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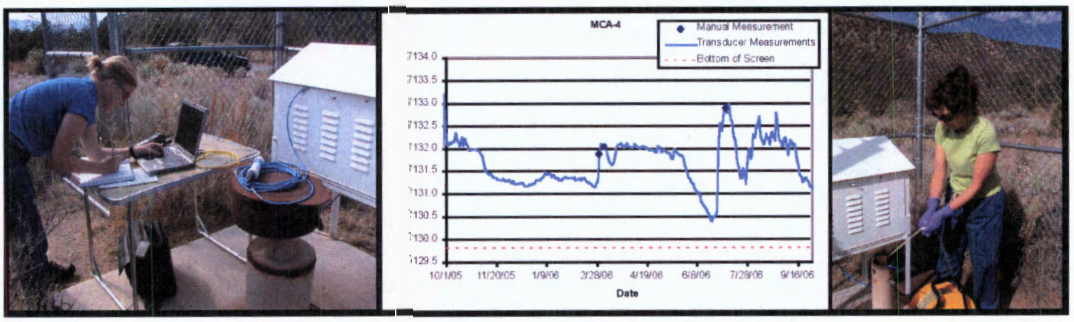
# Groundwater Level Status Report for Fiscal Year 2006
# Los Alamos National Laboratory

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Edited by Hector Hinojosa, Group IRM-CAS

Front cover, left to right: Ranee Onstott, downloading transducer data at G-3; alluvial groundwater graph of MCA-4; and Consuelo Montoya, taking a manual water level measurement at G-3.

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Issued: March 2007

# Groundwater Level Status Report for Fiscal Year 2006 Los Alamos National Laboratory

Shannon P. Allen
Richard J. Koch

Los Alamos
NATIONAL LABORATORY
EST. 1943

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# Groundwater Level Status Report for Fiscal Year 2006
# Los Alamos National Laboratory

by

Shannon P. Allen and Richard J. Koch

**Abstract**

The status of groundwater level monitoring at Los Alamos National Laboratory in Fiscal Year 2006 is provided in this report. The Groundwater Level Monitoring Project was instituted in 2005 for providing a framework for the collection and processing of quality controlled groundwater level data. This report summarizes groundwater level data for 158 monitoring wells, including 43 regional aquifer wells, 23 intermediate wells, and 92 alluvial wells. Pressure transducers were installed in 132 monitoring wells for continuous monitoring of groundwater levels. Time-series hydrographs of groundwater level data are presented along with pertinent construction and location information for each well.

## 1.0 Introduction

This report presents and describes groundwater level data obtained by Los Alamos National Laboratory (LANL) during Fiscal Year (FY) 2006 to provide regulatory compliance and to provide other programs at LANL with groundwater level data for modeling and data assessment.

By the end of September 2006, 43 regional aquifer wells, 23 intermediate wells, and 92 alluvial wells at LANL were being monitored for groundwater levels. In addition, nine of the multiple completion regional aquifer wells monitored intermediate zones; however, the intermediate zones were dry in three of these wells, thus six of the multiple completion regional aquifer wells were used to monitor intermediate groundwater levels. In FY 2006, pressure transducers were installed in 41 regional aquifer wells and 18 intermediate wells; manual measurements were obtained from two other regional aquifer wells (pending transducer installation in new wells) and five intermediate wells (dry, monitored quarterly or annually, or pending transducer installation). Transducers were installed in 73 alluvial wells during FY 2006 and 19 alluvial wells were monitored with quarterly manual measurements.

This report includes groundwater level data obtained during FY 2006 (October 1, 2005, through September 30, 2006) and, where available, historical data. The groundwater level data are presented on time-series graphs to provide a comprehensive representation of the groundwater level characteristics, to the extent possible with available data. For the alluvial wells, the first graph for each well represents the entire period of record, while the second graph represents FY 2006 to provide better representation of seasonal changes.

## 2.0 Description of Groundwater Level Data

The Groundwater Level Monitoring (GWLM) Project at LANL is conducted under the Quality Assurance Project Plan (QAPP) for Groundwater Level Monitoring (LANL 2006) to assure the quality of groundwater level data. The QAPP contains the work processes and the data quality objectives utilized in the GWLM Project.

Groundwater level data were collected during FY 2006 according to the criteria outlined in the Groundwater Level Monitoring Plan for 2006 (LANL 2006). Two types of groundwater level data were collected:

- Manual groundwater level measurements were taken in wells and in boreholes and
- Pressure transducers were used to measure groundwater levels in completed monitoring wells.

Manual groundwater level measurements were obtained according to standard operating procedure ENV-SOP-202, *Manual Groundwater Level Measurements.* Transducer measurements were obtained according to procedure ENV-SOP-201, *Pressure Transducer Installation, Removal, and Maintenance*, and ENV-WQH-SOP-064, *Westbay® Pressure Transducer Installation, Removal, and Maintenance*.

Groundwater level data obtained both manually and with pressure transducers were reviewed and validated according to procedure ENV-WQH-SOP-062, *Groundwater Level Data Processing, Review, and Validation*. The groundwater level data are maintained in the LANL water quality database (WQDB); the data are accessible to the public on the internet at http://wqdbworld.lanl.gov.

Wells installed with pressure transducers had measurements collected at least hourly. Where possible, manual groundwater level measurements were obtained at least once every six months to provide quality control for the transducer measurements. In the following sections, both manual measurements and transducer measurements are shown on the time-series hydrographs. Because hourly transducer measurements are too voluminous to reproduce for most hydrographs, mean daily groundwater levels are shown on the hydrographs in this report.

Transducers that measure pressure head in wells typically have a measurement precision of ±0.1% of the full-scale measurement capability. Thus, typical measurement accuracy for a 100-psi transducer is 0.23 ft, and for a 1000-psi transducer is 2.31 ft. The higher-pressure-rated transducers are required in the deeper Westbay® installations where higher water pressures are encountered. Most shallow wells and deep wells not installed with the Westbay® or Barcad system are equipped with 30-psi transducers, with a measurement accuracy of 0.07 ft. A few of the shallow alluvial wells are equipped with 15-psi transducers. Manual groundwater level measurements typically have an accuracy of approximately 0.1 ft per 100 ft of measurement (0.1%).

From 2000 through 2004, groundwater level data obtained during groundwater sampling of Westbay® wells was from a 1000-psi-rated transducer that had an accuracy of about ±2.3 ft. In 2005 a new sampling transducer was obtained with a 500-psi rating, which has an accuracy of about 1.2 ft. This change in transducers is the cause for the apparent water level shift for sampling water levels in mid 2005, as observed on many of the accompanying hydrograph plots for Westbay® wells. Also, the apparent scatter of water level data on the hydrographs from groundwater sampling of Westbay® wells is the result of the less accurate pressure transducers that are used for sampling.

In the following sections, acronyms used to describe groundwater level data include

| | |
|---|---|
| GW | data obtained from transducers during groundwater sampling events |
| Trans | measurements from transducers installed in a well |
| MP | Measurement Port identification in multiple completion wells. |

Previous reports of groundwater level data at LANL were compiled for the regional aquifer test wells (TWs) by Koch et al. (2004) and for all wells in a submittal to the New Mexico Environment Department in January 2005 (LANL 2005). Groundwater levels in water supply wells at Los Alamos have been summarized in the series of water supply reports for Los Alamos, e.g., Koch and Rogers (2003). The previous report in this series, *Groundwater Level Status Report for 2005,* was issued in May 2006 (Allen and Koch 2006).

## 3.0 Groundwater Level Data from Regional Aquifer Wells

Figure 3.1 shows the locations of the regional aquifer monitoring wells and water supply wells in the vicinity of LANL. Table 3.1 lists the regional aquifer monitoring wells that were monitored for groundwater levels in 2006. The location information was obtained from the WQDB at http://wqdbworld.lanl.gov. Screen intervals and port depths for each well are shown in subsequent sections. The Appendix Table lists the mean annual water level for each well at the top of the regional aquifer for 2006.

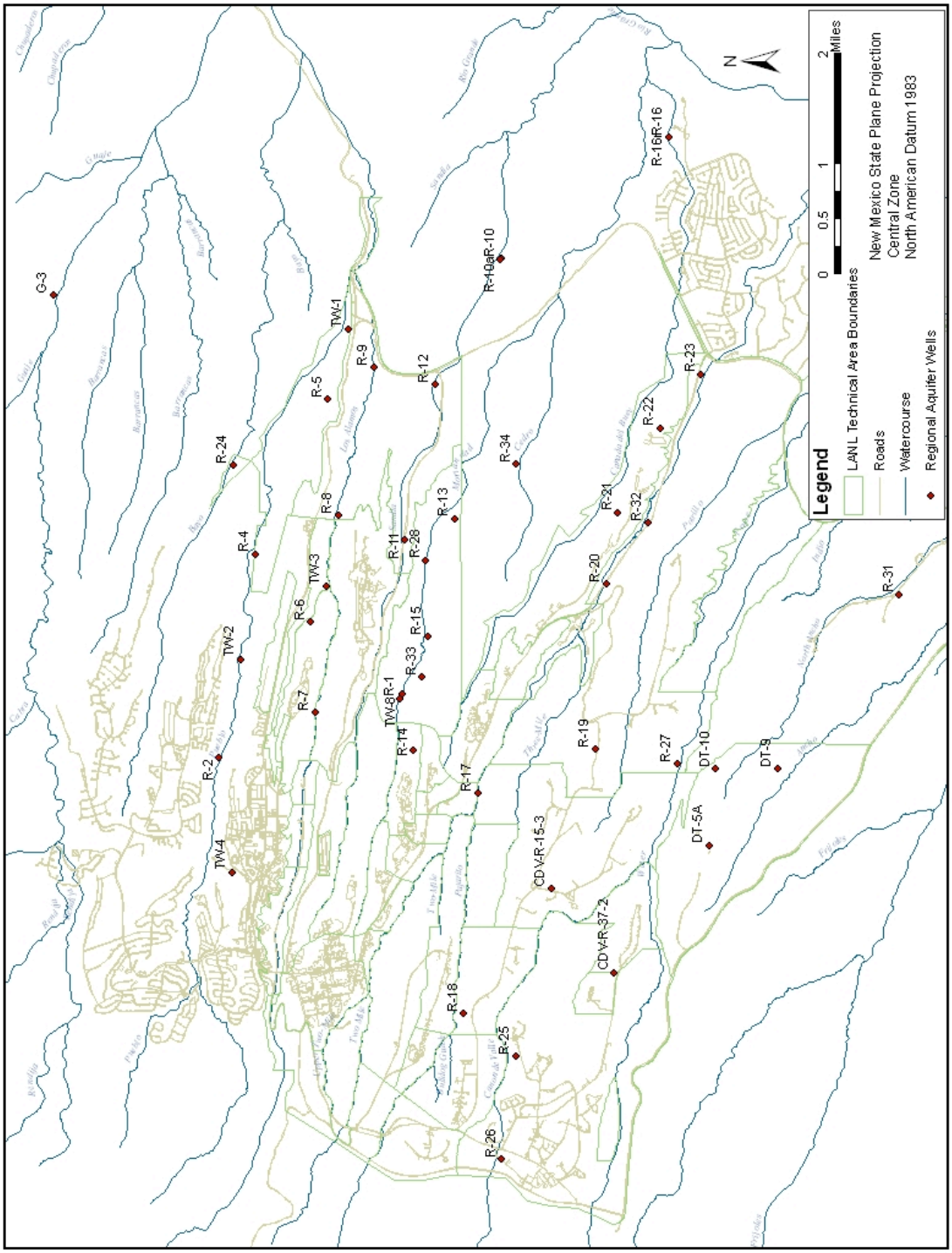



**Figure 3.1. Regional Aquifer Monitoring Wells**

**Table 3.1. General Information for Regional Aquifer Wells.**

| Well Name | Date Completed | Completed Depth (ft) | Easting (ft) | Northing (ft) | Surface Elevation (ft) |
|---|---|---|---|---|---|
| CdV-R-15-3 | 5/3/2000 | 1722.0 | 1623222.30 | 1762347.50 | 7258.90 |
| CdV-R-37-2 | 8/9/2001 | 1664.0 | 1619216.70 | 1759320.80 | 7330.60 |
| R-1 | 11/10/2003 | 1080.1 | 1632354.13 | 1769600.84 | 6881.21 |
| R-2 | 10/19/2003 | 943.3 | 1629519.57 | 1778281.56 | 6770.38 |
| R-4 | 9/28/2003 | 840.0 | 1639287.98 | 1776530.28 | 6577.49 |
| R-5 | 5/22/2001 | 884.0 | 1646707.00 | 1773063.00 | 6472.60 |
| R-6 | 11/16/2004 | 1252.0 | 1636011.02 | 1773884.07 | 6995.80 |
| R-7 | 1/20/2001 | 977.0 | 1631666.00 | 1773653.00 | 6779.20 |
| R-8 | 1/28/2002 | 850.0 | 1641139.01 | 1772554.62 | 6544.74 |
| R-9 | 10/4/1999 | 758.0 | 1648236.50 | 1770847.10 | 6382.80 |
| R-10 | 10/5/2005 | 1079.0 | 1653465.92 | 1764766.46 | 6362.31 |
| R-10a | 8/18/2005 | 706.0 | 1653411.63 | 1764782.29 | 6363.74 |
| R-11 | 10/8/2004 | 901.7 | 1639959.31 | 1769353.57 | 6673.72 |
| R-12 | 1/11/2000 | 886.0 | 1647424.20 | 1767913.40 | 6499.60 |
| R-13 | 9/26/2001 | 1029.4 | 1640991.66 | 1766994.17 | 6673.05 |
| R-14 | 7/4/2002 | 1315.6 | 1629855.01 | 1768953.12 | 7062.08 |
| R-15 | 9/8/1999 | 1030.6 | 1635308.60 | 1768272.50 | 6820.00 |
| R-16 | 8/31/2002 | 1276.7 | 1659283.61 | 1756710.97 | 6256.87 |
| R-16r | 10/11/2005 | 631.4 | 1659289.39 | 1756730.68 | 6256.97 |
| R-17 | 1/4/2006 | 1140.9 | 1627795.96 | 1765861.23 | 6921.51 |
| R-18 | 12/14/2004 | 1405.0 | 1617254.37 | 1766545.47 | 7404.83 |
| R-19 | 3/30/2000 | 1877.4 | 1629918.40 | 1760252.10 | 7066.30 |
| R-20 | 9/8/2002 | 1353.3 | 1637835.40 | 1759694.51 | 6694.35 |
| R-21 | 11/20/2002 | 941.4 | 1641284.17 | 1759143.06 | 6656.24 |
| R-22 | 10/19/2000 | 1472.9 | 1645324.40 | 1757111.10 | 6650.50 |
| R-23 | 9/27/2002 | 886.3 | 1647913.60 | 1755165.37 | 6527.75 |
| R-24 | 9/2/2005 | 861.0 | 1643554.46 | 1777591.35 | 6547.38 |
| R-25 | 9/28/2000 | 1934.7 | 1615178.42 | 1764060.50 | 7516.10 |
| R-26 | 10/17/2003 | 1479.0 | 1610267.23 | 1764721.12 | 7641.69 |
| R-27 | 11/7/2005 | 878.7 | 1629230.52 | 1756296.28 | 6713.72 |
| R-28 | 12/13/2003 | 980.3 | 1638988.73 | 1768358.57 | 6728.61 |
| R-31 | 12/1/2000 | 1077.7 | 1637353.80 | 1745648.40 | 6362.50 |
| R-32 | 8/9/2002 | 1002.0 | 1640797.67 | 1757730.25 | 6637.63 |
| R-33 | 10/13/2004 | 1126.0 | 1633401.71 | 1768532.65 | 6853.33 |
| R-34 | 8/20/2004 | 920.7 | 1643595.82 | 1764028.77 | 6629.99 |
| TW-1 | 1/3/1950 | 642.0 | 1650041.50 | 1772076.87 | 6369.19 |
| TW-2 | 12/1/1990 | 834.0 | 1634231.12 | 1777267.87 | 6648.06 |
| TW-3 | 11/20/1949 | 818.0 | 1637727.50 | 1773138.12 | 6626.90 |
| TW-4 | 3/8/1950 | 1205.0 | 1624028.12 | 1777680.12 | 7244.56 |
| TW-8 | 12/15/1960 | 1065.0 | 1632573.87 | 1769506.62 | 6873.50 |
| DT-10 | 3/13/1960 | 1408.0 | 1628988.50 | 1754448.75 | 7019.90 |
| DT-5A | 1/25/1960 | 1819.5 | 1625310.00 | 1754789.37 | 7143.86 |
| DT-9 | 2/19/1960 | 1501.0 | 1628993.62 | 1751492.62 | 6935.00 |

### 3.1 CdV-R-15-3

Location: CdV-R-15-3 is located on a mesa between upper Threemile Canyon and Cañon de Valle within the Cañon de Valle watershed.

Completion Type: Multiple completion, three screens in intermediate zones, three screens in regional zones.

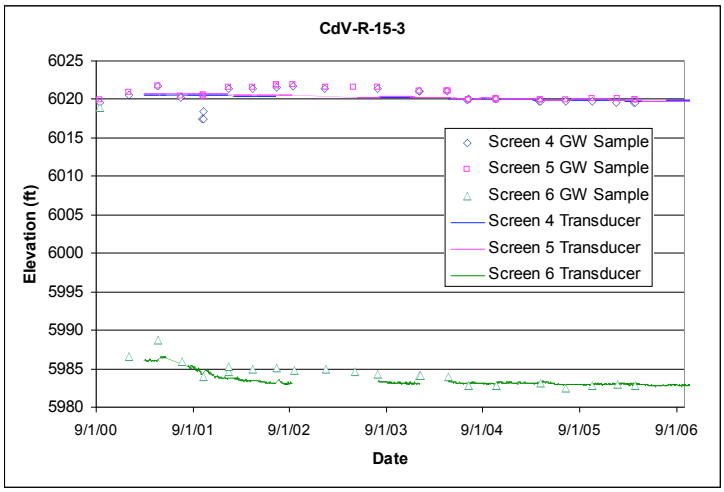
Period of Record: Westbay® installed September 17, 2000; transducers installed March 1, 2001; intermittent data through 2006.

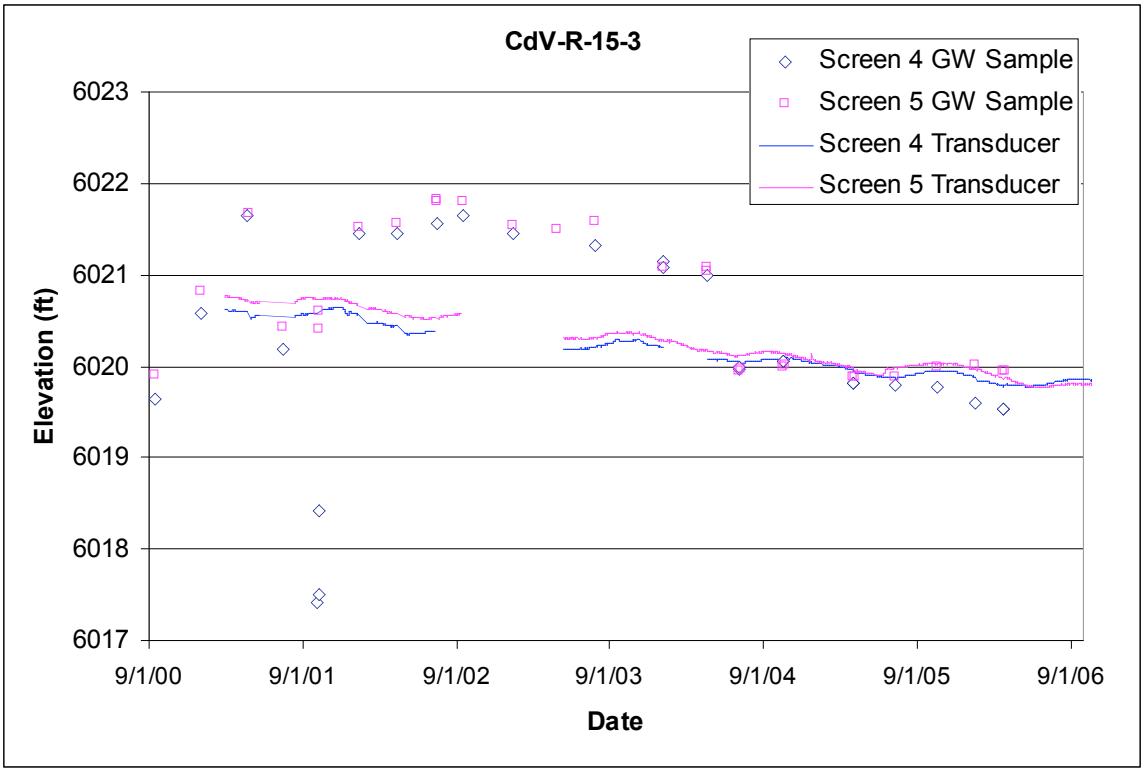
Remarks: The three intermediate screens have been dry since well installation. A transducer was never installed at screen 2. Transducers monitoring dry screens 1 and 3 were removed in January 2006. Screens 4 and 5 have similar heads; screen 6 head is 35 ft lower. Six ft of water appeared in screen 3 sump October 2006; still present in March 2006.

