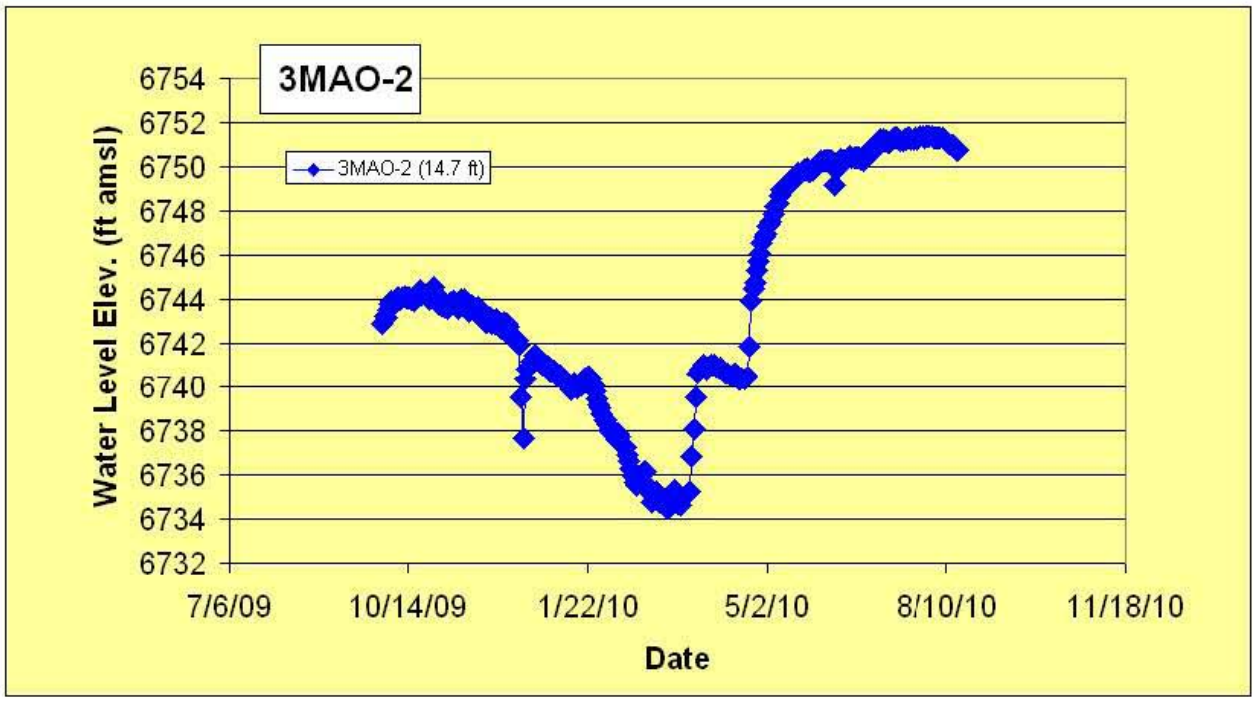
Location	Port Depth (ft)	Zone	Sample ID	Collection Date	Ca mg/L	Cl mg/L	HCO3 mg/L	K mg/L	Mg mg/L	Na mg/L	NO3 mg/L	SO4 mg/L
R-20	1147.1	Regional	CAPA-10-24109	07/30/10	13	1.94	63.5	2.36	2.47	11.9	0.194	1.85
R-21	888.8	Regional	CAPA-10-24114	08/11/10	12	1.81	58.5	1.72	3.08	10	0.34	2
R-23	816	Regional	CAPA-10-24117	08/12/10	16	3.53	67.5	1.83	4.02	11.1	1.18	5.2
R-27	852	Regional	CAWA-10-25889	09/14/10	11	1.53	56.2	1.43	3.14	10.1	0.294	1.52
R-28	934.3	Regional	CAMO-10-22859	07/14/10	45	31.7	72	1.79	11.3	16.1	4.72	47
R-29	1170	Regional	CAWA-10-17192	05/10/10	12	2.34	66	1.5	3.54	18.5	0.357	11.7
R-30	1140	Regional	CAAN-10-25950	09/23/10	9.7	1.61	53.6	1.09	2.95	11.5	0.47	3.4
R-32	867.5	Regional	CAPA-10-24123	08/06/10	16	2.96	68.5	1.81	4.88	11	0.955	5.1
R-33	1112.4	Regional	CAMO-10-22887	07/09/10	10	1.83	65.1	2.29	3.67	11.7	0.348	2.35
R-34	883.7	Regional	CAMO-10-22880	07/09/10	16	2.24	76.2	1.78	3.54	11.7	0.445	2.76
R-36	766.9	Regional	CASA-10-22703	07/12/10	18	5.6	70.4	2.11	4.21	16	2.26	7.03
R-38	821.2	Regional	CAPA-10-24149	08/06/10	12	2.5	60.5	1.54	3.45	10.5	0.58	2.91
R-39	859	Regional	CAPA-10-24144	08/12/10	13	2.23	60.5	1.49	3.54	12.2	0.655	3.54
R-40	849.3	Regional	CAPA-10-24147	07/27/10	12	1.95	60.1	1.54	3.09	11.4	0.366	2.65
R-41	965.3	Regional	CAPA-10-24129	08/09/10	15	3.07	64.5	1.91	4	13.5	0.66	4.59
R-42	931.8	Regional	CAMO-10-22893	07/13/10	49	34.1	60.9	2.26	13.7	16.5	6.08	69
R-43	969.1	Regional	CASA-10-22710	07/15/10	15	3.41	86.2	1.48	4.39	18.5	0.9	5.15
R-44	985.3	Regional	CAMO-10-22869	07/14/10	13	2.26	64.8	1.22	3.77	10.2	0.66	3.82
R-45	974.9	Regional	CAMO-10-22873	07/02/10	16	3.27	74.1	1.24	4.55	11.1	0.575	5.84
R-46	1340	Regional	CAMO-10-16832	05/07/10	9.9	1.58	55.6	1.81	3.15	8.99	0.416	1.77
R-48	1500	Regional	CAWA-10-15227	04/07/10	9.9	2.36	57.1	1.31	3.25	15.7	0.348	7.84
R-49	905.6	Regional	CAPA-10-24140	07/29/10	13	2.37	58	1.48	3.53	10.8	0.695	3.4
R-50	1185	Regional	CAMO-10-22906	07/02/10	9.7	2.36	67.2	1.36	3.35	16.3	0.64	5.03
R-51	1031	Regional	CAPA-10-24159	07/26/10	12	2.05	64.3	1.79	3.11	17.1	0.278	7
R-52	1107	Regional	CAPA-10-24660	08/05/10	11	2.18	56	1.82	2.93	11	0.426	2.95
R-53	849.2	Regional	CAPA-10-24175	07/26/10	11	1.84	61.7	1.62	3.19	11.4	0.274	1.96
R-54	915	Regional	CAPA-10-24164	07/27/10	12	1.88	60.1	1.86	2.98	10.5	0.391	2.07

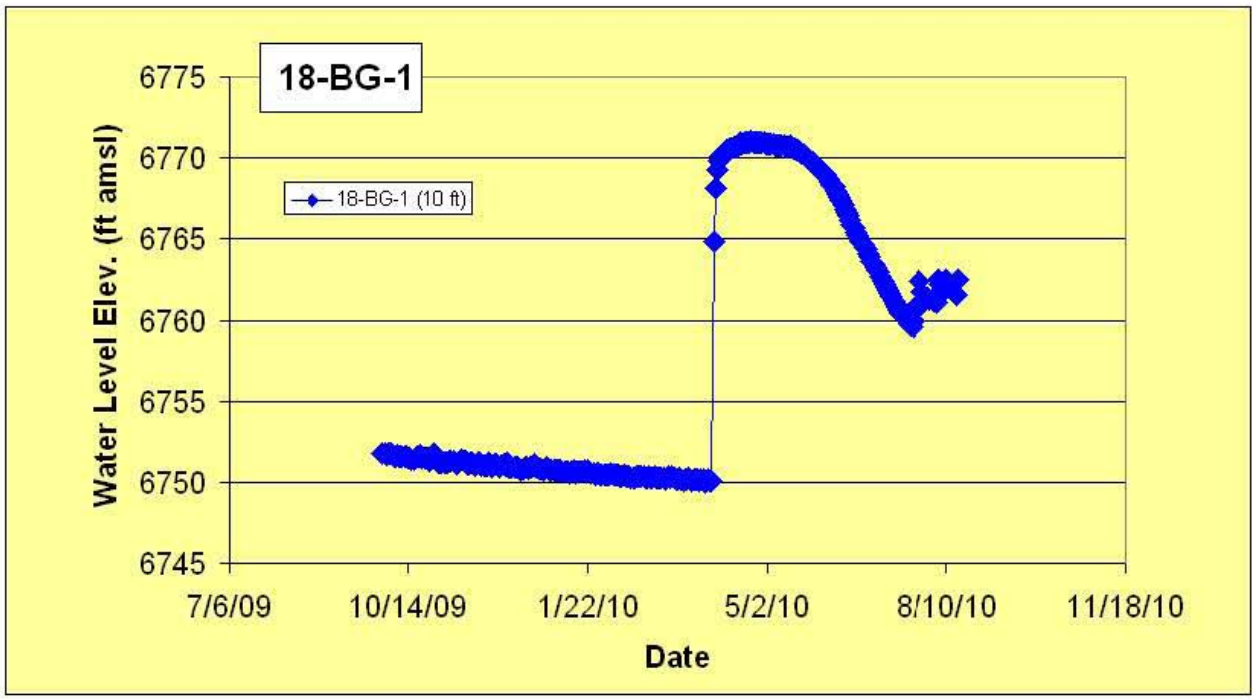
* — = Not applicable.

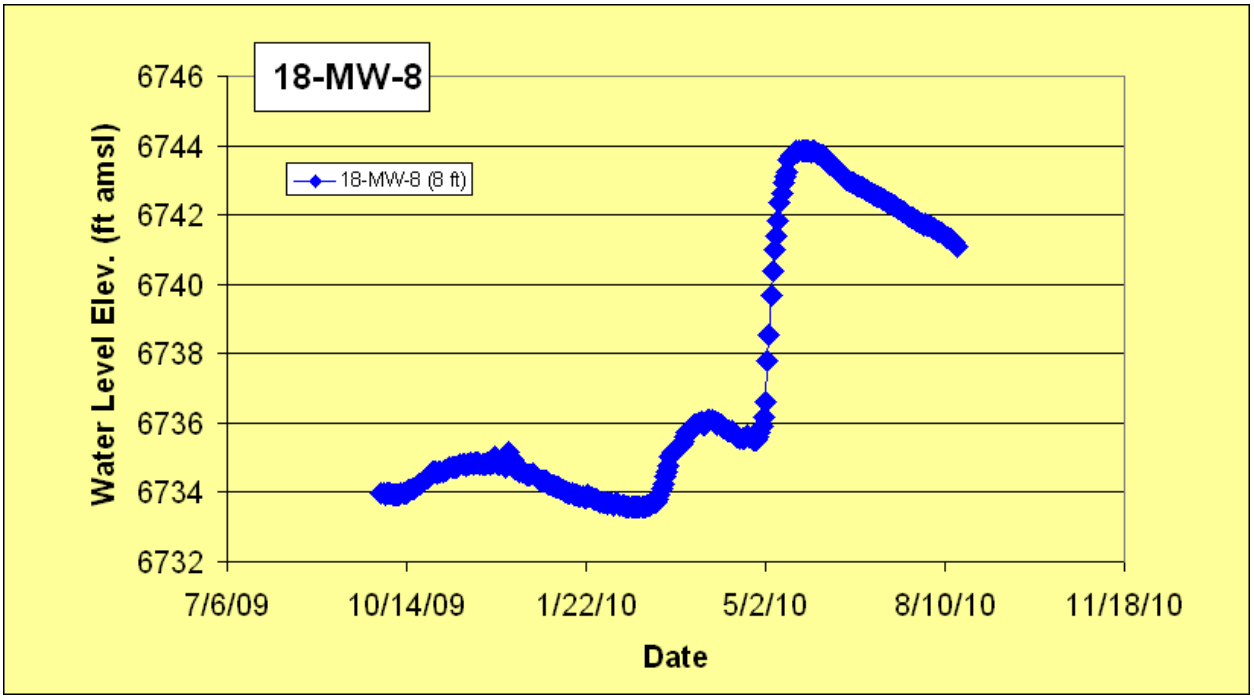
Appendix E-1

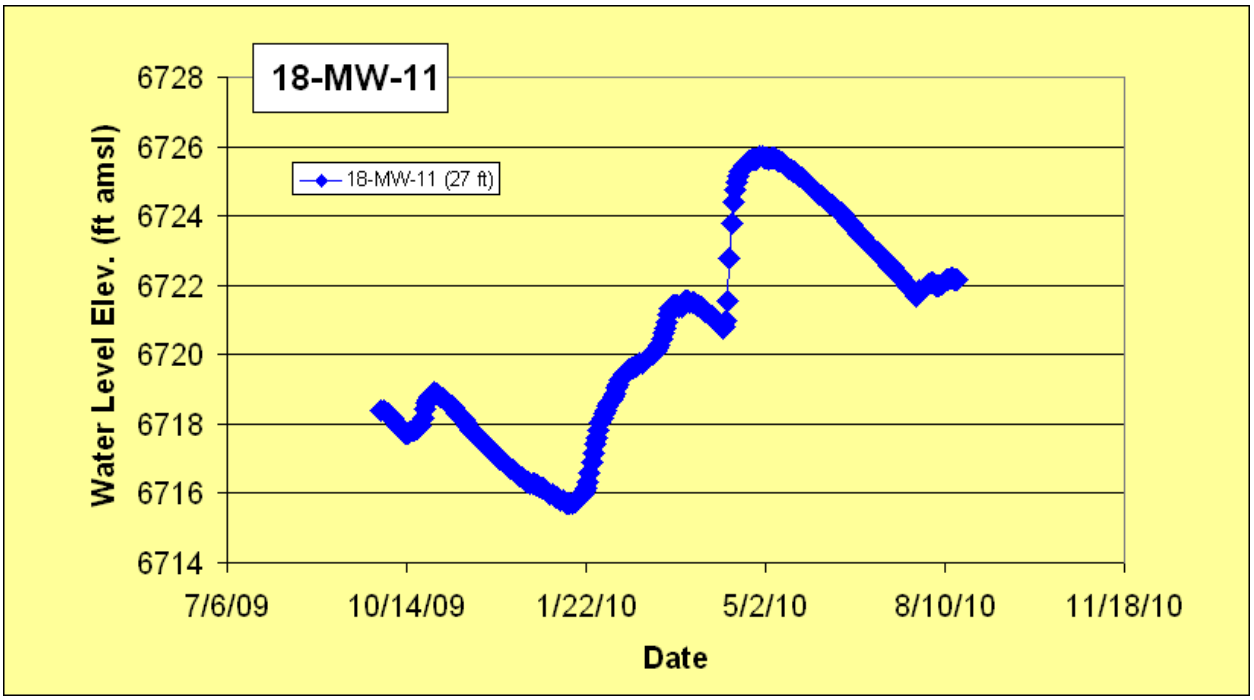
Selected Periodic Water-Level Graphs (Fiscal Year 2010)
(Requirement #11)

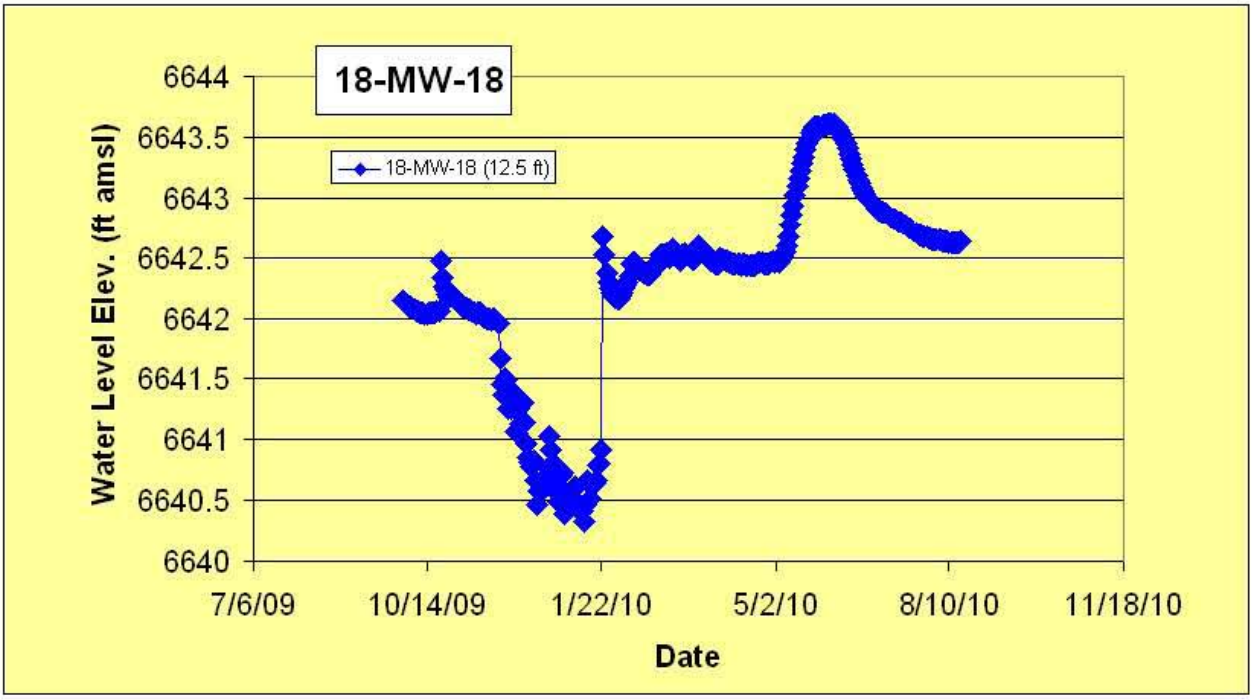
ALLUVIAL WELLS

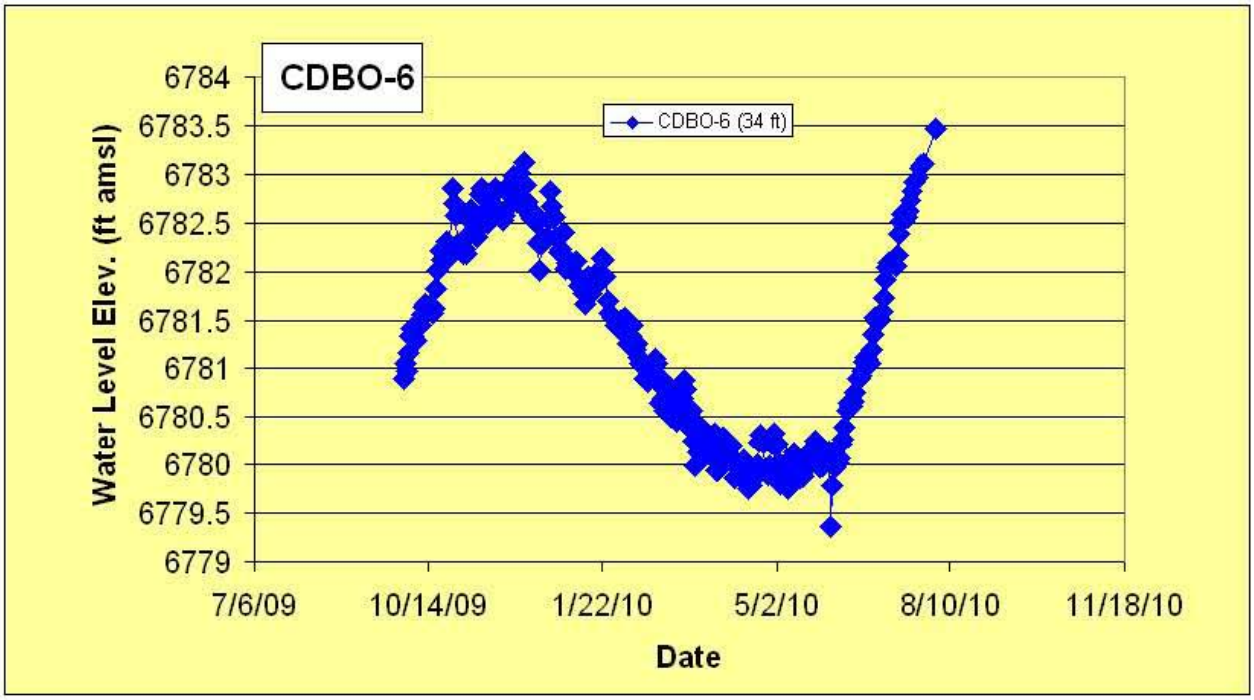


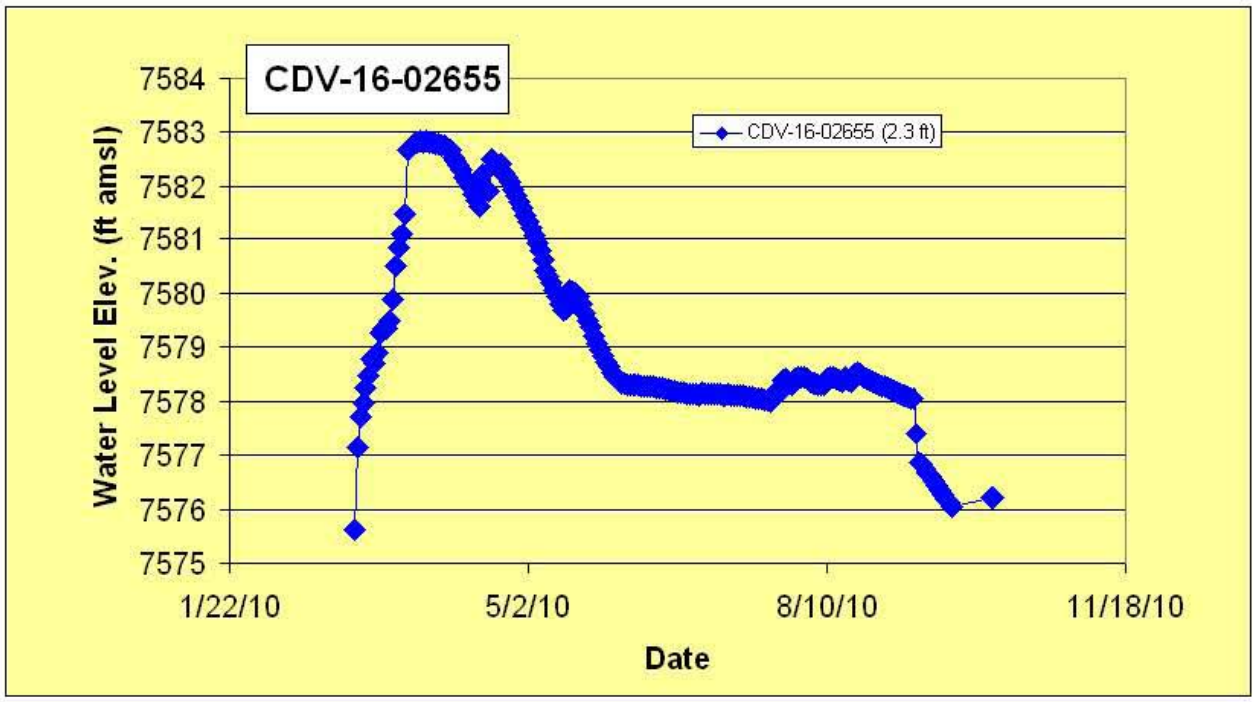


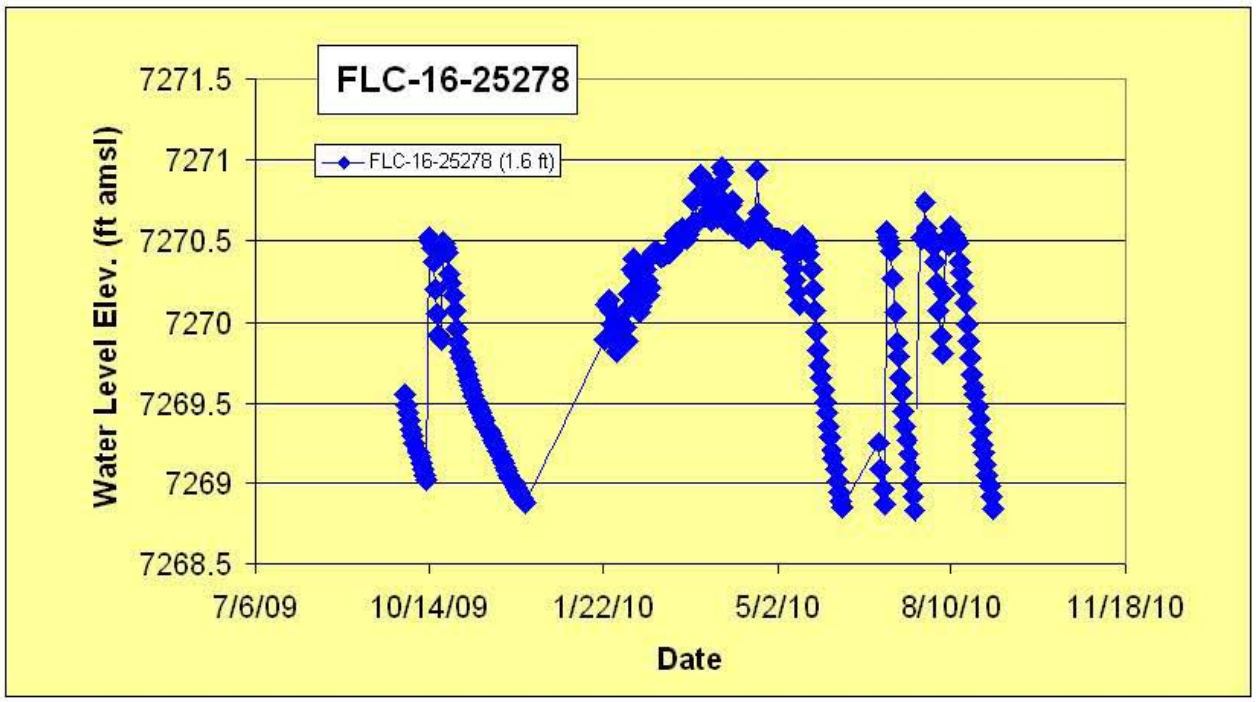

18-MW-8
18-MW-8 (8 ft)
Water Level Elev. (ft amsl)
6746
6744
6742
6740
6738
6736
6734
6732
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

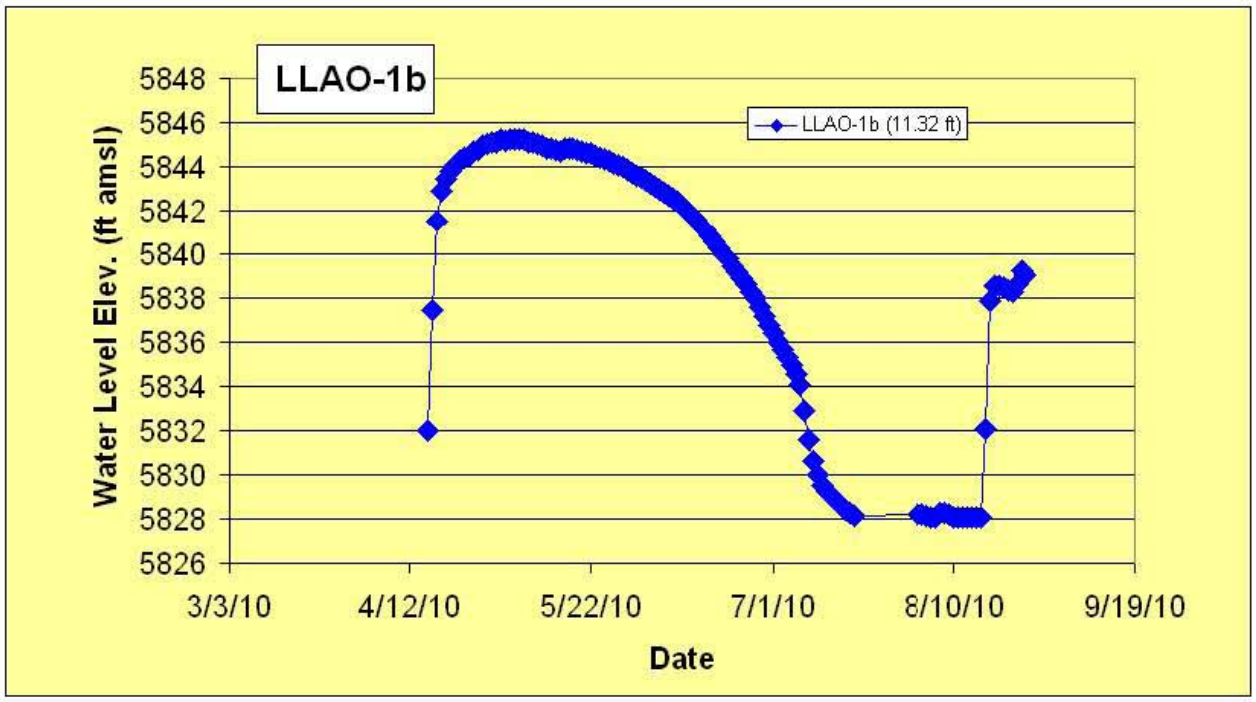

18-MW-11
18-MW-11 (27 ft)
Water Level Elev. (ft amsl)
6728
6726
6724
6722
6720
6718
6716
6714
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

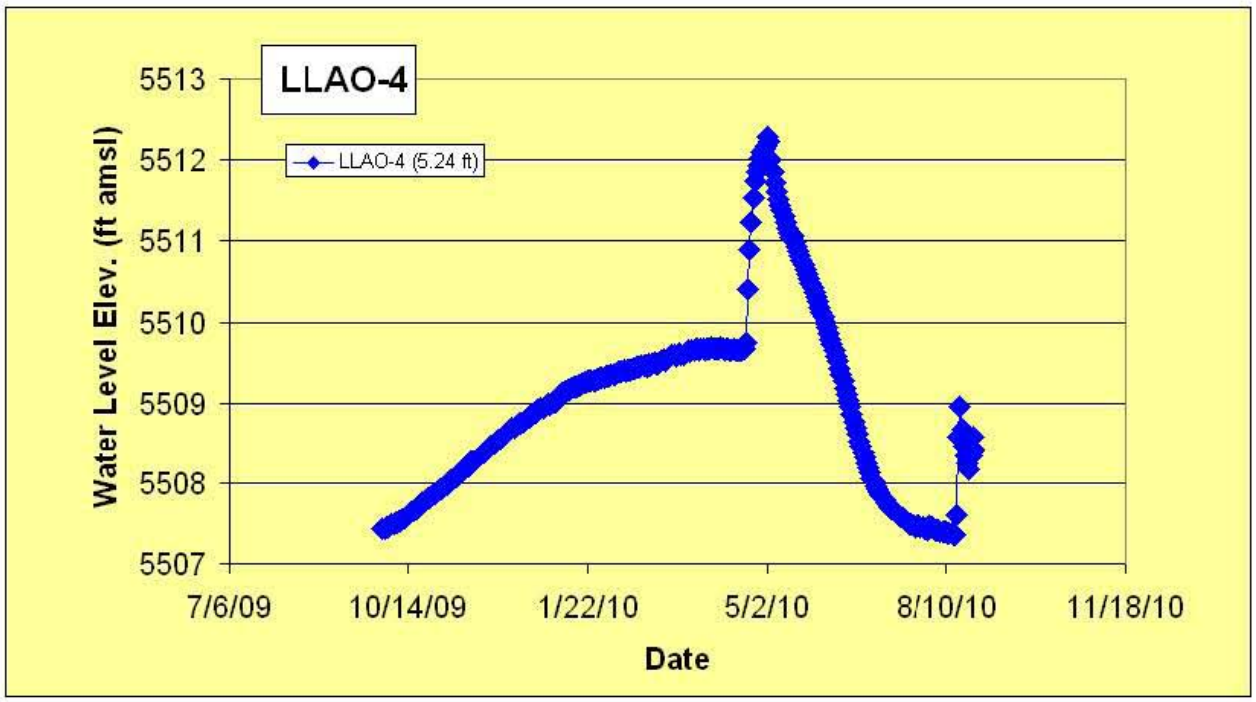

18-MW-18
18-MW-18 (12.5 ft)
Water Level Elev. (ft amsl)
6644
6643.5
6643
6642.5
6642
6641.5
6641
6640.5
6640
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

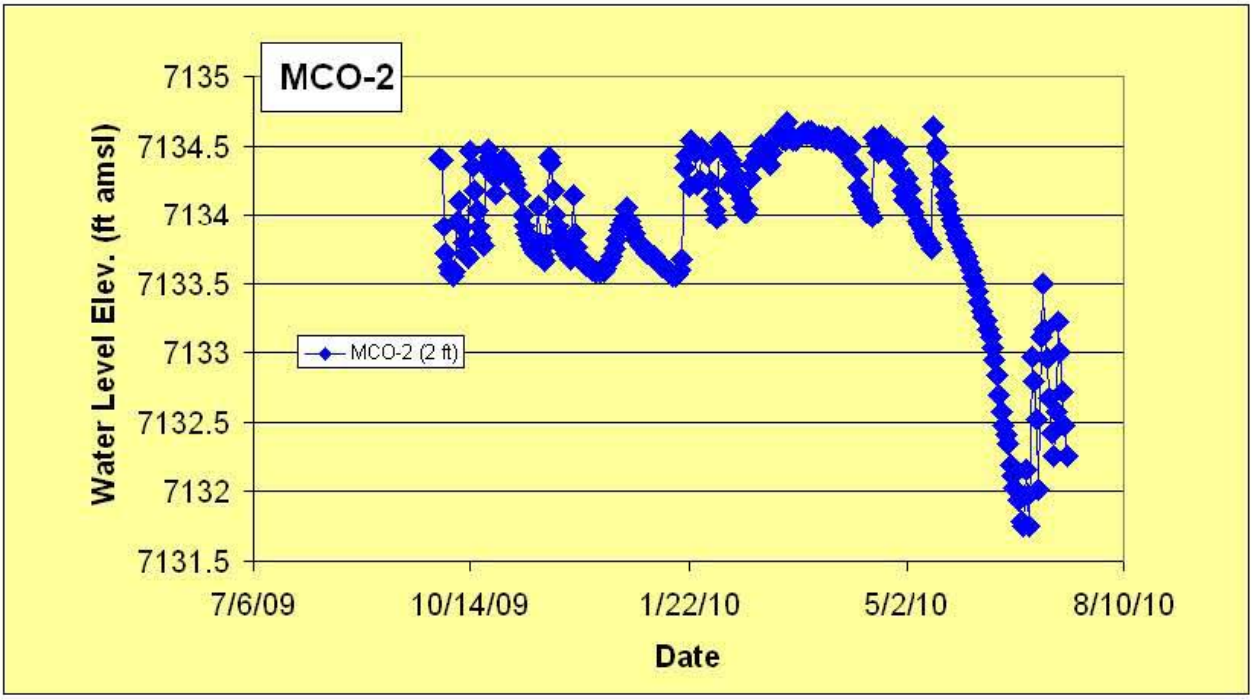

CDBO-6
CDBO-6 (34 ft)
Water Level Elev. (ft amsl)
6784
6783.5
6783
6782.5
6782
6781.5
6781
6780.5
6780
6779.5
6779
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

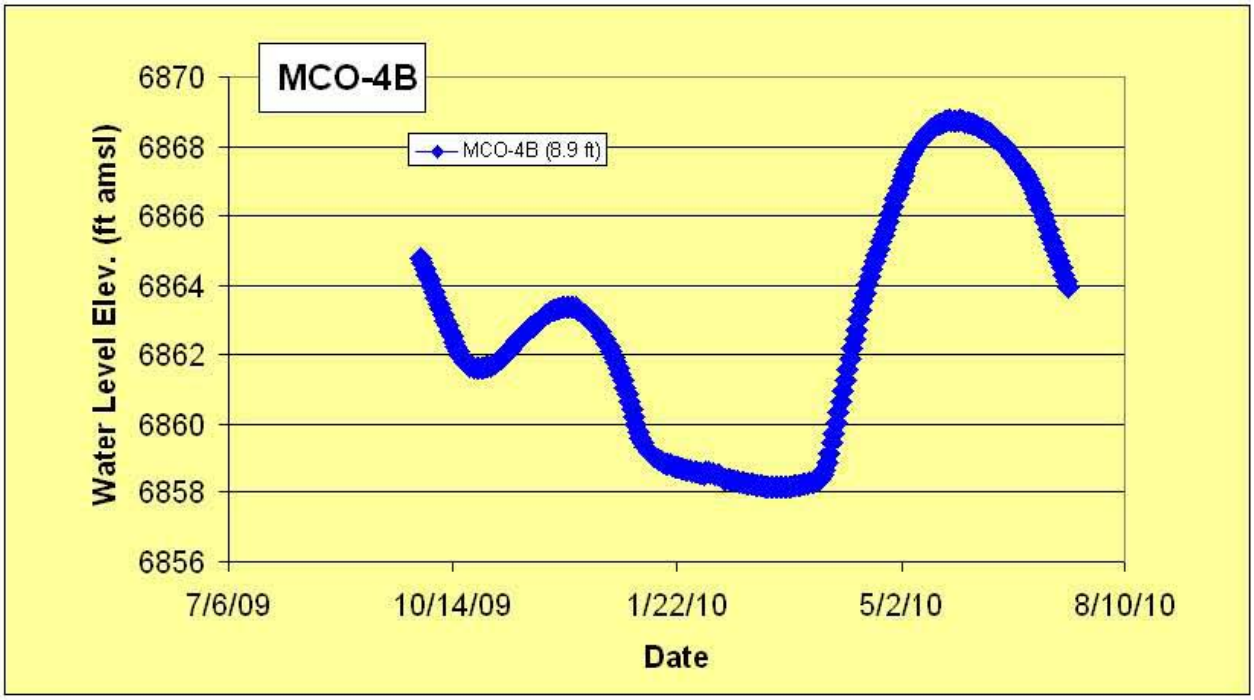

CDV-16-02655
CDV-16-02655 (2.3 ft)
Water Level Elev. (ft amsl)
7584
7583
7582
7581
7580
7579
7578
7577
7576
7575
1/22/10
5/2/10
8/10/10
11/18/10
Date

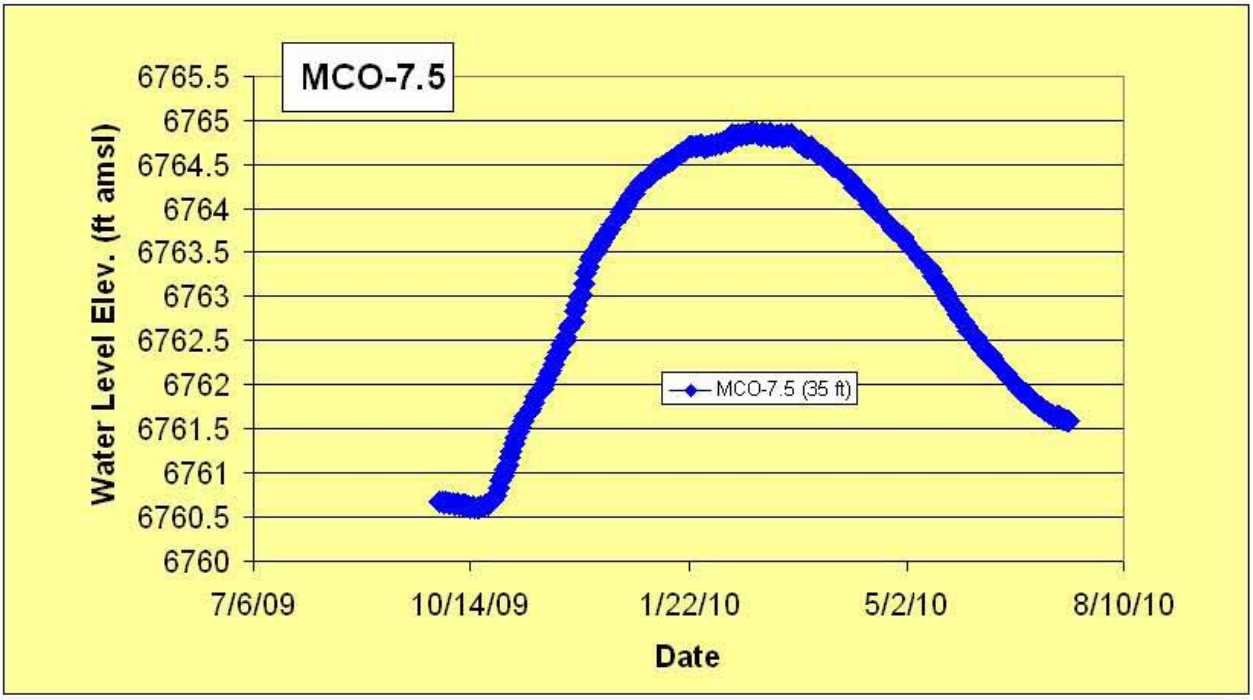

FLC-16-25278
FLC-16-25278 (1.6 ft)
Water Level Elev. (ft amsl)
7271.5
7271
7270.5
7270
7269.5
7269
7268.5
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

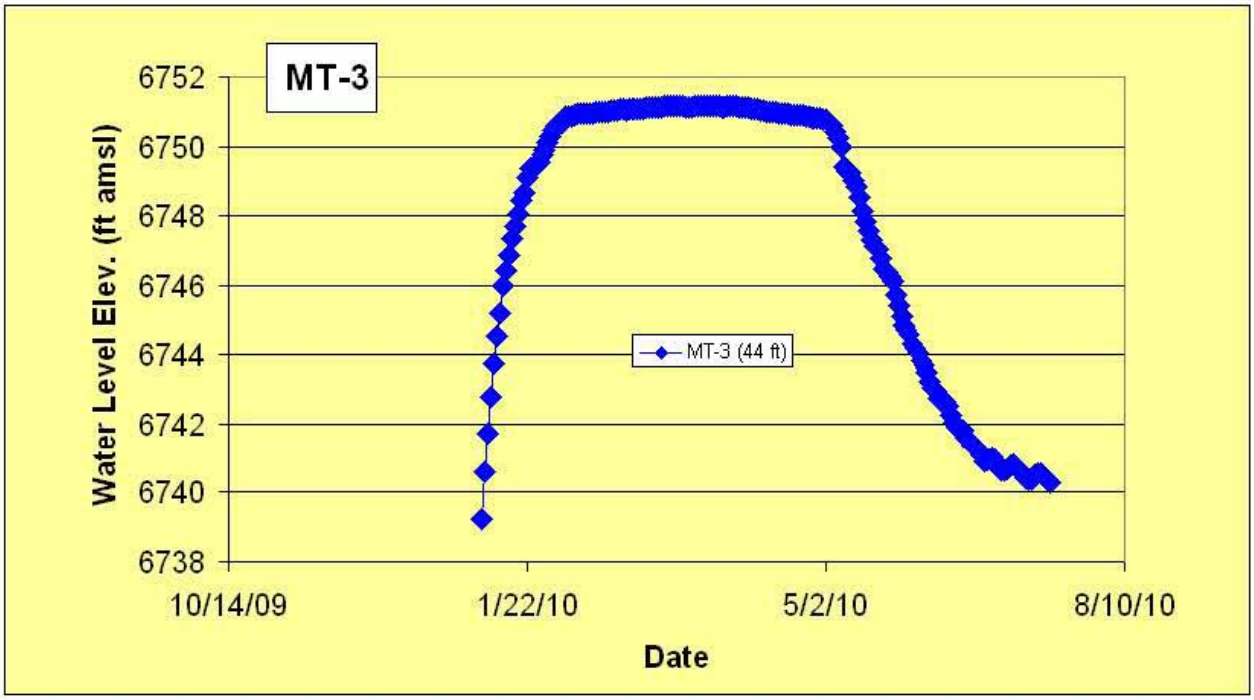

LLAO-1b
LLAO-1b (11.32 ft)
Water Level Elev. (ft amsl)
5848
5846
5844
5842
5840
5838
5836
5834
5832
5830
5828
5826
3/3/10
4/12/10
5/22/10
7/1/10
8/10/10
9/19/10
Date

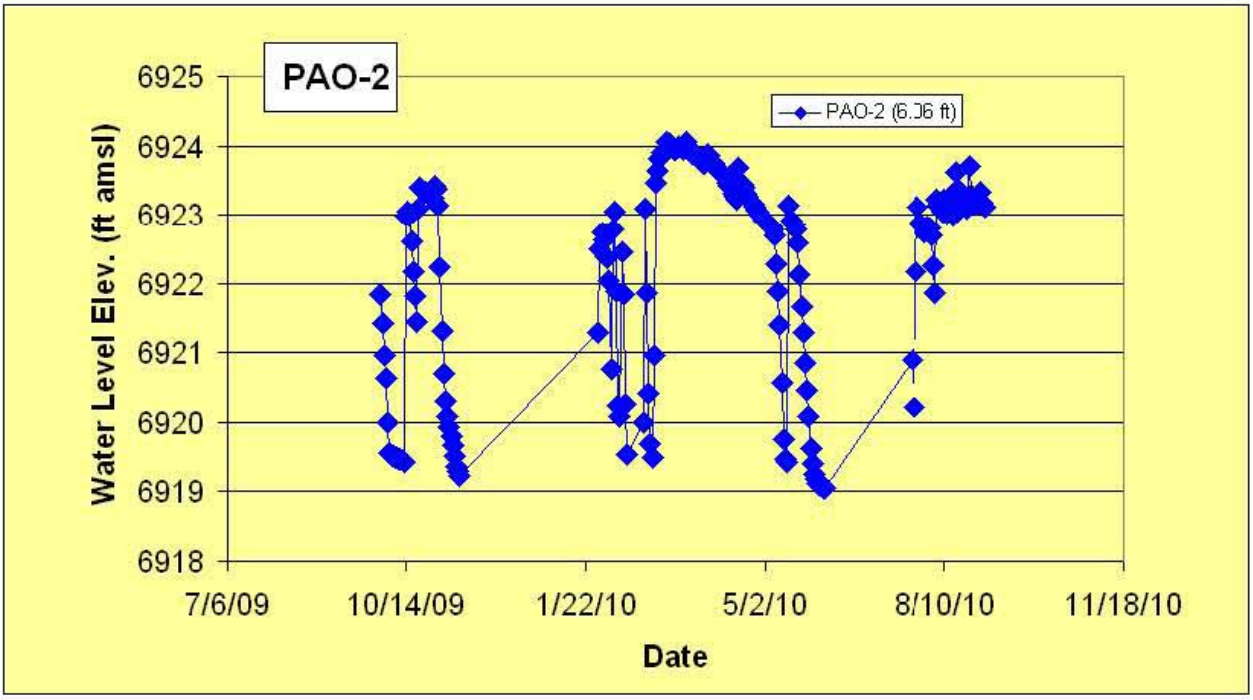

LLAO-4
LLAO-4 (5.24 ft)
Water Level Elev. (ft amsl)
5513
5512
5511
5510
5509
5508
5507
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

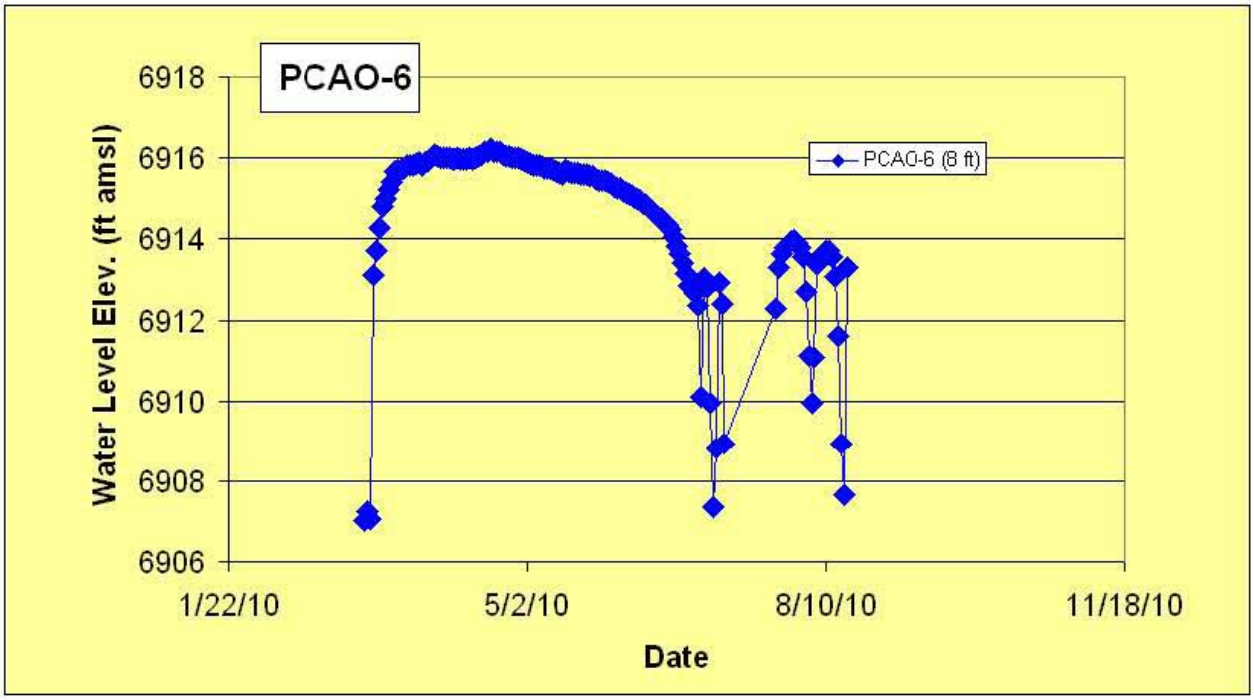

MCO-2
Water Level Elev. (ft amsl)
7135
7134.5
7134
7133.5
7133
7132.5
7132
7131.5
MCO-2 (2 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

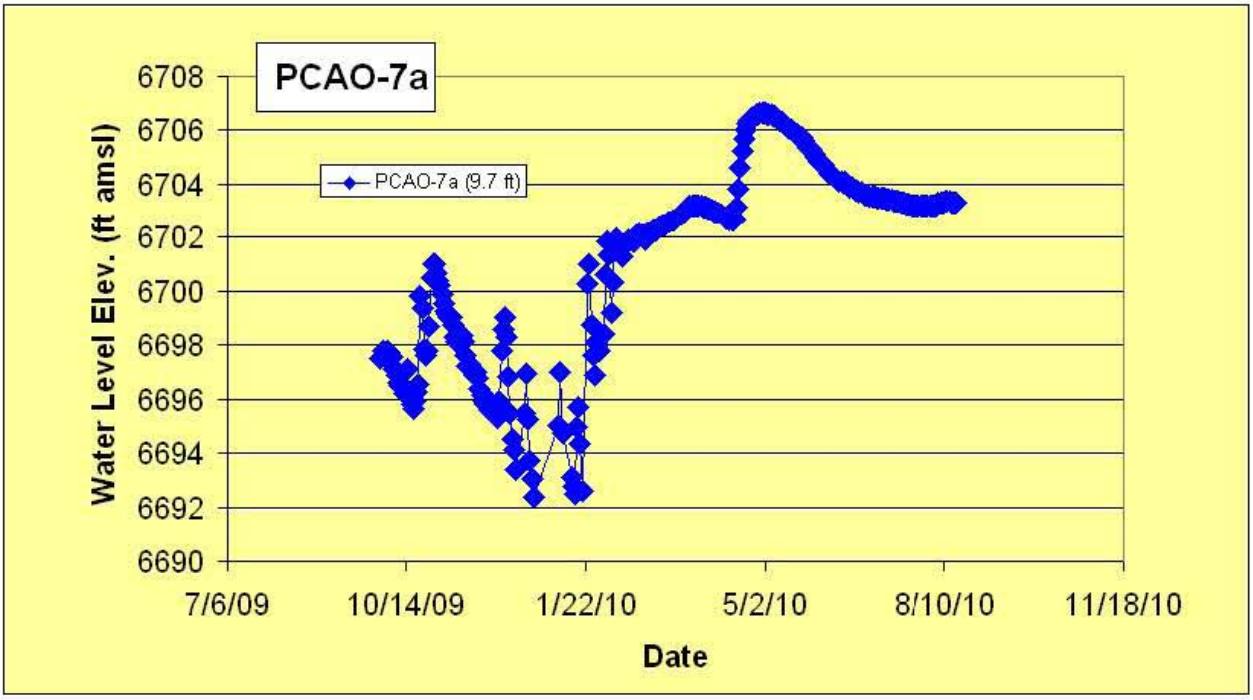

MCO-4B
Water Level Elev. (ft amsl)
6870
6868
6866
6864
6862
6860
6858
6856
MCO-4B (8.9 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

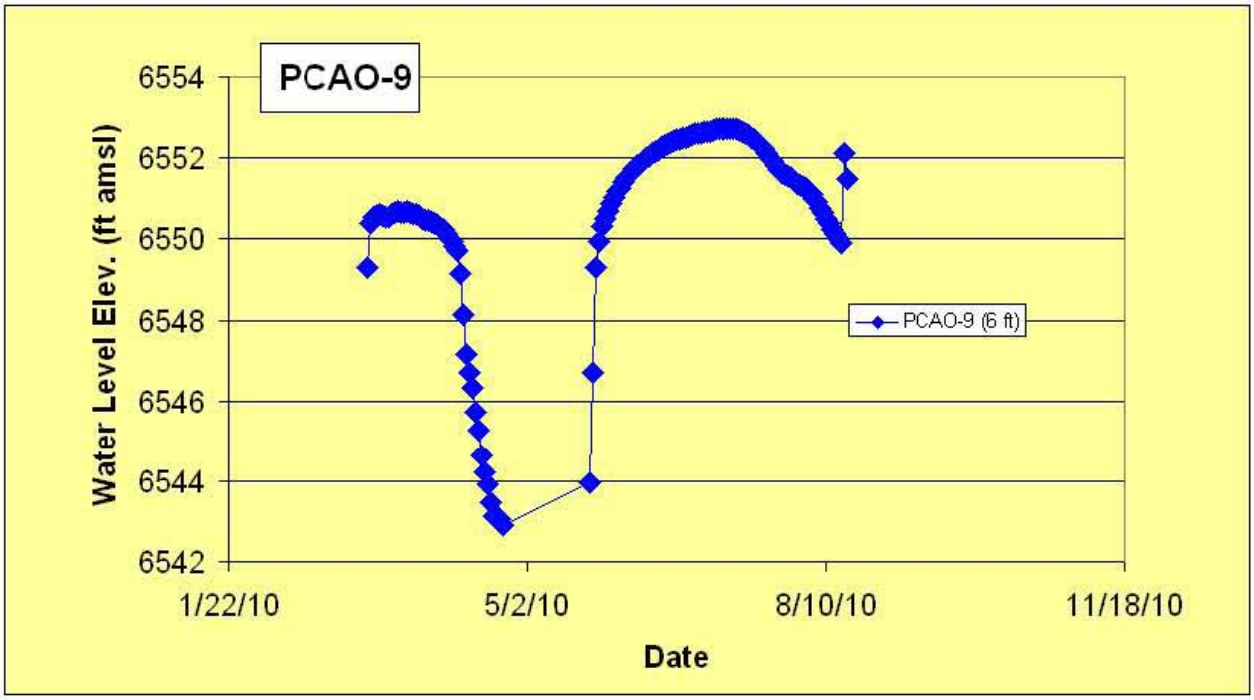

MCO-7.5
Water Level Elev. (ft amsl)
6765.5
6765
6764.5
6764
6763.5
6763
6762.5
6762
6761.5
6761
6760.5
6760
MCO-7.5 (35 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

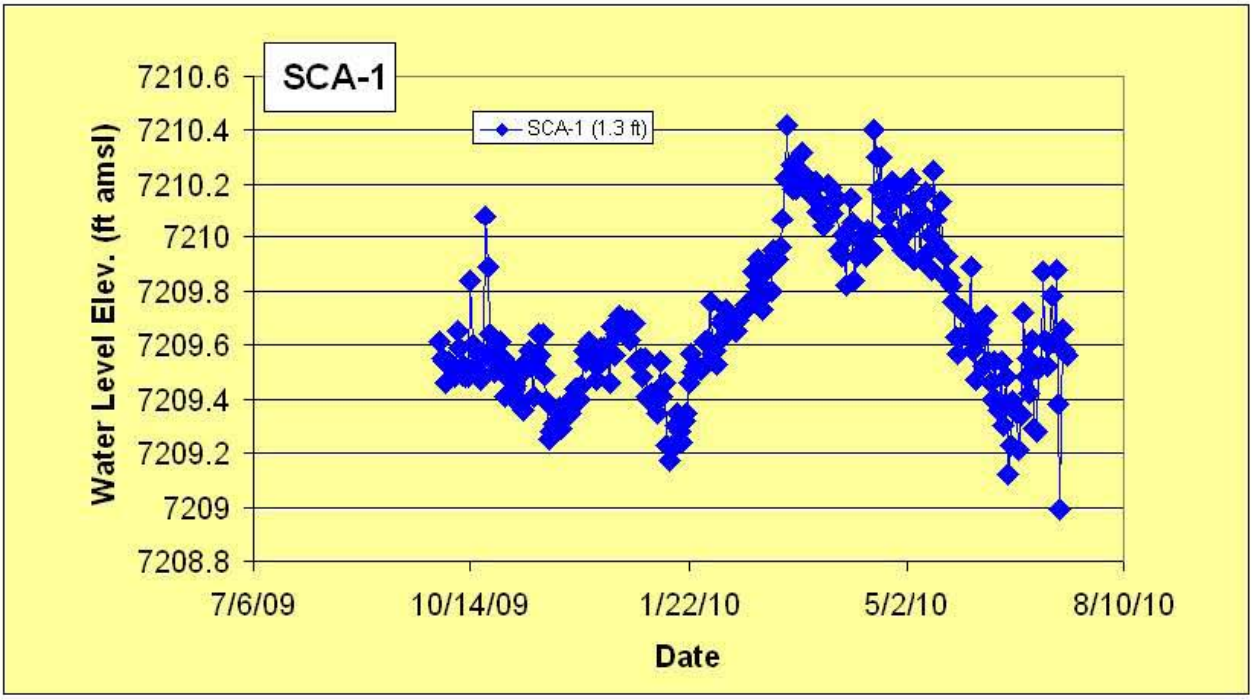

MT-3
Water Level Elev. (ft amsl)
6752
6750
6748
6746
6744
6742
6740
6738
MT-3 (44 ft)
10/14/09
1/22/10
5/2/10
8/10/10
Date