**Measurement and Sampling Ports in CDV-R-15-3**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 617.7 | 624.5 | 6641.2 | 6634.4 | 6.8 | **MP1A** | 624.3 | 6634.6 | 0.2 | | Within Screen, port dry |
| | | | | | | PP1 | 629.7 | 6629.2 | -5.2 | 11.2 | Below Screen |
| | | | | | | MP1B | 635.3 | 6623.6 | -10.8 | 23.4 | Below Screen, port dry |
| 2 | 800.8 | 807.8 | 6458.1 | 6451.1 | 7.0 | MP2A | 807.3 | 6451.6 | 0.5 | | Within Screen, port dry |
| | | | | | | PP2 | 812.6 | 6446.3 | -4.8 | 10.4 | Below Screen |
| | | | | | | MP2B | 818.3 | 6440.6 | -10.5 | 22.7 | Below Screen |
| 3 | 964.8 | 980.9 | 6294.1 | 6278.0 | 16.1 | MP3A | 969.0 | 6289.9 | 11.9 | | Within Screen, port dry |
| | | | | | | **MP3B** | 979.3 | 6279.6 | 1.6 | | Within Screen, port dry |
| | | | | | | PP3 | 984.7 | 6274.2 | -3.8 | 8.2 | Below Screen |
| | | | | | | MP3C | 990.3 | 6268.6 | -9.4 | 20.3 | Below Screen, water in sump |
| 4 | 1235.1 | 1278.9 | 6023.8 | 5980.0 | 43.8 | **MP4A** | 1254.4 | 6004.5 | 24.5 | | Within Screen, Regional Aquifer |
| | | | | | | PP4A | 1259.6 | 5999.3 | 19.3 | | Within Screen |
| | | | | | | MP4B | 1275.1 | 5983.8 | 3.8 | | Within Screen |
| | | | | | | PP4B | 1280.5 | 5978.4 | -1.6 | 3.5 | Below Screen |
| | | | | | | MP4C | 1286.1 | 5972.8 | -7.2 | 15.6 | Below Screen |
| 5 | 1348.4 | 1355.3 | 5910.5 | 5903.6 | 6.9 | **MP5A** | 1350.1 | 5908.8 | 5.2 | | Within Screen |
| | | | | | | PP5 | 1355.4 | 5903.5 | -0.1 | 0.2 | Below Screen |
| | | | | | | MP5B | 1361.1 | 5897.8 | -5.8 | 12.5 | Below Screen |
| 6 | 1637.9 | 1644.8 | 5621.0 | 5614.1 | 6.9 | **MP6A** | 1640.1 | 5618.8 | 4.7 | | Within Screen |
| | | | | | | PP6 | 1645.5 | 5613.4 | -0.7 | 1.5 | Below Screen |
| | | | | | | MP6B | 1651.1 | 5607.8 | -6.3 | 13.6 | Below Screen |

Note: CDV-R-15-3 Brass Cap Ground Elevation: 7258.9 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports




CdV-R-15-3
Screen 4 GW Sample
Screen 5 GW Sample
Screen 4 Transducer
Screen 5 Transducer
Elevation (ft)
6023
6022
6021
6020
6019
6018
6017
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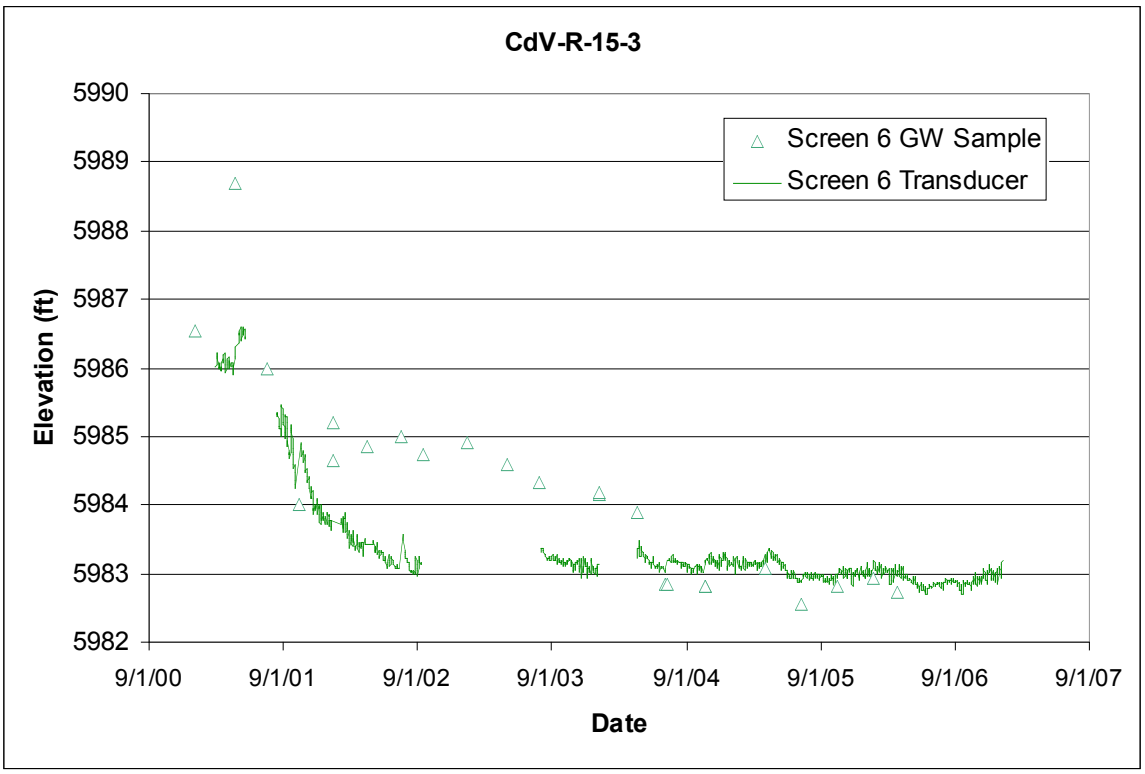
9/1/01
9/1/02
9/1/03
9/1/04
9/1/05
9/1/06
Date


CdV-R-15-3
Screen 6 GW Sample
Screen 6 Transducer
Elevation (ft)
5990
5989
5988
5987
5986
5985
5984
5983
5982
9/1/00
9/1/01
9/1/02
9/1/03
9/1/04
9/1/05
9/1/06
9/1/07
Date

### 3.2 CdV-R-37-2

Location: CdV-R-37-2 is located on a mesa between Cañon de Valle and Water Canyon at Technical Area (TA) 37 in the Water Canyon watershed.

Completion Type: Multiple completion, one screen in an intermediate zone, three screens in regional zones.

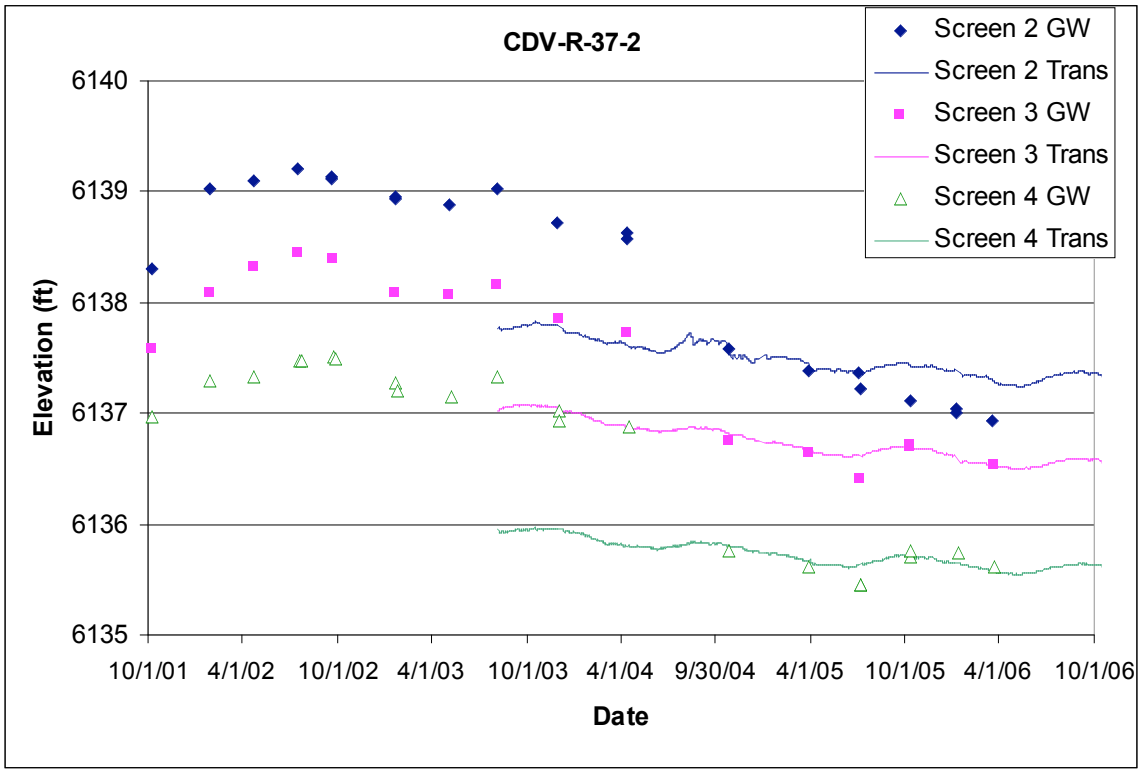
Period of Record: Westbay® installed October 8, 2001; transducers installed August 8, 2003; data through 2006.

Remarks: The intermediate screen has been dry since well installation; the transducer at this screen was removed in January 2006. The three regional screens have similar heads that show downward gradient of about 1 ft between each screen.

**Measurement and Sampling Ports in CDV-R-37-2**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 914.4 | 939.5 | 6416.2 | 6391.1 | 25.1 | **MP1A** | 934.9 | 6395.7 | 4.6 | | Within Screen, Intermediate (Dry) |
| | | | | | | PP1 | 940.2 | 6390.4 | -0.7 | 1.5 | Below Screen |
| | | | | | | MP1B | 945.9 | 6384.7 | -6.4 | 13.8 | Below Screen |
| 2 | 1188.7 | 1213.8 | 6141.9 | 6116.8 | 25.1 | **MP2A** | 1200.3 | 6130.3 | 13.5 | | Within Screen, Regional Aquifer |
| | | | | | | PP2 | 1205.7 | 6124.9 | 8.1 | | Within Screen |
| | | | | | | MP2B | 1216.2 | 6114.4 | -2.4 | 5.2 | Below Screen |
| 3 | 1353.7 | 1377.1 | 5976.9 | 5953.5 | 23.4 | **MP3A** | 1359.3 | 5971.3 | 17.8 | | Within Screen |
| | | | | | | PP3 | 1365.0 | 5965.6 | 12.1 | | Within Screen |
| | | | | | | MP3B | 1375.2 | 5955.4 | 1.9 | | Within Screen |
| 4 | 1549.3 | 1556.0 | 5781.3 | 5774.6 | 6.7 | **MP4A** | 1550.6 | 5780.0 | 5.4 | | Within Screen |
| | | | | | | PP4 | 1556.0 | 5774.6 | 0 | | Base of Screen |
| | | | | | | MP4B | 1561.6 | 5769.0 | -5.6 | 12.1 | Below Screen |

Note: CDV-R-37-2 Brass Cap Ground Elevation: 7330.6 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



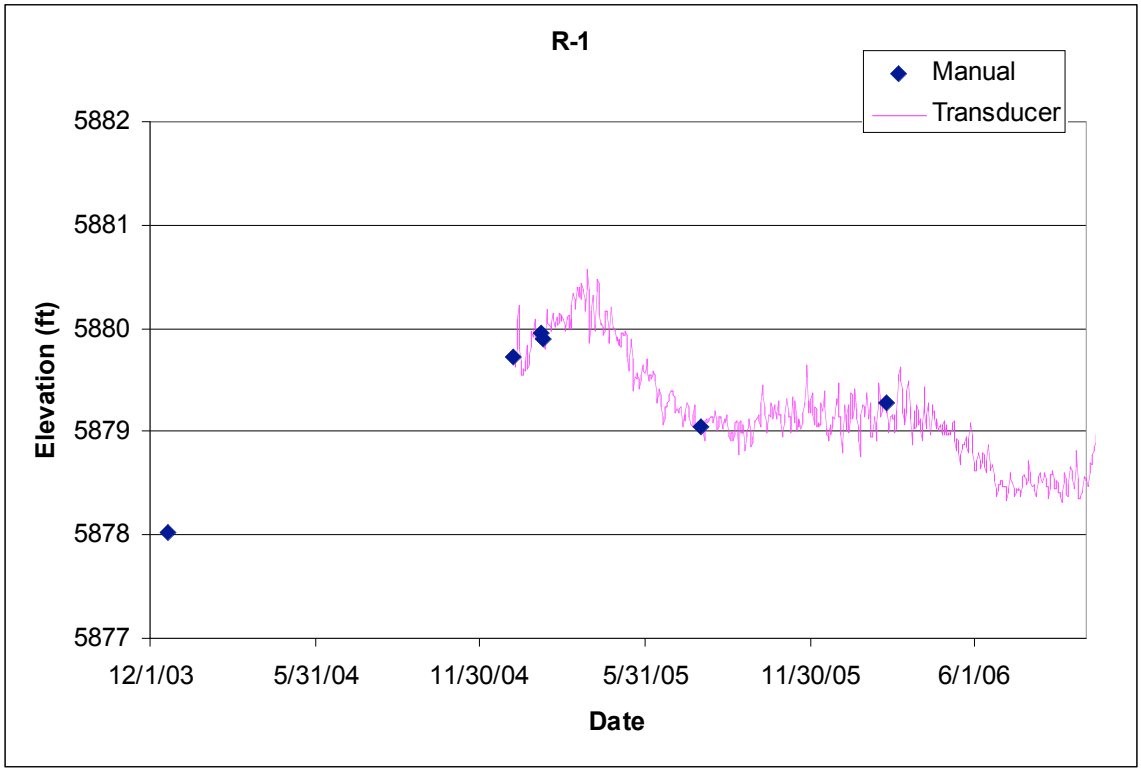
### 3.3 R-1

Location: R-1 is located in Mortandad Canyon about 220 ft west of TW-8.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 29 ft below the water table.
Period of Record: Well completed November 2003, transducer installed January 2005, transducer data through 2006.
Remarks: R-1 was completed to a depth of 1080.1 ft, about 80 ft into the regional aquifer.

**R-1 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1031.1 | 1057.4 | 5850.1 | 5823.8 | 26.3 | 1027.7 | 5853.5 | 1057.4 | 5823.8 | 1080.1 | 22.7 | 69.7 | Regional Aquifer |

Note: R-1 Brass Cap Ground Elevation: 6881.21 ft; all measurements are from this elevation



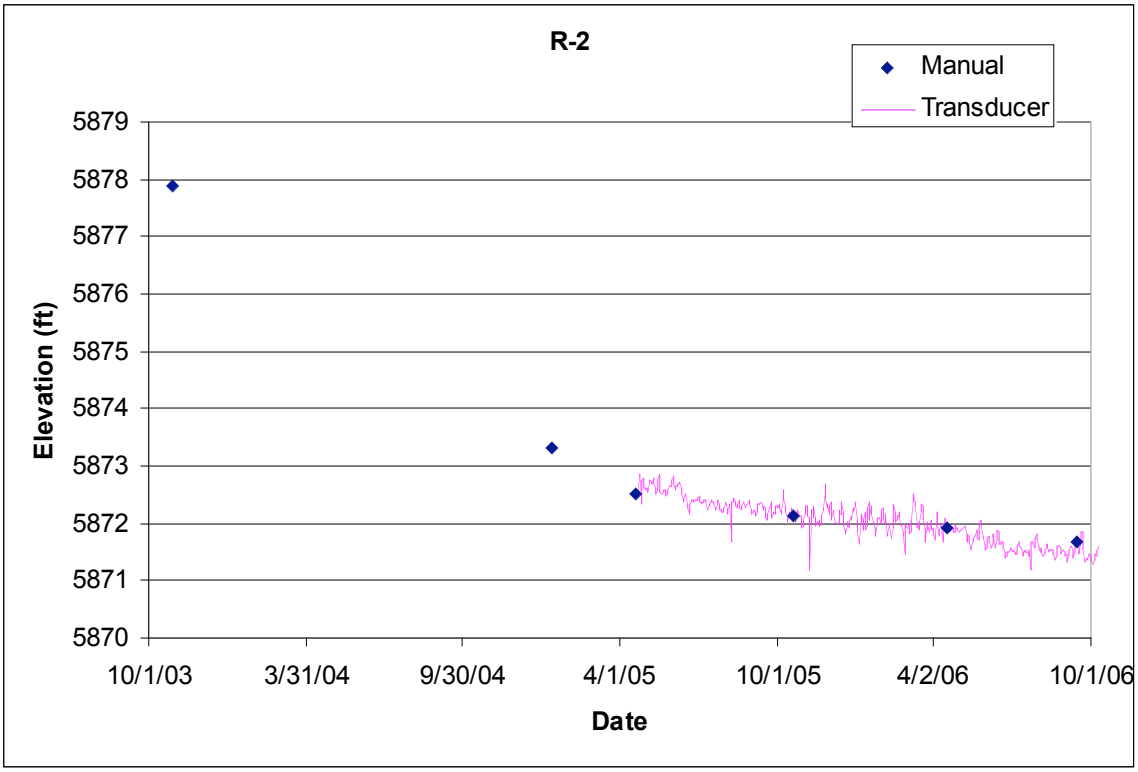
### 3.4 R-2

Location: R-2 is located in middle Pueblo Canyon between TW-4 and TW-2.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 8 ft below the water table.
Period of Record: Well completed October 2003, transducer installed January 2005, transducer data through 2006.
Remarks: R-2 was completed to a depth of 943.3 ft, about 50 ft into the regional aquifer.

R-2 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 906.4 | 929.6 | 5864.0 | 5840.8 | 23.2 | 917 | 5853.4 | 929.6 | 5840.8 | 943.3 | 13.7 | 42.1 | Regional Aquifer |

Note: R-2 Brass Cap Ground Elevation: 6770.38 ft; all measurements are from this elevation

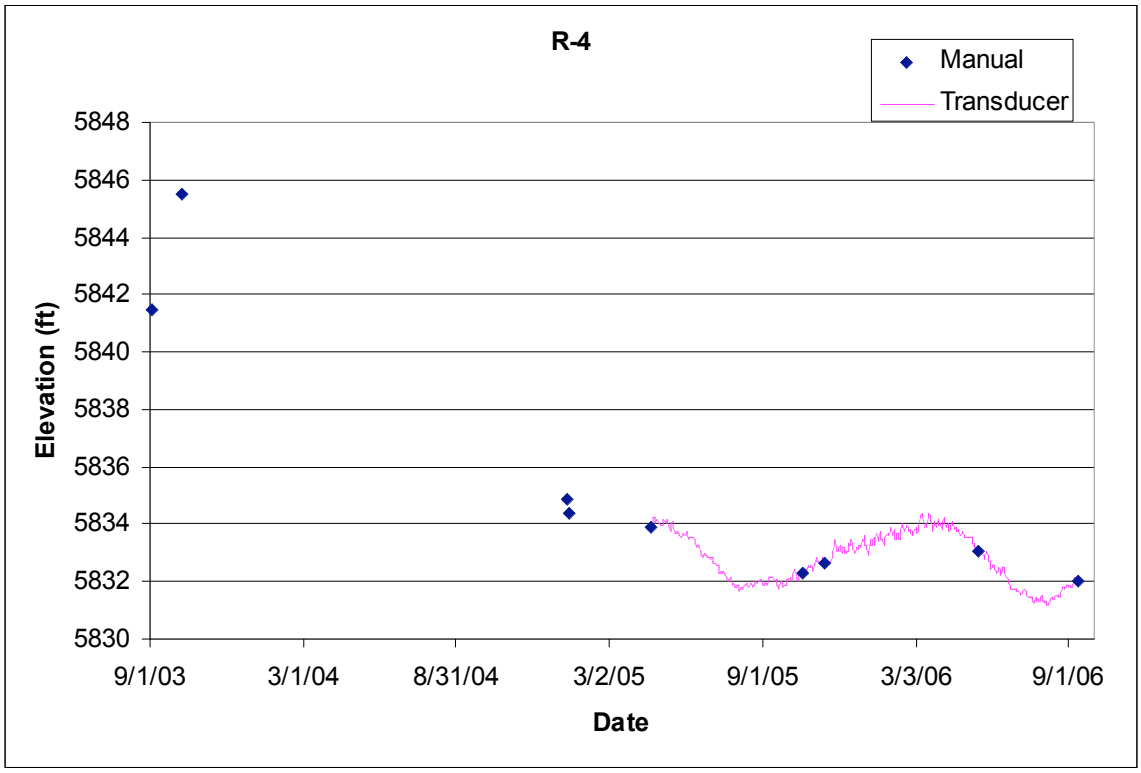


### 3.5 R-4

Location: R-4 is located in Pueblo Canyon upstream of the Bayo Sewage Treatment Plant.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 49 ft below the piezometric water table in a confined zone.
Period of Record: Well completed September 2003, transducer installed January 2005, data through September 19, 2006.
Remarks: R-4 was completed to a depth of 840 ft, about 90 ft into the regional aquifer. The water level appears to respond to pumping of the Guaje well field.

| R-4 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 792.9 | 816 | 5784.6 | 5761.5 | 23.1 | 787.5 | 5790.0 | 816.0 | 5761.5 | 840 | 24.0 | 73.7 | Regional Aquifer |

Note: R-4 Brass Cap Ground Elevation: 6577.49 ft; all measurements are from this elevation



### 3.6 R-5

Location: R-5 is located in lower Pueblo Canyon upstream of supply well O-1.