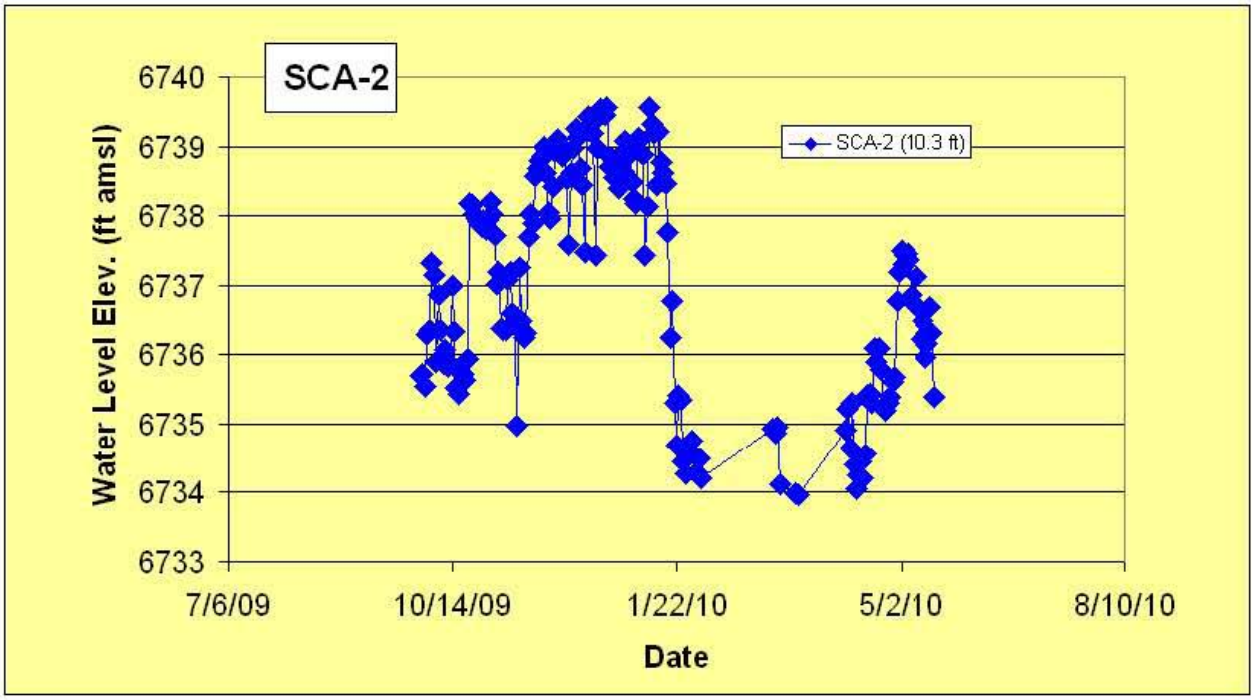

PAO-2
PAO-2 (6.06 ft)
Water Level Elev. (ft amsl)
6925
6924
6923
6922
6921
6920
6919
6918
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

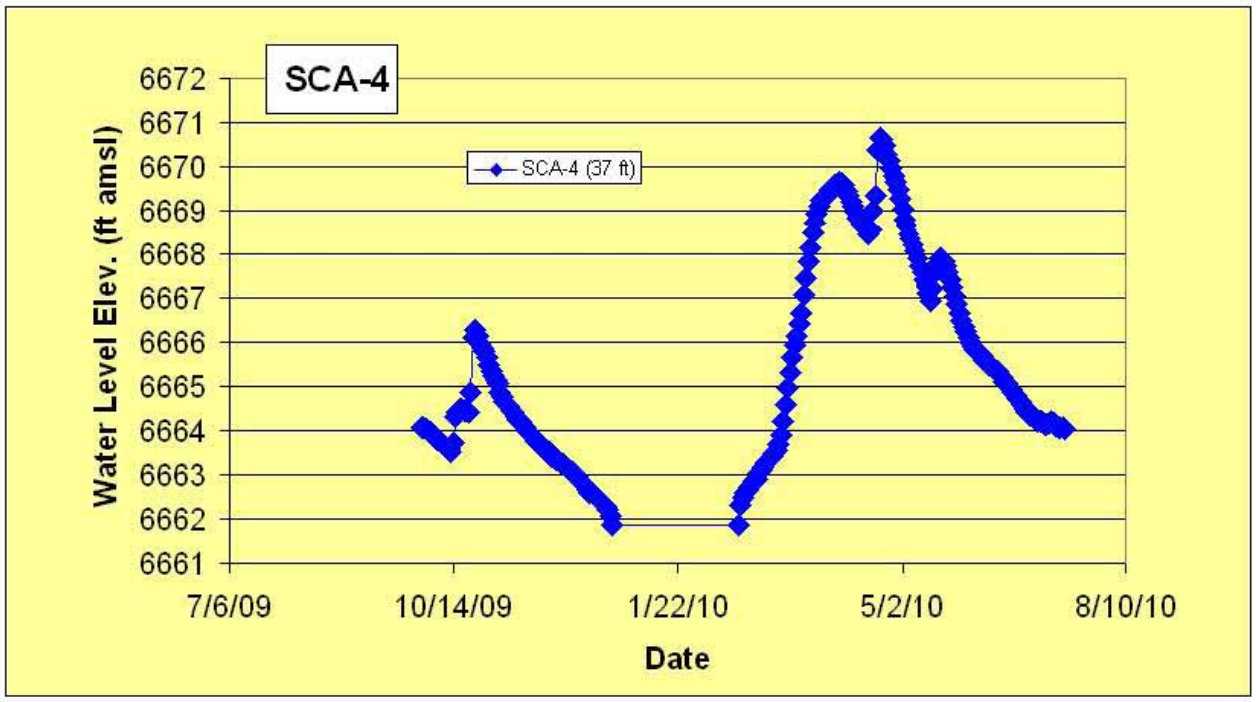

PCAO-6
PCAO-6 (8 ft)
Water Level Elev. (ft amsl)
6918
6916
6914
6912
6910
6908
6906
1/22/10
5/2/10
8/10/10
11/18/10
Date

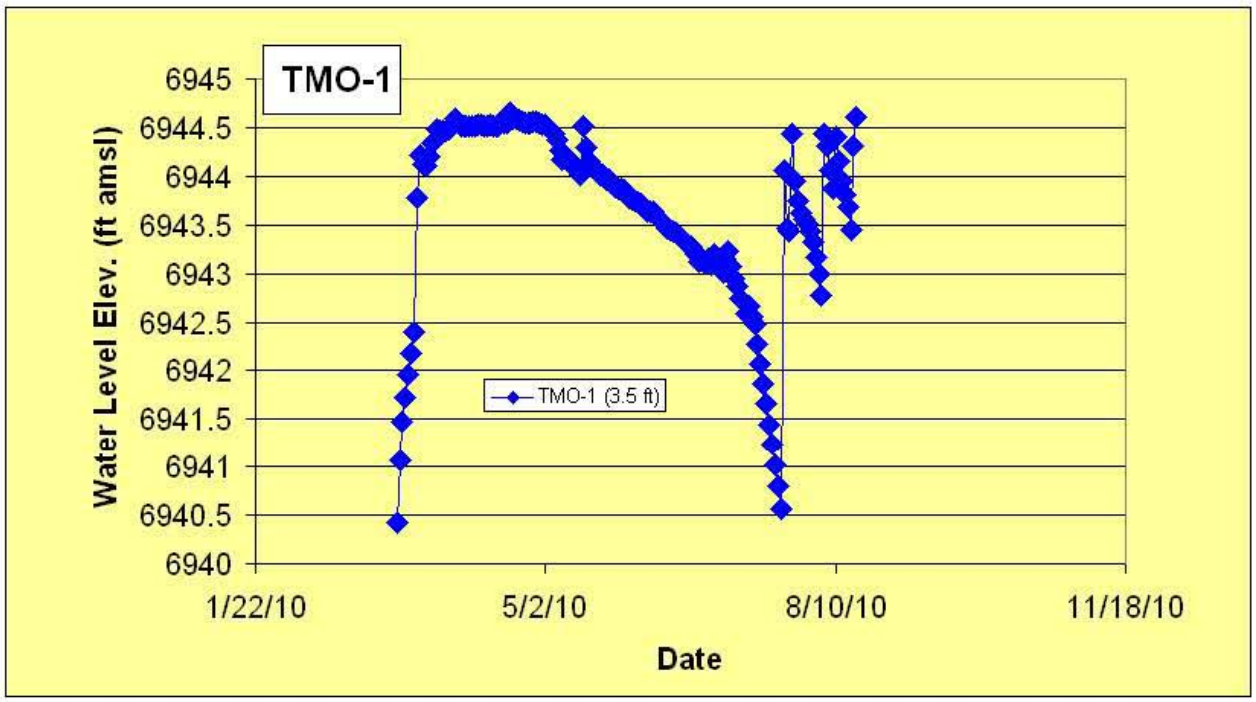

PCAO-7a
PCAO-7a (9.7 ft)
Water Level Elev. (ft amsl)
6708
6706
6704
6702
6700
6698
6696
6694
6692
6690
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date


PCAO-9
PCAO-9 (6 ft)
Water Level Elev. (ft amsl)
6554
6552
6550
6548
6546
6544
6542
1/22/10
5/2/10
8/10/10
11/18/10
Date


SCA-1
SCA-1 (1.3 ft)
Water Level Elev. (ft amsl)
7210.6
7210.4
7210.2
7210
7209.8
7209.6
7209.4
7209.2
7209
7208.8
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date


SCA-2
SCA-2 (10.3 ft)
Water Level Elev. (ft amsl)
6740
6739
6738
6737
6736
6735
6734
6733
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

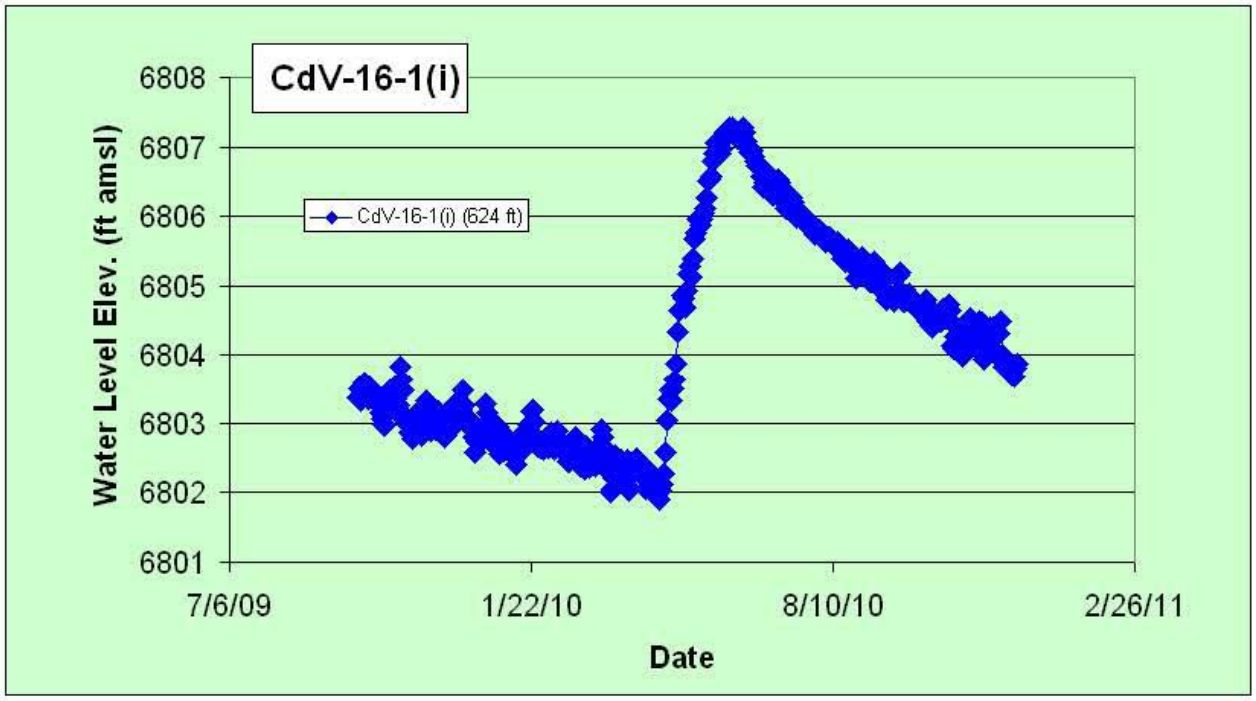

SCA-4
SCA-4 (37 ft)
Water Level Elev. (ft amsl)
6672
6671
6670
6669
6668
6667
6666
6665
6664
6663
6662
6661
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

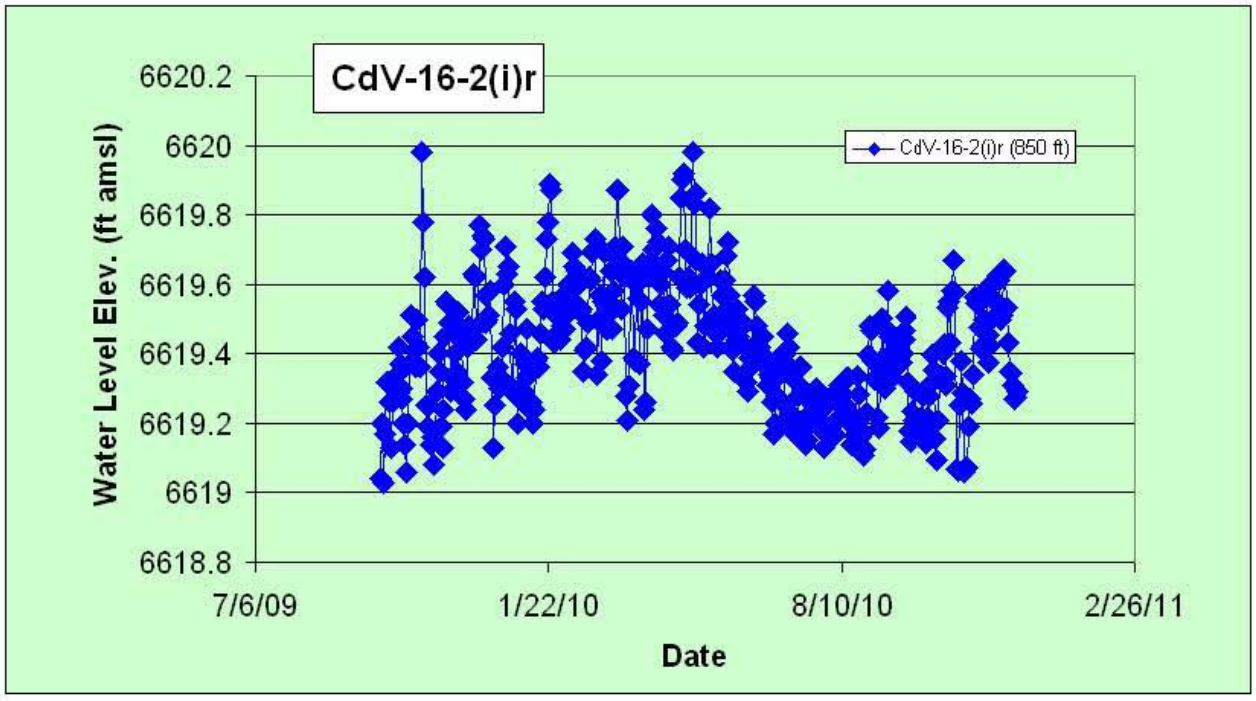

TMO-1
TMO-1 (3.5 ft)
Water Level Elev. (ft amsl)
6945
6944.5
6944
6943.5
6943
6942.5
6942
6941.5
6941
6940.5
6940
1/22/10
5/2/10
8/10/10
11/18/10
Date

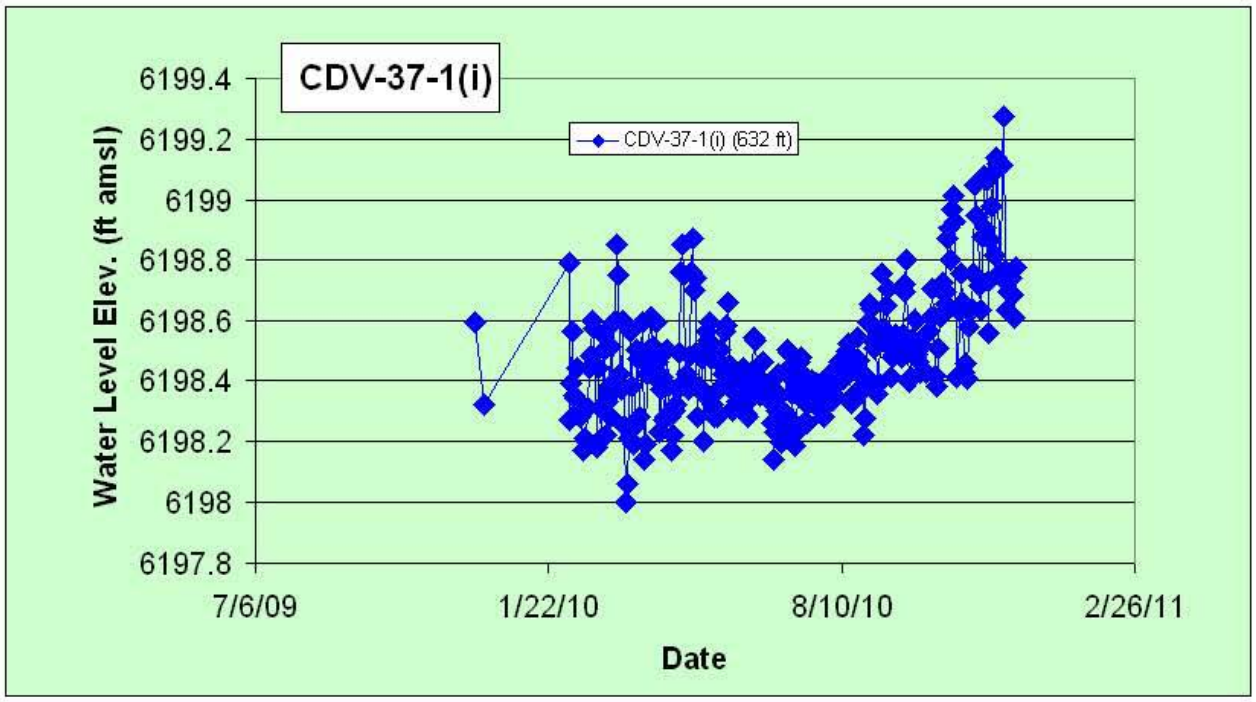

WCO-1r
Water Level Elev. (ft amsl)
6613
6612
6611
6610
6609
6608
6607
6606
6605
WCO-1r (6 ft)
1/22/10
5/2/10
8/10/10
11/18/10
Date

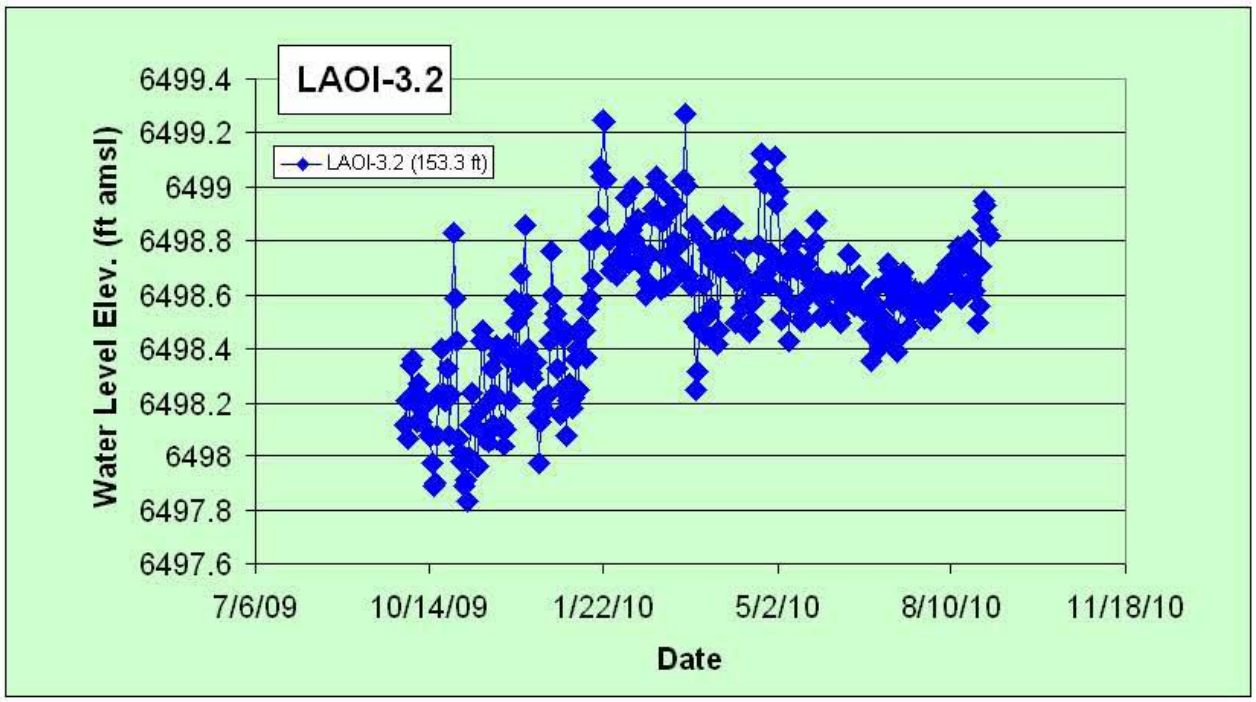

WCO-2
Water Level Elev. (ft amsl)
6518
6516
6514
6512
6510
6508
6506
6504
6502
6500
WCO-2 (13.5 ft)
3/3/10
4/12/10
5/22/10
7/1/10
8/10/10
9/19/10
Date

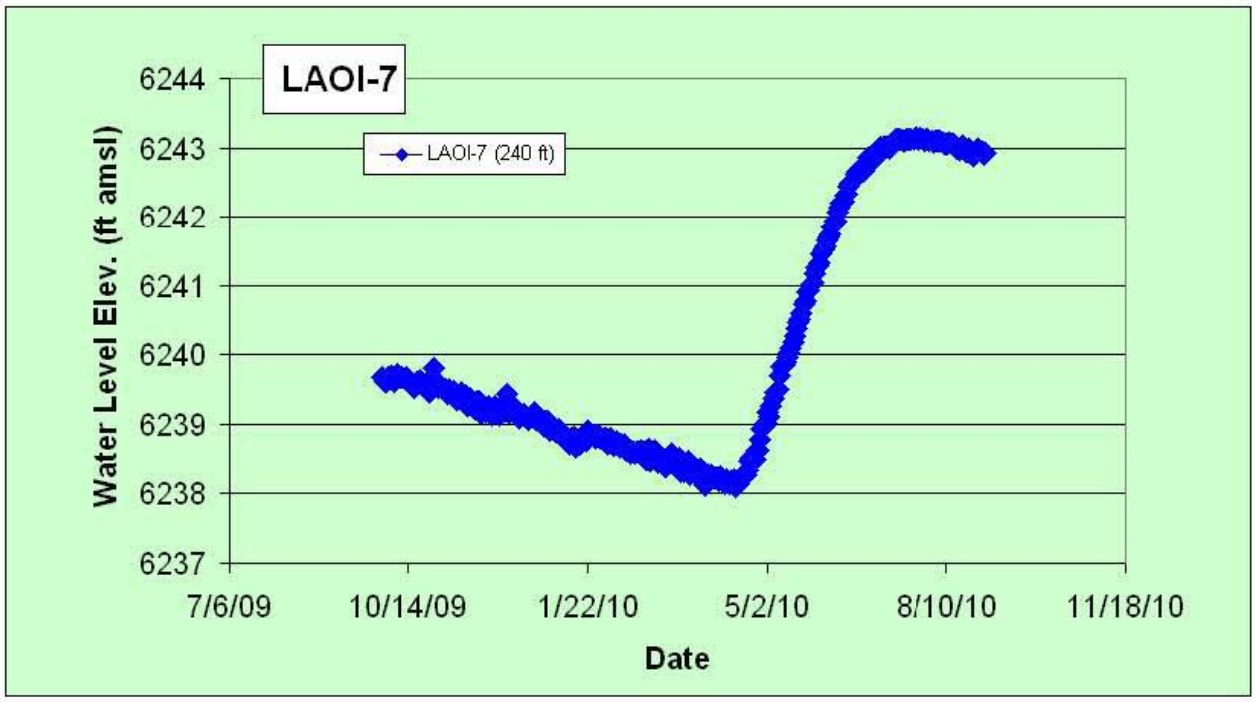
INTERMEDIATE AND MIXED WELLS

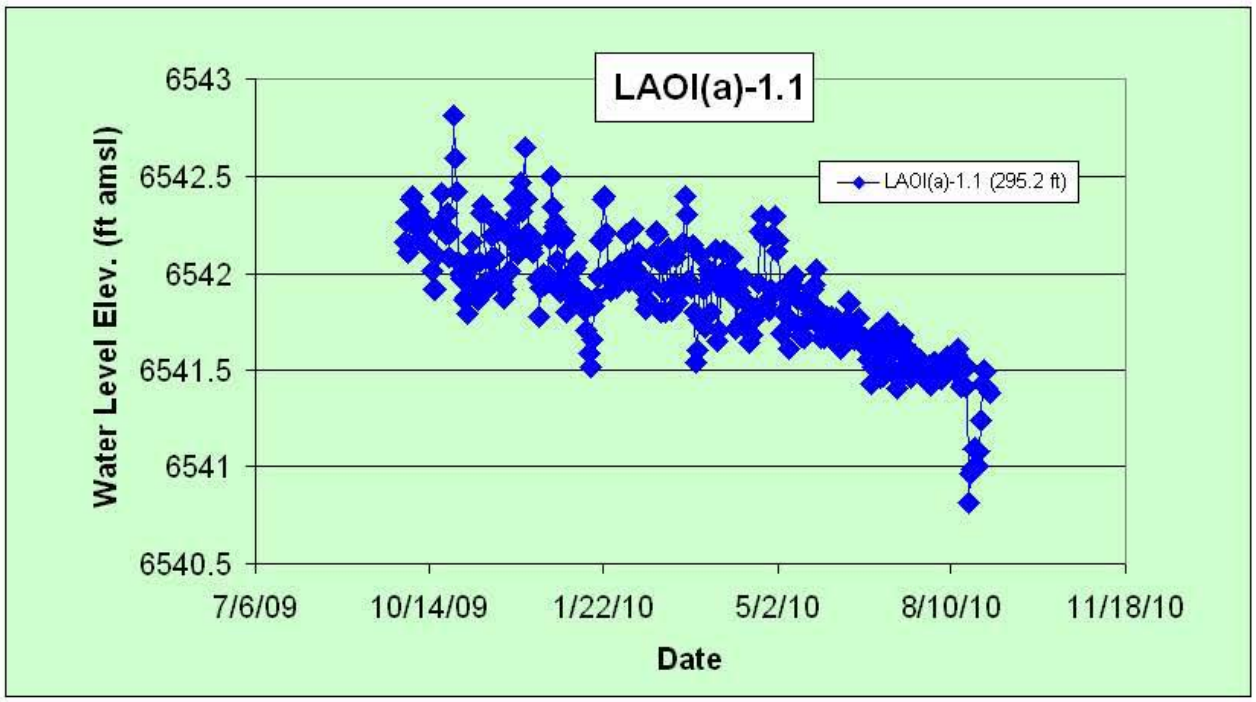


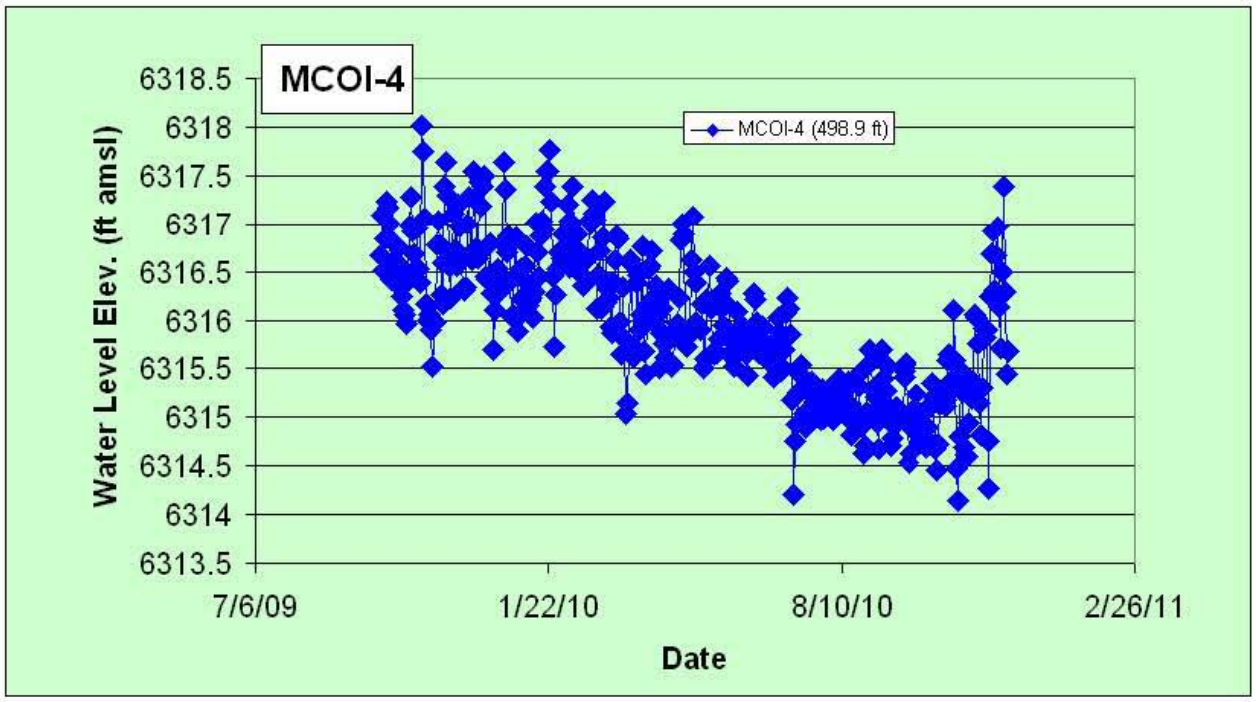


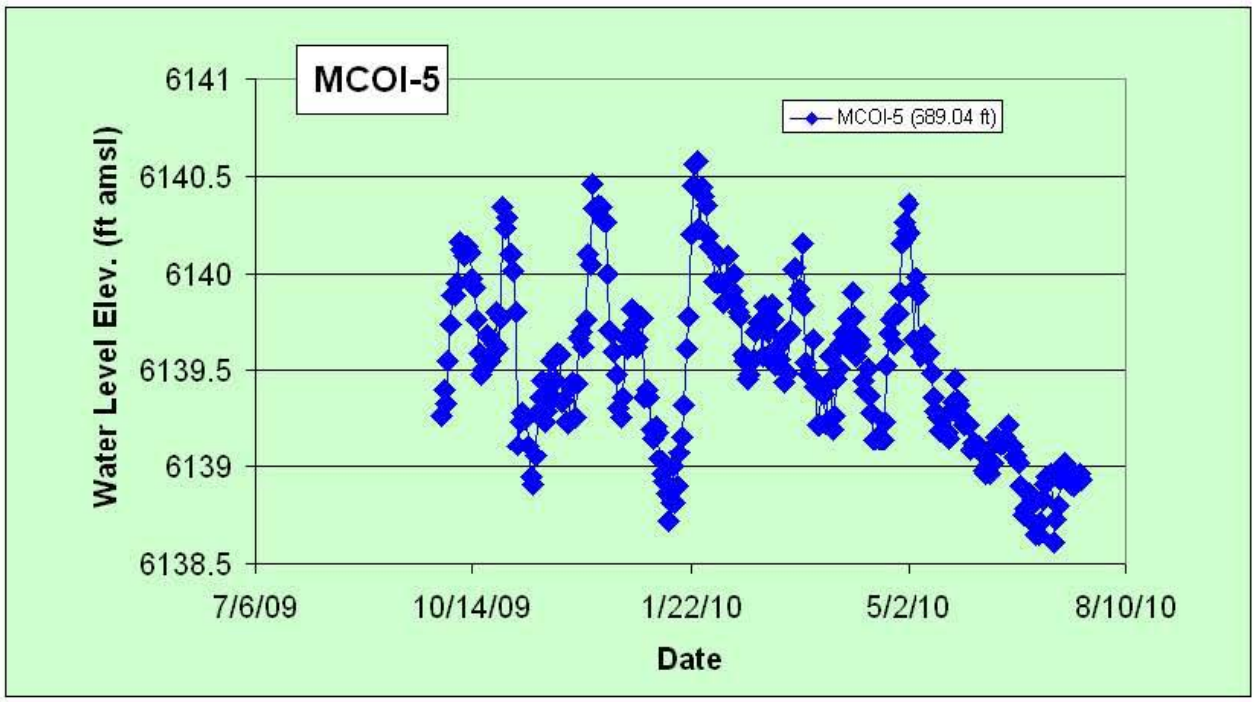

CDV-37-1(i)
CDV-37-1(i) (632 ft)
Water Level Elev. (ft amsl)
6199.4
6199.2
6199
6198.8
6198.6
6198.4
6198.2
6198
6197.8
7/6/09
1/22/10
8/10/10
2/26/11
Date