Completion Type: Multiple completion, two screens in intermediate zones, two screens in regional zones.

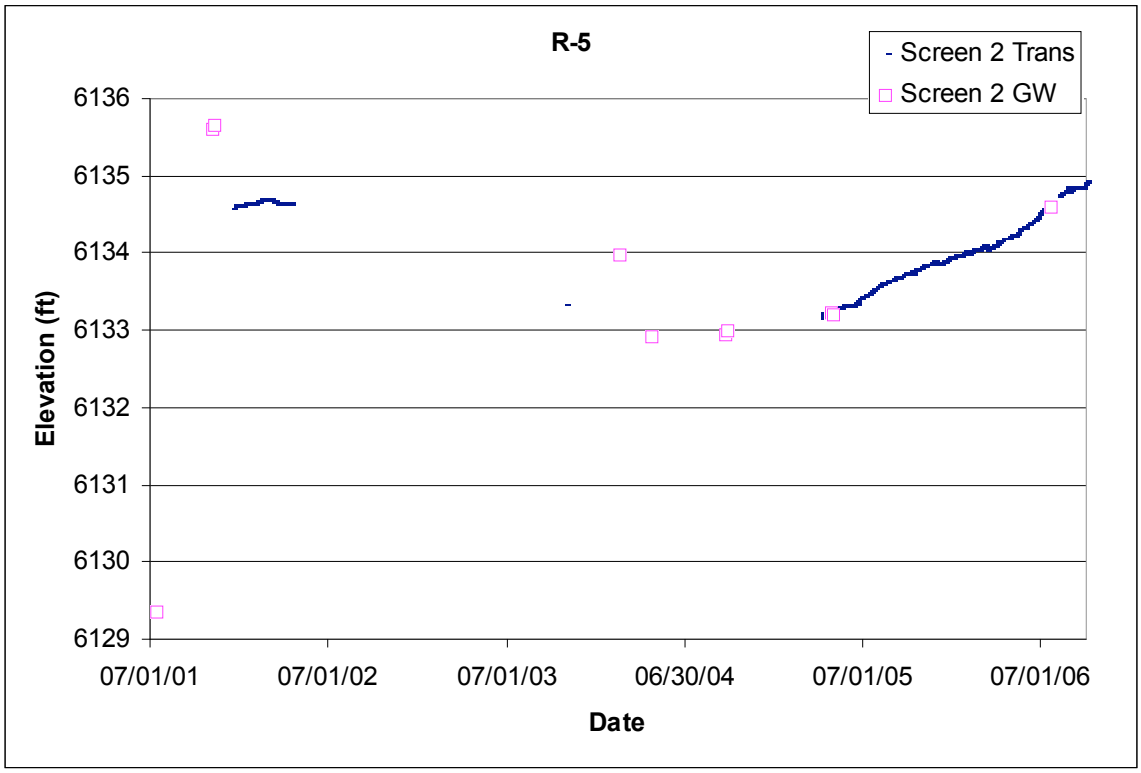
Period of Record: Westbay® installed July 17, 2001, transducers installed December 17, 2001, and April 4, 2005, intermittent data through 2006.

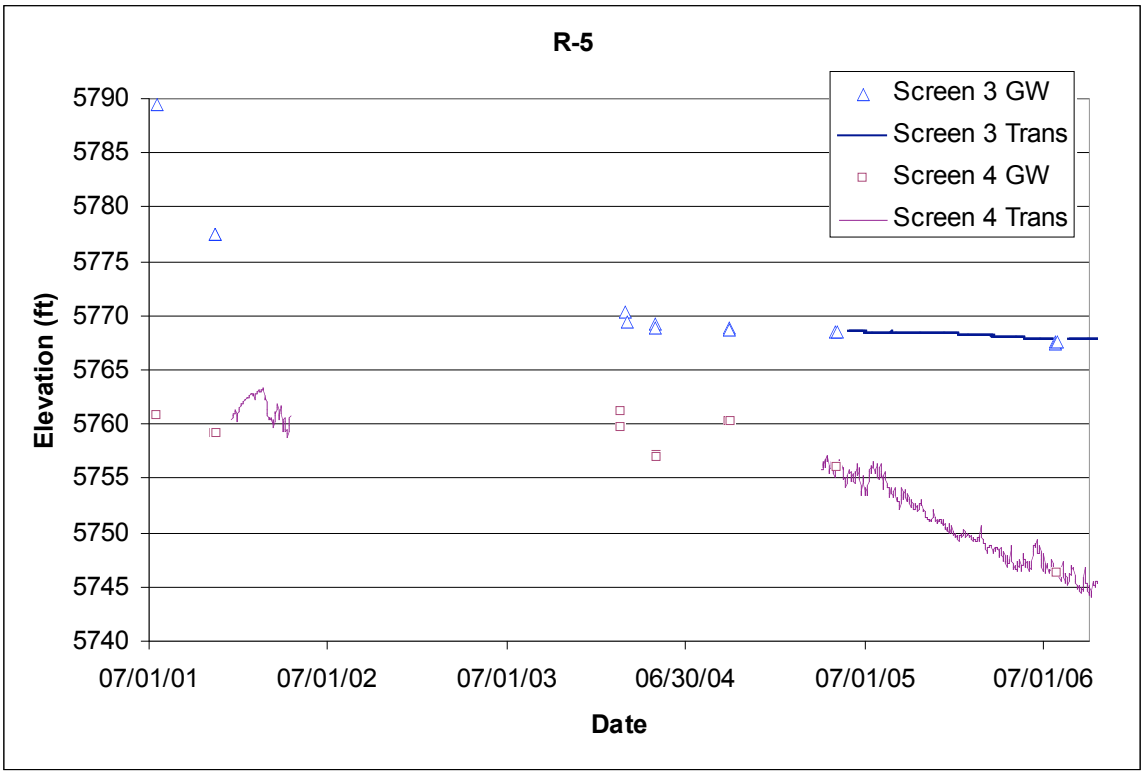
Remarks: Screen 1 has been dry since well installation, although there is a small amount of water in the sump below screen 1. The two regional screens have heads about 10 ft apart. The water level at the top of the regional aquifer at screen 3 declined below port MP3A in 2001; samples are collected and groundwater level is monitored from port MP3B. The water level at screen 4 responds to supply well pumping at O-1 and PM-1 but screen 3 apparently shows little or no response.

**R-5 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 326.4 | 331.5 | 6146.2 | 6141.1 | 5.1 | **MP1A** | 329.5 | 6143.1 | 2.0 | | Within Screen, Intermediate Zone - Dry |
| | | | | | | PP1 | 334.9 | 6137.7 | -3.4 | 9.8 | Below Screen |
| | | | | | | MP1B | 350.4 | 6122.2 | -18.9 | 54.7 | Below Screen |
| 2 | 372.8 | 388.8 | 6099.8 | 6083.8 | 16 | **MP2A** | 383.9 | 6088.7 | 4.9 | | Within Screen, Intermediate Zone |
| | | | | | | PP2 | 388.8 | 6083.8 | 0.0 | 0.0 | At Bottom of Screen |
| | | | | | | MP2B | 394.4 | 6078.2 | -5.6 | 16.2 | Below Screen |
| 3 | 676.9 | 720.3 | 5795.7 | 5752.3 | 43.4 | MP3A | 695.1 | 5777.5 | 25.2 | | Within Screen, Regional Aquifer, Port Dry |
| | | | | | | **MP3B** | 718.6 | 5754.0 | 1.7 | | Within Screen, MP for GW samples |
| | | | | | | PP3 | 724.0 | 5748.6 | -3.7 | 10.7 | Below Screen |
| 4 | 858.7 | 863.7 | 5613.9 | 5608.9 | 5 | **MP4A** | 860.9 | 5611.7 | 2.8 | | Within Screen |
| | | | | | | PP4 | 866.3 | 5606.3 | -2.6 | 7.5 | Below Screen |
| | | | | | | MP4B | 871.9 | 5600.7 | -8.2 | 23.7 | Below Screen |

Note: R-5 Brass Cap Ground Elevation: 6472.6 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports




R-5
Screen 3 GW
Screen 3 Trans
Screen 4 GW
Screen 4 Trans
Elevation (ft)
5790
5785
5780
5775
5770
5765
5760
5755
5750
5745
5740
07/01/01
07/01/02
07/01/03
06/30/04
07/01/05
07/01/06
Date

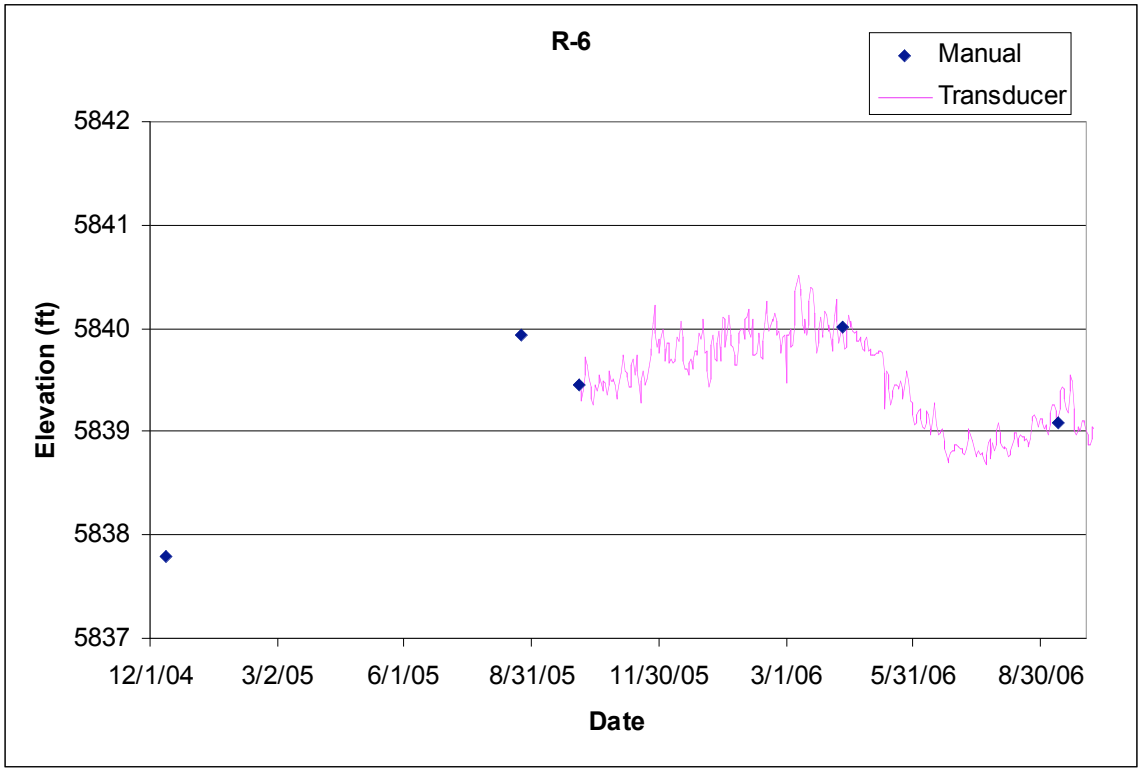
### 3.7 R-6

Location: R-6 is located at the east end of DP Mesa between DP Canyon and Los Alamos Canyon.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 49 ft below the water table.
Period of Record: Well completed November 2004, transducer installed December 2004, data through 2006.
Remarks: R-6 was completed to a depth of 1252 ft, about 100 ft into the regional aquifer.

**R-6 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1205.0 | 1228 | 5790.8 | 5767.8 | 23.0 | | 6995.8 | 1228.0 | 5767.8 | 1252 | 24.0 | 73.7 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6995.8 ft; all measurements are from this elevation



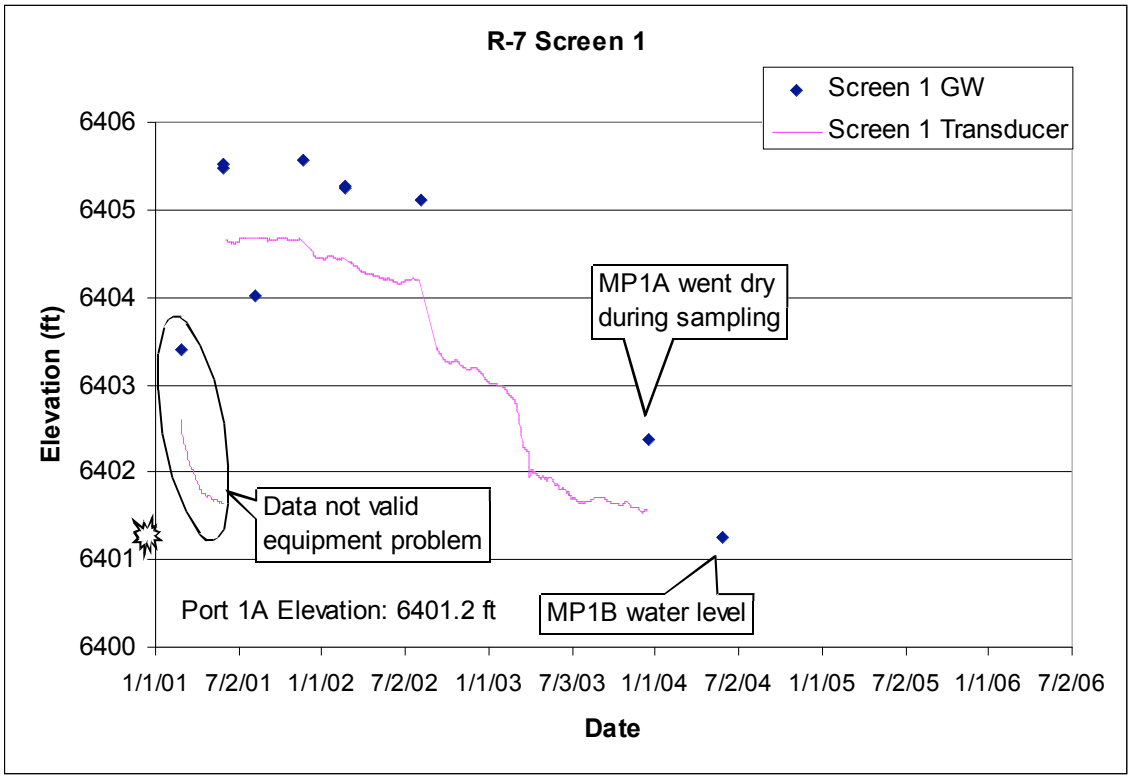
### 3.8 R-7

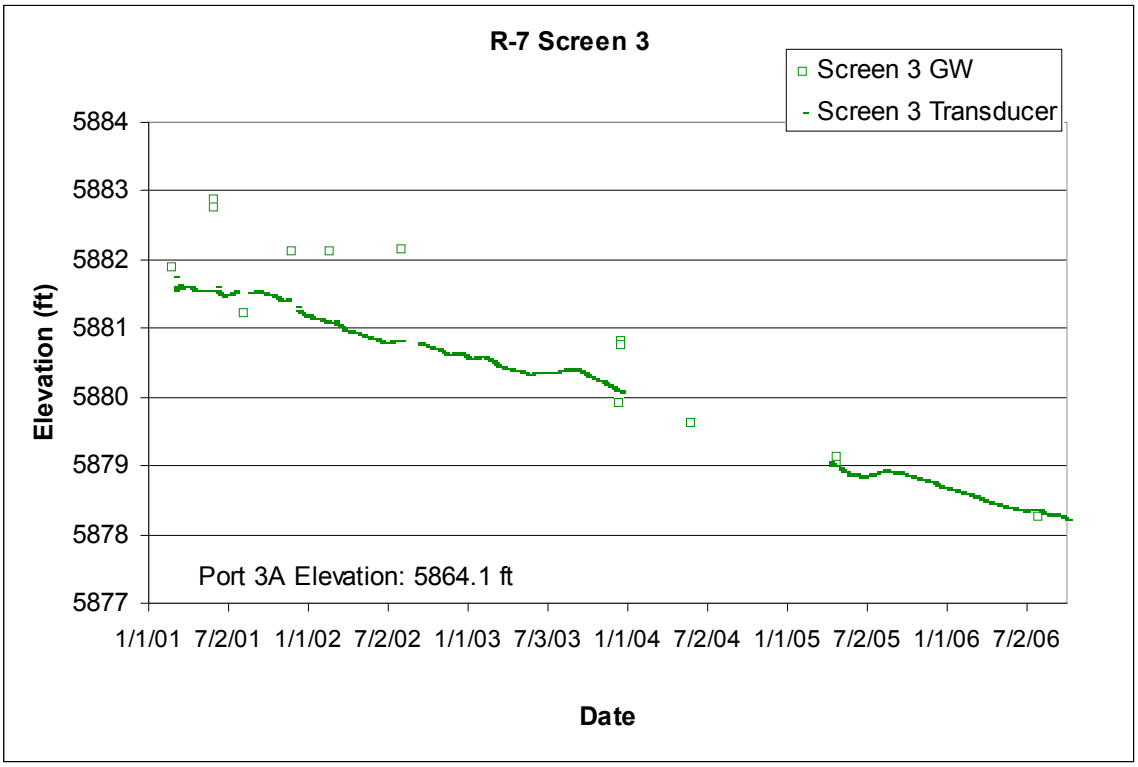
Location: R-7 is located in middle Los Alamos Canyon about 1 mile upstream of supply well O-4.
Completion Type: Multiple completion, two screens in intermediate zones, one screen at the top of the regional aquifer.
Period of Record: Westbay® installed February 25, 2001, transducers installed February 28, 2001, intermittent data through 2006.
Remarks: Initial transducer data from MP1A are not valid because transducer apparently did not connect properly to port. Port MP1A in intermediate screen 1 went dry during sampling December 18, 2003. In 2004, MP1B showed water at the bottom of screen 1, but in 2005 and 2006, no water was observed at screen 1. The screen 2 intermediate zone has been dry since well installation.

**R-7 Measurement and Sampling Ports**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 363.2 | 379.2 | 6416.0 | 6400.0 | 16.0 | **MP1A** | 378.0 | 6401.2 | 1.2 | | Within screen, Intermediate Zone |
| | | | | | | PP1 | 383.3 | 6395.9 | -4.1 | 8.9 | Below screen |
| | | | | | | MP1B | 389.0 | 6390.2 | -9.8 | 21.2 | Below screen |
| 2 | 730.4 | 746.4 | 6048.8 | 6032.8 | 16.0 | **MP2A** | 744.8 | 6034.4 | 1.6 | | Within screen, Intermediate Zone (Dry) |
| | | | | | | PP2 | 750.1 | 6029.1 | -3.7 | 8.0 | Below screen |
| | | | | | | MP2B | 755.8 | 6023.4 | -9.4 | 20.3 | Below screen |
| 3 | 895.5 | 937.4 | 5883.7 | 5841.8 | 41.9 | **MP3A** | 915.1 | 5864.1 | 22.3 | | Within screen, Regional Aquifer |
| | | | | | | MP3B | 935.3 | 5843.9 | 2.1 | | Within screen |
| | | | | | | PP3 | 940.6 | 5838.6 | -3.2 | 6.9 | Below screen |
| | | | | | | MP3C | 946.3 | 5832.9 | -8.9 | 19.2 | Below screen |

Note: R-7 Brass Cap Ground Elevation: 6779.2 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports




R-7 Screen 3
Screen 3 GW
Screen 3 Transducer
5884
5883
5882
5881
5880
5879
5878
5877
Elevation (ft)
Port 3A Elevation: 5864.1 ft
1/1/01
7/2/01
1/1/02
7/2/02
1/1/03
7/3/03
1/1/04
7/2/04
1/1/05
7/2/05
1/1/06
7/2/06
Date

### 3.9 R-8

Location: R-8 is located in middle Los Alamos Canyon about 0.75 mile downstream of the confluence with DP Canyon and supply well O-4.

Completion Type: Multiple completion, two screens in the regional aquifer. The top of screen 1 is about 16 ft below the water table.