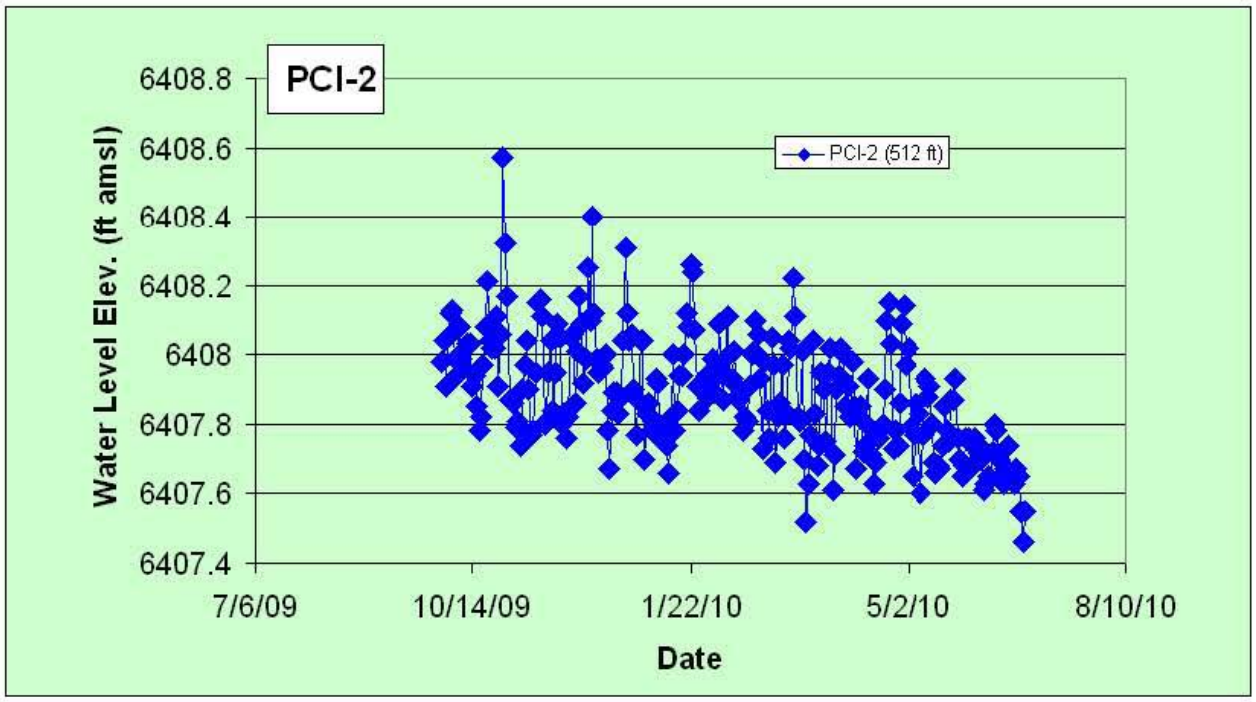

LAOI-3.2
LAOI-3.2 (153.3 ft)
Water Level Elev. (ft amsl)
6499.4
6499.2
6499
6498.8
6498.6
6498.4
6498.2
6498
6497.8
6497.6
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

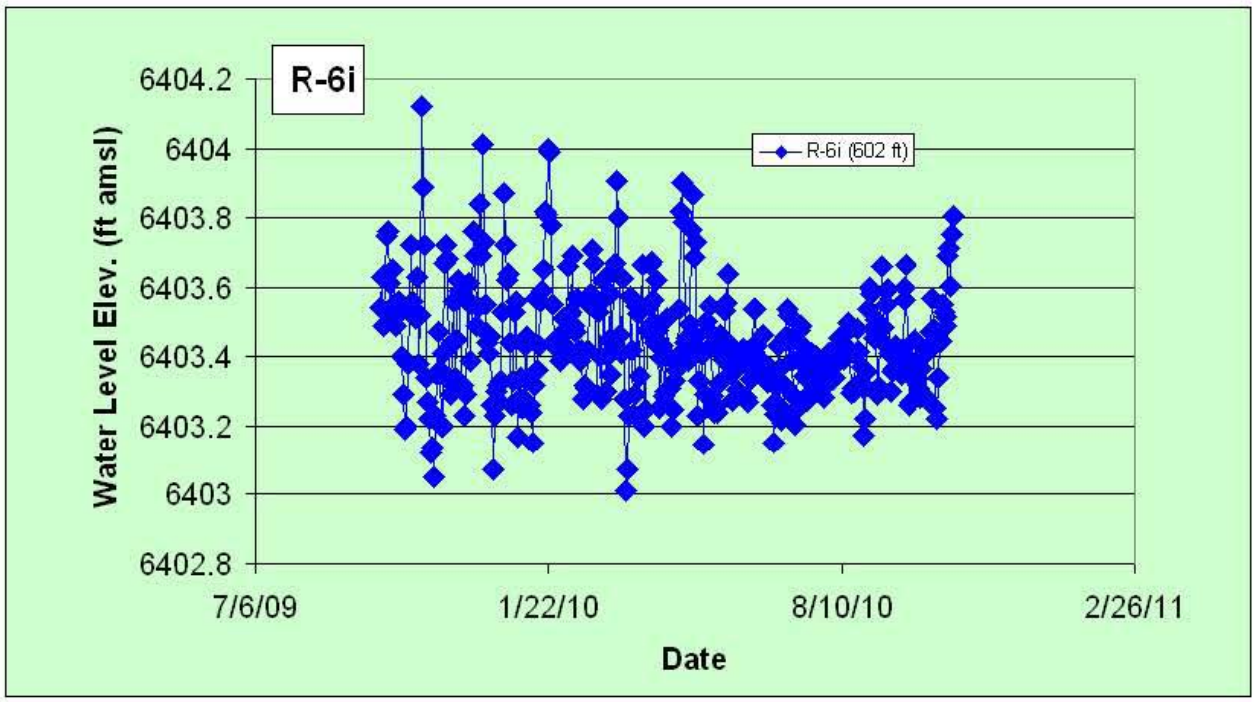

LAOI-7
LAOI-7 (240 ft)
Water Level Elev. (ft amsl)
6244
6243
6242
6241
6240
6239
6238
6237
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

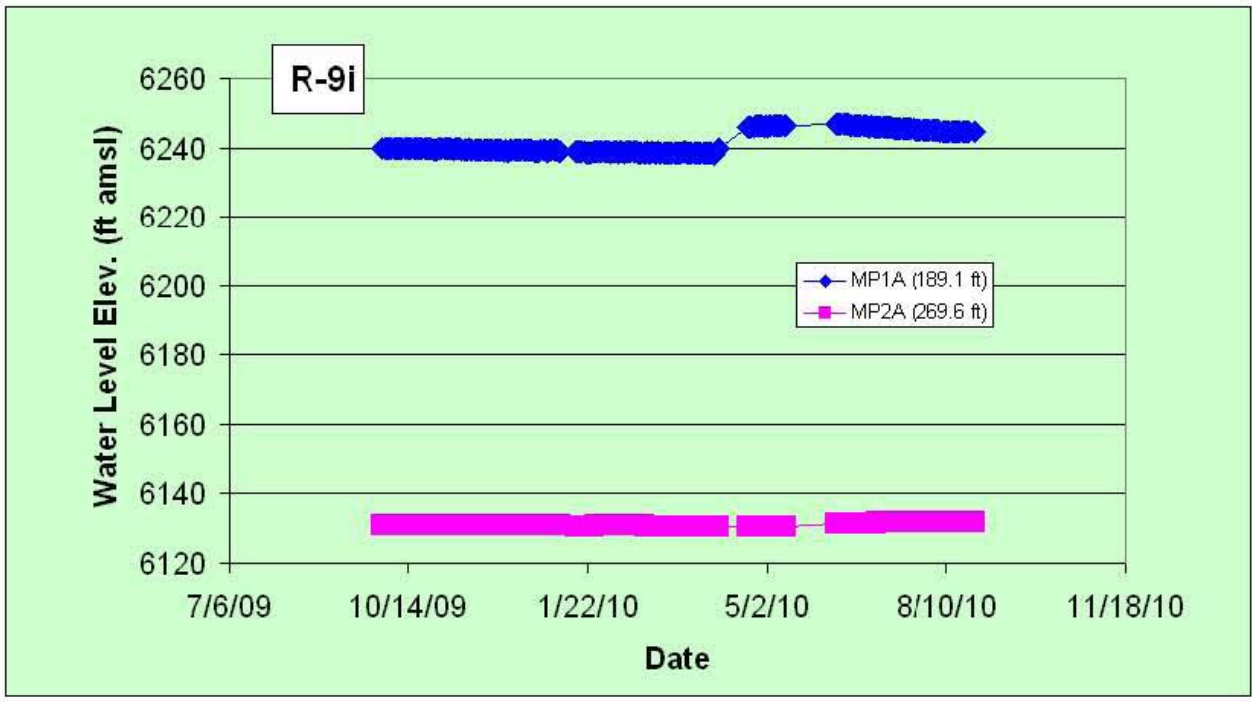

LAOI(a)-1.1
LAOI(a)-1.1 (295.2 ft)
Water Level Elev. (ft amsl)
6543
6542.5
6542
6541.5
6541
6540.5
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

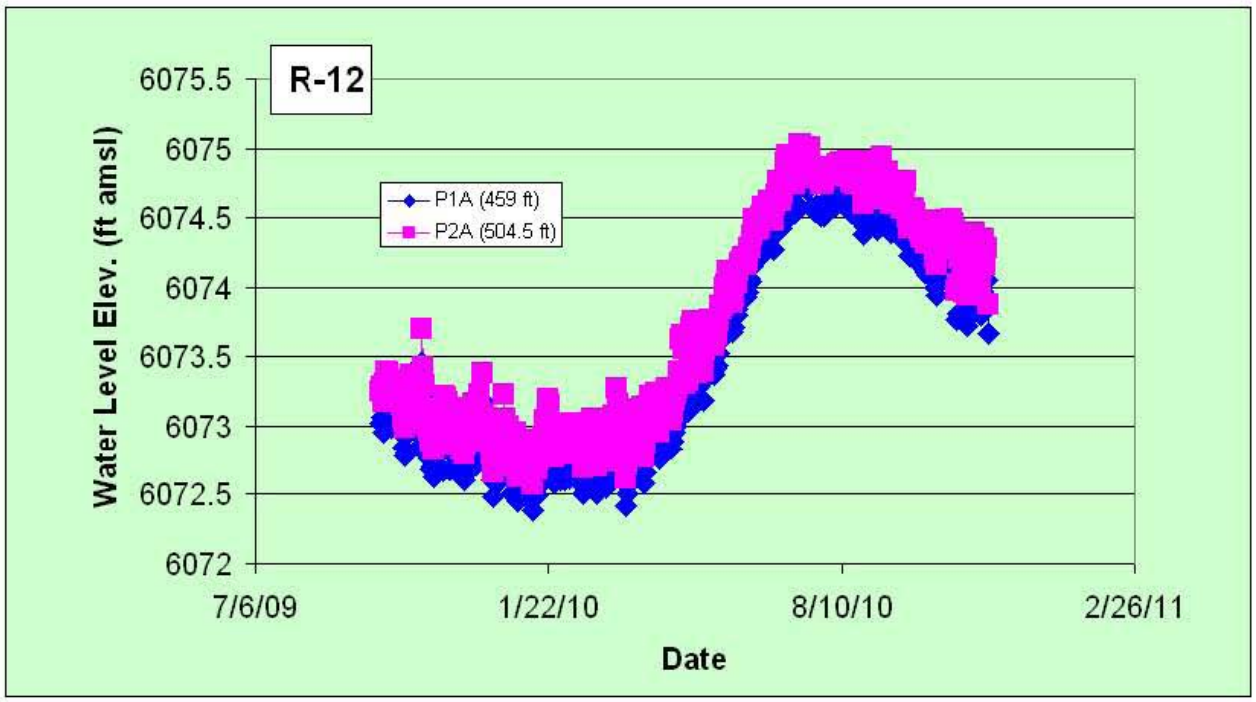

MCOI-4
MCOI-4 (498.9 ft)
Water Level Elev. (ft amsl)
6318.5
6318
6317.5
6317
6316.5
6316
6315.5
6315
6314.5
6314
6313.5
7/6/09
1/22/10
8/10/10
2/26/11
Date

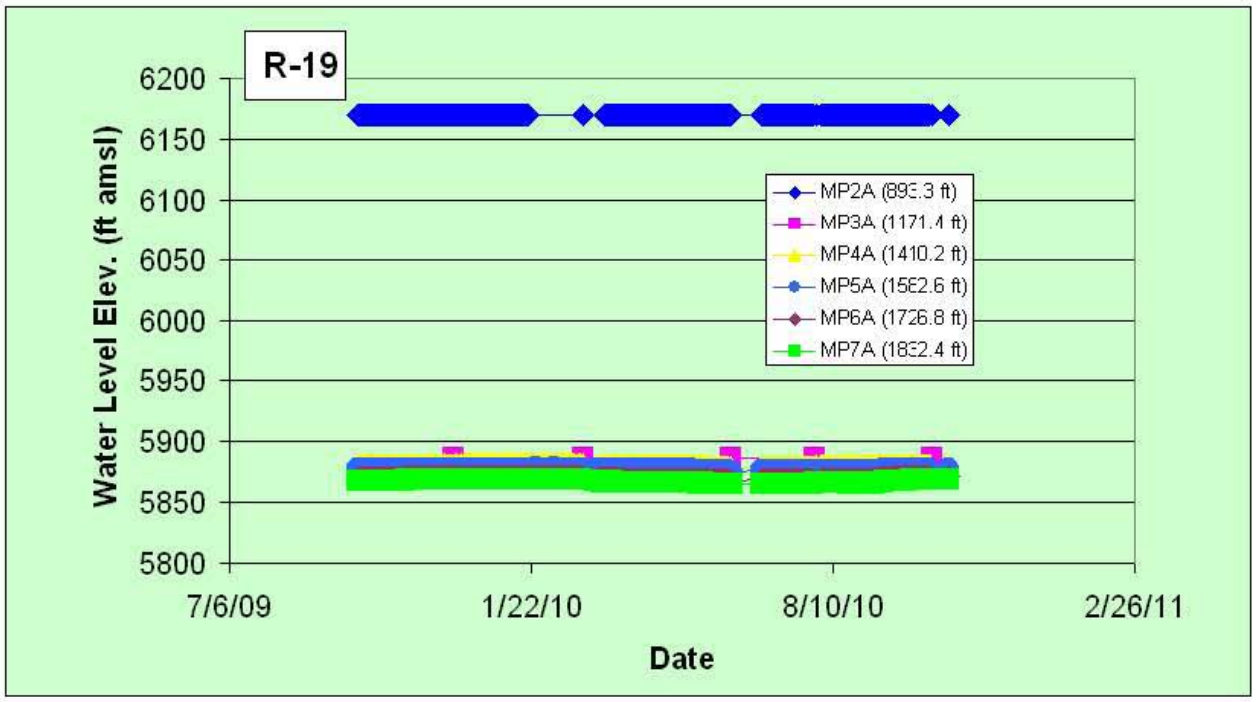

MCOI-5
MCOI-5 (689.04 ft)
Water Level Elev. (ft amsl)
6141
6140.5
6140
6139.5
6139
6138.5
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

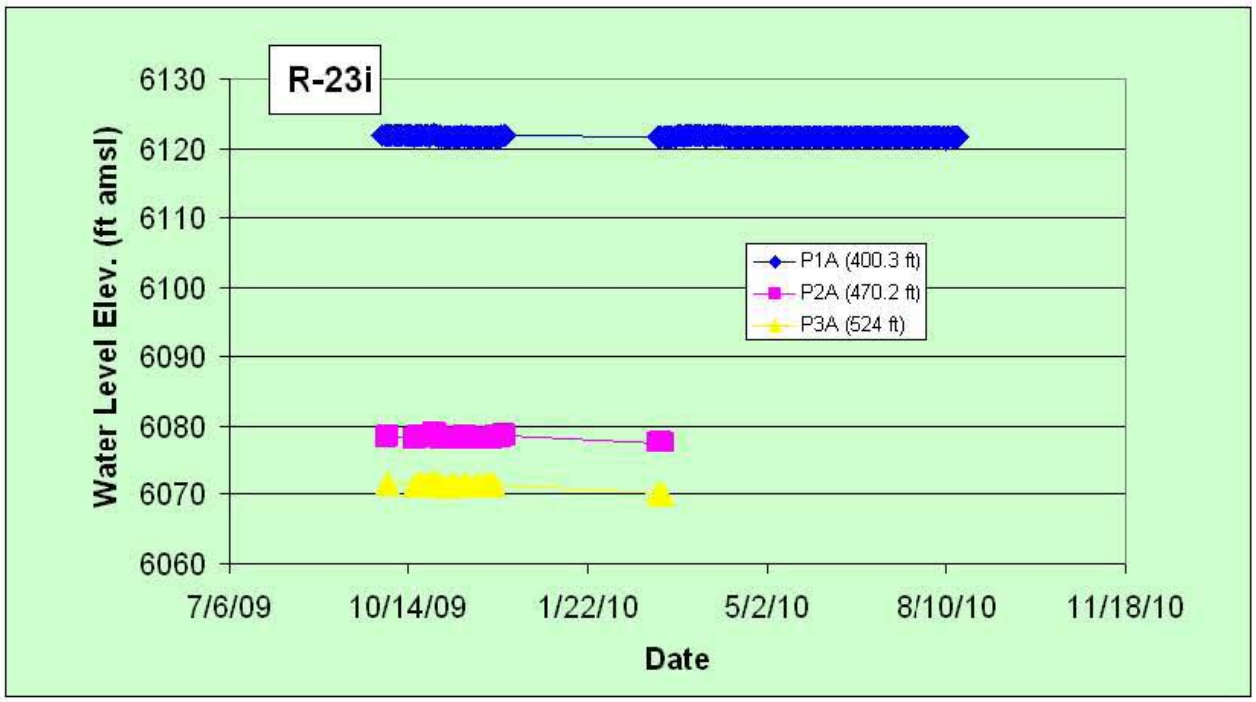

PCI-2
PCI-2 (512 ft)
Water Level Elev. (ft amsl)
6408.8
6408.6
6408.4
6408.2
6408
6407.8
6407.6
6407.4
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

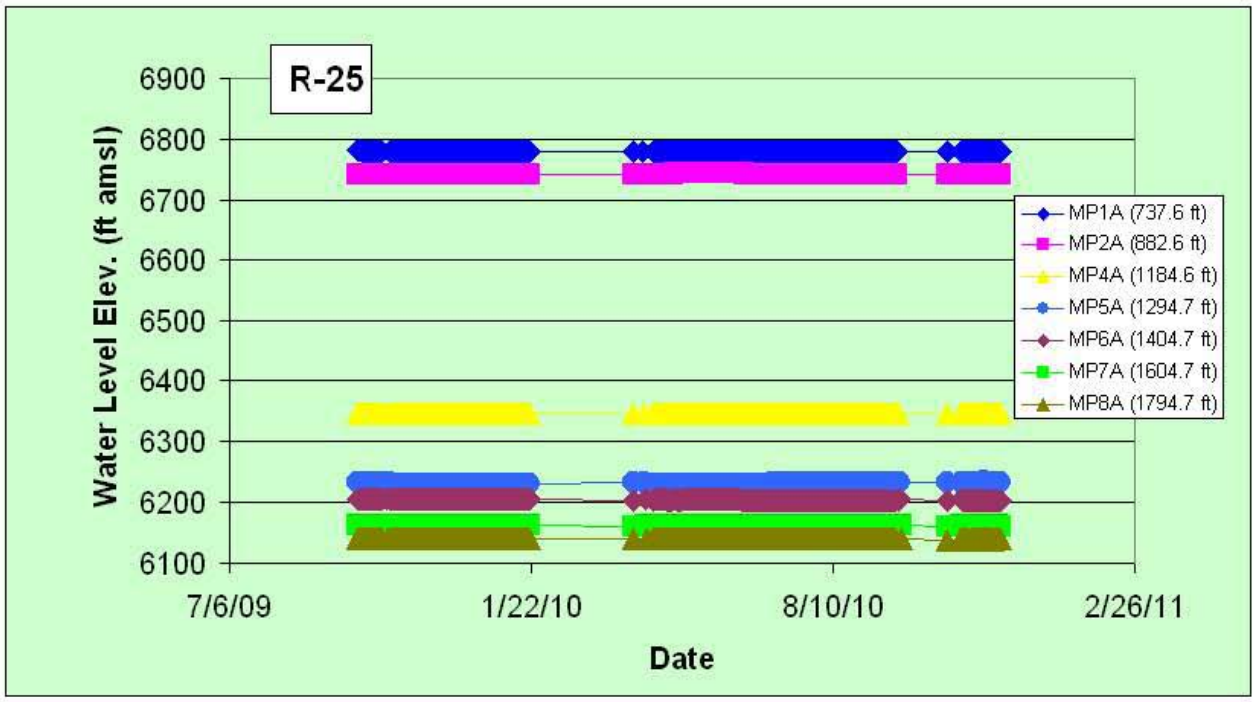

R-6i
R-6i (602 ft)
Water Level Elev. (ft amsl)
6404.2
6404
6403.8
6403.6
6403.4
6403.2
6403
6402.8
7/6/09
1/22/10
8/10/10
2/26/11
Date

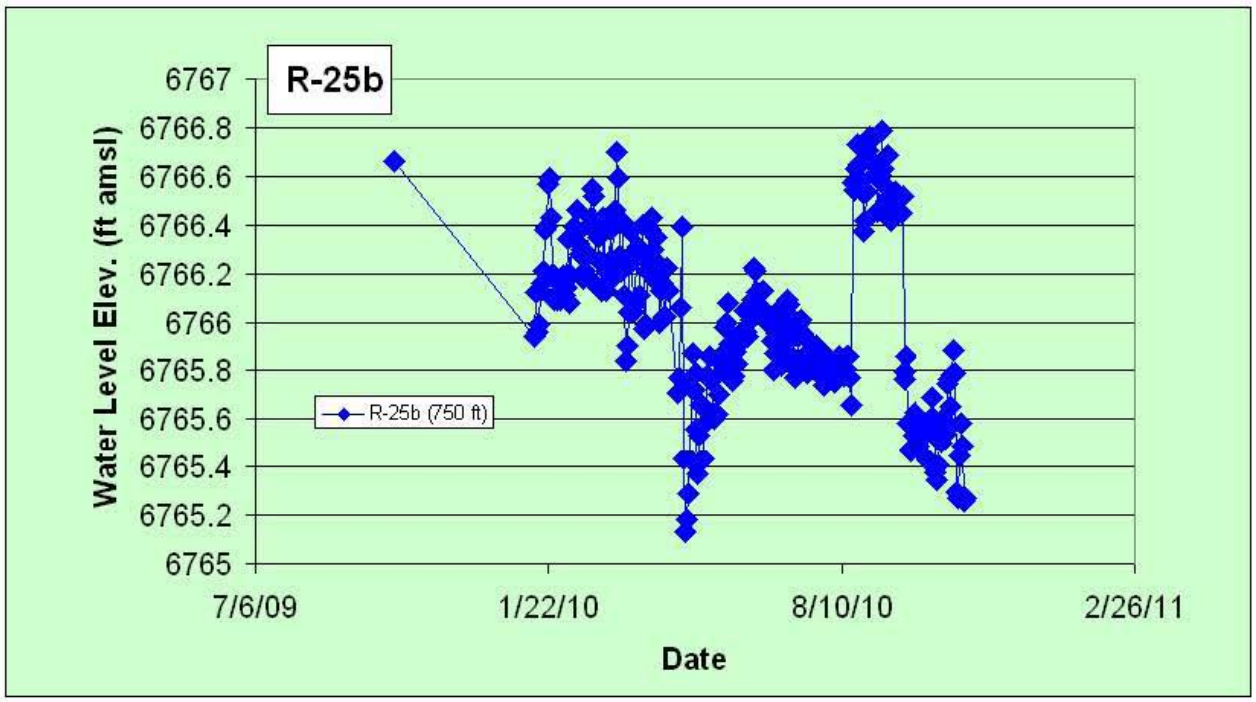

R-9i
Water Level Elev. (ft amsl)
6260
6240
6220
6200
6180
6160
6140
6120
MP1A (189.1 ft)
MP2A (269.6 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

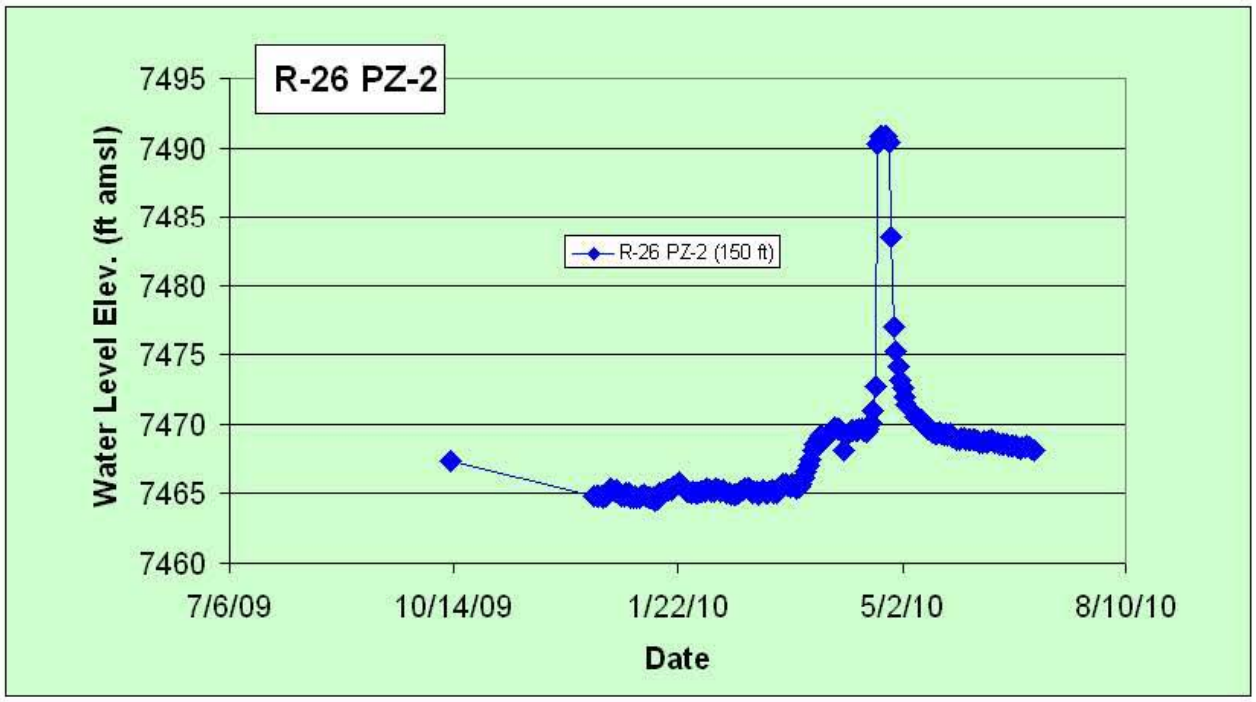

R-12
Water Level Elev. (ft amsl)
6075.5
6075
6074.5
6074
6073.5
6073
6072.5
6072
P1A (459 ft)
P2A (504.5 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