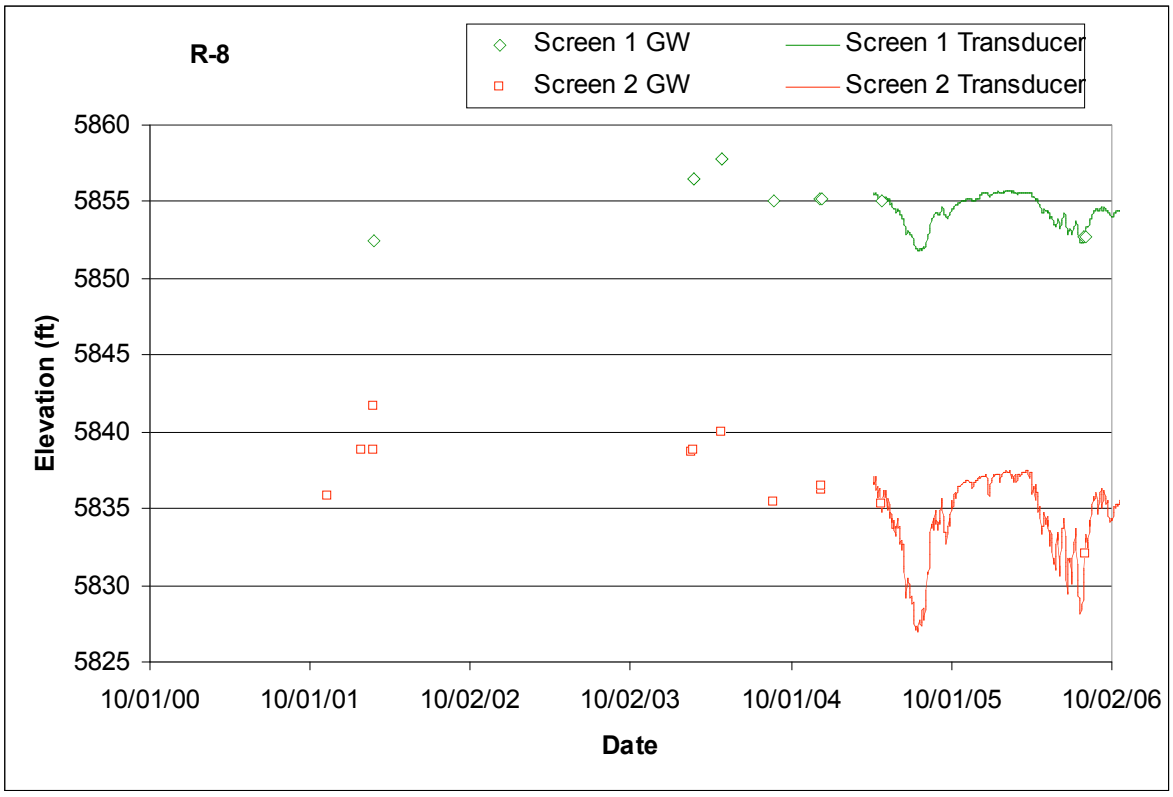
Period of Record: Westbay® installed February 23, 2002, transducers installed April 7, 2005, data through 2006.

Remarks: Screens are 66 ft apart, head in screen 2 about 20 ft lower than screen 1. Water level apparently responds to pumping supply well PM-3.

**R-8 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 705.3 | 755.7 | 5839.4 | 5789.04 | 50.4 | MP1A | 711.1 | 5833.64 | 44.6 | | Regional Aquifer |
| | | | | | | MP1B | 721.4 | 5823.34 | 34.3 | | Within Screen |
| | | | | | | MP1C | 751.3 | 5793.44 | 4.4 | | Within Screen |
| | | | | | | PP1 | 756.7 | 5788.04 | -1.0 | 2.2 | Below Screen |
| | | | | | | MP1D | 762.3 | 5782.44 | -6.6 | 14.3 | Below Screen |
| 2 | 821.3 | 828.0 | 5723.4 | 5716.74 | 6.7 | MP2A | 825.0 | 5719.74 | 3.0 | | Within Screen |
| | | | | | | PP2 | 830.4 | 5714.34 | -2.4 | 5.2 | Below Screen |
| | | | | | | MP2B | 836.0 | 5708.7 | -8.0 | 17.3 | Below Screen |

Note: R-8 Brass Cap Ground Elevation: 6544.74 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



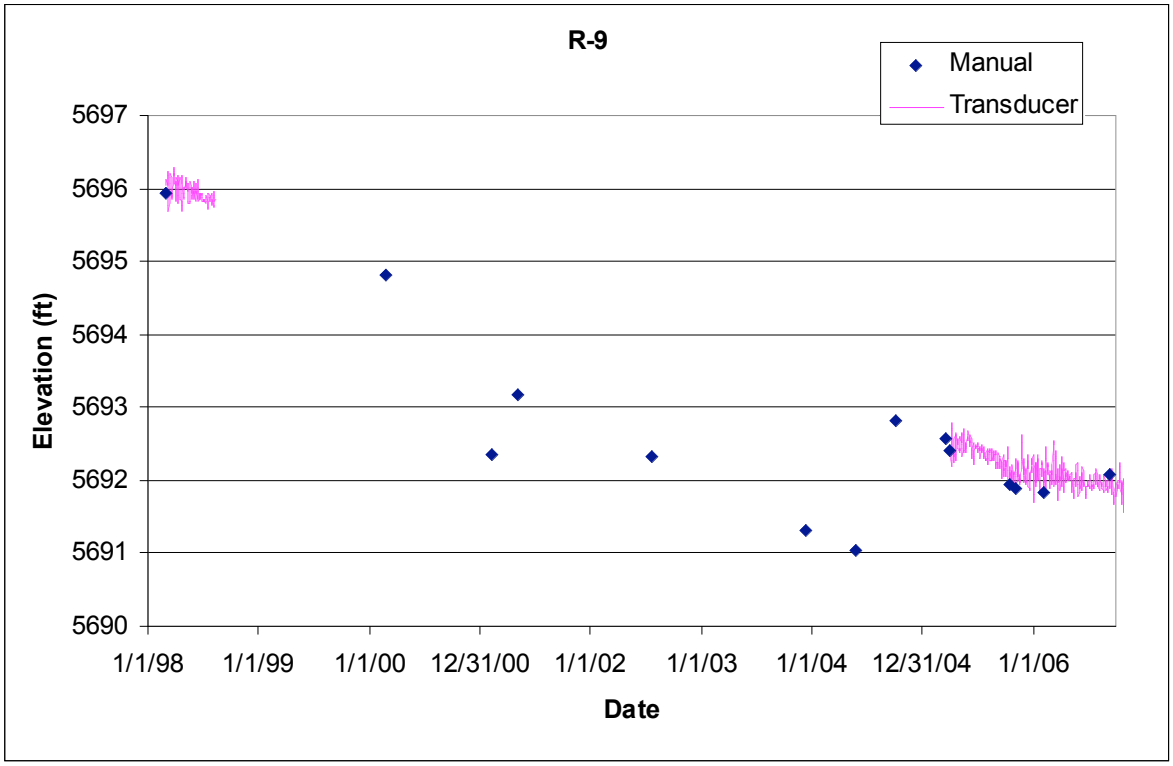
### 3.10 R-9

Location: R-9 is located in Los Alamos Canyon near the eastern LANL boundary.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: March 2, 1998, to August 12, 1998, in temporary well. Final well completed October 1999. Transducer installed April 5, 2005, data through 2006.
Remarks: R-9 was completed to a depth of 758 ft, about 70 ft into the regional aquifer.

**R-9 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 683.0 | 748.5 | 5699.8 | 5634.3 | 65.5 | 741.4 | 5641.4 | 748.5 | 5634.3 | 758 | 9.5 | 29.7 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6382.80; all measurements are from this elevation



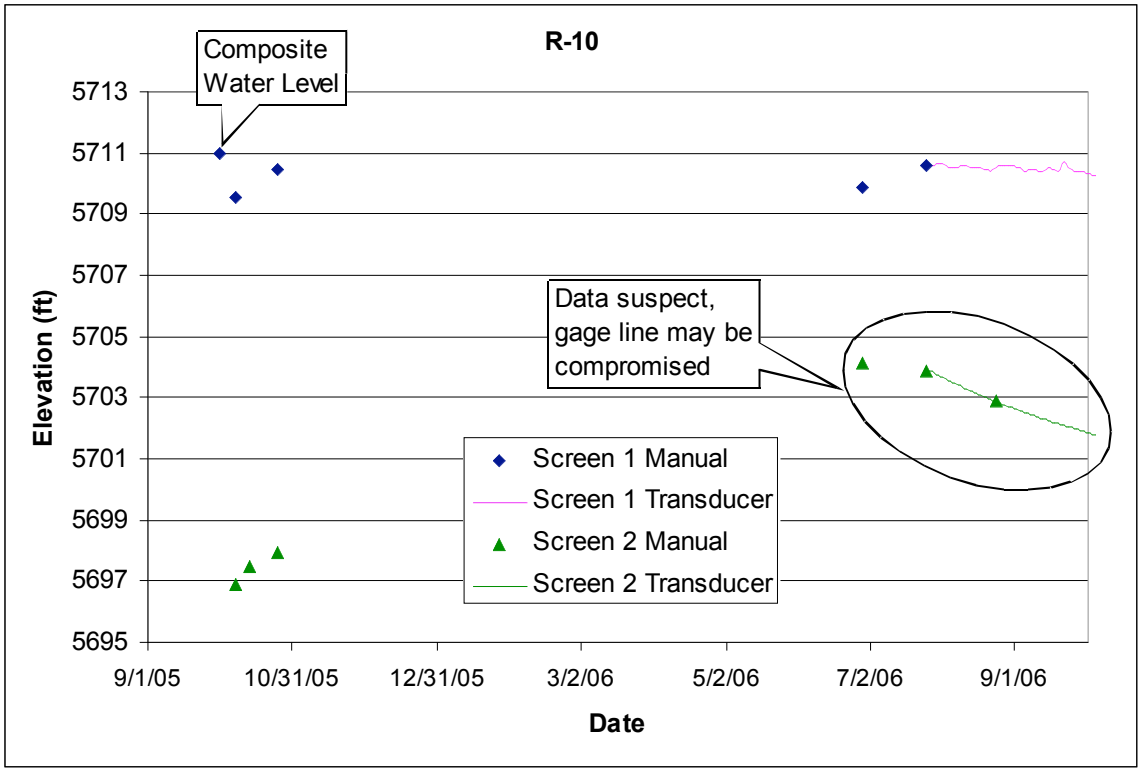
### 3.11 R-10

Location: R-10 is located in lower Sandia Canyon east of the LANL boundary.
Completion Type: Dual completion in two deeper zones within the regional aquifer. Baski packer and dual valve assembly with single submersible pump installed in May 2006.
Period of Record: Well completed October 2005, transducers installed July 26, 2006, data through 2006.
Remarks: The screen 2 gage tube appears to be plugged or constricted; water level data are suspect.

**R-10 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Packer/ Sump (ft) | Top of Packer/ Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 874.0 | 897.0 | 5488.3 | 5465.3 | 23.0 | 884.3 | 5478.0 | 905.2 | 5457.2 | 905.2 | 8.2 | 25.5 | Regional Aquifer |
| 2 | 1042.0 | 1065.0 | 5320.3 | 5297.3 | 23.0 | 1053.1 | 5309.2 | 1065.0 | 5297.3 | 1081.6 | 16.6 | 10.2 | Regional Aquifer |

Note: R-10 Brass Cap Ground Elevation: 6362.31 ft; all measurements are from this elevation

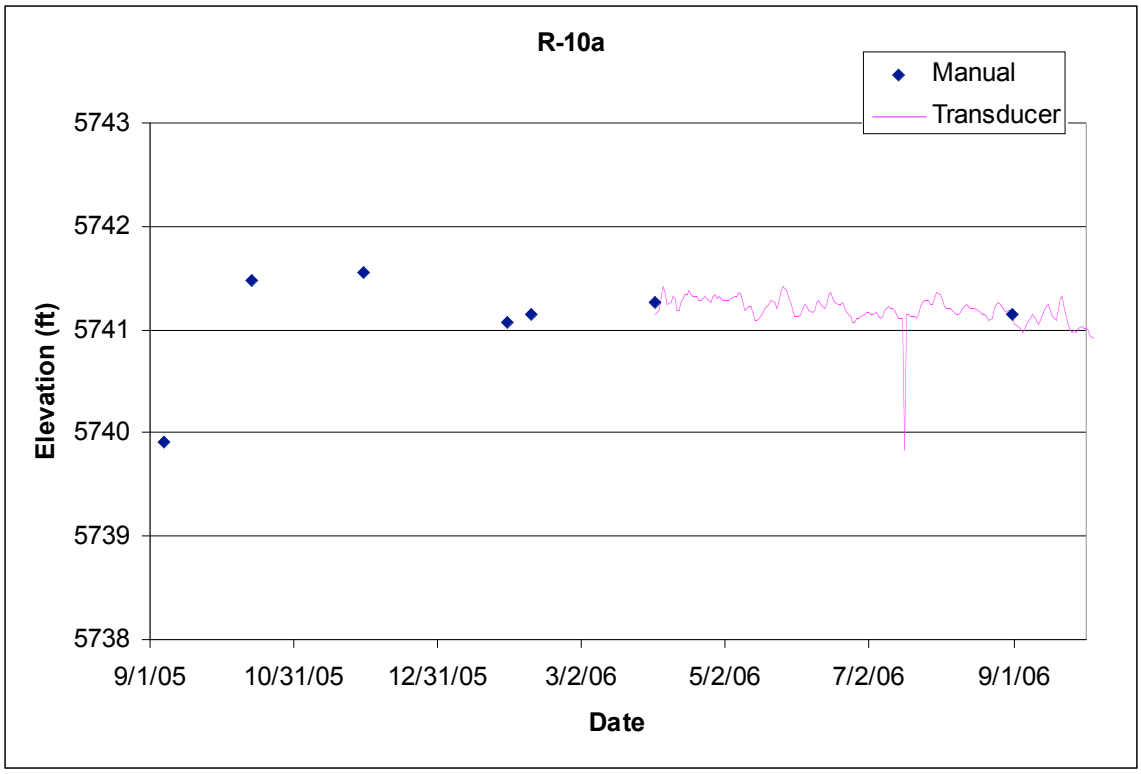


### 3.12 R-10a

Location: R-10a is located in lower Sandia Canyon east of the LANL boundary and adjacent to R-10.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 67 ft below the water table.
Period of Record: Well completed August 2005, transducer installed April 3, 2006, data through 2006.
Remarks: The R-10a water level is about 30 ft higher than at R-10 screen 1.

| R-10a Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 690.0 | 700 | 5673.7 | 5663.7 | 10.0 | 685.6 | 5678.1 | 700.0 | 5663.7 | 706 | 6.0 | 18.4 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6363.74 ft; all measurements are from this elevation



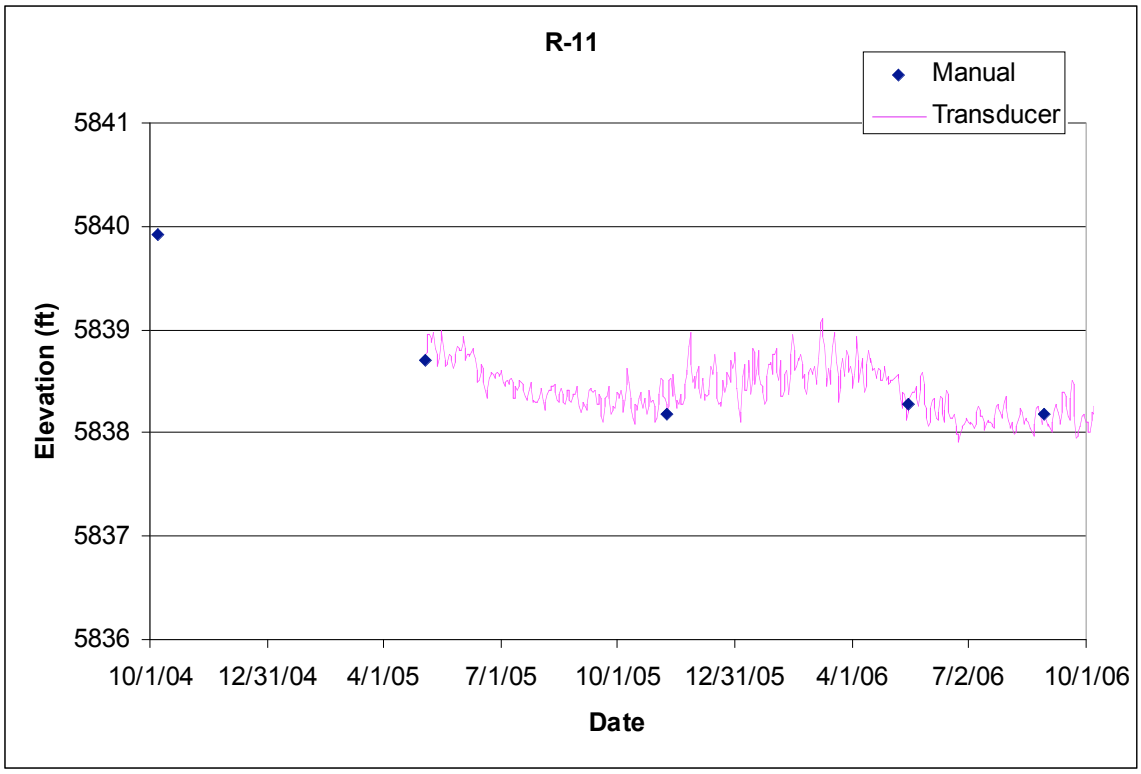
### 3.13 R-11

Location: R-11 is located in middle Sandia Canyon about 0.5 mile upstream of PM-3.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 20 ft below the water table.
Period of Record: Transducer installed May 4, 2005; data through 2006.
Remarks: R-11 was completed in 2004 to a depth of 901.7 ft, about 66 ft into the regional aquifer.

**R-11 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 855.0 | 877.9 | 5818.7 | 5795.8 | 22.9 | 850 | 5823.7 | 877.9 | 5795.8 | 901.7 | 23.8 | 73.1 | Regional Aquifer |

Note: R-11 Brass Cap Ground Elevation: 6673.72 ft; all measurements are from this elevation



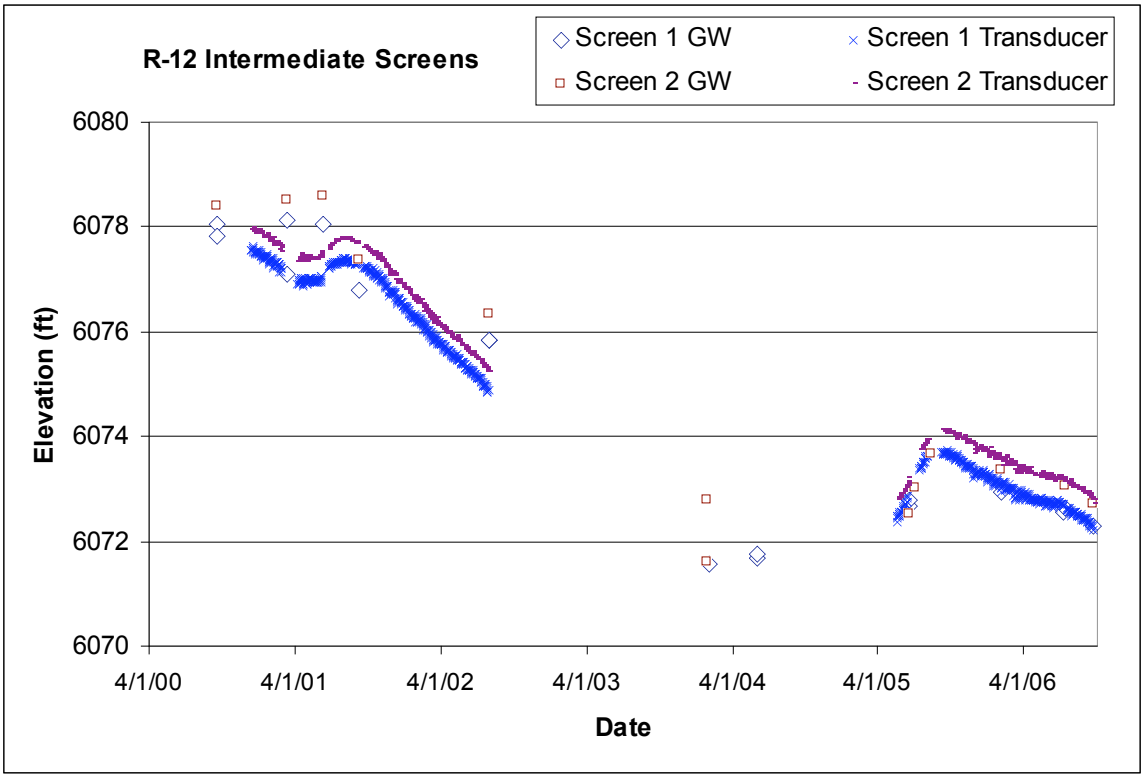
### 3.14 R-12

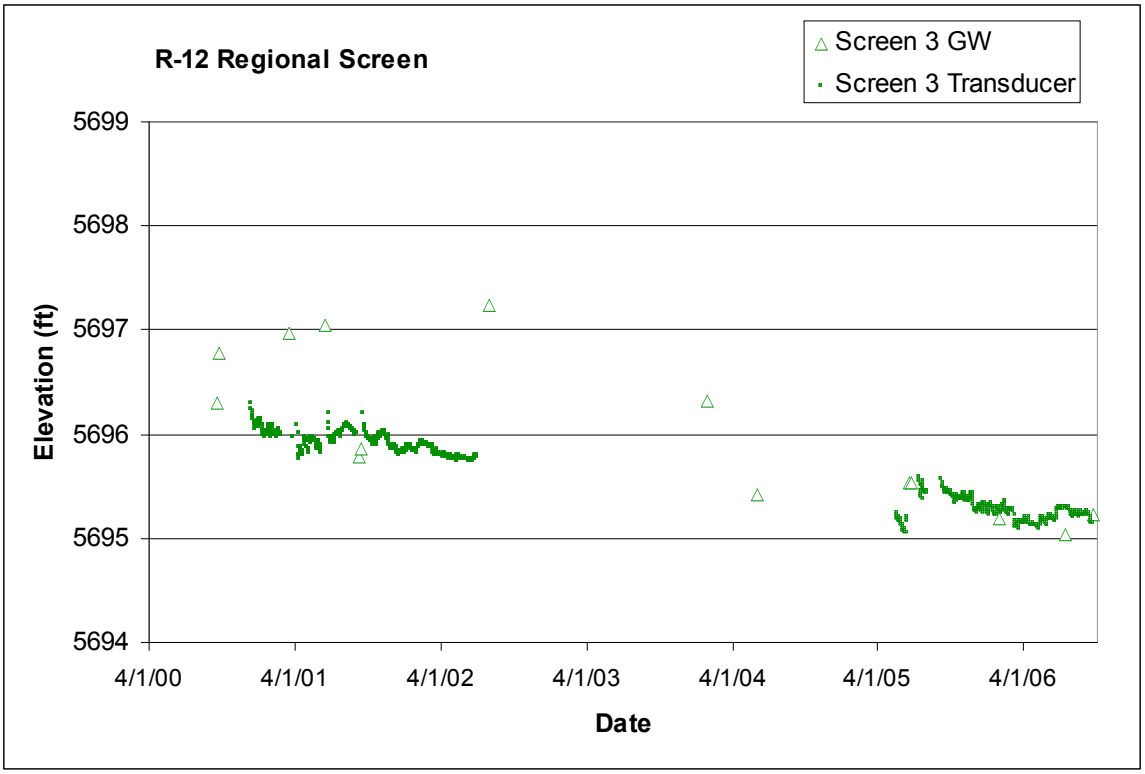
Location: R-12 is located in lower Sandia Canyon near State Route (SR) 4 and supply well PM-1.
Completion Type: Multiple completion, two screens in intermediate zones, one screen at the top of the regional aquifer.
Period of Record: Westbay® installed March 21, 2000, transducers installed December 14, 2000, intermittent data to September 21, 2006, when transducers were removed for removal of the Westbay® system for additional well development.
Remarks: Intermediate screens 1 and 2 have similar head values about 380 ft above the regional aquifer. The Westbay® system had not been reinstalled in R-12 by the end of 2006.

**R-12 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 459.0 | 467.5 | 6040.6 | 6032.1 | 8.5 | MP1A | 468.1 | 6031.5 | -0.6 | 1.1 | Intermediate Zone, below screen |
| | | | | | | PP1 | 473.5 | 6026.1 | -6.0 | 11.3 | Below screen |
| | | | | | | MP1B | 479.1 | 6020.5 | -11.6 | 21.9 | Below screen |
| 2 | 504.5 | 508.0 | 5995.1 | 5991.6 | 3.5 | MP2A | 507.0 | 5992.6 | 1.0 | | Intermediate Zone |
| | | | | | | PP2 | 512.4 | 5987.2 | -4.4 | 8.3 | Below screen |
| | | | | | | MP2B | 518.0 | 5981.6 | -10.0 | 18.9 | Below screen |
| 3 | 801.0 | 839.0 | 5698.6 | 5660.6 | 38 | MP3A | 810.8 | 5688.8 | 28.2 | | Regional Aquifer |
| | | | | | | PP3A | 816.2 | 5683.4 | 22.8 | | |
| | | | | | | MP3B | 821.8 | 5677.8 | 17.2 | | |
| | | | | | | PP3B | 827.2 | 5672.4 | 11.8 | | |
| | | | | | | MP3C | 832.9 | 5666.7 | 6.1 | | |

Brass Cap Elevation: 6499.6 ft; all measurements are from this elevation;
MP = measurement port; PP = pumping port



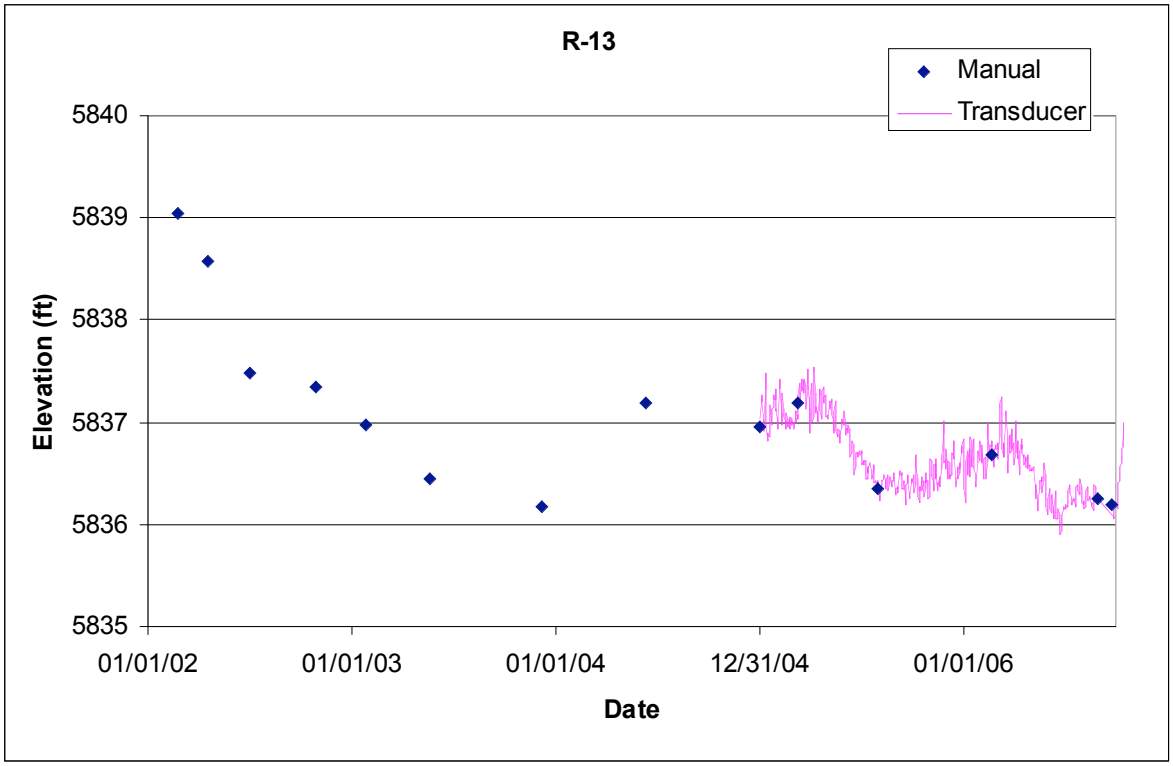

R-12 Regional Screen
Screen 3 GW
Screen 3 Transducer
Elevation (ft)
5699
5698
5697
5696
5695
5694
4/1/00
4/1/01
4/1/02
4/1/03
4/1/04
4/1/05
4/1/06
Date

### 3.15 R-13

Location: R-13 is located in lower Mortandad Canyon at the LANL boundary.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 122 ft below the water table.
Period of Record: Well completed February 25, 2002, transducer installed January 3, 2005, data through 2005.
Remarks: R-13 was completed to a depth of 1029.4 ft, about 200 ft into the regional aquifer.

| R-13 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 958.3 | 1018.7 | 5714.8 | 5654.4 | 60.4 | 933 | 5740.1 | 1018.7 | 5654.4 | 1029.4 | 10.7 | 33.5 | Regional Aquifer |

Note: R-13 Brass Cap Ground Elevation: 6673.05 ft; all measurements are from this elevation



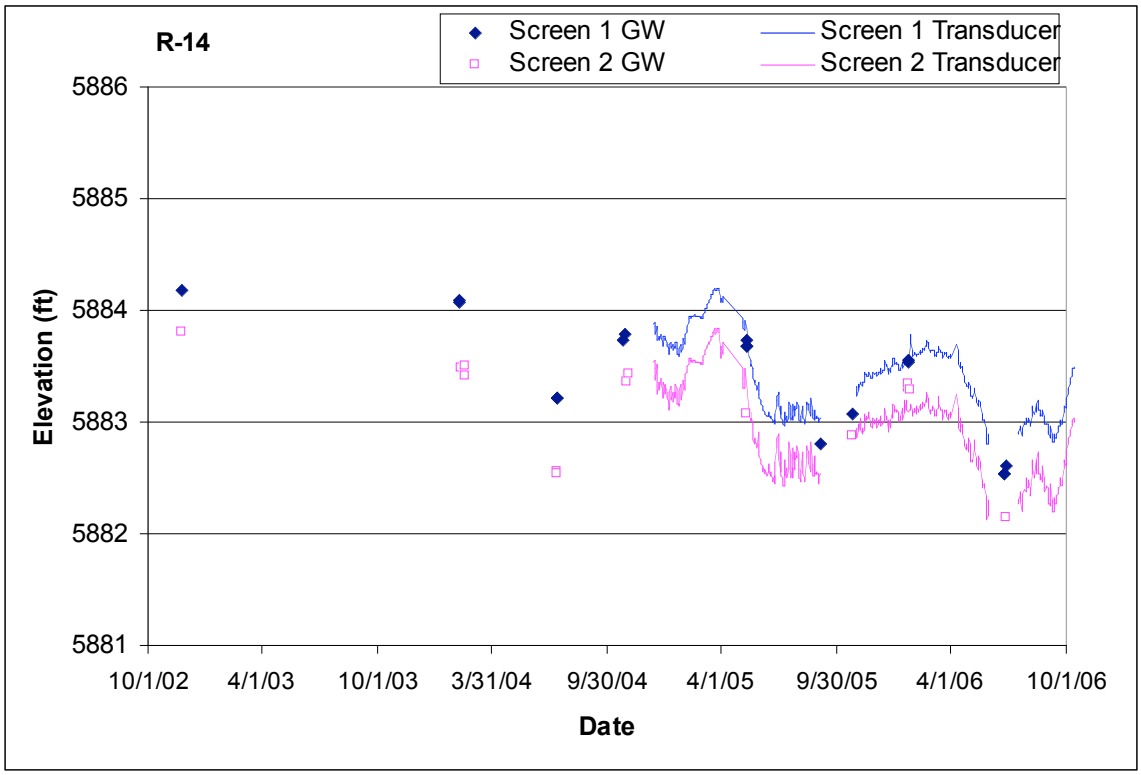
### 3.16 R-14

Location: R-14 is located in upper Ten Site Canyon about 0.5 mile upgradient of supply well PM-5.
Completion Type: Multiple completion, two screens in regional aquifer. The top of screen 1 is about 22 ft below the water table.
Period of Record: Westbay® installed November 23, 2002, transducers installed December 14, 2004, intermittent data through 2006.
Remarks: Screens are 53 ft apart; heads in screens are within 0.5 ft of each other. Water level responds to supply well pumping at PM-5.

**R-14 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1200.6 | 1233.2 | 5861.48 | 5828.88 | 32.6 | MP1A | 1204.5 | 5857.58 | 28.7 | | Within Screen, Regional aquifer |
| | | | | | | MP1B | 1229.6 | 5832.48 | 3.6 | | Within Screen |
| | | | | | | PP1 | 1234.9 | 5827.18 | -1.7 | 3.7 | Below Screen |
| | | | | | | MP1C | 1240.6 | 5821.48 | -7.4 | 16.0 | Below Screen |
| 2 | 1286.5 | 1293.1 | 5775.58 | 5768.98 | 6.6 | MP2A | 1288.5 | 5773.58 | 4.6 | | Within Screen |
| | | | | | | PP2 | 1293.8 | 5768.28 | -0.7 | 1.5 | Below Screen |
| | | | | | | MP2B | 1299.5 | 5762.58 | -6.4 | 13.8 | Below Screen |

Note: R-14 brass cap elevation 7062.08 ft; all measurements from this elevation; MP = measuring port, PP = pumping port

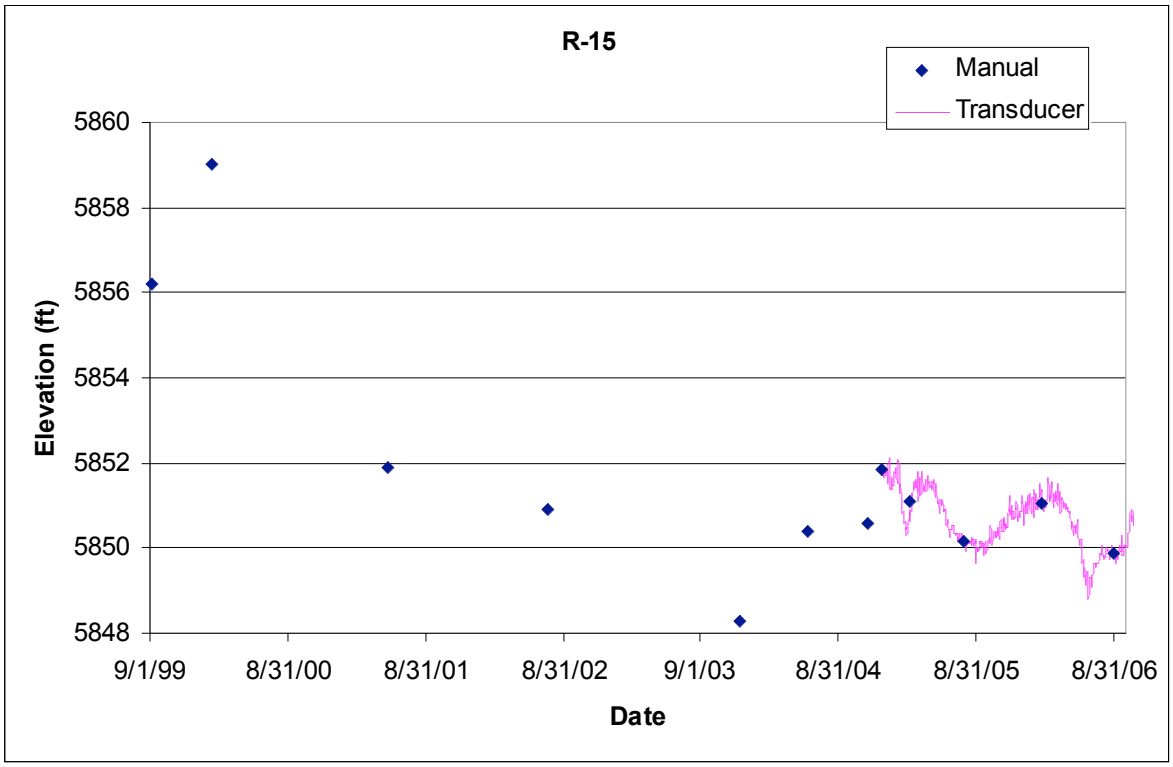


### 3.17 R-15

Location: R-15 is located in lower Mortandad Canyon downstream of the sediment traps.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: Well completed September 6, 1999, transducer installed December 23, 2004, transducer data through 2005.
Remarks: R-15 was completed in 1999 to a depth of 1030.6 ft, about 140 ft into the regional aquifer. The water level responds to pumping supply wells PM-4 and PM-5.

| R-15 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 958.6 | 1020.3 | 5861.4 | 5799.7 | 61.7 | 1015.6 | 5804.4 | 1020.3 | 5799.7 | 1030.6 | 10.3 | 39.8 | Regional Aquifer |

Note: R-15 Brass Cap Ground Elevation: 6820.0 ft; all measurements are from this elevation



### 3.18 R-16

Location: R-16 is located northeast of White Rock in lower Cañada del Buey near the confluence with lower Mortandad Canyon.

Completion Type: Multiple completion, four screens in the regional aquifer, screen 1 is blocked by casing and is not useable.

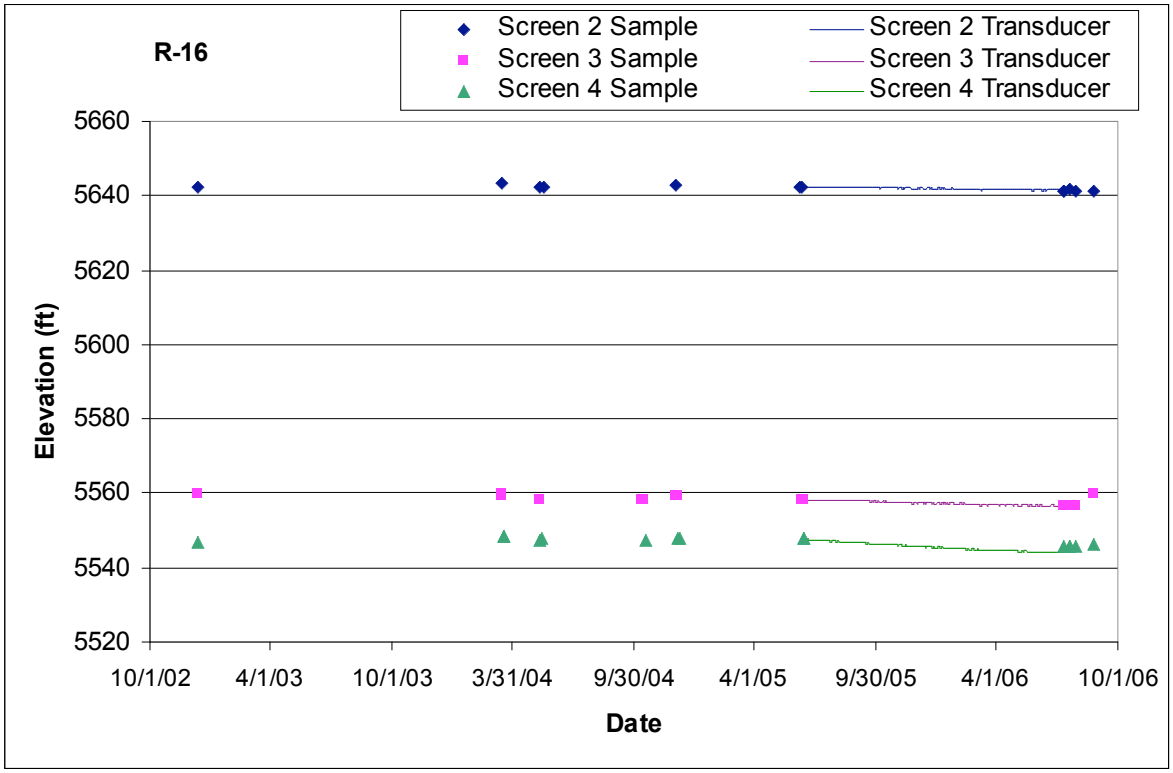
Period of Record: Westbay® installed December 14, 2002, transducers installed June 16, 2005, transducer data to July 12, 2006, when the Westbay® system was removed for additional screen development. The Westbay® system was reinstalled and transducers were reinstalled October 18, 2006.

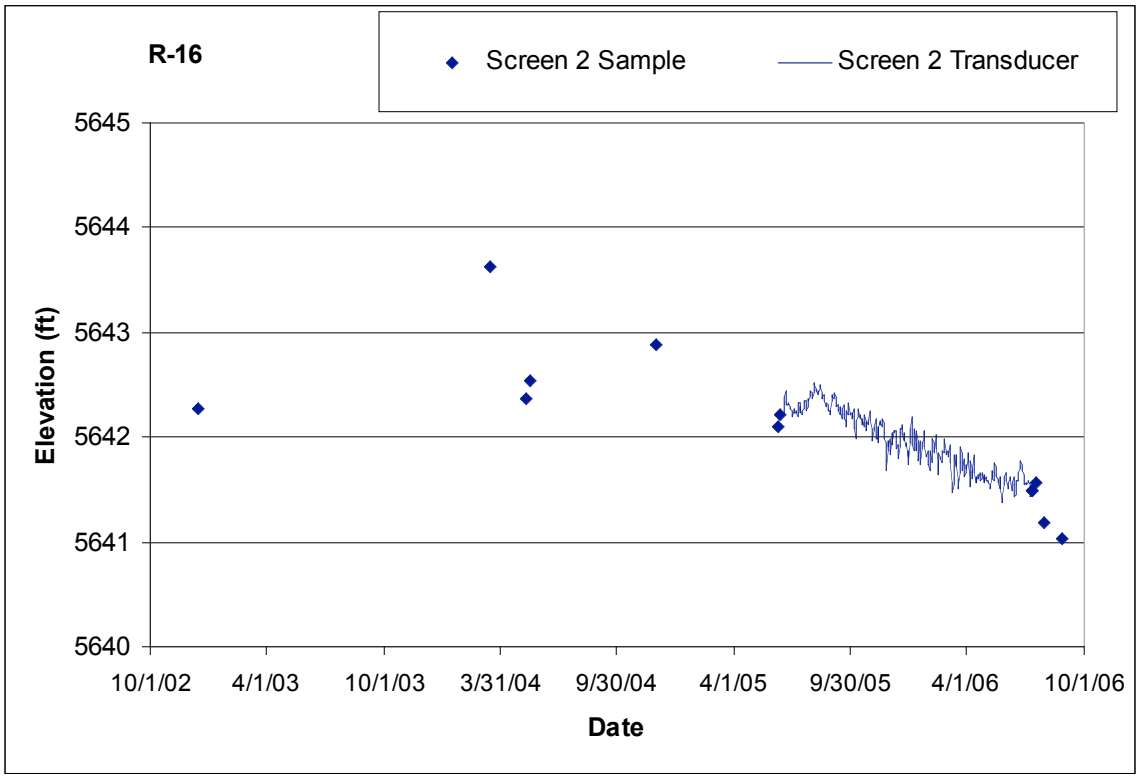
Remarks: Screens 2 and 3 are about 144 ft apart with a head difference of over 80 ft. Screen 4 shows a higher rate of decline than screen 3.