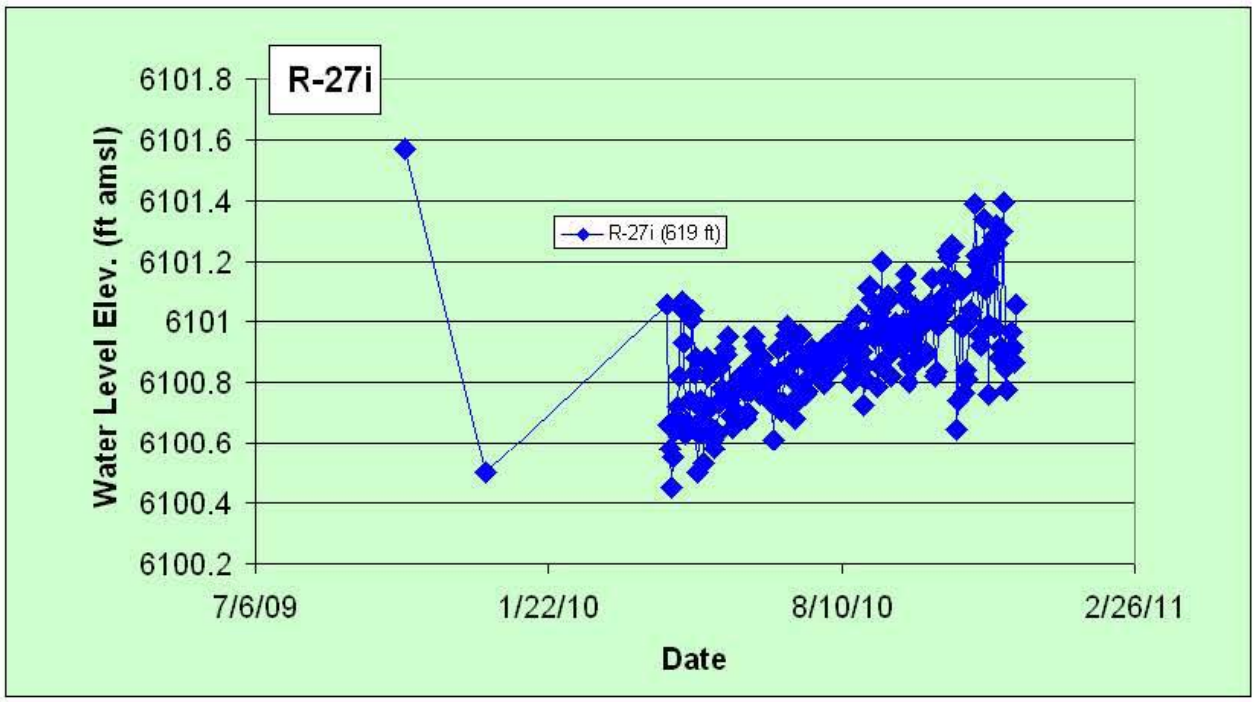

R-19
Water Level Elev. (ft amsl)
6200
6150
6100
6050
6000
5950
5900
5850
5800
7/6/09
1/22/10
8/10/10
2/26/11
Date
MP2A (893.3 ft)
MP3A (1171.4 ft)
MP4A (1410.2 ft)
MP5A (1562.6 ft)
MP6A (1726.8 ft)
MP7A (1832.4 ft)

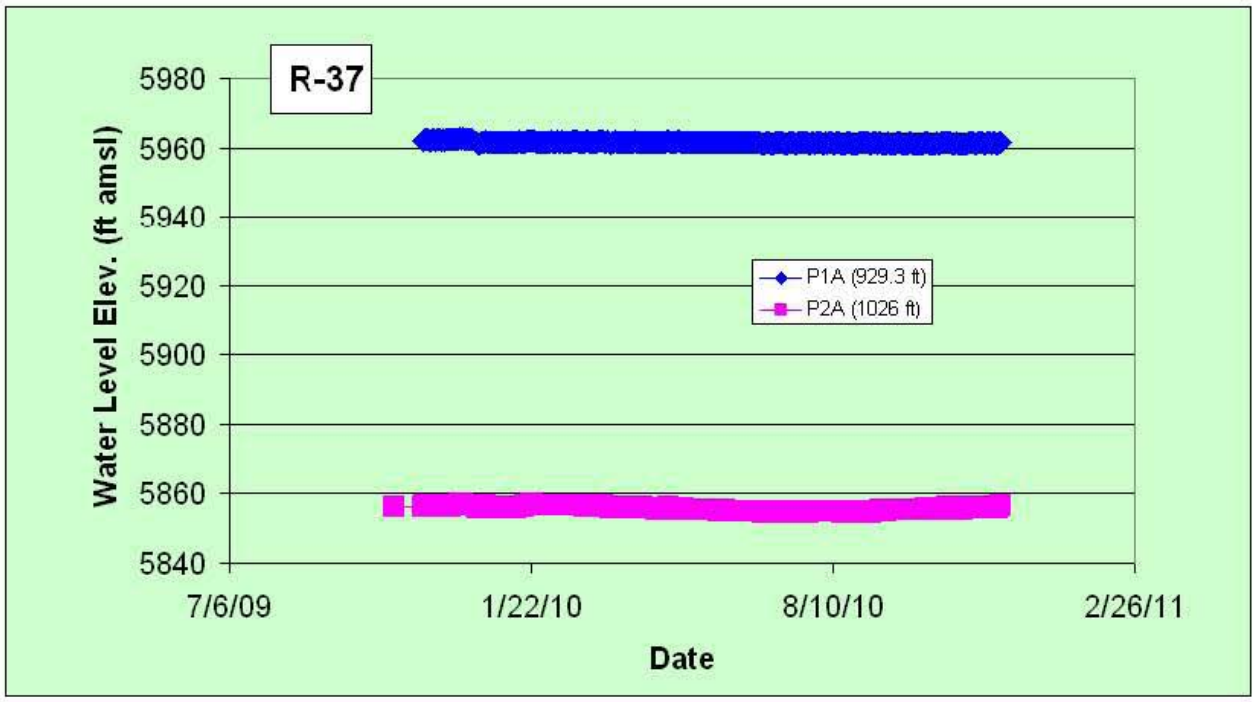

R-23i
Water Level Elev. (ft amsl)
6130
6120
6110
6100
6090
6080
6070
6060
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date
P1A (400.3 ft)
P2A (470.2 ft)
P3A (524 ft)

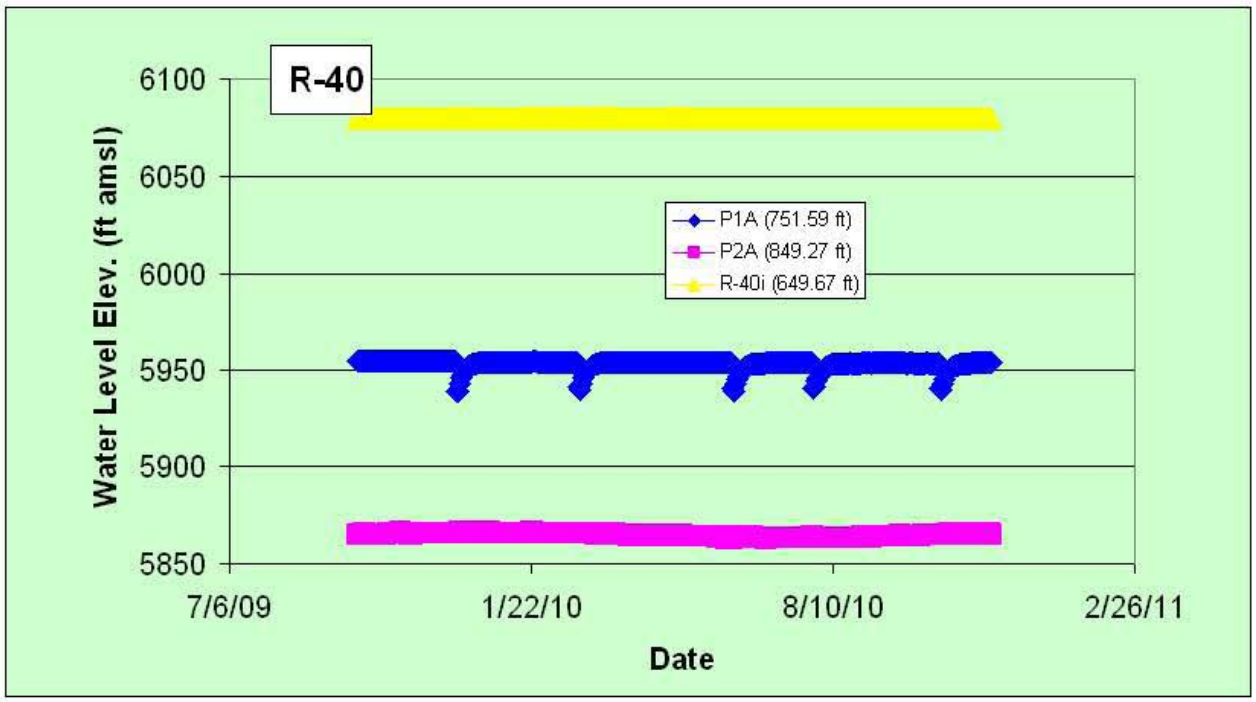

R-25
Water Level Elev. (ft amsl)
6900
6800
6700
6600
6500
6400
6300
6200
6100
7/6/09
1/22/10
8/10/10
2/26/11
Date
MP1A (737.6 ft)
MP2A (882.6 ft)
MP4A (1184.6 ft)
MP5A (1294.7 ft)
MP6A (1404.7 ft)
MP7A (1604.7 ft)
MP8A (1794.7 ft)

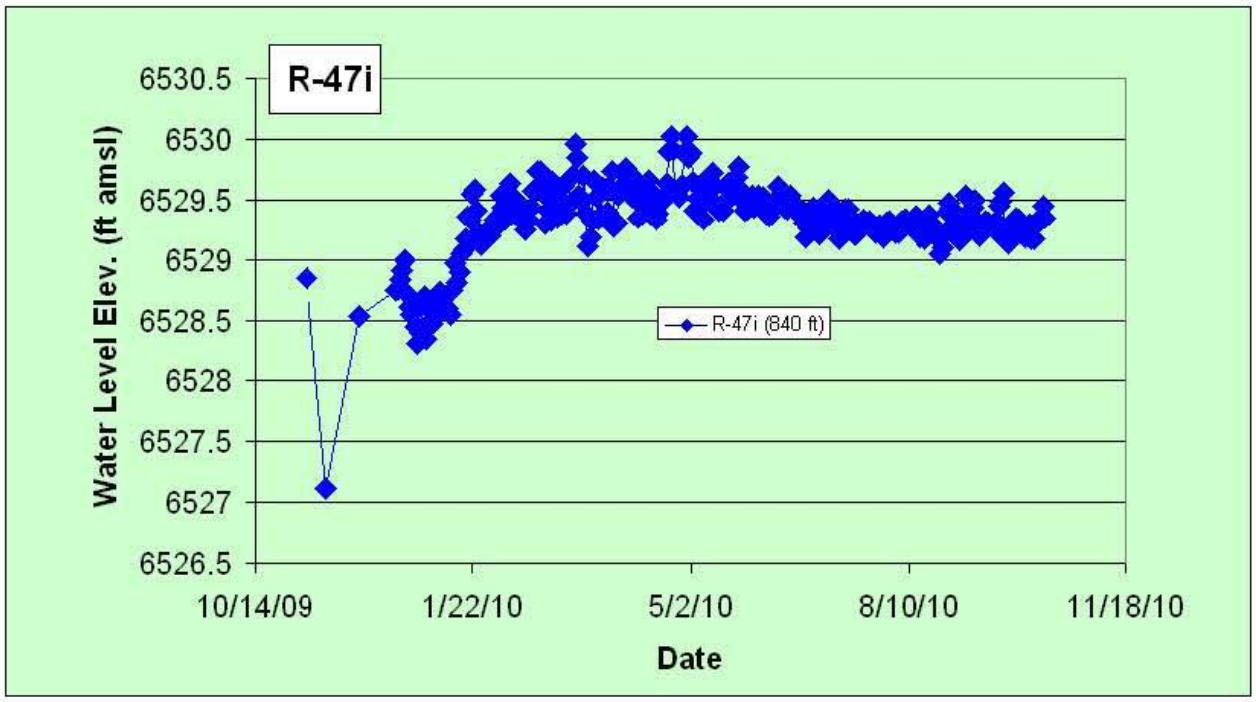

R-25b
Water Level Elev. (ft amsl)
6767
6766.8
6766.6
6766.4
6766.2
6766
6765.8
6765.6
6765.4
6765.2
6765
7/6/09
1/22/10
8/10/10
2/26/11
Date
R-25b (750 ft)

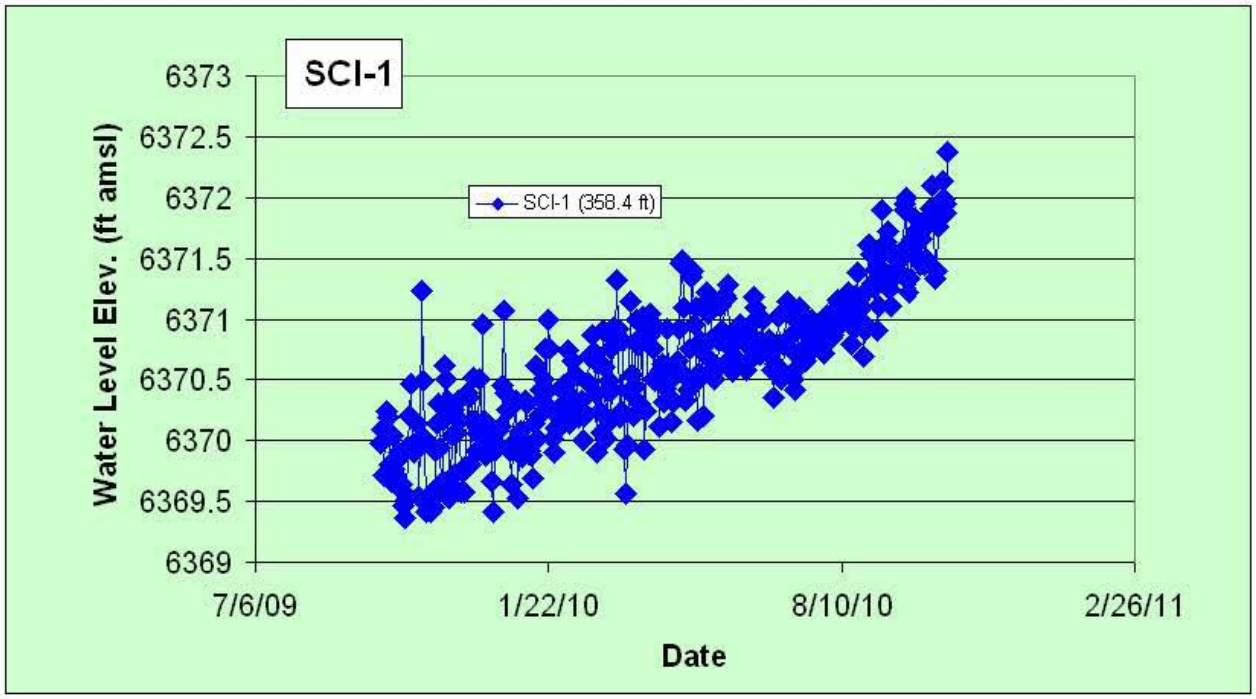

R-26 PZ-2
Water Level Elev. (ft amsl)
7495
7490
7485
7480
7475
7470
7465
7460
R-26 PZ-2 (150 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
Date

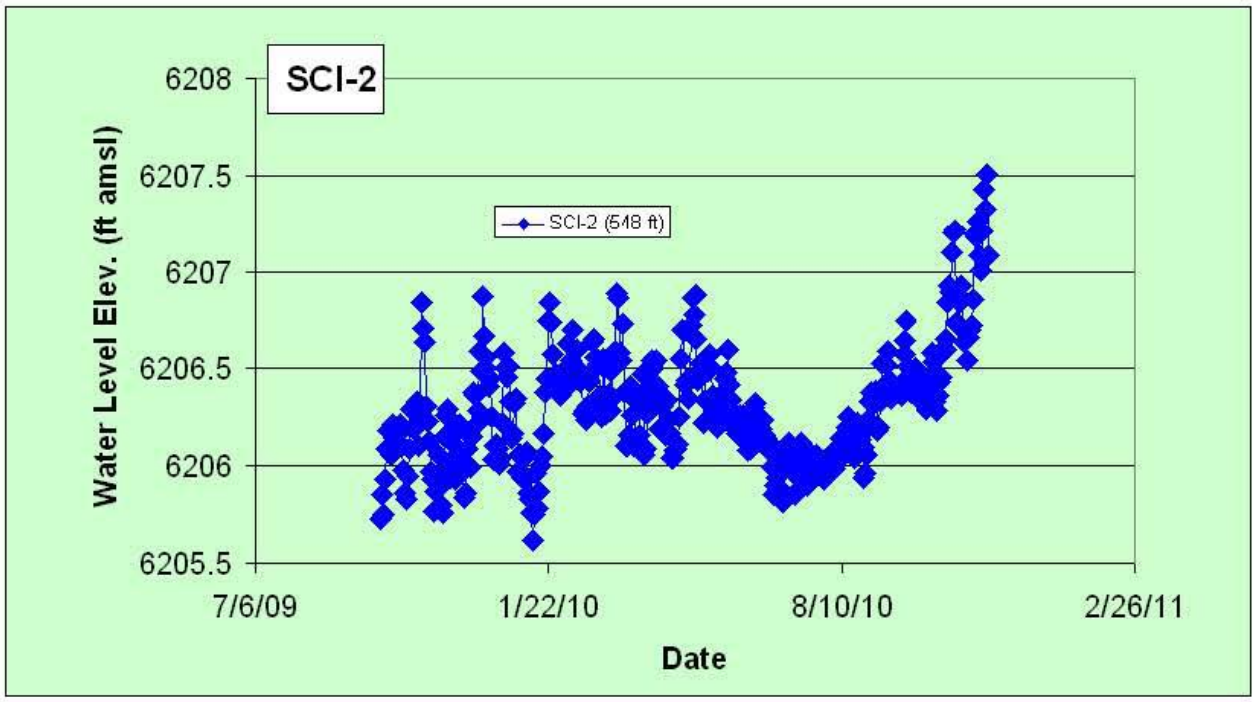

R-27i
Water Level Elev. (ft amsl)
6101.8
6101.6
6101.4
6101.2
6101
6100.8
6100.6
6100.4
6100.2
R-27i (619 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

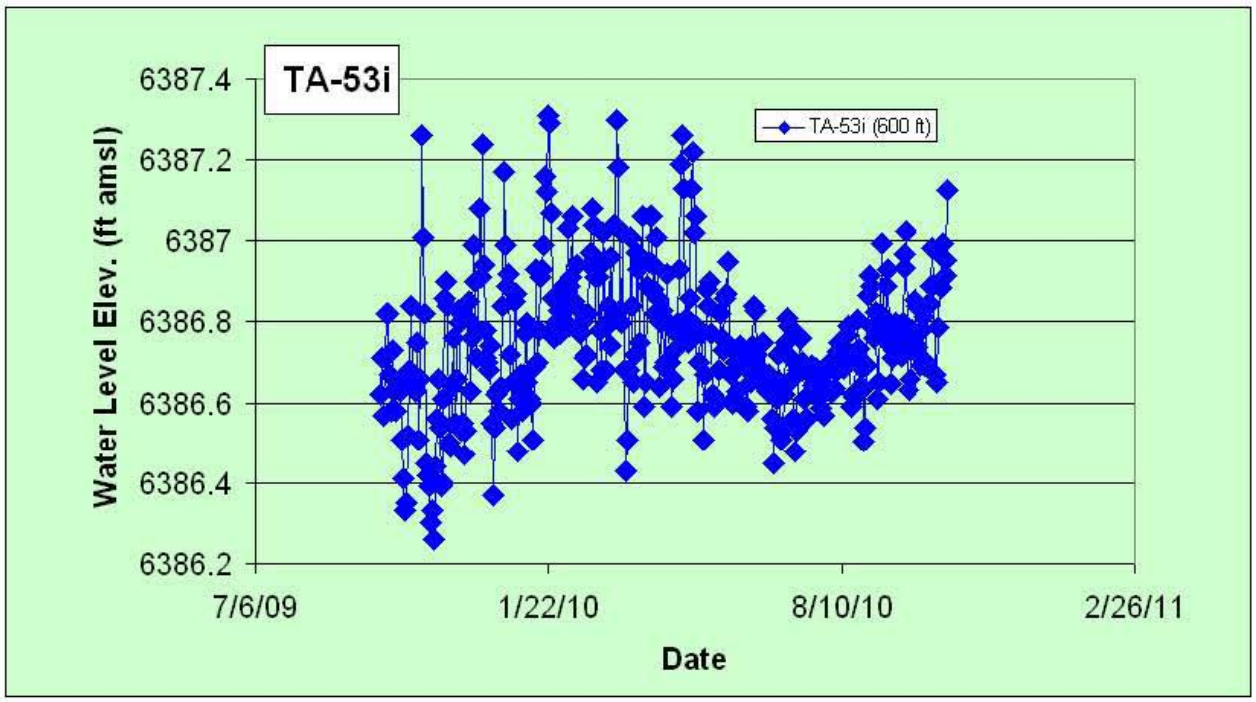

R-37
Water Level Elev. (ft amsl)
5980
5960
5940
5920
5900
5880
5860
5840
7/6/09
1/22/10
8/10/10
2/26/11
Date
P1A (929.3 ft)
P2A (1026 ft)

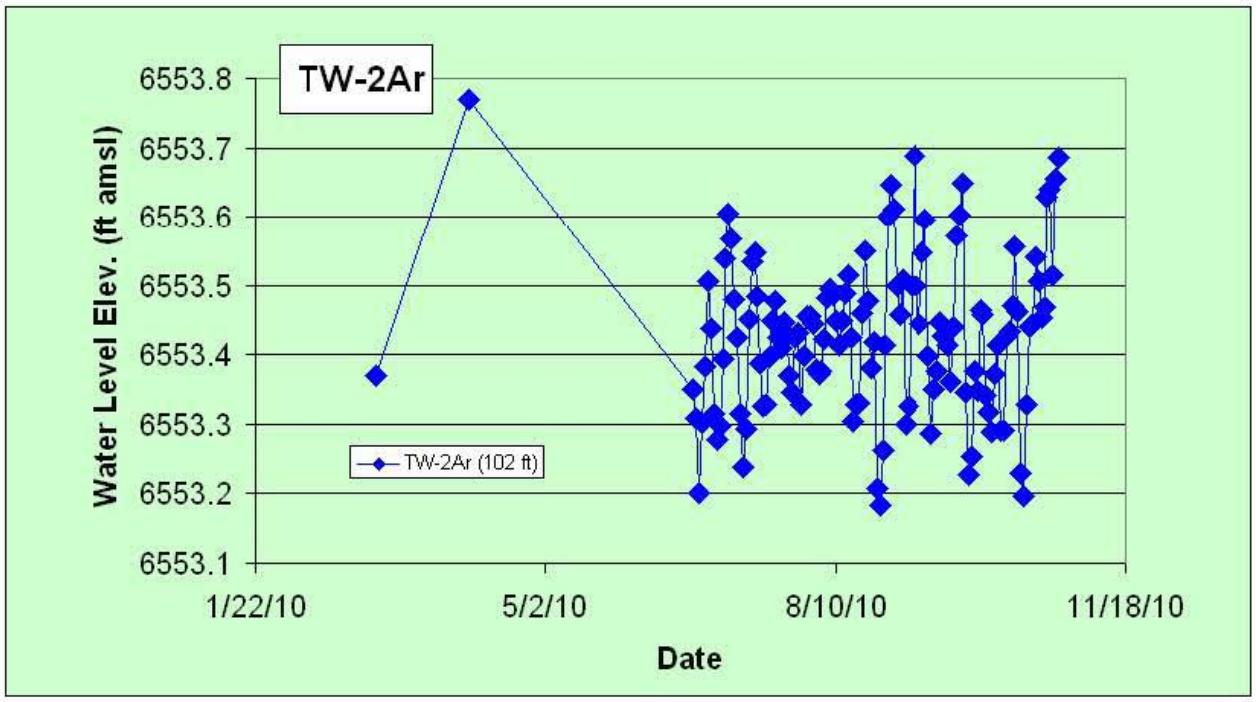

R-40
Water Level Elev. (ft amsl)
6100
6050
6000
5950
5900
5850
7/6/09
1/22/10
8/10/10
2/26/11
Date
P1A (751.59 ft)
P2A (849.27 ft)
R-40i (649.67 ft)


R-47i
Water Level Elev. (ft amsl)
6530.5
6530
6529.5
6529
6528.5
6528
6527.5
6527
6526.5
R-47i (840 ft)
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

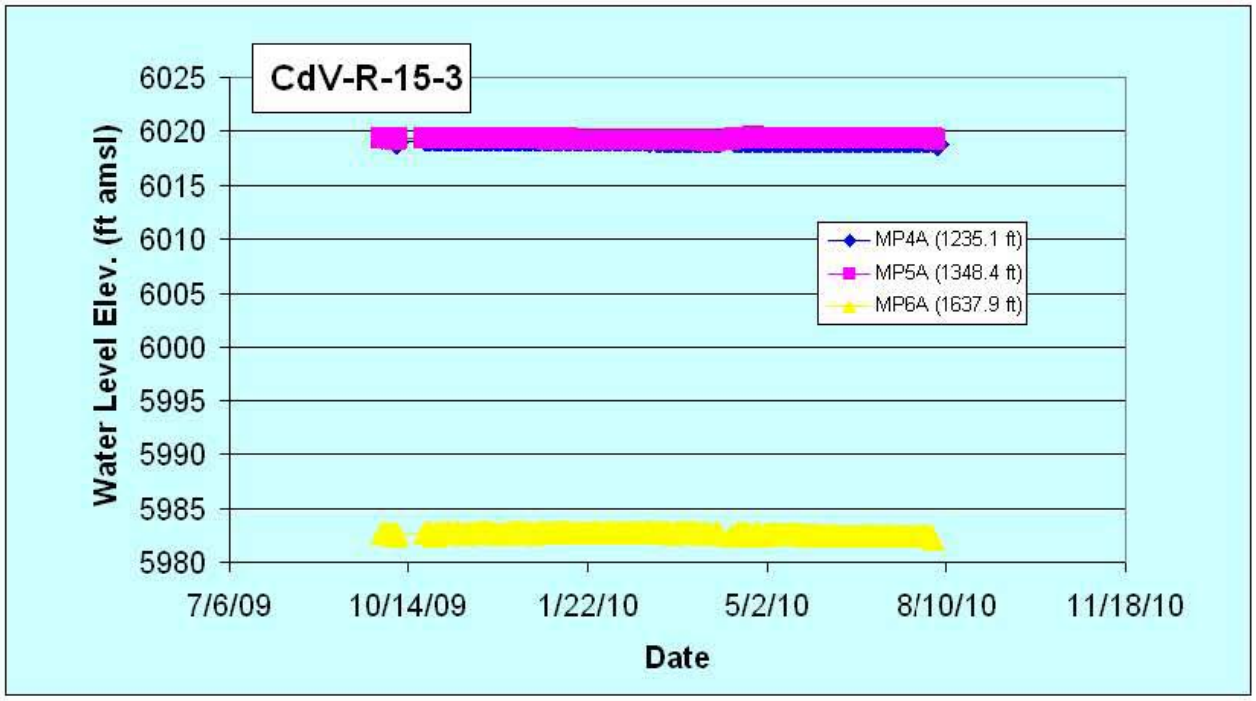

SCI-1
Water Level Elev. (ft amsl)
6373
6372.5
6372
6371.5
6371
6370.5
6370
6369.5
6369
SCI-1 (358.4 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