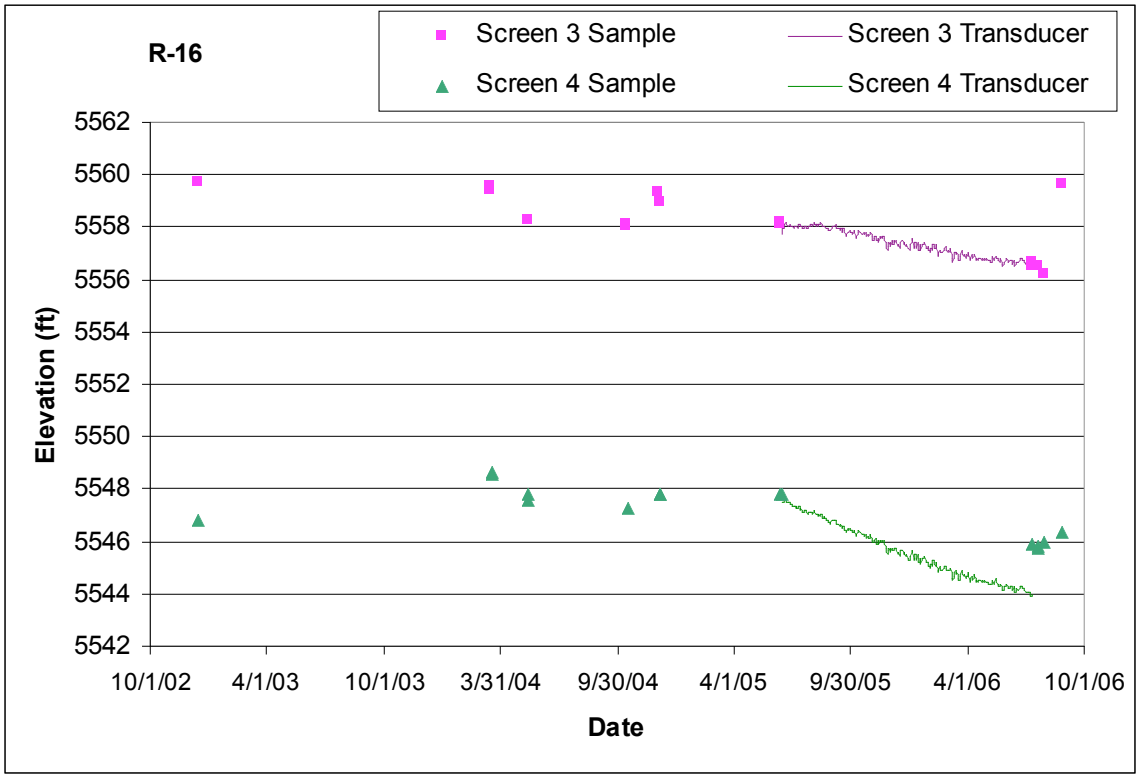
**R-16 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | MP1A | | | | | Screen #1 is |
| 1 | 641.0 | 648.6 | 5615.9 | 5608.3 | 7.6 | PP1 | | | | 0.0 | behind 11-in. dia. |
| | | | | | | MP1B | | | | 0.0 | steel casing, Regional Aquifer |
| | | | | | | MP2A | 866.1 | 5390.8 | 4.8 | | Within Screen |
| 2 | 863.4 | 870.9 | 5393.5 | 5386.0 | 7.5 | PP2 | 871.4 | 5385.5 | -0.5 | 1.1 | Below Screen |
| | | | | | | MP2B | 877.1 | 5379.8 | -6.2 | 13.4 | Below Screen |
| | | | | | | MP3A | 1018.4 | 5238.5 | 4.0 | | Within Screen |
| 3 | 1014.8 | 1022.4 | 5242.1 | 5234.5 | 7.6 | MP3B | 1023.8 | 5233.1 | -1.4 | 3.0 | Below Screen |
| | | | | | | PP3 | 1029.4 | 5227.5 | -7.0 | 15.1 | Below Screen |
| | | | | | | MP4A | 1238.0 | 5018.9 | 6.6 | | Within Screen |
| 4 | 1237.0 | 1244.6 | 5019.9 | 5012.3 | 7.6 | PP4 | 1243.4 | 5013.5 | 1.2 | | Within Screen |
| | | | | | | MP4B | 1249.0 | 5007.9 | -4.4 | 9.5 | Below Screen |

Brass Cap Elevation: 6256.87 ft; all measurements are from this elevation;
MP = measurement port, PP = pumping port




R-16
Screen 2 Sample
Screen 2 Transducer
5645
5644
5643
5642
5641
5640
Elevation (ft)
10/1/02
4/1/03
10/1/03
3/31/04
9/30/04
4/1/05
9/30/05
4/1/06
10/1/06
Date


R-16
Screen 3 Sample
Screen 3 Transducer
Screen 4 Sample
Screen 4 Transducer
5562
5560
5558
5556
5554
5552
5550
5548
5546
5544
5542
Elevation (ft)
10/1/02
4/1/03
10/1/03
3/31/04
9/30/04
4/1/05
9/30/05
4/1/06
10/1/06
Date

### 3.19 R-16r

Location: R-16r is located northeast of White Rock adjacent to R-16 in lower Cañada del Buey near the confluence with lower Mortandad Canyon.

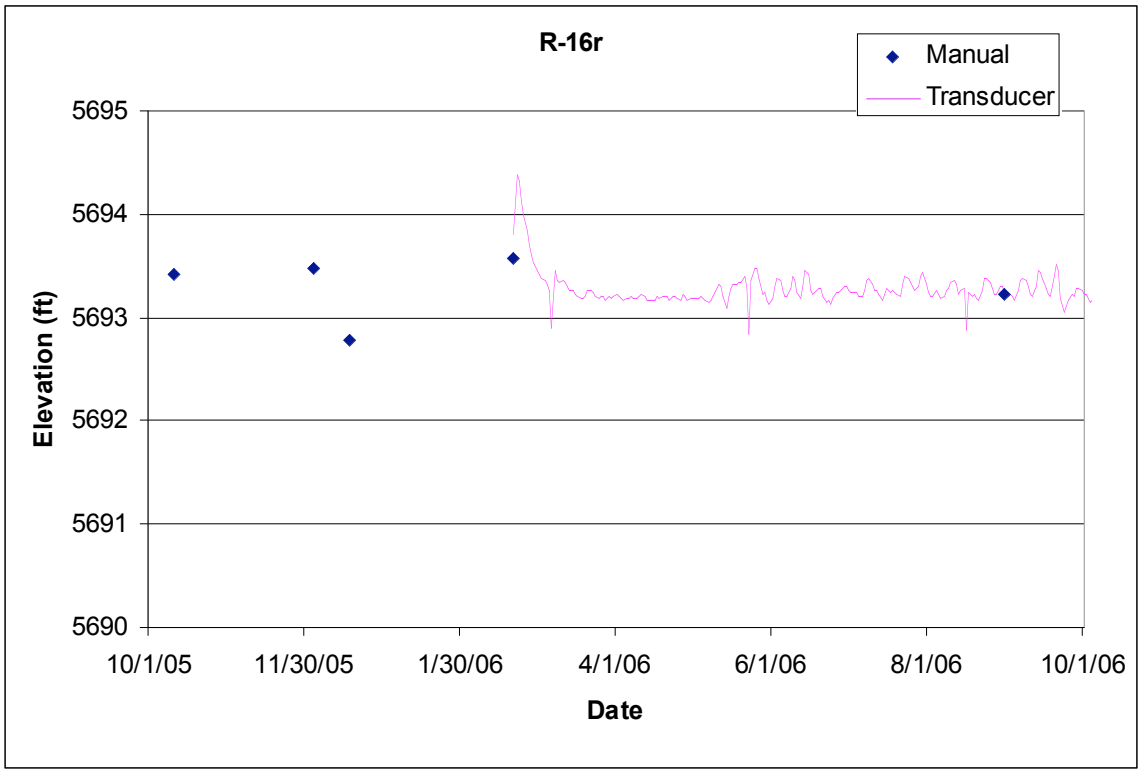
Completion Type: Single completion at the top of the regional aquifer. Provides data for the top of the regional aquifer in place of R-16 screen 1, which is blocked by casing and is not useable. The top of the screen is about 36 ft below the water table.

Period of Record: Well completed October 11, 2005, transducers installed February 21, 2006, data through 2006.

Remarks: R-16r water level at the top of the regional aquifer about 50 ft higher than the water level at R-16 screen 2, which is located about 250 ft lower than R-16r screen.

| R-16r Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 600.0 | 617.6 | 5657.0 | 5639.4 | 17.6 | 596.6 | 5660.4 | 617.6 | 5639.4 | 631.4 | 13.8 | 42.4 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6256.97 ft; all measurements are from this elevation



### 3.20 R-17

Location: R-17 is located in middle Pajarito Canyon below the confluence with Twomile Canyon and about 1 mile southwest of supply well PM-5.

Completion Type: Dual completion within the regional aquifer with a Baski packer and valve system and single submersible pump. The top of screen 1 is located about 20 ft below the water table.

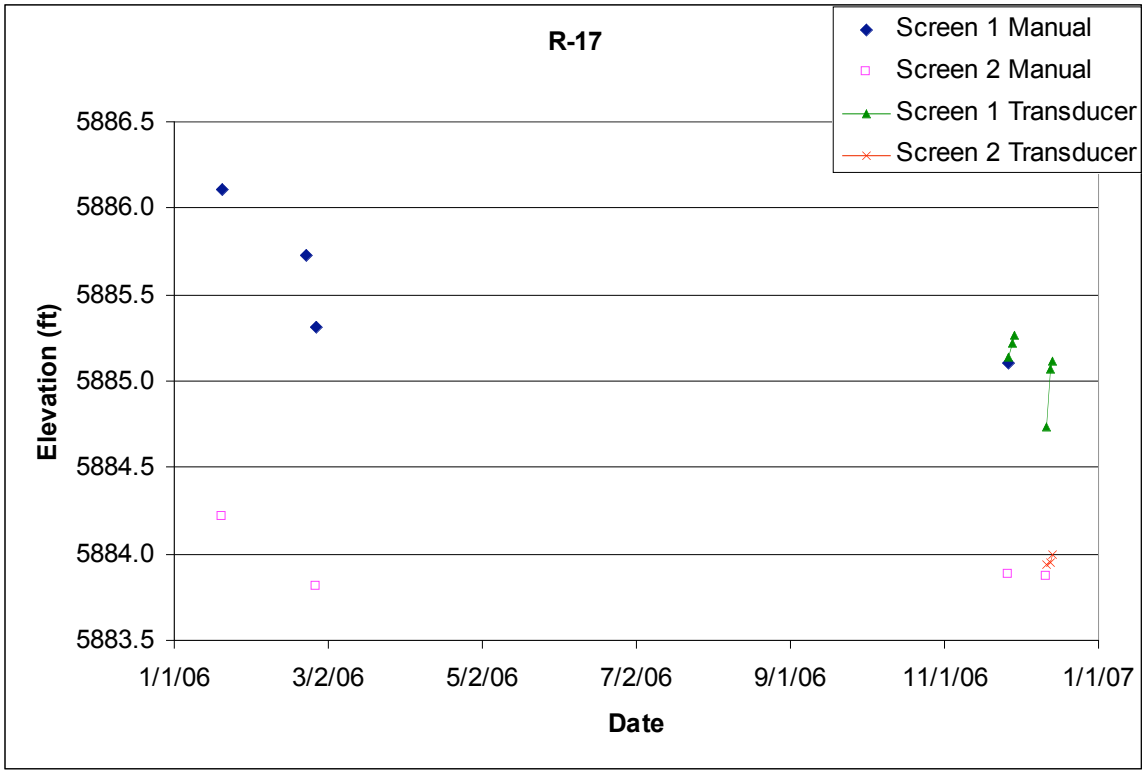
Period of Record: Completed January 4, 2006, transducers installed December 12, 2006, transducer data through 2006.

Remarks: R-17 was completed to a depth of 1140.9 ft, about 100 ft into the regional aquifer.

**R-17 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Packer/ Sump (ft) | Top of Packer/ Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1057.0 | 1080.0 | 5864.5 | 5841.5 | 23.0 | 1089.6 | 5831.9 | 1101.2 | 5820.4 | 1101.2 | 21.1 | 66.1 | Regional Aquifer |
| 2 | 1124.0 | 1134.0 | 5797.5 | 5787.5 | 10.0 | 1128.6 | 5792.9 | 1134.0 | 5787.5 | 1140.9 | 6.9 | 21.6 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6921.51 ft; all measurements are from this elevation



### 3.21 R-18

Location: R-18 is located on a mesa at TA-14 between Pajarito Canyon and Cañon de Valle, about 3000 ft northeast of R-25.

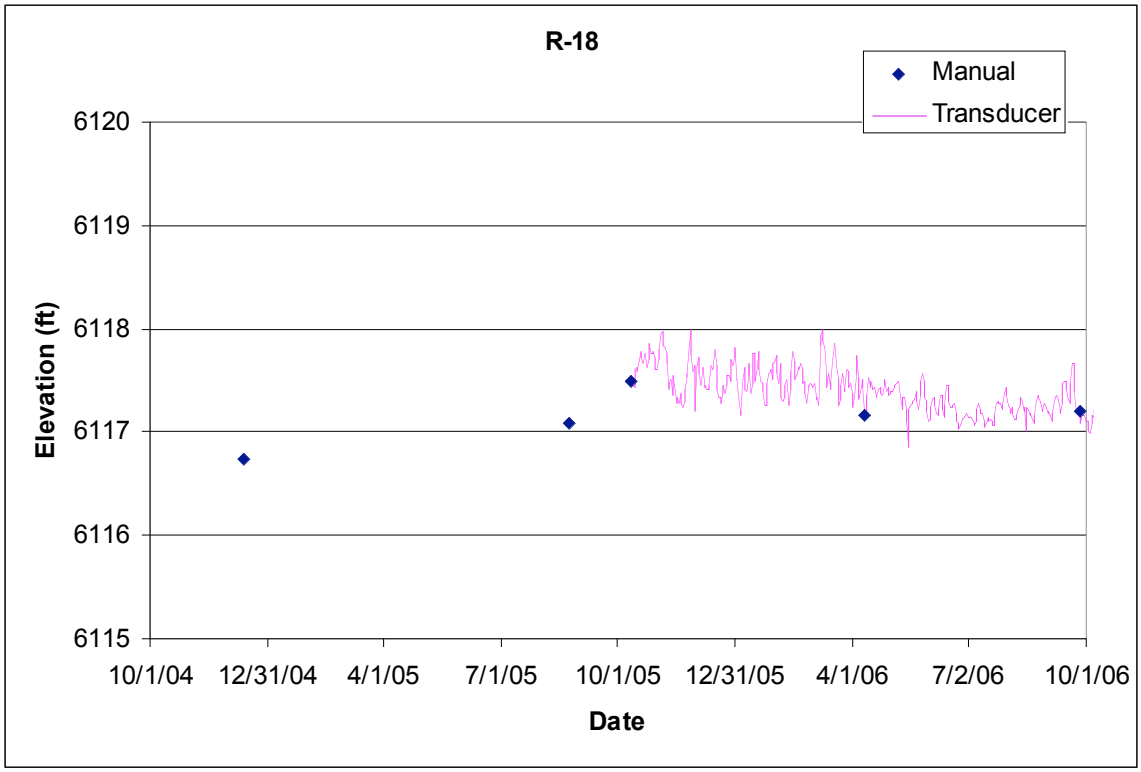
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 70 ft bellow the water table.

Period of Record: Completed December 12, 2004, transducer installed October 11, 2005, transducer data through 2005.

Remarks: R-18 was completed to a depth of 1405 ft, about 118 ft into the regional aquifer.

| R-18 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 1358.0 | 1381 | 6046.8 | 6023.8 | 23.0 | 1353 | 6051.8 | 1381.0 | 6023.8 | 1405 | 24.0 | 75.1 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 7404.83 ft; all measurements are from this elevation



### 3.22 R-19

Location: R-19 is located on a mesa south of Threemile Canyon and about 1.2 miles west of supply well PM-2.

Completion Type: Multiple completion, two screens in intermediate zones, and five screens in the regional aquifer. The top of screen 3 straddles the regional water table.

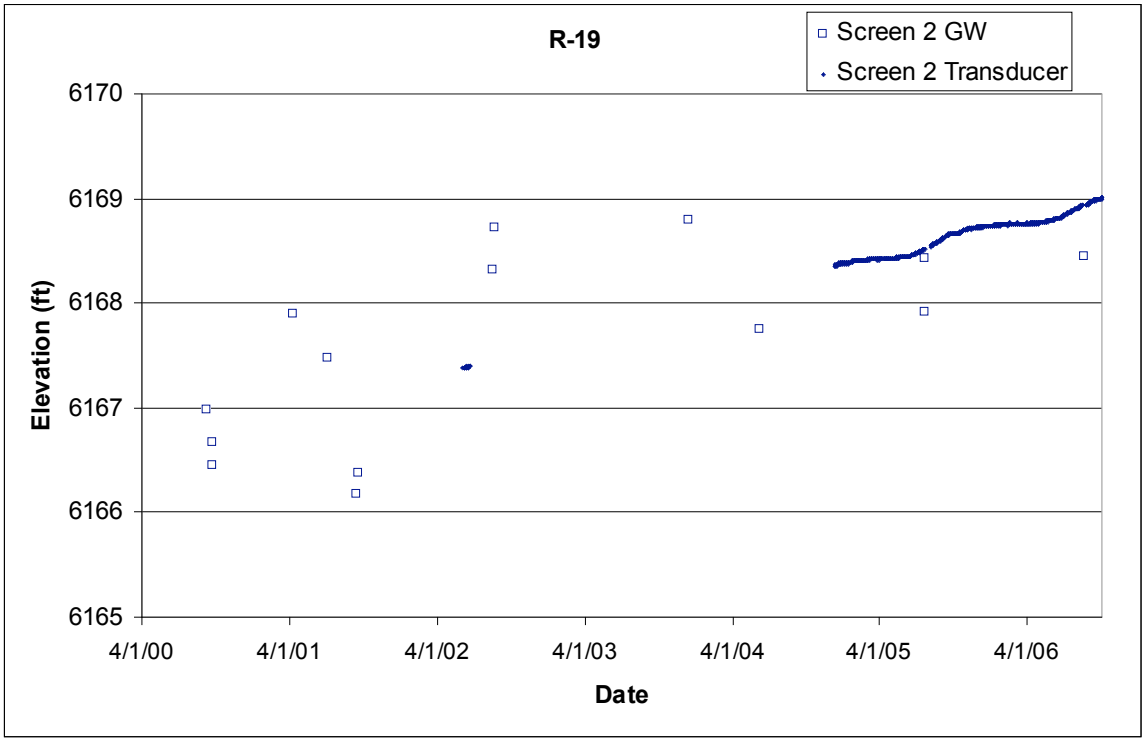
Period of Record: Westbay® installed September 11, 2000, transducers installed June 04, 2002, equipment problems occurred within two weeks. Transducers reinstalled December 10, 2004, transducer data through 2006.

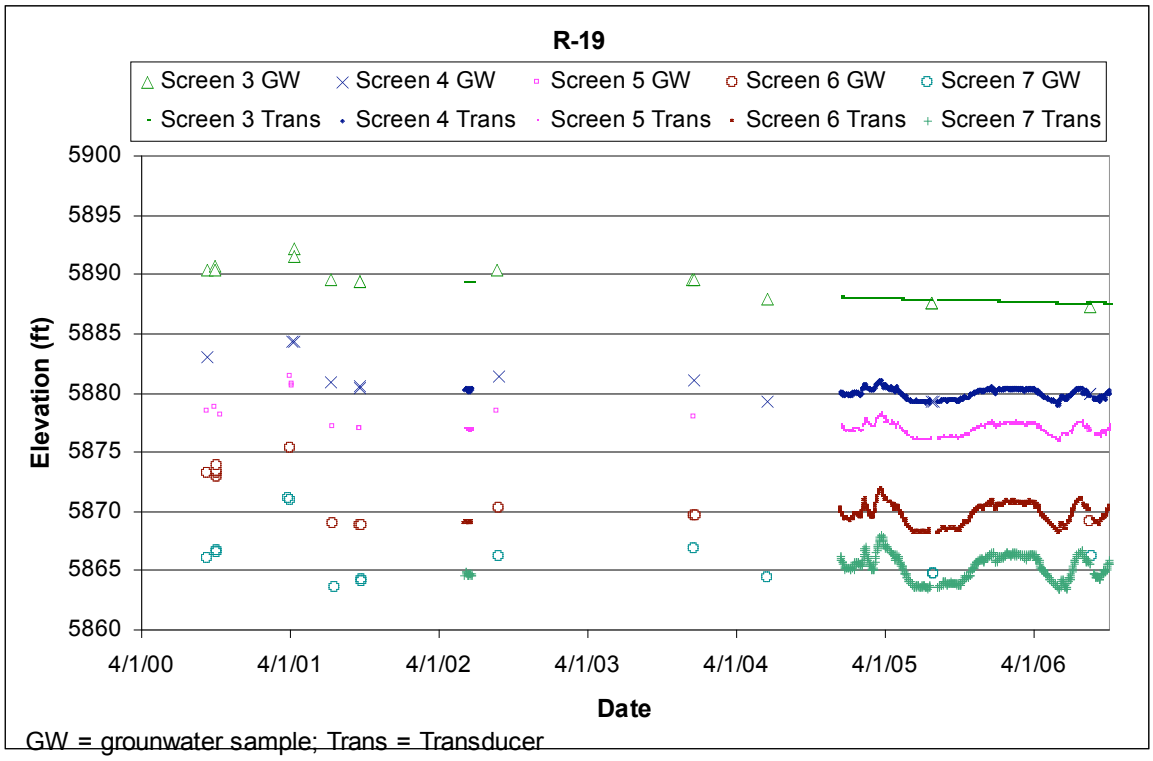
Remarks: Screen 1 has been dry since Westbay® installation. The deeper screens in the regional aquifer respond to supply well pumping.

**R-19 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 827.2 | 843.6 | 6239.1 | 6222.7 | 16.4 | **MP1A** | 844.2 | 6222.1 | -0.6 | 1.3 | Below Screen, Intermediate |
| | | | | | | PP1 | 849.6 | 6216.7 | -6 | 13.0 | Below Screen |
| | | | | | | MP1B | 855.2 | 6211.1 | -11.6 | 25.1 | Below Screen |
| 2 | 893.3 | 909.6 | 6173.0 | 6156.7 | 16.3 | **MP2A** | 909.3 | 6157.0 | 0.3 | | Within Screen Intermediate |
| | | | | | | PP2 | 914.7 | 6151.6 | -5.1 | 11.0 | Below Screen |
| | | | | | | MP2B | 920.3 | 6146.0 | -10.7 | 23.1 | Below Screen |
| 3 | 1171.4 | 1215.4 | 5894.9 | 5850.9 | 44.0 | MP3A | 1190.7 | 5875.6 | 24.7 | | Within Screen, Regional Aquifer |
| | | | | | | PP3 | 1196.1 | 5870.2 | 19.3 | | Within Screen |
| | | | | | | **MP3B** | 1201.7 | 5864.6 | 13.7 | | Within Screen |
| | | | | | | MP3C | 1212.8 | 5853.5 | 2.6 | | Within Screen |
| 4 | 1410.2 | 1417.4 | 5656.1 | 5648.9 | 7.2 | **MP4A** | 1412.9 | 5653.4 | 4.5 | | Within Screen |
| | | | | | | PP4 | 1418.3 | 5648.0 | -0.9 | 1.9 | Below Screen |
| | | | | | | MP4B | 1423.9 | 5642.4 | -6.5 | 14.1 | Below Screen |
| 5 | 1582.6 | 1589.8 | 5483.7 | 5476.5 | 7.2 | **MP5A** | 1586.1 | 5480.2 | 3.7 | | Within Screen |
| | | | | | | PP5 | 1591.5 | 5474.8 | -1.7 | 3.7 | Below Screen |
| | | | | | | MP5B | 1597.1 | 5469.2 | -7.3 | 15.8 | Below Screen |
| 6 | 1726.8 | 1733.9 | 5339.5 | 5332.4 | 7.1 | **MP6A** | 1730.1 | 5336.2 | 3.8 | | Within Screen |
| | | | | | | PP6 | 1735.4 | 5330.9 | -1.5 | 3.2 | Below Screen |
| | | | | | | MP6B | 1741.1 | 5325.2 | -7.2 | 15.6 | Below Screen |
| 7 | 1832.4 | 1839.5 | 5233.9 | 5226.8 | 7.1 | **MP7A** | 1834.7 | 5231.6 | 4.8 | | Within Screen |
| | | | | | | PP7 | 1840.0 | 5226.3 | -0.5 | 1.1 | Below Screen |
| | | | | | | MP7B | 1845.7 | 5220.6 | -6.2 | 13.4 | Below Screen |

Note: R-19 Brass Cap Ground Elevation: 7066.3 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



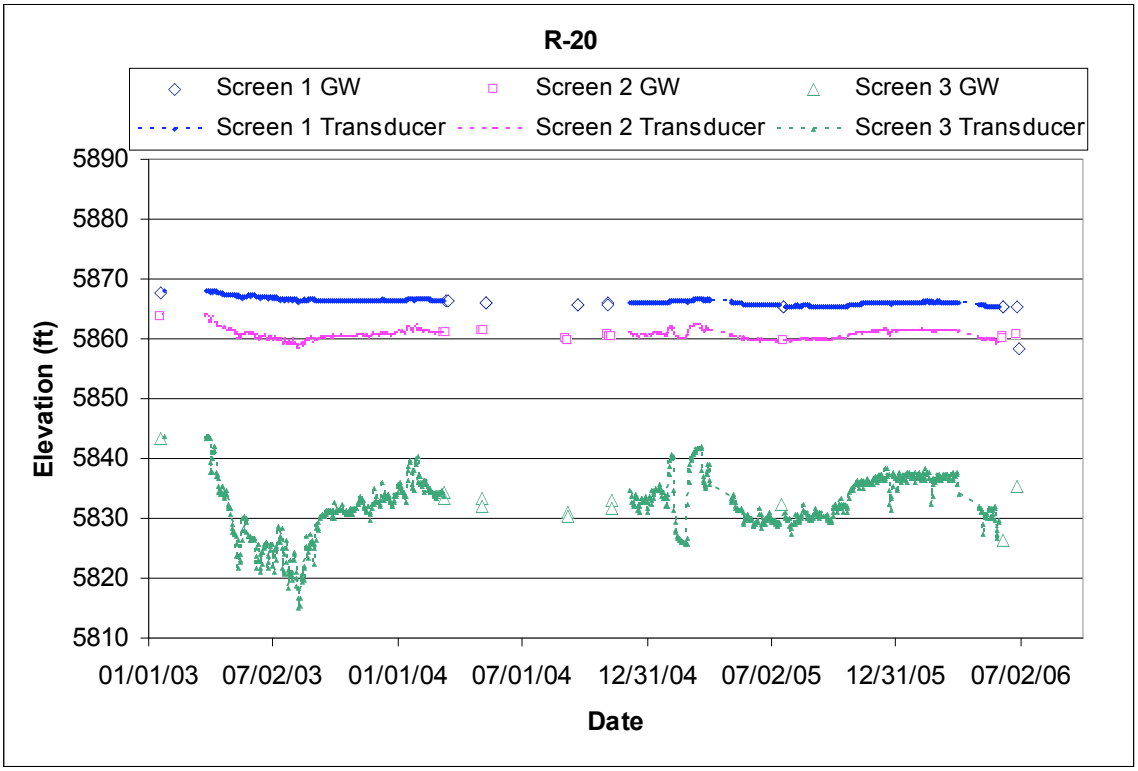

GW = grounwater sample; Trans = Transducer

### 3.23 R-20

Location: R-20 is located in lower Pajarito Canyon about 1300 ft east of supply well PM-2.
Completion Type: Multiple completion, three screens in the regional aquifer. The top of screen 1 is about 76 ft below the regional water table.
Period of Record: Westbay® installed January 18, 2003, transducers installed March 26, 2003, intermittent transducer data to June 1, 2006, when the Westbay® system was removed.
Remarks: Screen 3 responds to supply well pumping at PM-2 and PM-4. The shallower screens 1 and 2 show a muted response to pumping.

| Measurement and Sampling Ports in R-20 | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
| 1 | 904.6 | 912.2 | 5789.8 | 5782.2 | 7.6 | **MP1A** | 907.0 | 5787.4 | 5.2 | | Within Screen, Regional Aquifer |
| | | | | | | PP1 | 912.4 | 5782.0 | -0.2 | 0.4 | Below Screen |
| | | | | | | MP1B | 918.0 | 5776.4 | -5.8 | 12.5 | Below Screen |
| 2 | 1147.1 | 1154.7 | 5547.3 | 5539.7 | 7.6 | **MP2A** | 1149.7 | 5544.7 | 5 | | Within Screen |
| | | | | | | PP2 | 1155.0 | 5539.4 | -0.3 | 0.6 | Below Screen |
| | | | | | | MP2B | 1160.7 | 5533.7 | -6.0 | 13.0 | Below Screen |
| 3 | 1328.8 | 1336.5 | 5365.6 | 5357.9 | 7.7 | **MP3A** | 1330.0 | 5364.4 | 6.5 | | Within Screen |
| | | | | | | PP3 | 1335.4 | 5359.0 | 1.1 | | Within Screen |
| | | | | | | MP3B | 1341.0 | 5353.4 | -4.5 | 9.7 | Below Screen |

Note: R-20 Brass Cap Ground Elevation: 6694.35 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



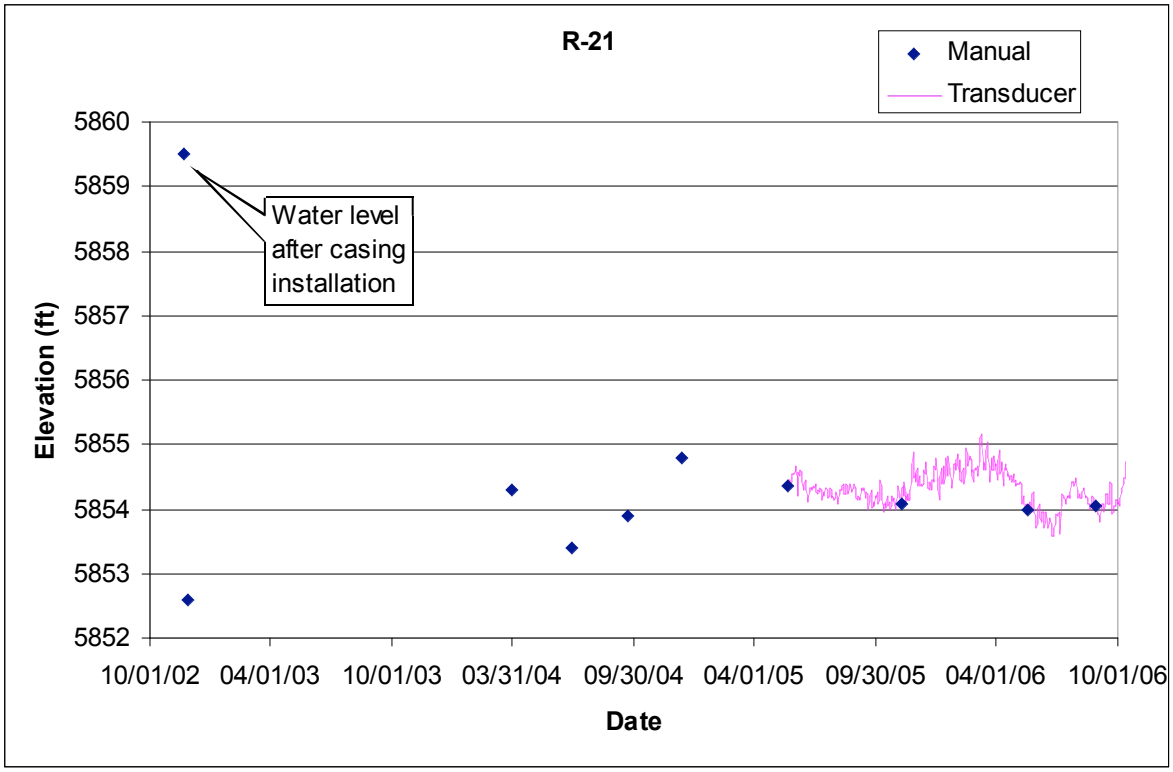
### 3.24 R-21

Location: R-21 is located in Cañada del Buey north of TA-54.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 87 ft below the water table.
Period of Record: Well completed November 2002, transducer installed May 23, 2005, transducer data through 2006.
Remarks: R-21 installed to a depth of 941.4 ft, about 140 ft into the regional aquifer.

**R-21 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 888.8 | 906.8 | 5767.4 | 5749.4 | 18.0 | 861 | 5795.2 | 906.8 | 5749.4 | 941.4 | 34.6 | 192.4 | Regional Aquifer |

Note: R-21 Brass Cap Ground Elevation: 6656.24 ft; all measurements are from this elevation



### 3.25 R-22

Location: R-22 is located at the east end of Mesita del Buey, east of TA-54.

Completion Type: Multiple completion, five screens in the regional aquifer. The top of screen 1 straddles the water table.

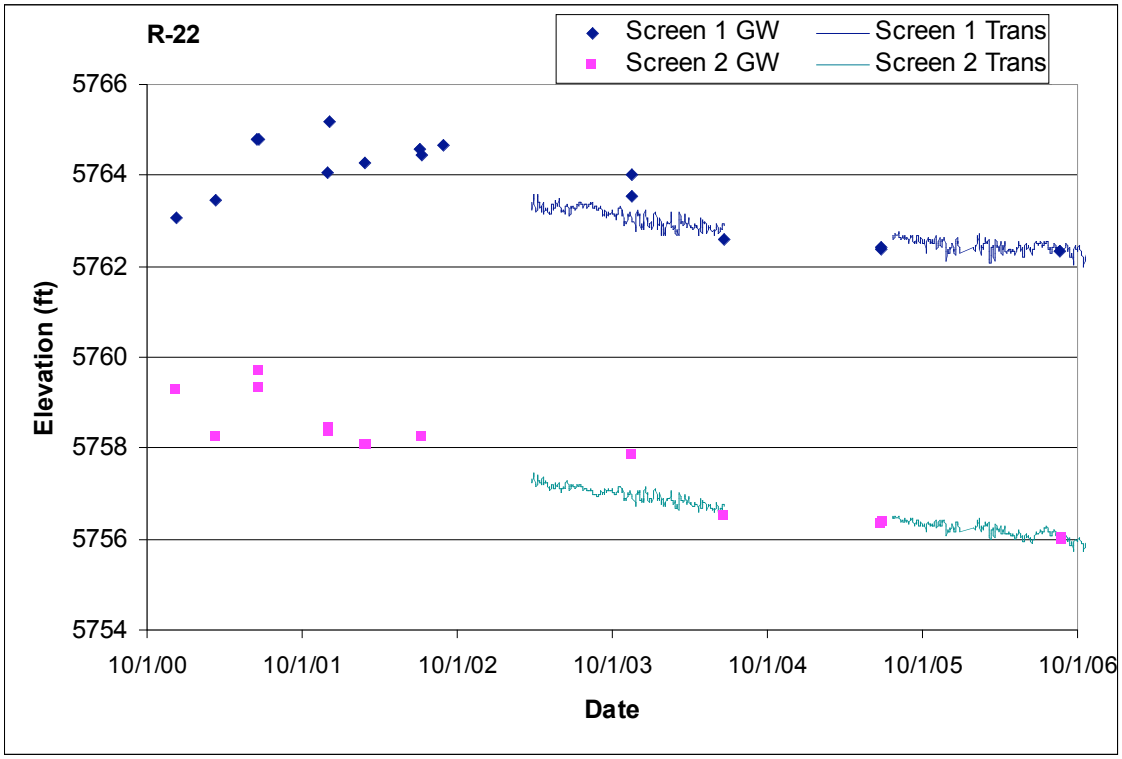
Period of Record: Westbay® installed December 11, 2000, transducers installed March 26, 2003, intermittent transducer data through 2006.

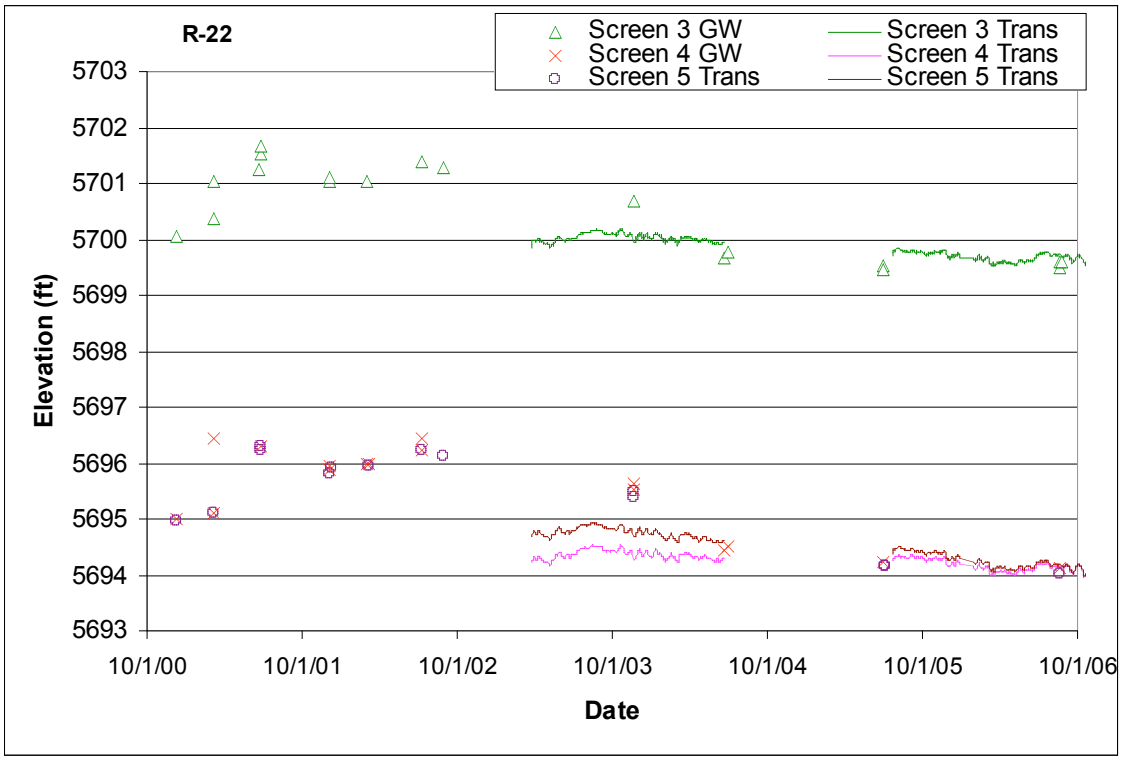
Remarks: Screens 1 and 2 have similar head values about 6 ft apart. Screens 3, 4, and 5 have similar heads within 6 ft of each other, but about 60 ft lower than screens 1 and 2. Screens 4 and 5 have nearly identical head values.