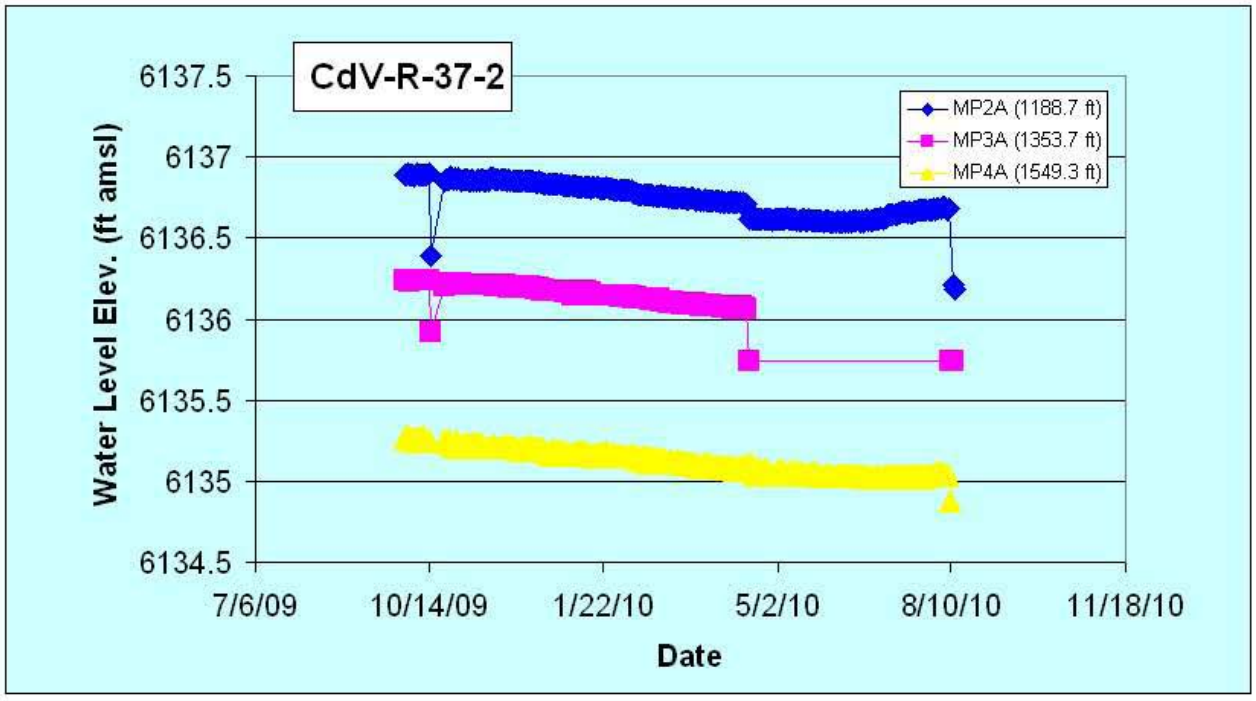

SCI-2
SCI-2 (548 ft)
Water Level Elev. (ft amsl)
6208
6207.5
6207
6206.5
6206
6205.5
7/6/09
1/22/10
8/10/10
2/26/11
Date

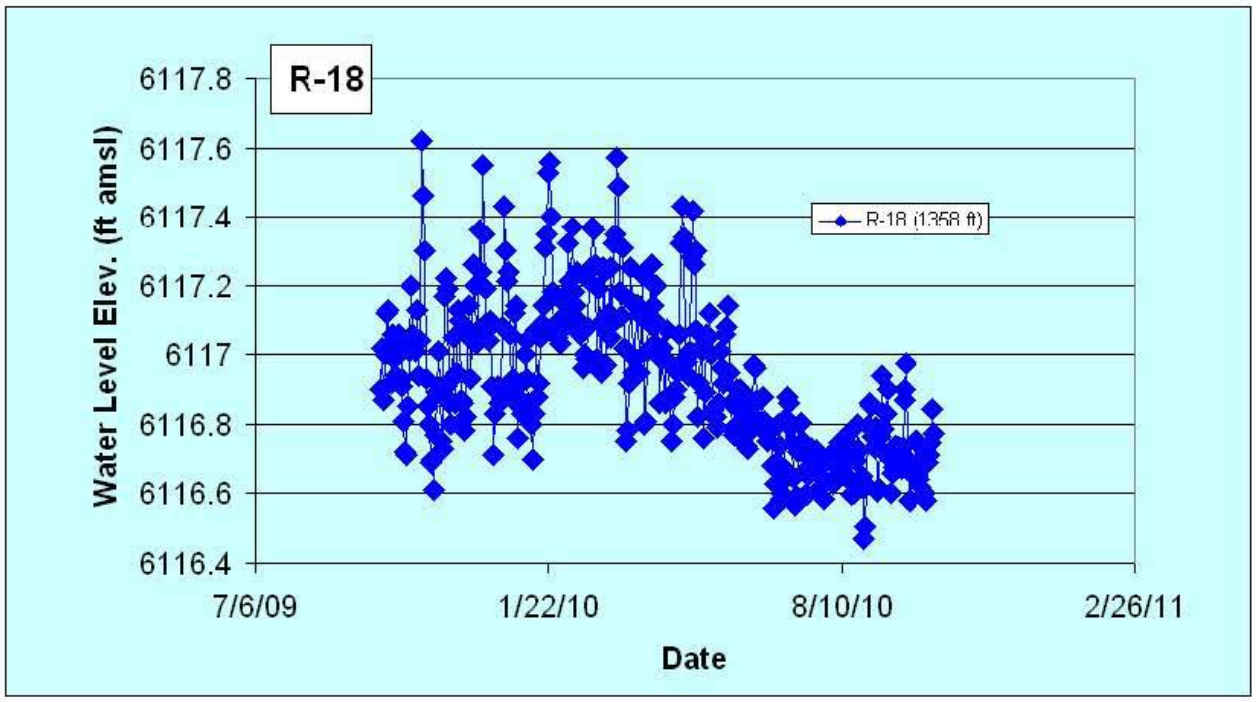

TA-53i
TA-53i (600 ft)
Water Level Elev. (ft amsl)
6387.4
6387.2
6387
6386.8
6386.6
6386.4
6386.2
7/6/09
1/22/10
8/10/10
2/26/11
Date

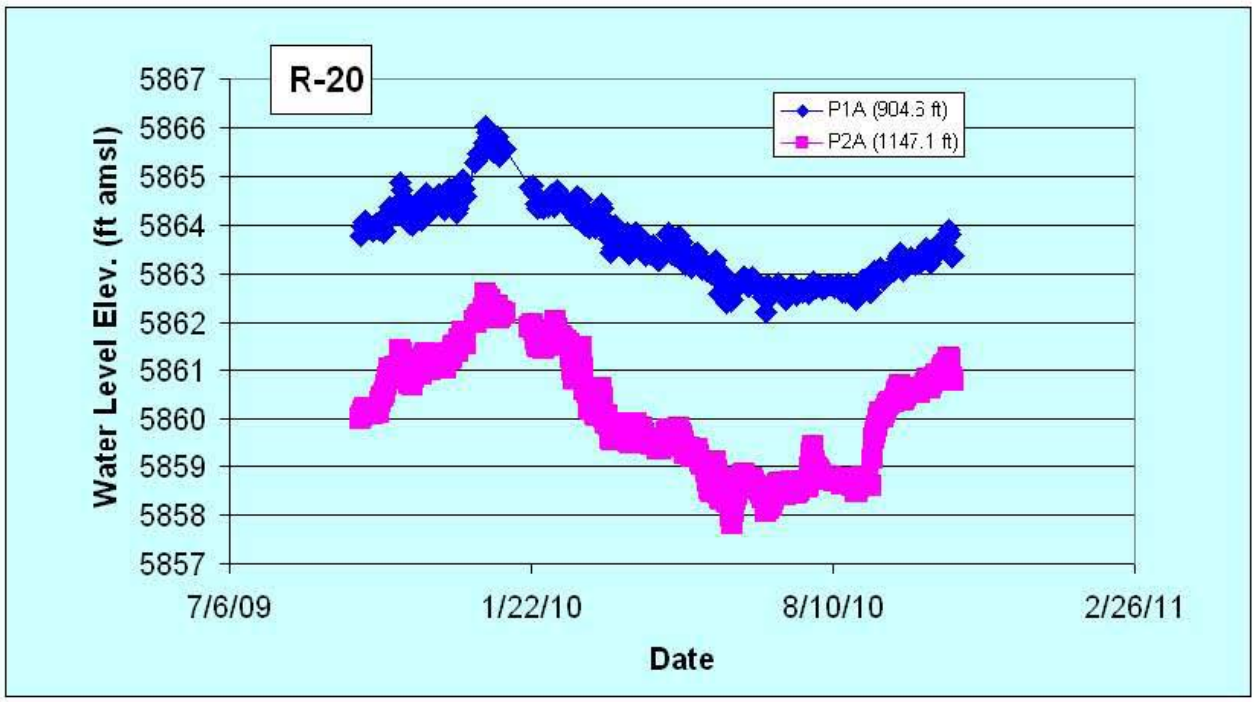

TW-2Ar
6553.8
6553.7
6553.6
6553.5
6553.4
6553.3
6553.2
6553.1
Water Level Elev. (ft amsl)
TW-2Ar (102 ft)
1/22/10
5/2/10
8/10/10
11/18/10
Date

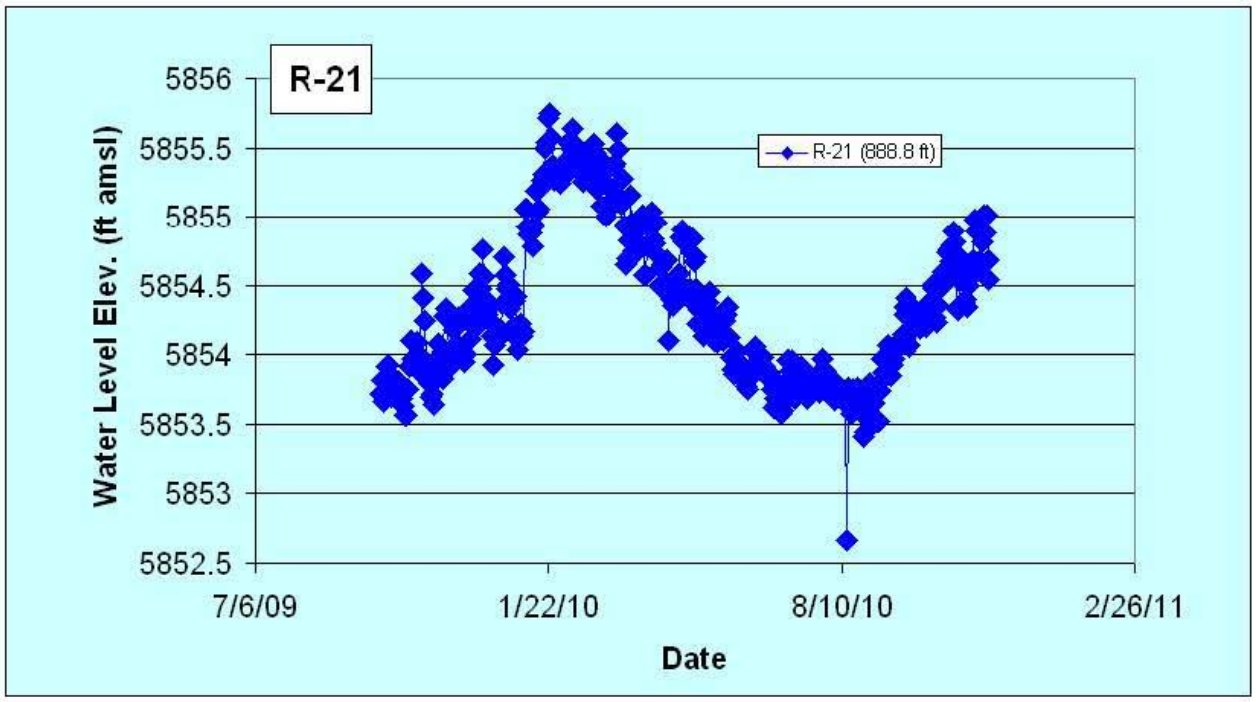
REGIONAL WELLS

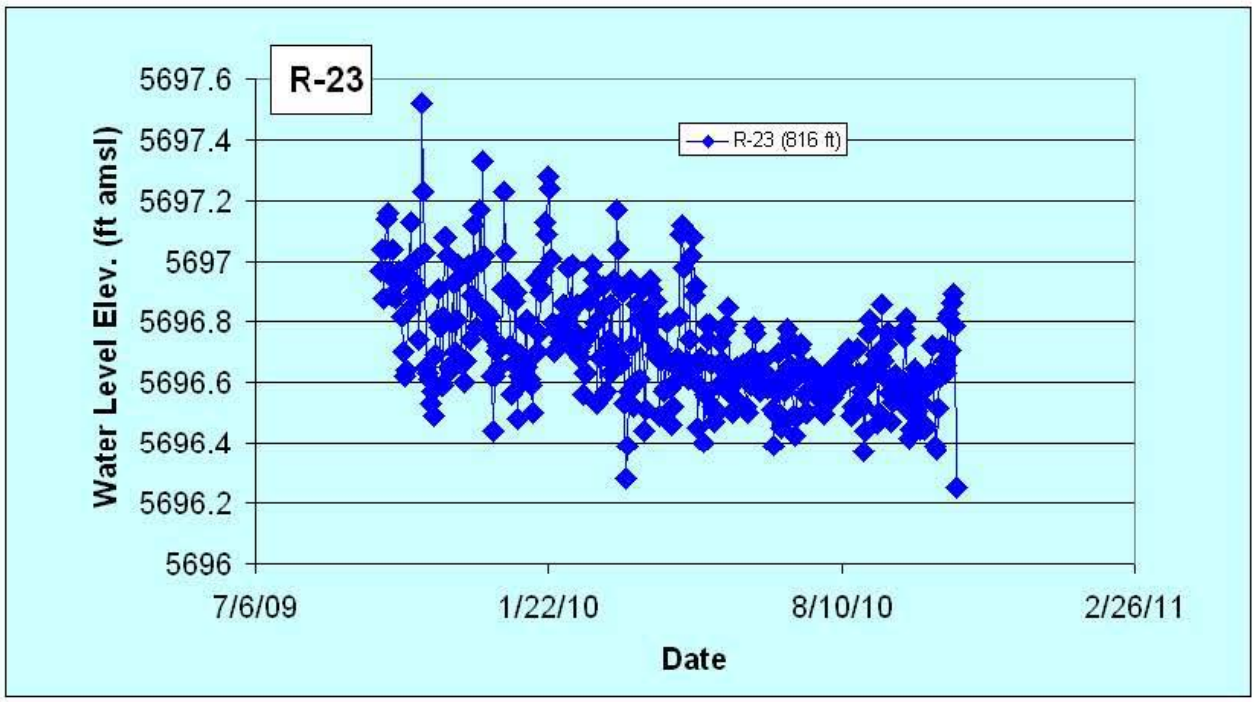


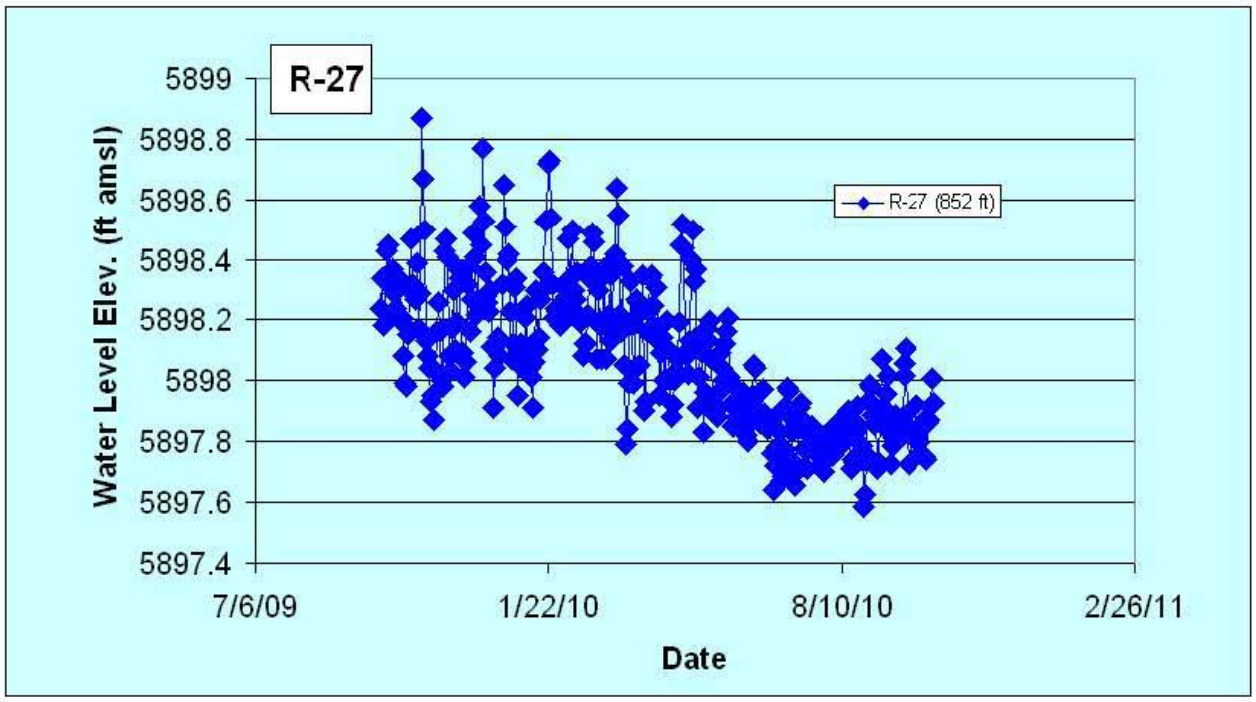


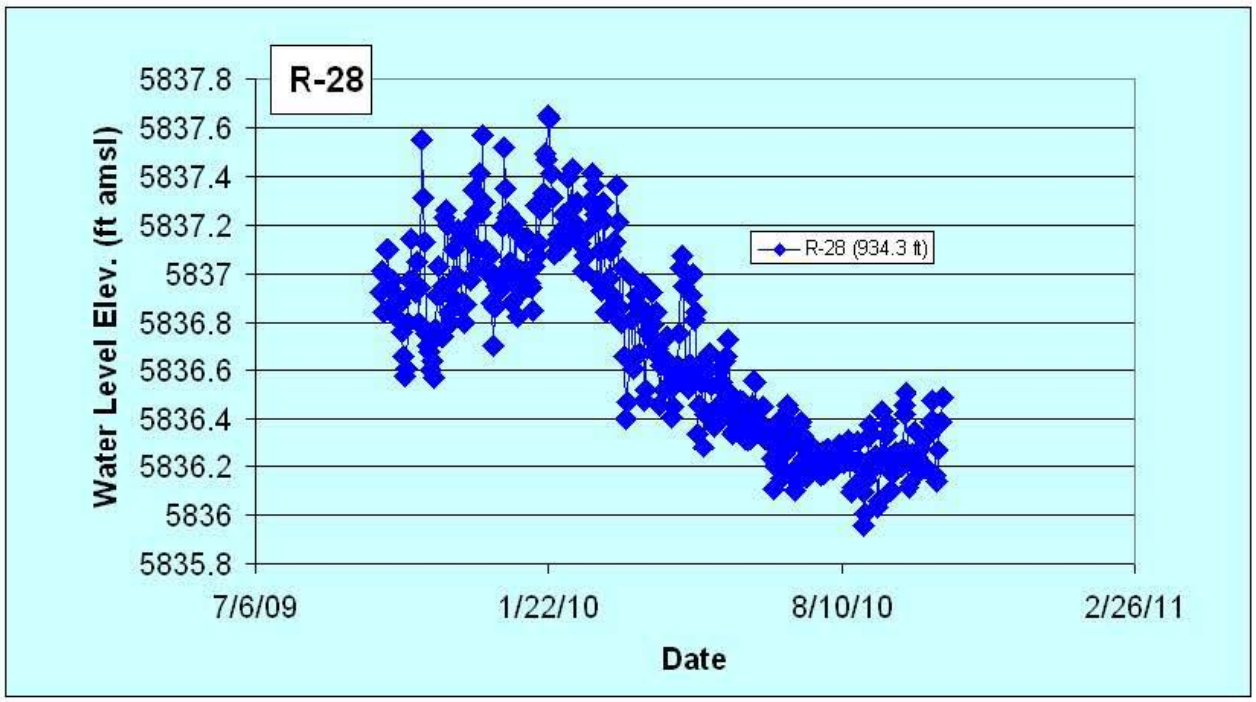

R-18
6117.8
6117.6
6117.4
6117.2
6117
6116.8
6116.6
6116.4
Water Level Elev. (ft amsl)
R-18 (1358 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

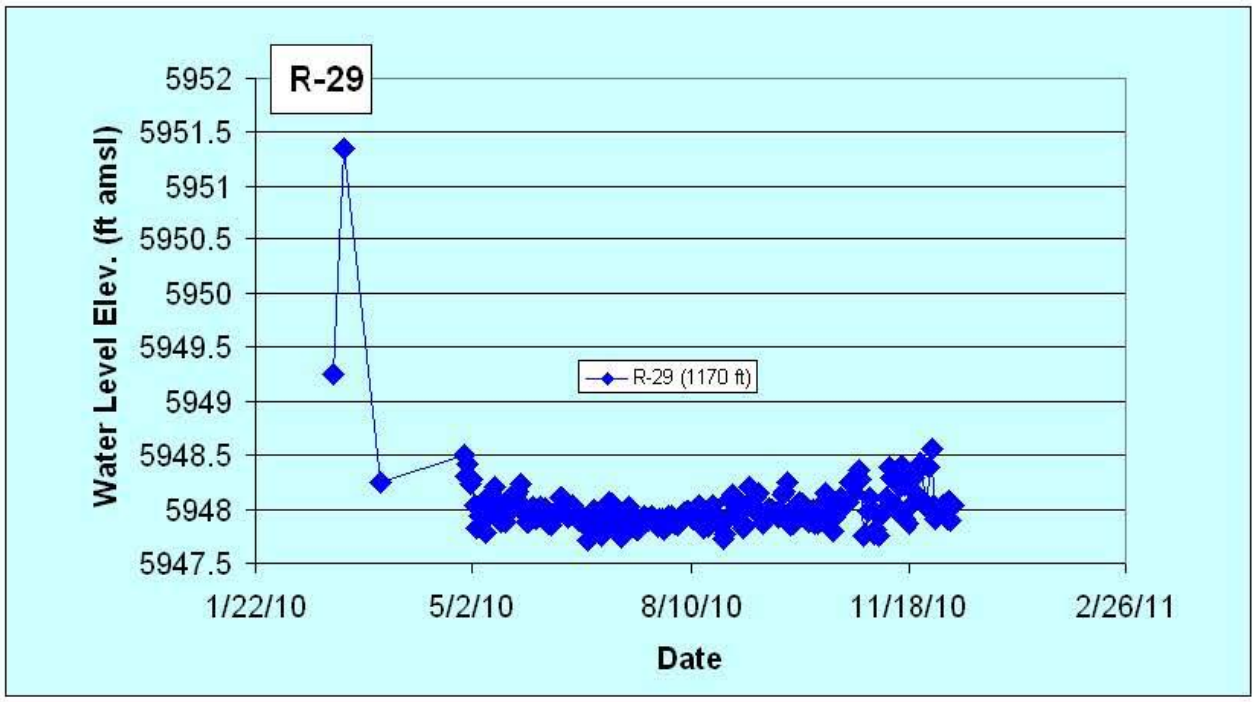

R-20
5867
5866
5865
5864
5863
5862
5861
5860
5859
5858
5857
Water Level Elev. (ft amsl)
P1A (904.3 ft)
P2A (1147.1 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

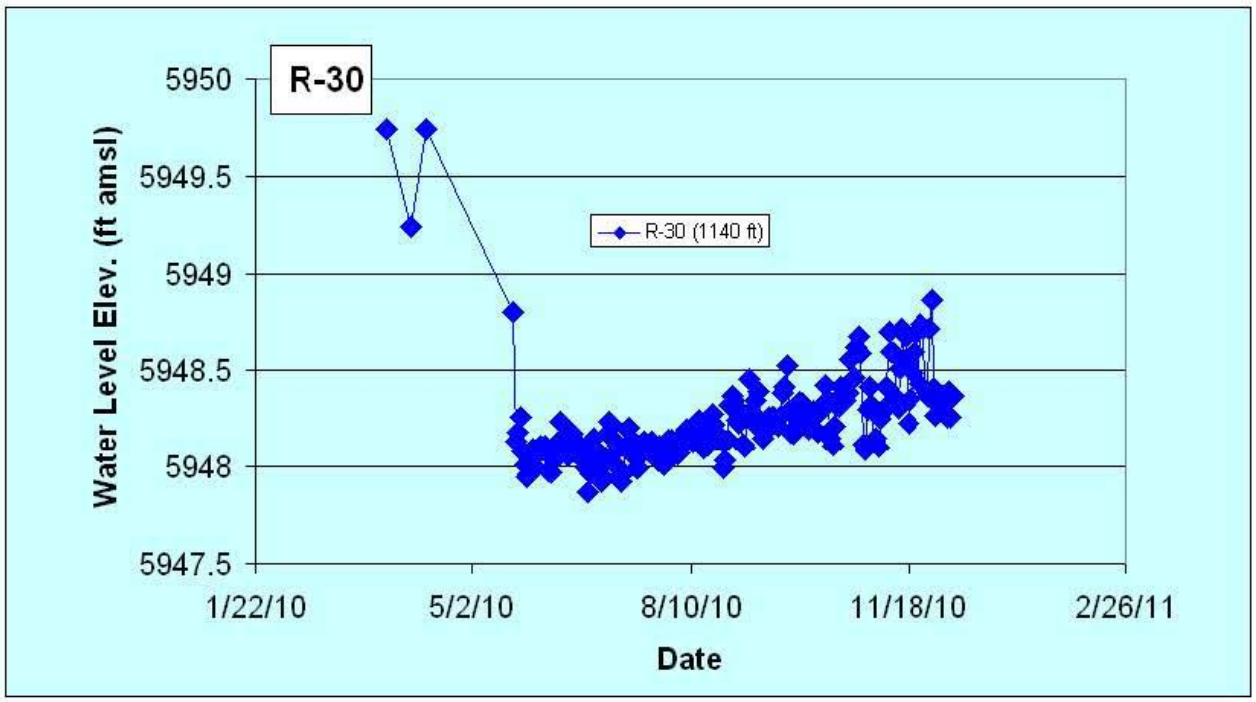

R-21
R-21 (888.8 ft)
Water Level Elev. (ft amsl)
5856
5855.5
5855
5854.5
5854
5853.5
5853
5852.5
7/6/09
1/22/10
8/10/10
2/26/11
Date

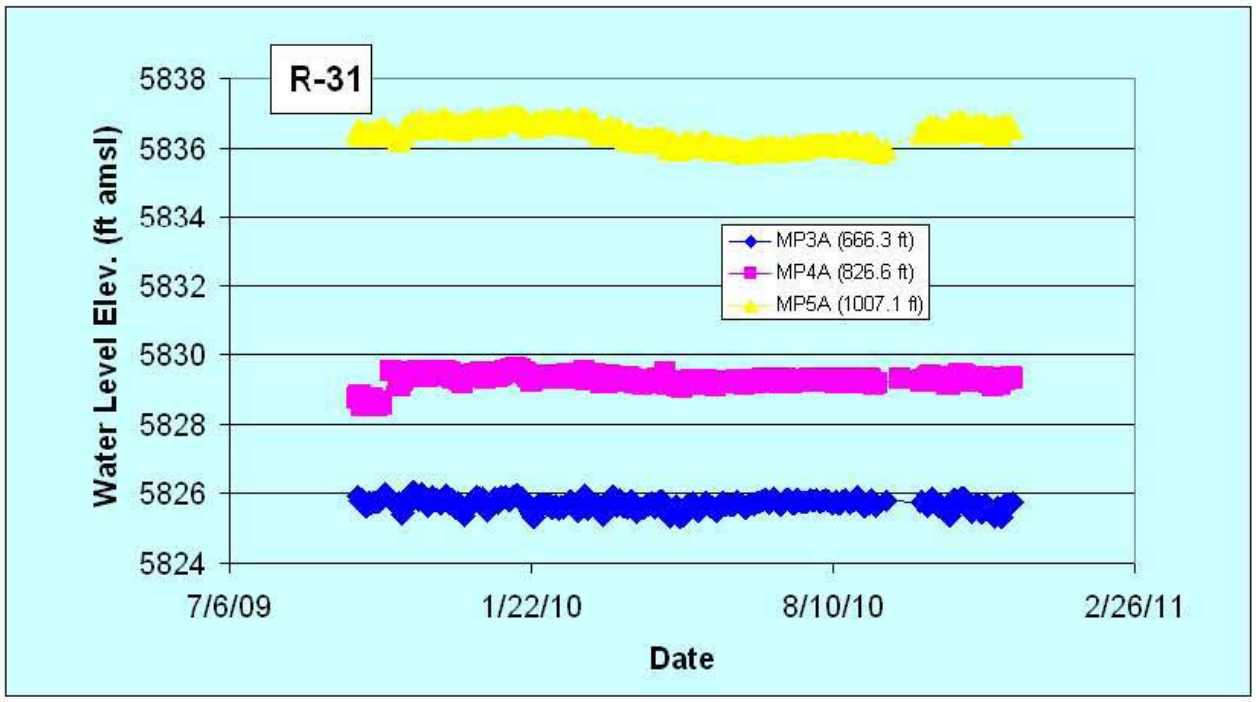

R-23
R-23 (816 ft)
Water Level Elev. (ft amsl)
5697.6
5697.4
5697.2
5697
5696.8
5696.6
5696.4
5696.2
5696
7/6/09
1/22/10
8/10/10
2/26/11
Date

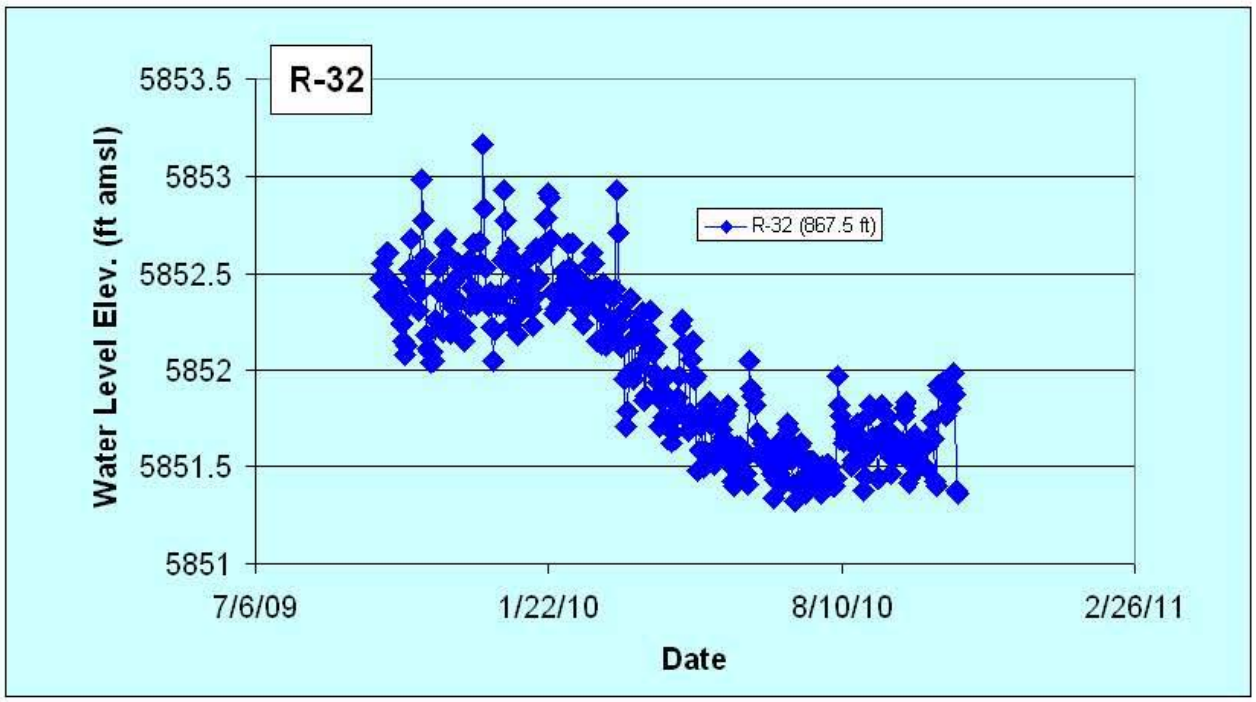

R-27
Water Level Elev. (ft amsl)
5899
5898.8
5898.6
5898.4
5898.2
5898
5897.8
5897.6
5897.4
R-27 (852 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

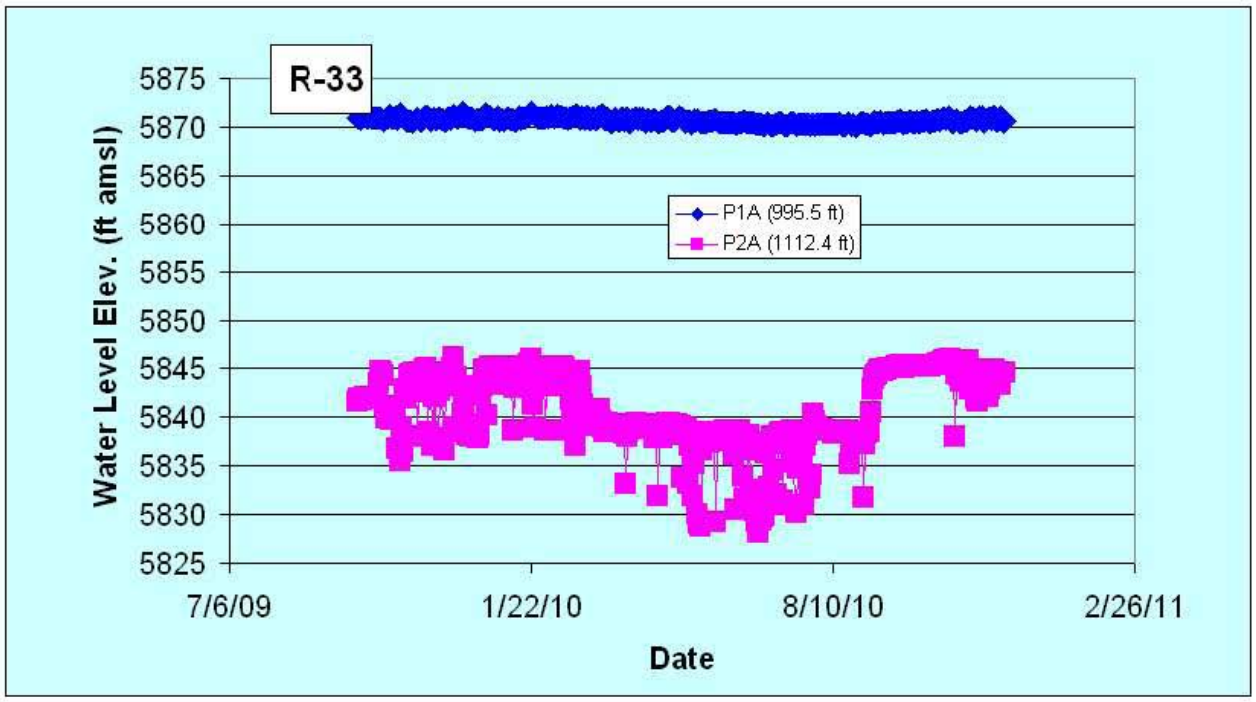

R-28
Water Level Elev. (ft amsl)
5837.8
5837.6
5837.4
5837.2
5837
5836.8
5836.6
5836.4
5836.2
5836
5835.8
R-28 (934.3 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

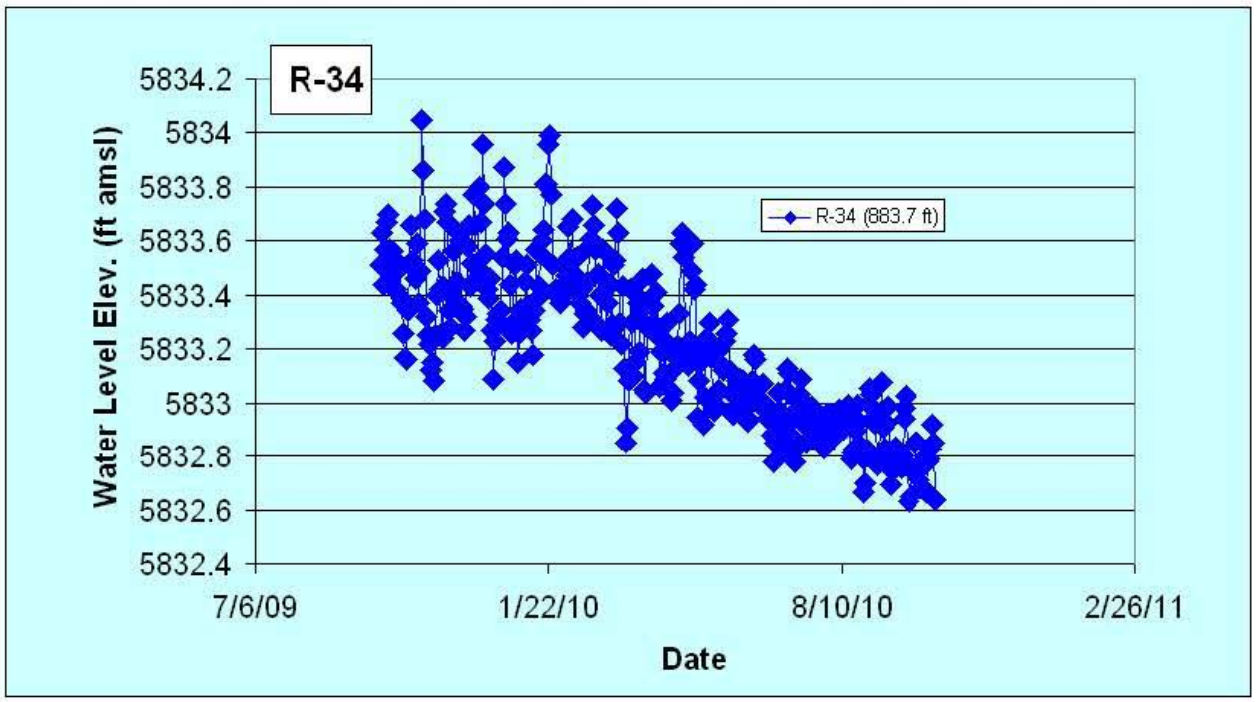

R-29
Water Level Elev. (ft amsl)
5952
5951.5
5951
5950.5
5950
5949.5
5949
5948.5
5948
5947.5
R-29 (1170 ft)
1/22/10
5/2/10
8/10/10
11/18/10
2/26/11
Date

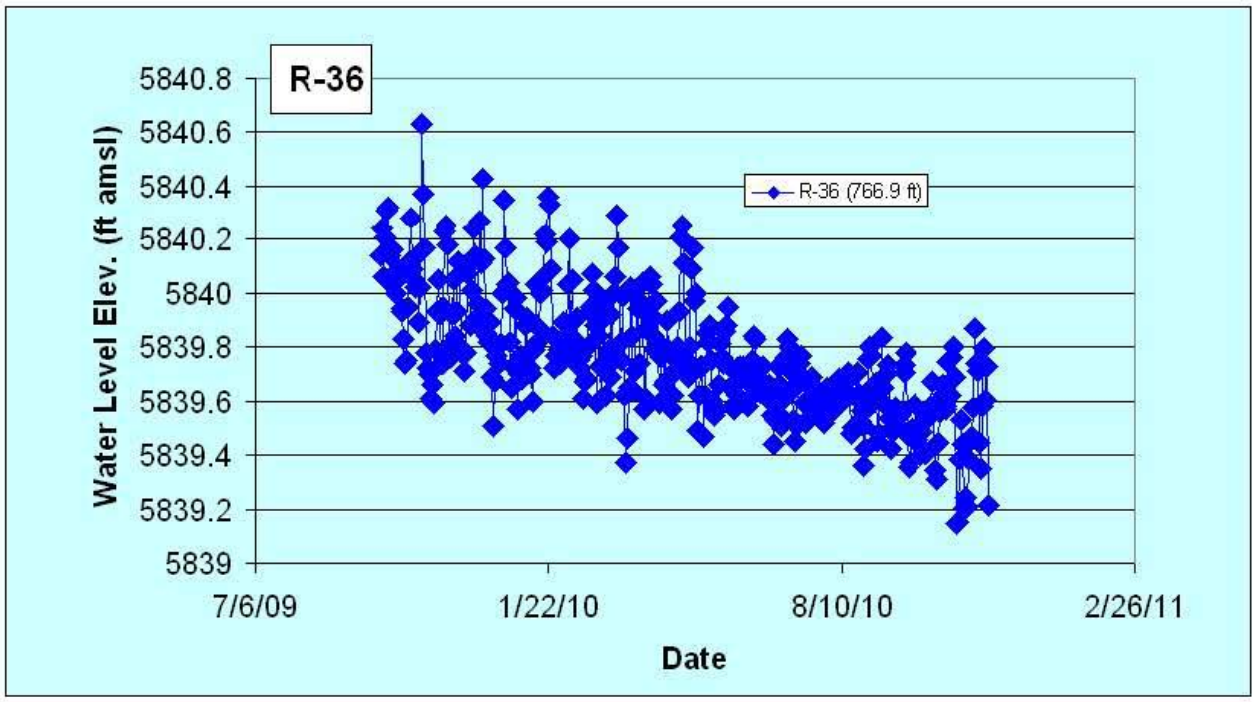

R-30
Water Level Elev. (ft amsl)
5950
5949.5
5949
5948.5
5948
5947.5
R-30 (1140 ft)
1/22/10
5/2/10
8/10/10
11/18/10
2/26/11
Date

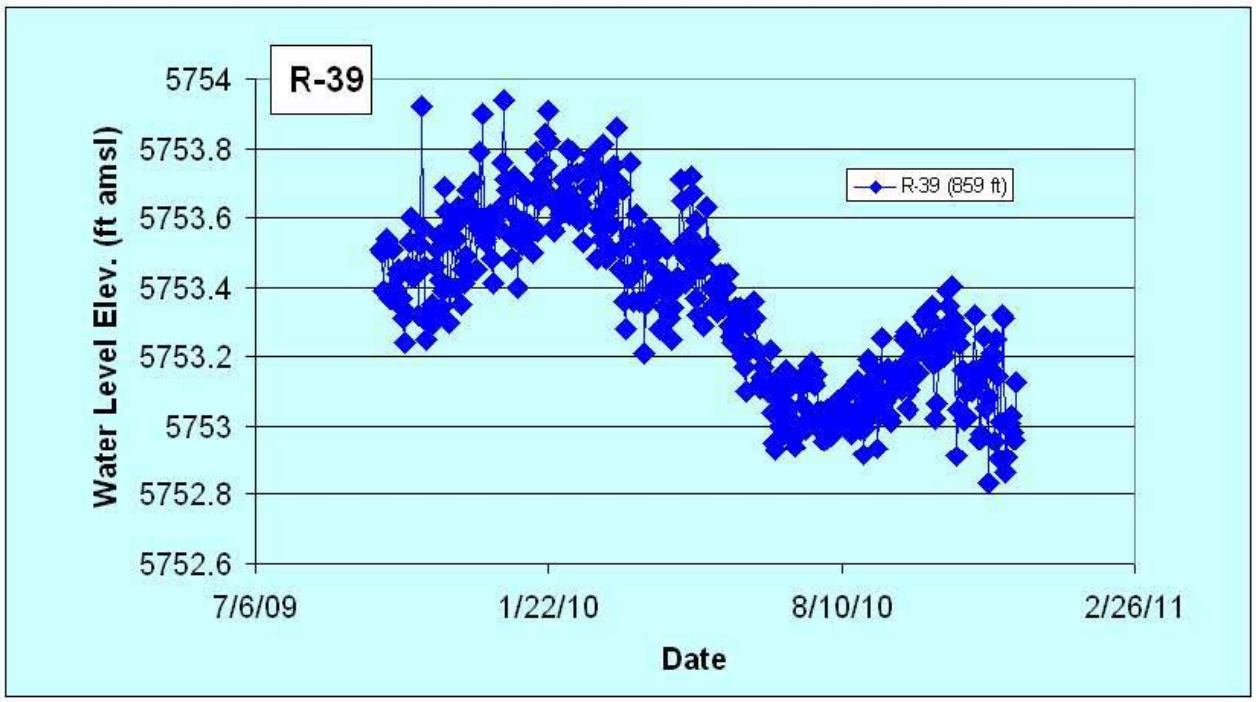

R-31
Water Level Elev. (ft amsl)
5838
5836
5834
5832
5830
5828
5826
5824
7/6/09
1/22/10
8/10/10
2/26/11
Date
MP3A (666.3 ft)
MP4A (826.6 ft)
MP5A (1007.1 ft)

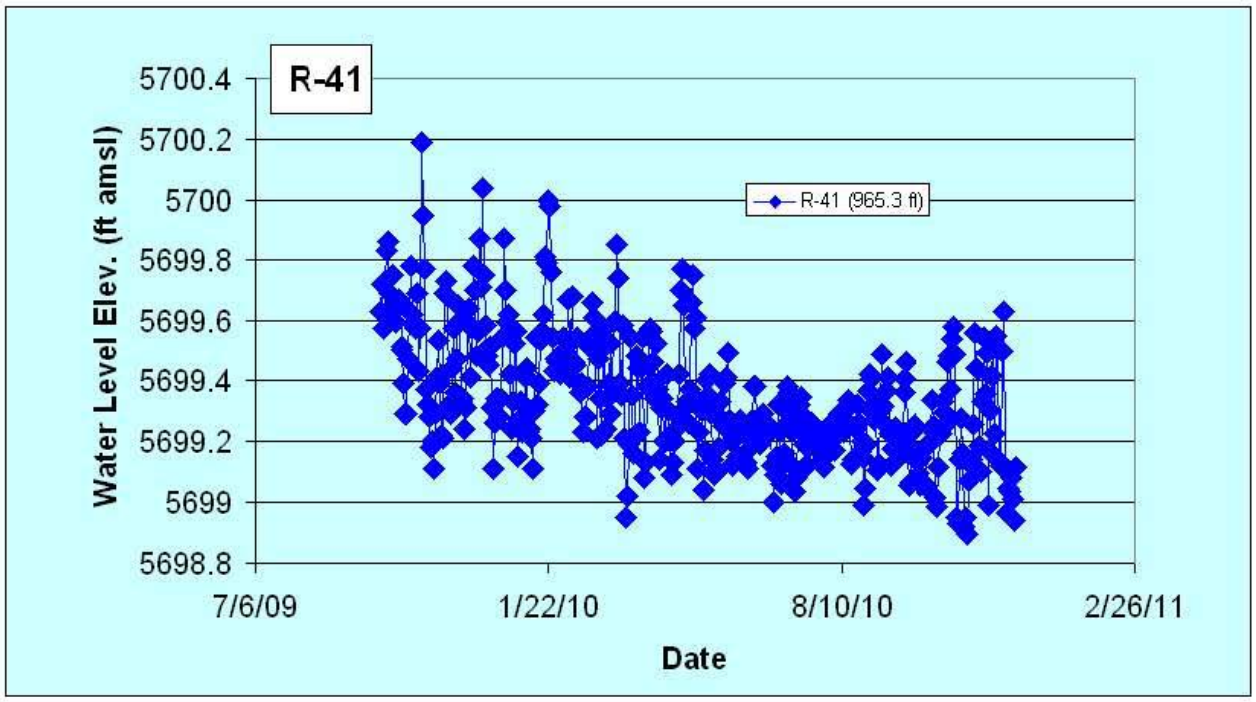

R-32
Water Level Elev. (ft amsl)
5853.5
5853
5852.5
5852
5851.5
5851
7/6/09
1/22/10
8/10/10
2/26/11
Date
R-32 (867.5 ft)

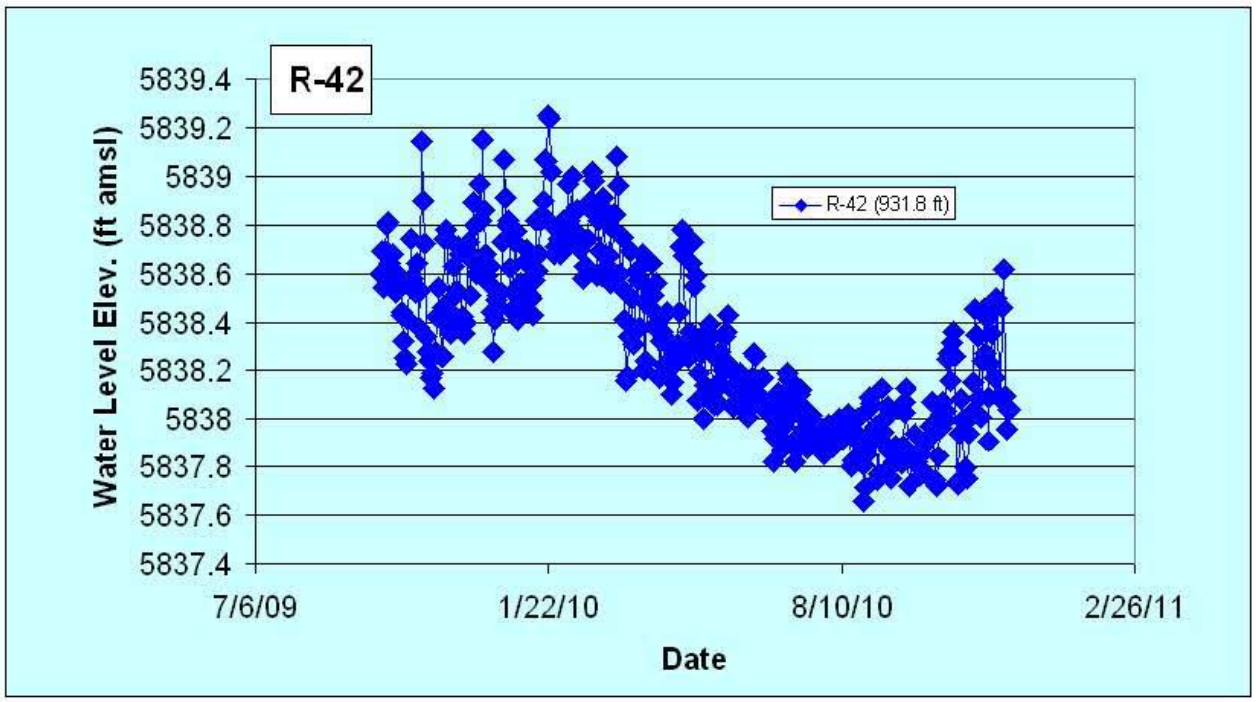

R-33
Water Level Elev. (ft amsl)
5875
5870
5865
5860
5855
5850
5845
5840
5835
5830
5825
P1A (995.5 ft)
P2A (1112.4 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

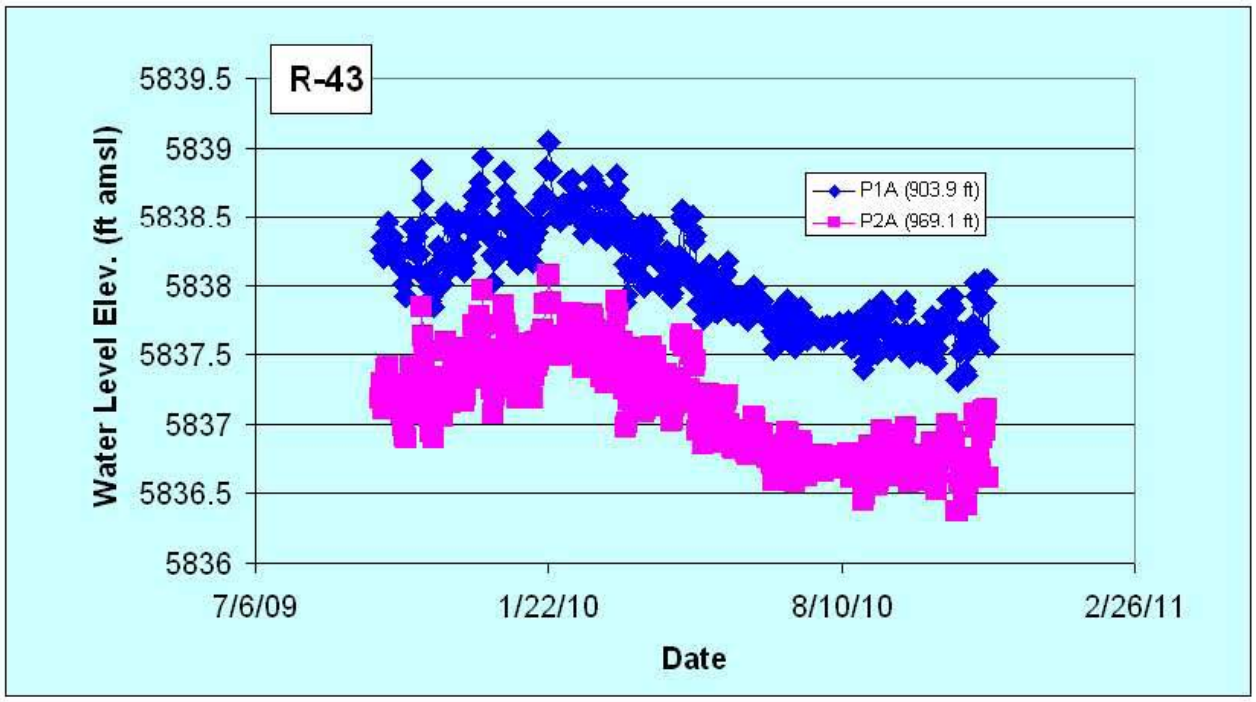

R-34
Water Level Elev. (ft amsl)
5834.2
5834
5833.8
5833.6
5833.4
5833.2
5833
5832.8
5832.6
5832.4
R-34 (883.7 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

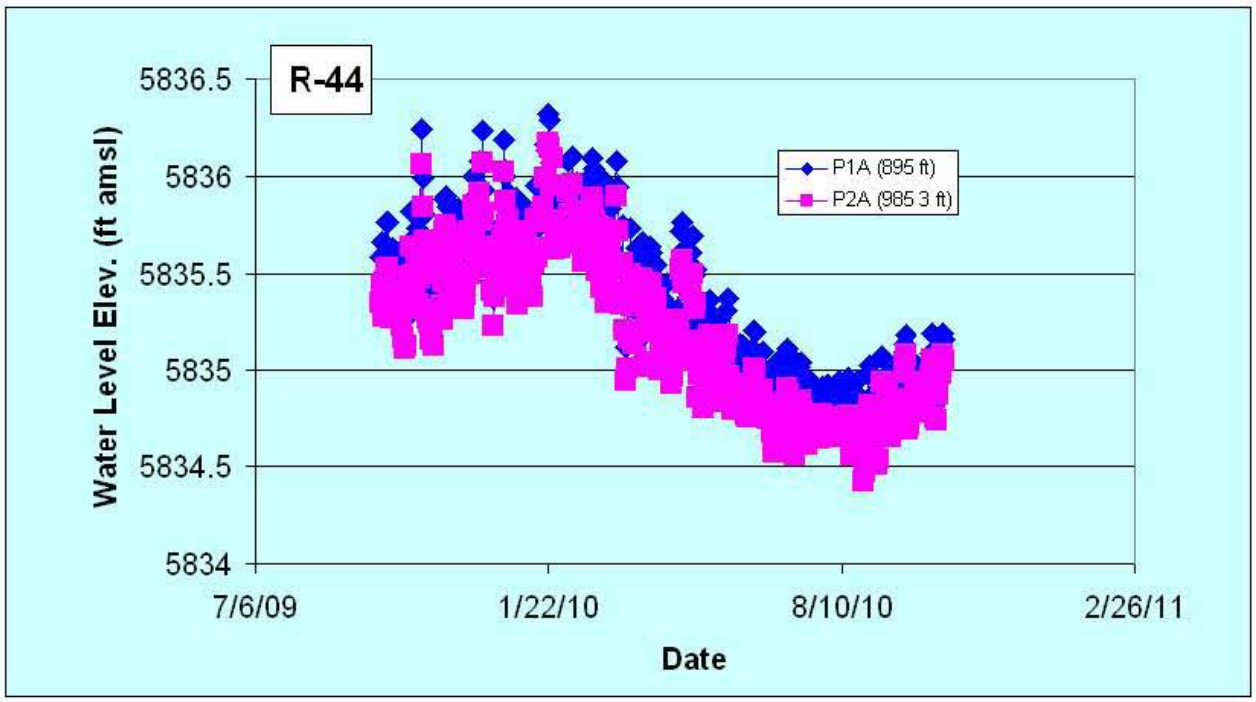

R-36
R-36 (766.9 ft)
Water Level Elev. (ft amsl)
5840.8
5840.6
5840.4
5840.2
5840
5839.8
5839.6
5839.4
5839.2
5839
7/6/09
1/22/10
8/10/10
2/26/11
Date

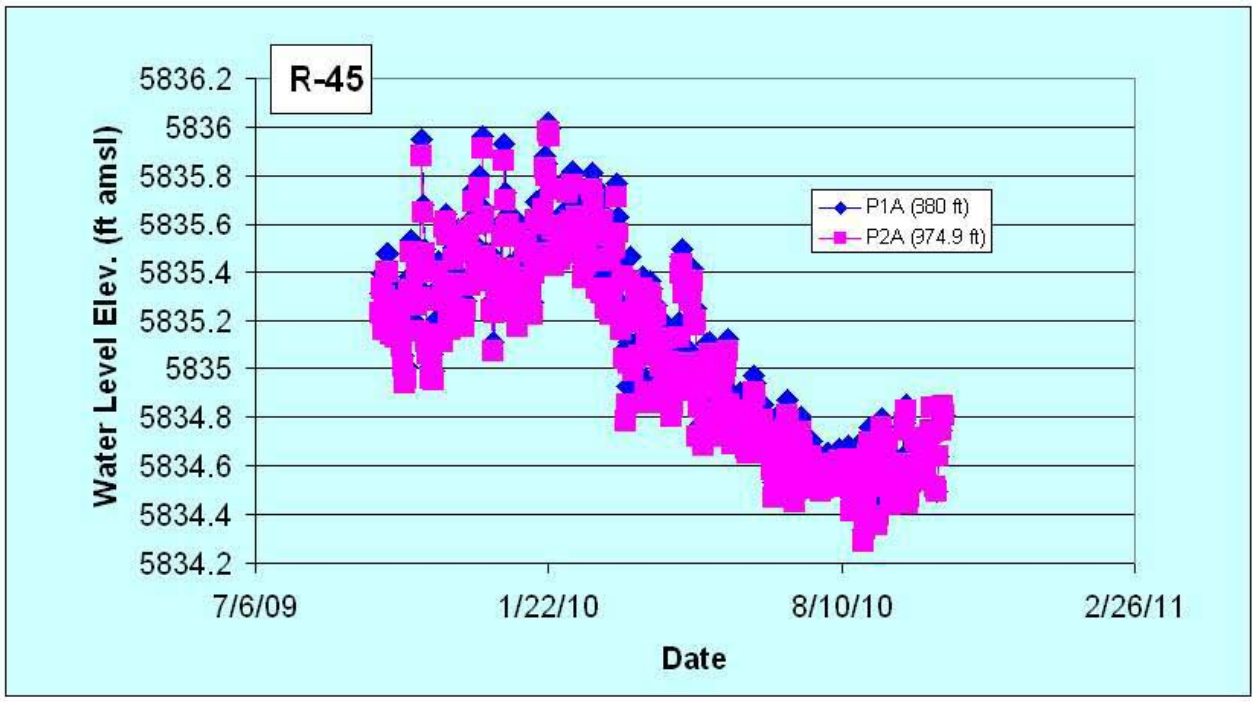

R-39
R-39 (859 ft)
Water Level Elev. (ft amsl)
5754
5753.8
5753.6
5753.4
5753.2
5753
5752.8
5752.6
7/6/09
1/22/10
8/10/10
2/26/11
Date

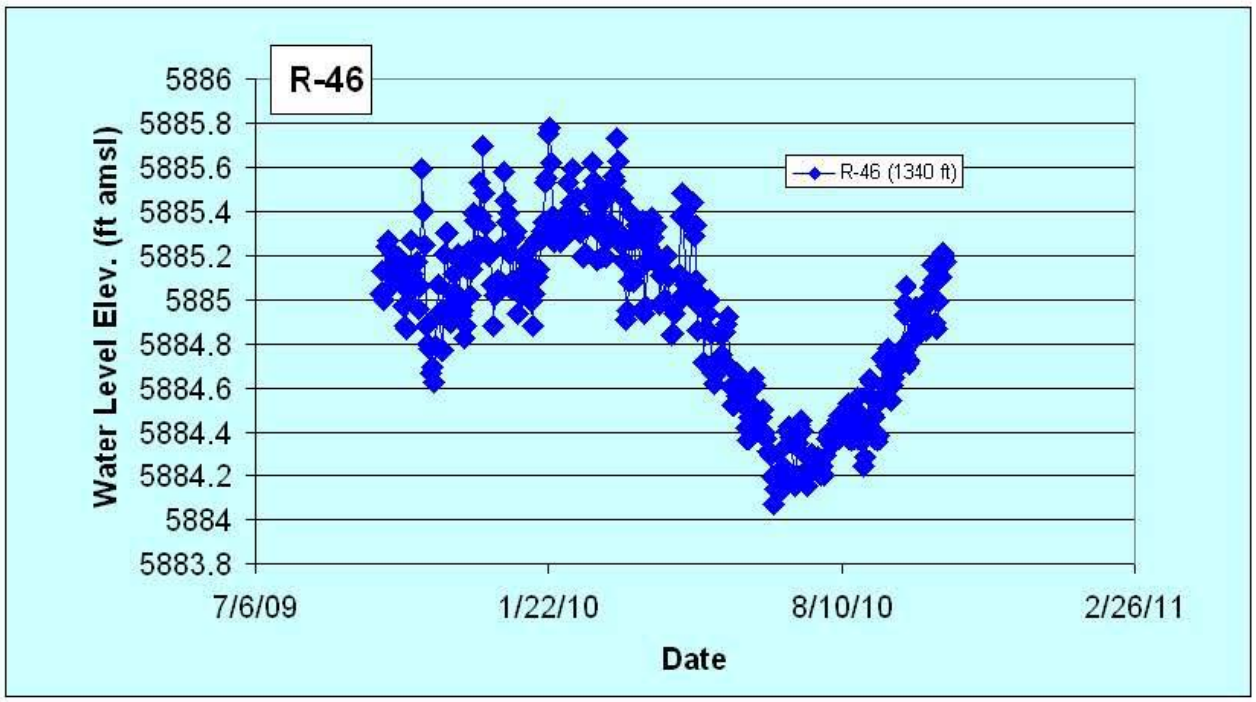

R-41
5700.4
5700.2
5700
5699.8
5699.6
5699.4
5699.2
5699
5698.8
Water Level Elev. (ft amsl)
R-41 (965.3 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

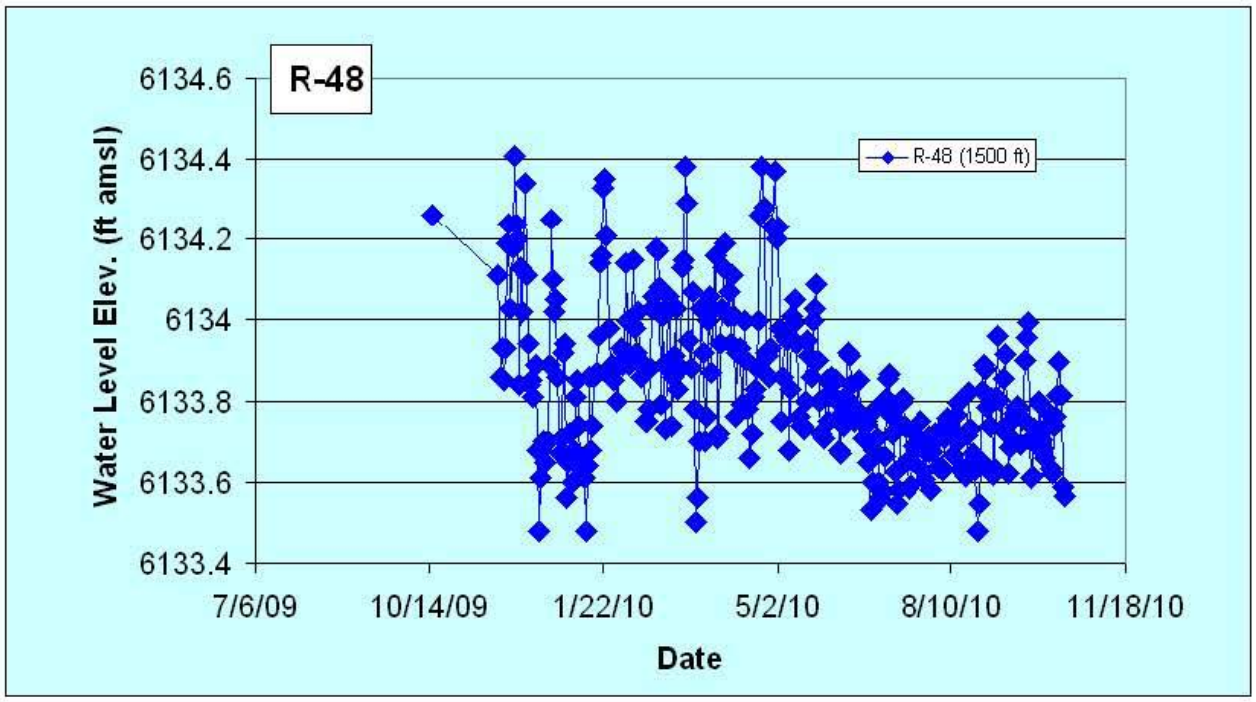

R-42
5839.4
5839.2
5839
5838.8
5838.6
5838.4
5838.2
5838
5837.8
5837.6
5837.4
Water Level Elev. (ft amsl)
R-42 (931.8 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

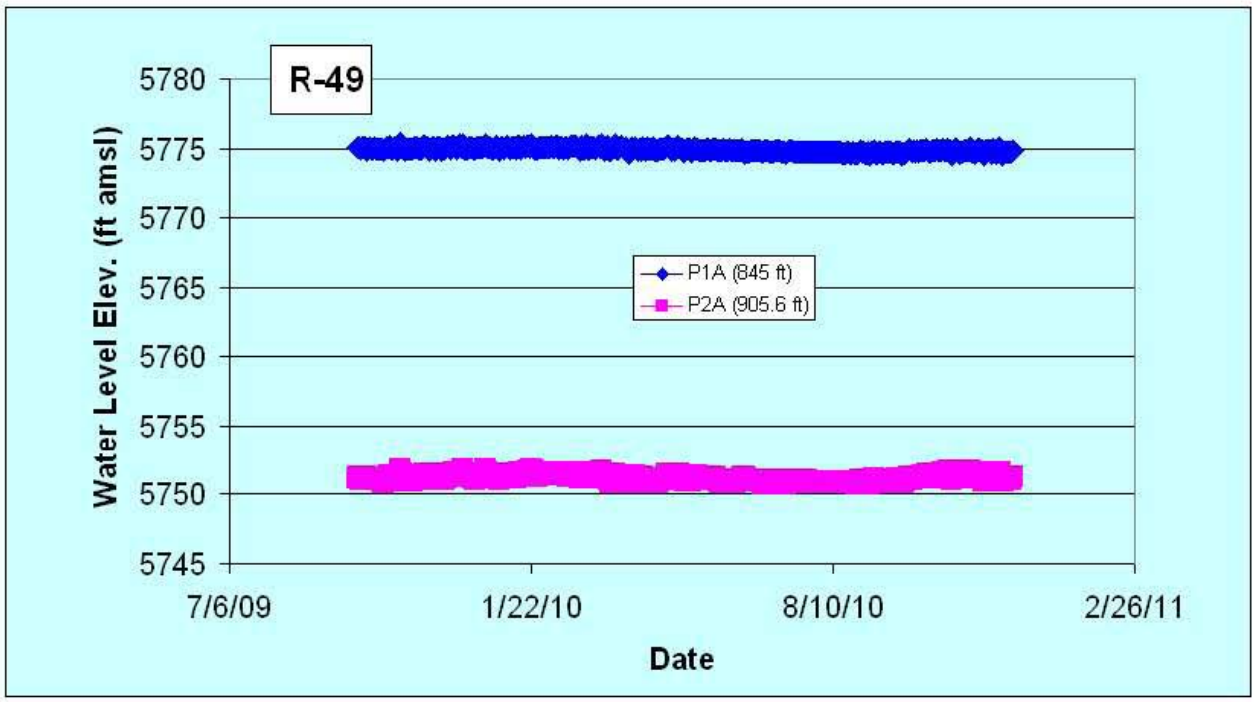

R-43
Water Level Elev. (ft amsl)
5839.5
5839
5838.5
5838
5837.5
5837
5836.5
5836
7/6/09
1/22/10
8/10/10
2/26/11
Date
P1A (903.9 ft)
P2A (969.1 ft)

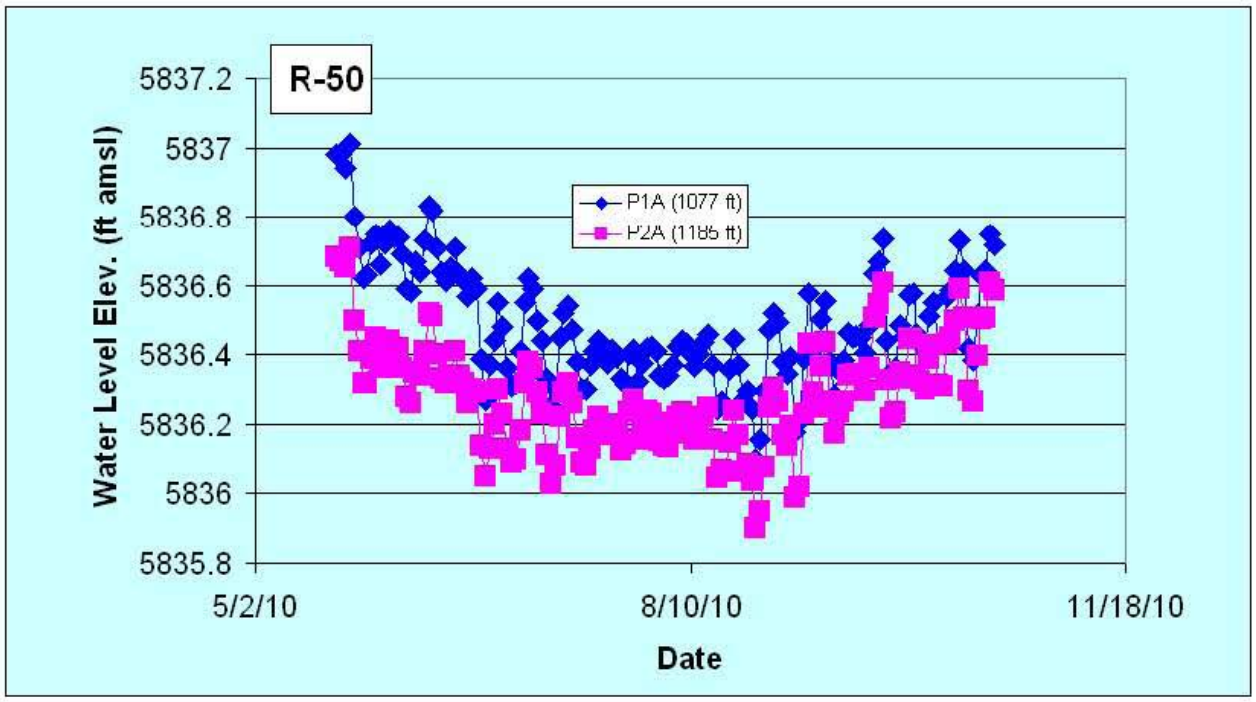

R-44
Water Level Elev. (ft amsl)
5836.5
5836
5835.5
5835
5834.5
5834
7/6/09
1/22/10
8/10/10
2/26/11
Date
P1A (895 ft)
P2A (985 3 ft)

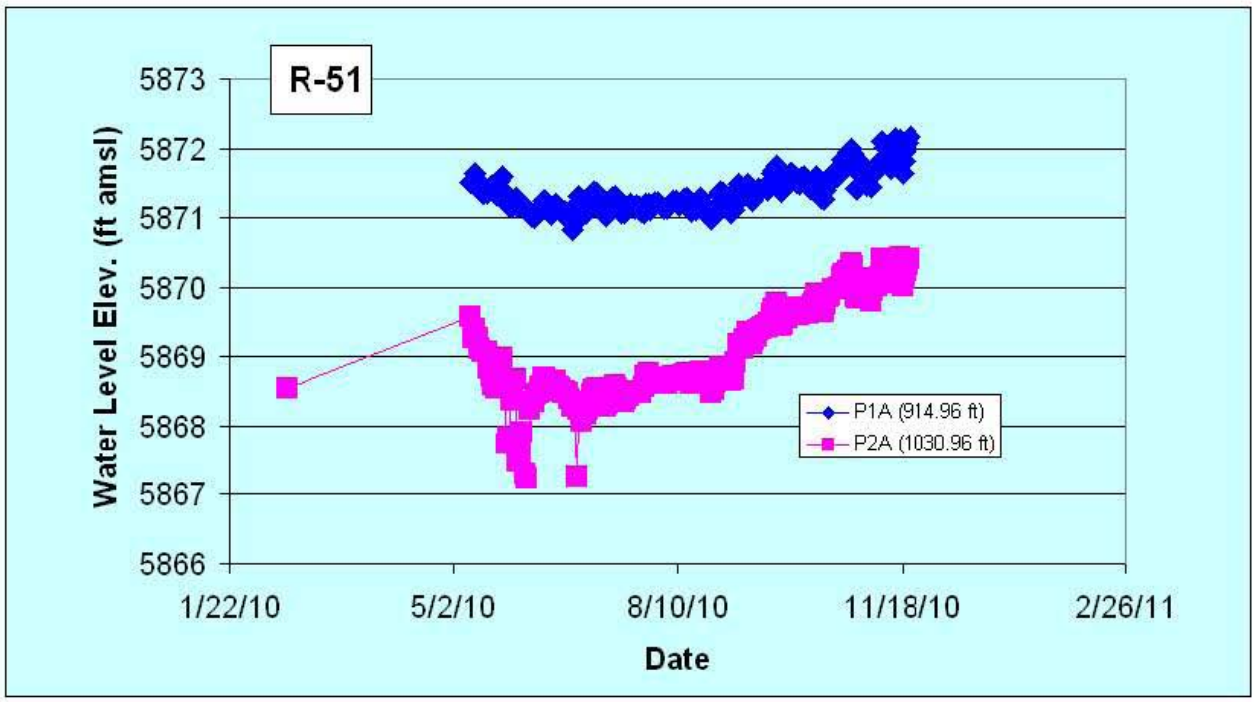

R-45
Water Level Elev. (ft amsl)
5836.2
5836
5835.8
5835.6
5835.4
5835.2
5835
5834.8
5834.6
5834.4
5834.2
P1A (380 ft)
P2A (374.9 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

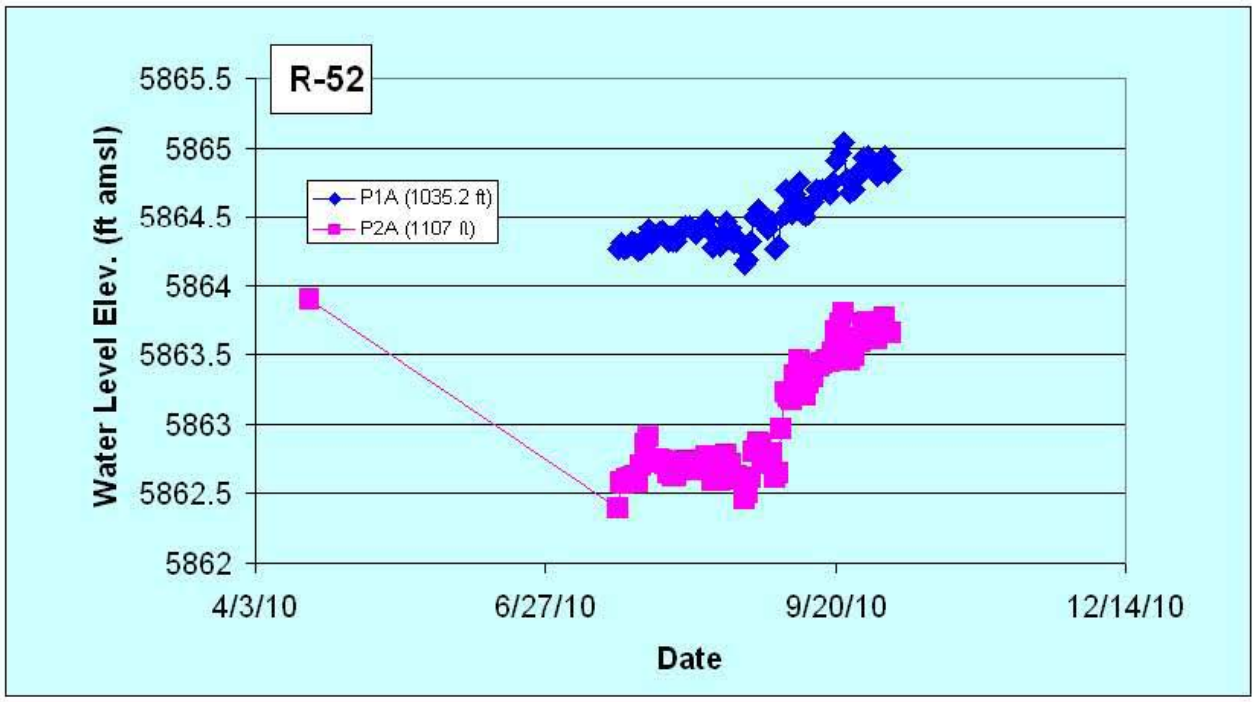

R-46
Water Level Elev. (ft amsl)
5886
5885.8
5885.6
5885.4
5885.2
5885
5884.8
5884.6
5884.4
5884.2
5884
5883.8
R-46 (1340 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

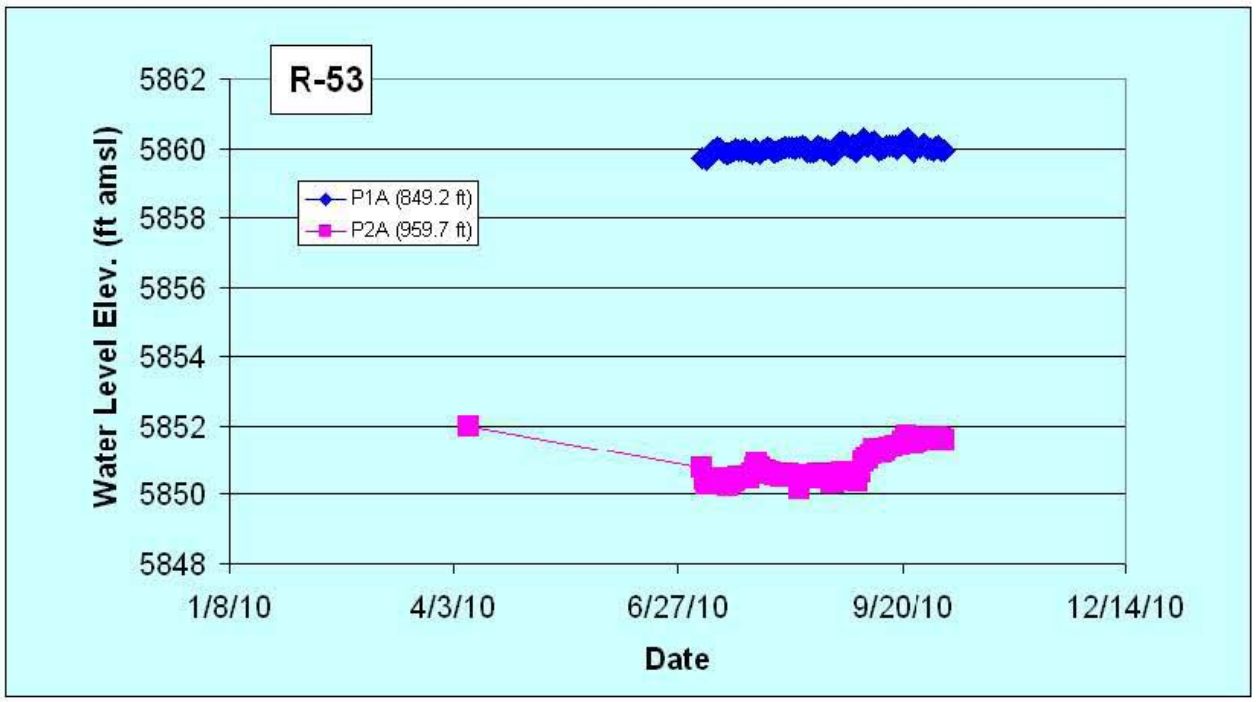

R-48
6134.6
6134.4
6134.2
6134
6133.8
6133.6
6133.4
Water Level Elev. (ft amsl)
R-48 (1500 ft)
7/6/09
10/14/09
1/22/10
5/2/10
8/10/10
11/18/10
Date

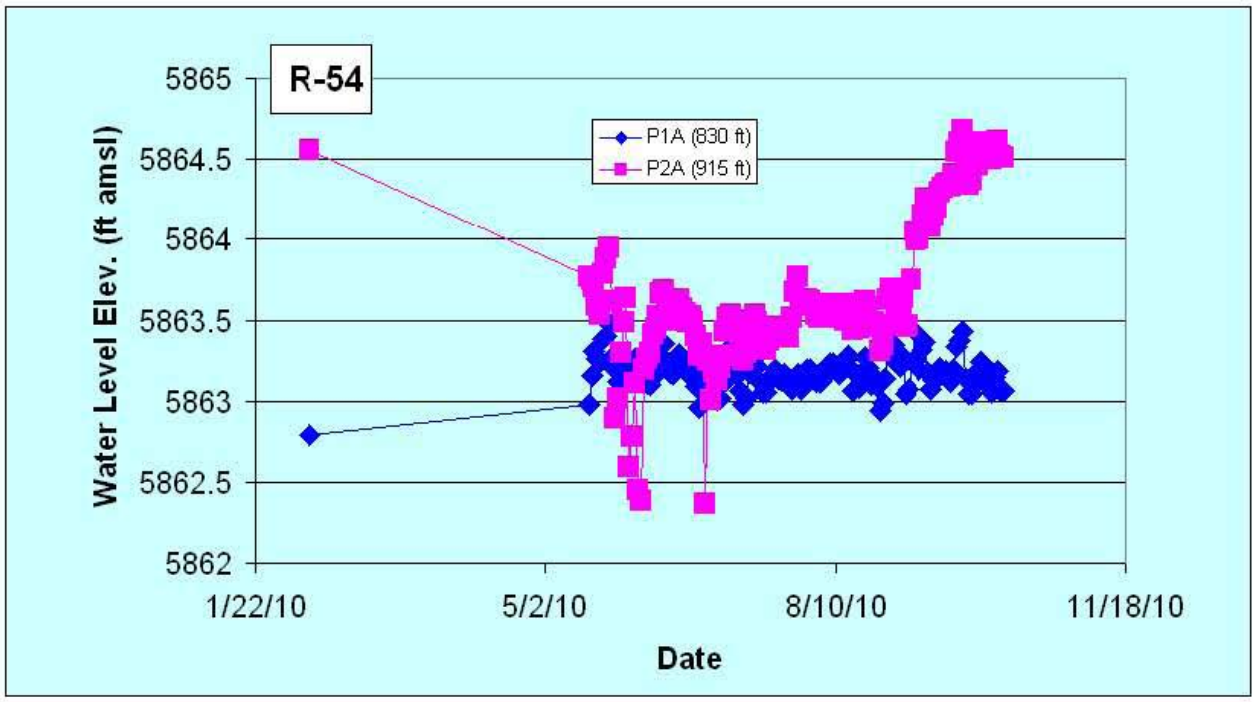

R-49
5780
5775
5770
5765
5760
5755
5750
5745
Water Level Elev. (ft amsl)
P1A (845 ft)
P2A (905.6 ft)
7/6/09
1/22/10
8/10/10
2/26/11
Date

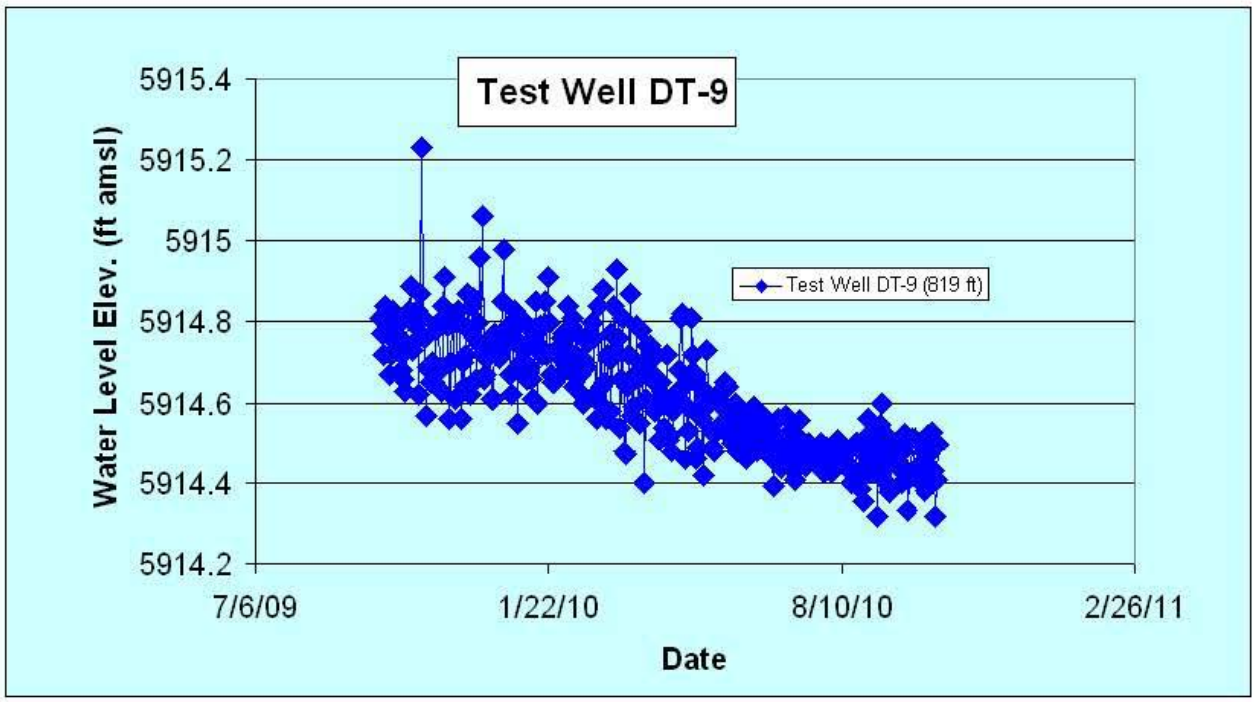

R-50
Water Level Elev. (ft amsl)
5837.2
5837
5836.8
5836.6
5836.4
5836.2
5836
5835.8
P1A (1077 ft)
P2A (1185 ft)
5/2/10
8/10/10
11/18/10
Date


R-51
Water Level Elev. (ft amsl)
5873
5872
5871
5870
5869
5868
5867
5866
P1A (914.96 ft)
P2A (1030.96 ft)
1/22/10
5/2/10
8/10/10
11/18/10
2/26/11
Date


R-52
Water Level Elev. (ft amsl)
5865.5
5865
5864.5
5864
5863.5
5863
5862.5
5862
P1A (1035.2 ft)
P2A (1107 ft)
4/3/10
6/27/10
9/20/10
12/14/10
Date


R-53
Water Level Elev. (ft amsl)
5862
5860
5858
5856
5854
5852
5850
5848
P1A (849.2 ft)
P2A (959.7 ft)
1/8/10
4/3/10
6/27/10
9/20/10
12/14/10
Date


R-54
P1A (830 ft)
P2A (915 ft)
Water Level Elev. (ft amsl)
5865
5864.5
5864
5863.5
5863
5862.5
5862
1/22/10
5/2/10
8/10/10
11/18/10
Date


Test Well DT-9
Test Well DT-9 (819 ft)
Water Level Elev. (ft amsl)
5915.4
5915.2
5915
5914.8
5914.6
5914.4
5914.2
7/6/09
1/22/10
8/10/10
2/26/11
Date

Attachment E1-1

Comprehensive
Periodic Water-Level Graphs (Fiscal Year 2010)
(Requirement #11)
(on CD included with this document)

Appendix E-2

Periodic Water-Level Data (Fiscal Year 2010)
(Requirement #11)
(on CD included with this document)