**R-22 Measurement and Sampling Ports**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 872.3 | 914.2 | 5778.2 | 5736.3 | 41.9 | **MP1A** | 907.1 | 5743.4 | 7.1 | | Within Screen, Regional Aquifer |
| | | | | | | PP1 | 912.4 | 5738.1 | 1.8 | | Within Screen |
| | | | | | | MP1B | 918.1 | 5732.4 | -3.9 | 8.4 | Below Screen |
| 2 | 947.0 | 988.9 | 5703.5 | 5661.6 | 41.9 | **MP2A** | 962.8 | 5687.7 | 26.1 | | Within Screen |
| | | | | | | PP2 | 967.7 | 5682.8 | 21.2 | | Within Screen |
| | | | | | | MP2B | 973.4 | 5677.1 | 15.5 | | Within Screen |
| 3 | 1272.2 | 1278.9 | 5378.3 | 5371.6 | 6.7 | **MP3A** | 1273.5 | 5377.0 | 5.4 | | Within Screen |
| | | | | | | PP3 | 1278.9 | 5371.6 | 0 | | Within Screen |
| | | | | | | MP3B | 1284.5 | 5366.0 | -5.6 | 12.1 | Below Screen |
| 4 | 1378.2 | 1384.9 | 5272.3 | 5265.6 | 6.7 | **MP4A** | 1378.0 | 5272.5 | 6.9 | | Above Screen |
| | | | | | | PP4 | 1383.4 | 5267.1 | 1.5 | | Within Screen |
| | | | | | | MP4B | 1389.1 | 5261.4 | -4.2 | 9.1 | Below Screen |
| 5 | 1447.3 | 1452.3 | 5203.2 | 5198.2 | 5.0 | **MP5A** | 1448.2 | 5202.3 | 4.1 | | Within Screen |
| | | | | | | PP5 | 1453.6 | 5196.9 | -1.3 | 2.8 | Below Screen |
| | | | | | | MP5B | 1459.2 | 5191.3 | -6.9 | 14.9 | Below Screen |

Note: R-22 Brass Cap Ground Elevation: 6650.5 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports


R-22
Screen 1 GW
Screen 2 GW
Screen 1 Trans
Screen 2 Trans
5766
5764
5762
5760
5758
5756
5754
Elevation (ft)
10/1/00
10/1/01
10/1/02
10/1/03
10/1/04
10/1/05
10/1/06
Date


R-22
Screen 3 GW
Screen 4 GW
Screen 5 Trans
Screen 3 Trans
Screen 4 Trans
Screen 5 Trans
5703
5702
5701
5700
5699
5698
5697
5696
5695
5694
5693
Elevation (ft)
10/1/00
10/1/01
10/1/02
10/1/03
10/1/04
10/1/05
10/1/06
Date

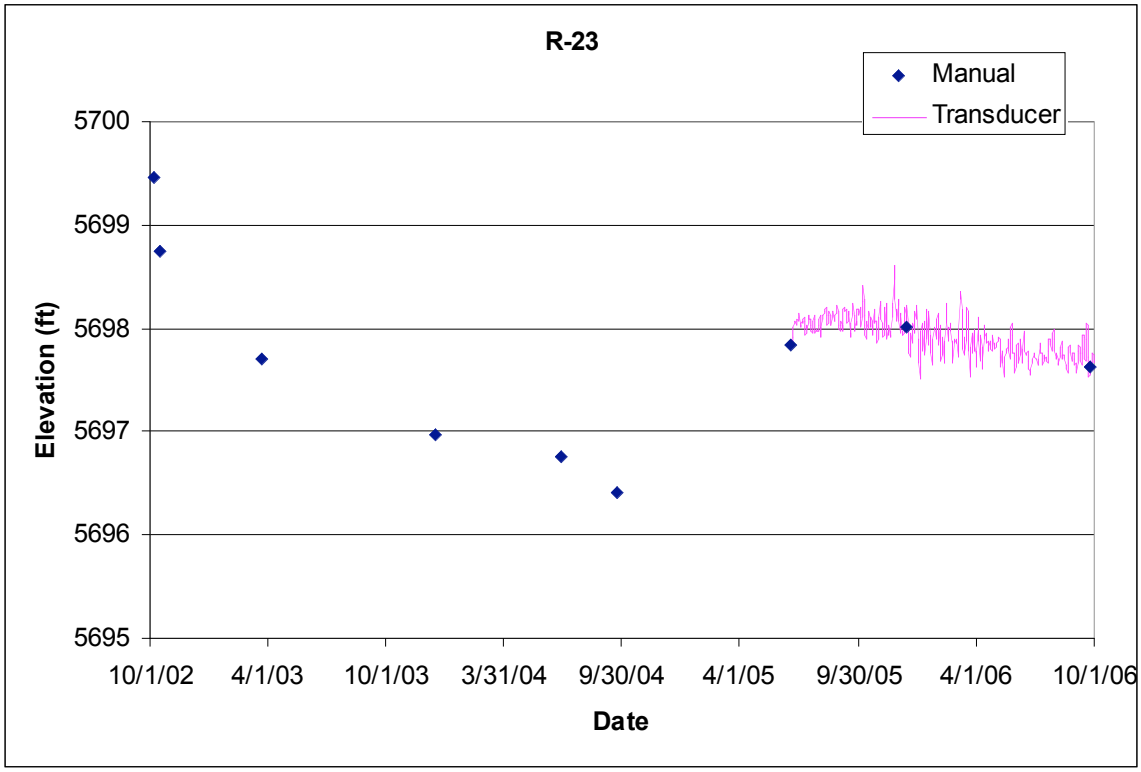
### 3.26 R-23

Location: R-23 is located in lower Pajarito Canyon near SR-4 and the eastern LANL boundary.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: Well completed October 2002, transducer installed June 20, 2005, transducer data through 2006.
Remarks: R-23 was installed to a depth of 886.3 ft, about 60 ft into the regional aquifer.

**R-23 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 816.0 | 873.2 | 5711.8 | 5654.6 | 57.2 | 870.7 | 5657.1 | 873.2 | 5654.6 | 886.3 | 13.1 | 41.0 | Regional Aquifer |

Note: R-23 Brass Cap Ground Elevation: 6527.75 ft; all measurements are from this elevation



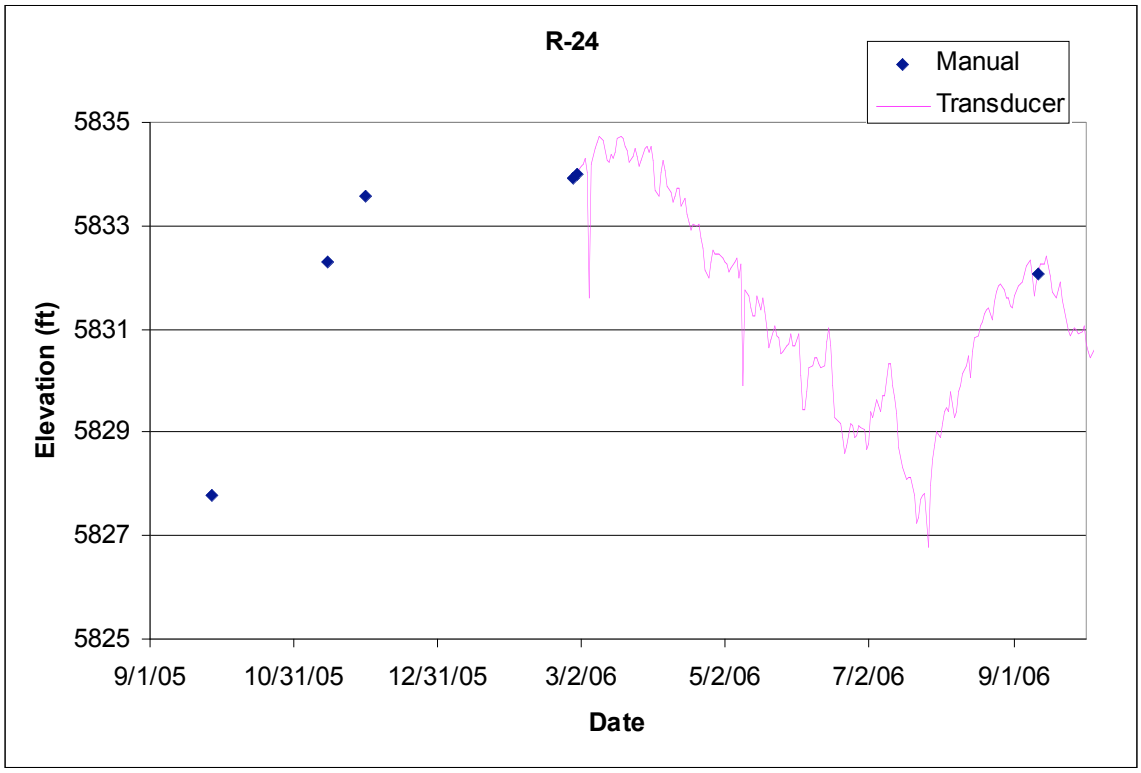
### 3.27 R-24

Location: R-24 is located in Bayo Canyon north of the Bayo Sewage Treatment Plant.
Completion Type: Single completion at the top of the regional aquifer. The top of the screen is in a confined zone about 110 ft below the water table.
Period of Record: Well completed September 2005, transducer installed March 1, 2006, data through 2006.
Remarks: R-24 installed to a depth of 861 ft, about 150 ft into the regional aquifer. The water level responds to pumping of the Guaje well field.

**R-24 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 825.0 | 848 | 5722.4 | 5699.4 | 23.0 | 818.7 | 5728.7 | 848.0 | 5699.4 | 861 | 13.0 | 40.7 | Regional Aquifer |

Note: R-24 Brass Cap Ground Elevation: 6547.38 ft; all measurements are from this elevation



### 3.28 R-25

Location: R-25 is located at TA-16 within the Cañon de Valle watershed.

Completion Type: Multiple completion, four screens in intermediate zones, and five screens in the regional aquifer. Screens 3 and 9 were damaged during installation and are not reliable for water level monitoring. Screen 5 straddles the regional water table.

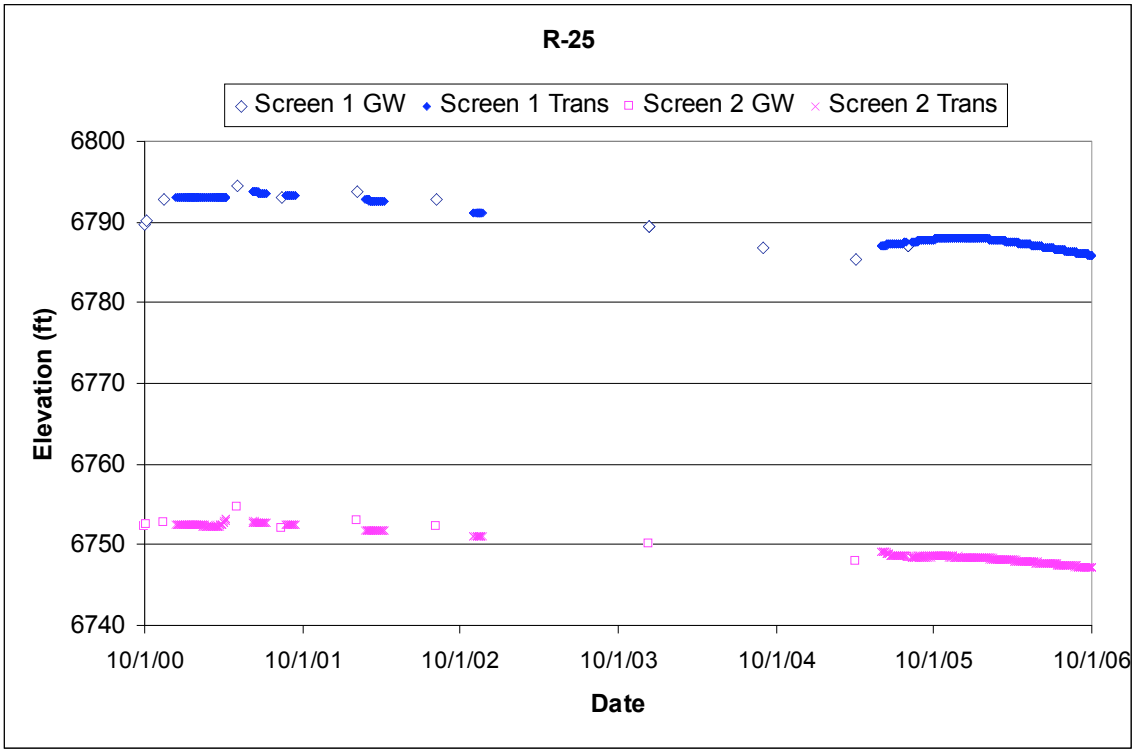
Period of Record: Westbay® installed October 3, 2000, transducers installed February 26, 2001, and between sampling events through 2002. Transducers installed again June 2, 2005; data through 2006.

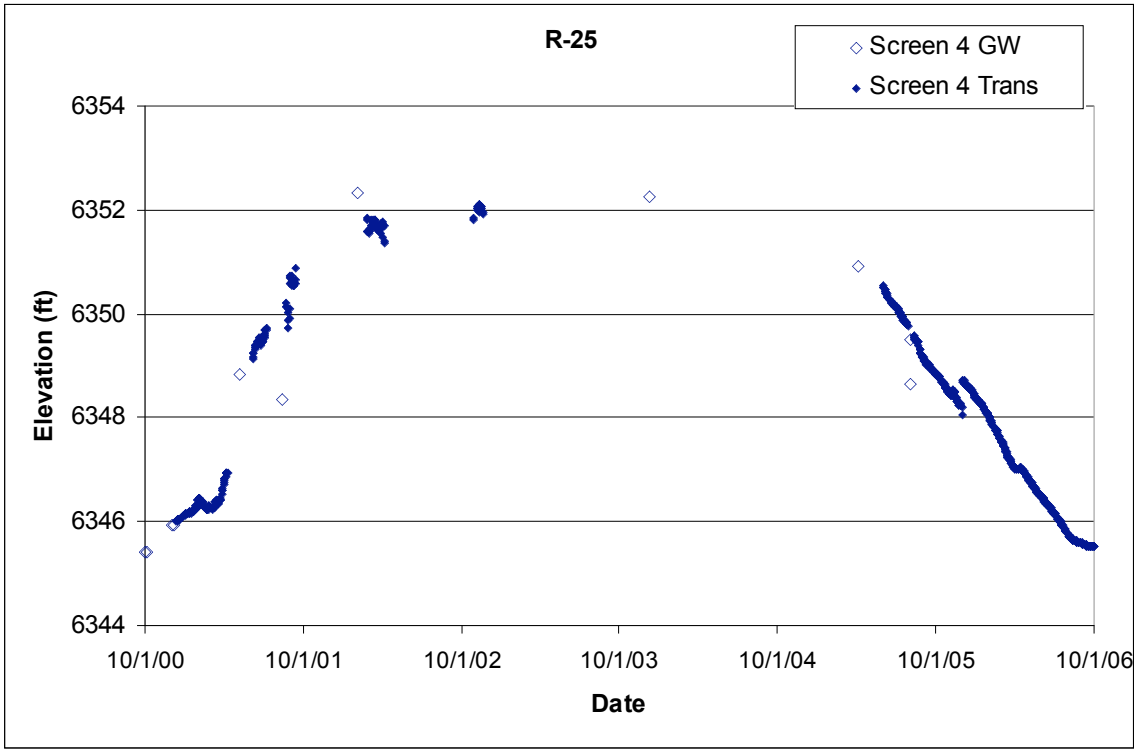
Remarks: Recurring problems with the transducer cables caused loss of data. The transducer cables were rebuilt in 2005. Screens 1 and 2 appear to be in the same intermediate zone. Screen 4 appears to be in a separate intermediate zone. The water level at screen 5, the top of the regional aquifer, declines during sampling and recovers slowly.

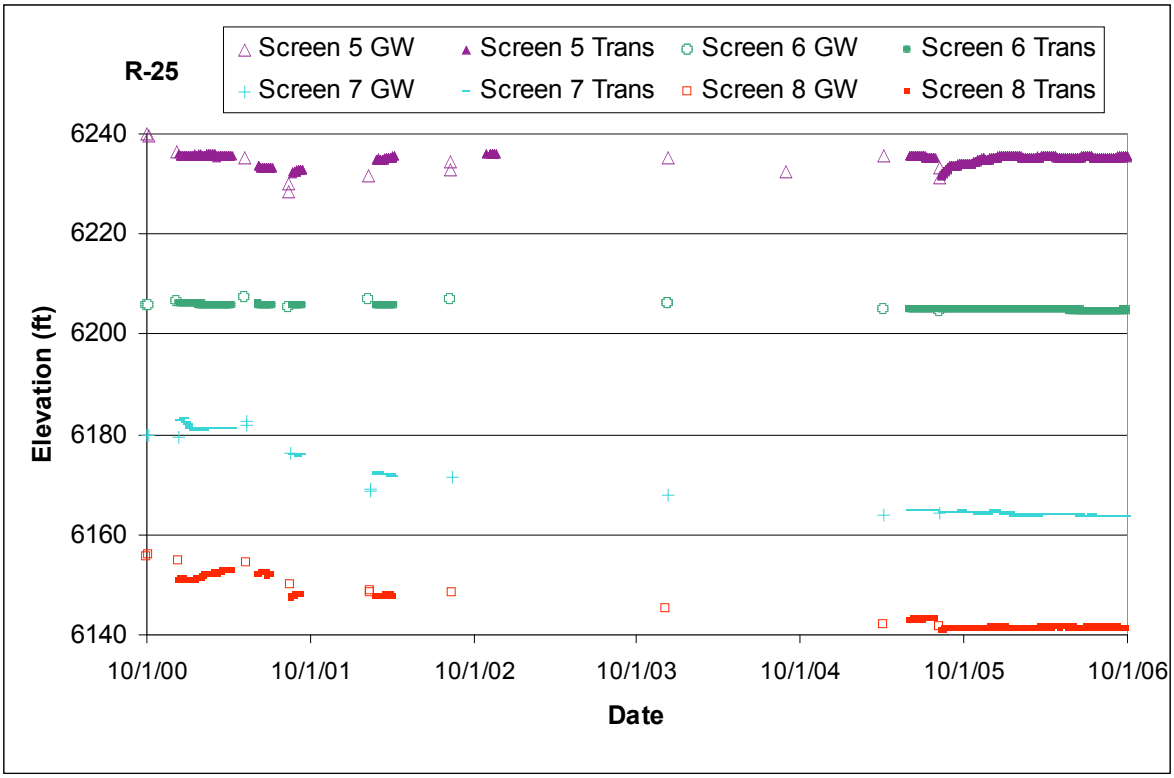
**Measurement and Sampling Ports in R-25**

| Screen Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume above Port (L) | Sump Volume Total (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 737.6 | 758.4 | 6778.5 | 6757.7 | 20.8 | **MP1A** | 754.8 | 6761.3 | 3.6 | | | Within Screen, Intermediate Zone |
| | | | | | | PP1 | 760.1 | 6756.0 | -1.7 | 4.9 | | Below Screen |
| | | | | | | MP1B | 765.8 | 6750.3 | -7.4 | 21.4 | 31.9 | Below Screen |
| 2 | 882.6 | 893.4 | 6633.5 | 6622.7 | 10.8 | **MP2A** | 891.8 | 6624.3 | 1.6 | | | Within Screen, Intermediate Zone |
| | | | | | | PP2 | 897.2 | 6618.9 | -3.8 | 11.0 | | Below Screen |
| | | | | | | MP2B | 902.8 | 6613.3 | -9.4 | 27.2 | 37.9 | Below Screen |
| 3 | 1054.6 | 1064.6 | 6461.5 | 6451.5 | 10.0 | **MP3A** | 1063.4 | 6452.7 | 1.2 | | | Within Screen, Intermediate Zone |
| | | | | | | PP3 | 1068.8 | 6447.3 | -4.2 | 12.2 | | Below Screen, Screen Damaged |
| | | | | | | MP3B | 1084.2 | 6431.9 | -19.6 | 56.8 | 72.4 | Below Screen |
| 4 | 1184.6 | 1194.6 | 6331.5 | 6321.5 | 10.0 | **MP4A** | 1192.4 | 6323.7 | 2.2 | | | Within Screen, Intermediate Zone |
| | | | | | | PP4 | 1197.8 | 6318.3 | -3.2 | 9.3 | | Below Screen |
| | | | | | | MP4B | 1203.4 | 6312.7 | -8.8 | 25.5 | 36.5 | Below Screen |
| 5 | 1294.7 | 1304.7 | 6221.4 | 6211.4 | 10.0 | **MP5A** | 1303.4 | 6212.7 | 1.3 | | | Within Screen, Regional Aquifer |
| | | | | | | PP5 | 1308.8 | 6207.3 | -4.1 | 11.9 | | Below Screen |
| | | | | | | MP5B | 1314.4 | 6201.7 | -9.7 | 28.1 | 39.1 | Below Screen |
| 6 | 1404.7 | 1414.7 | 6111.4 | 6101.4 | 10.0 | **MP6A** | 1406.3 | 6109.8 | 8.4 | | | Within Screen |
| | | | | | | PP6 | 1411.7 | 6104.4 | 3 | | | Within Screen |
| | | | | | | MP6B | 1417.3 | 6098.8 | -2.6 | 7.5 | 18.5 | Below Screen |
| 7 | 1604.7 | 1614.7 | 5911.4 | 5901.4 | 10.0 | **MP7A** | 1606.0 | 5910.1 | 8.7 | | | Within Screen |
| | | | | | | PP7 | 1611.4 | 5904.7 | 3.3 | | | Within Screen |
| | | | | | | MP7B | 1617.1 | 5899.0 | -2.4 | 7.0 | 17.7 | Below Screen |
| 8 | 1794.7 | 1804.7 | 5721.4 | 5711.4 | 10.0 | **MP8A** | 1796.0 | 5720.1 | 8.7 | | | Within Screen |
| | | | | | | PP8 | 1801.4 | 5714.7 | 3.3 | | | Within Screen |
| | | | | | | MP8B | 1807.0 | 5709.1 | -2.3 | 6.7 | 17.4 | Below Screen |
| 9 | 1894.7 | 1904.7 | 5621.4 | 5611.4 | 10.0 | **MP9** | 1825.1 | 5691.0 | 79.6 | | | Screen 9 blocked by sediment |

Note: R-25 Brass Cap Ground Elevation: 7516.1 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports


R-25
Screen 1 GW
Screen 1 Trans
Screen 2 GW
Screen 2 Trans
Elevation (ft)
6800
6790
6780
6770
6760
6750
6740
10/1/00
10/1/01
10/1/02
10/1/03
10/1/04
10/1/05
10/1/06
Date


R-25
Screen 4 GW
Screen 4 Trans
Elevation (ft)
6354
6352
6350
6348
6346
6344
10/1/00
10/1/01
10/1/02
10/1/03
10/1/04
10/1/05
10/1/06
Date


R-25
Screen 5 GW
Screen 5 Trans
Screen 6 GW
Screen 6 Trans
Screen 7 GW
Screen 7 Trans
Screen 8 GW
Screen 8 Trans
Elevation (ft)
6240
6220
6200
6180
6160
6140
10/1/00
10/1/01
10/1/02
10/1/03
10/1/04
10/1/05
10/1/06
Date

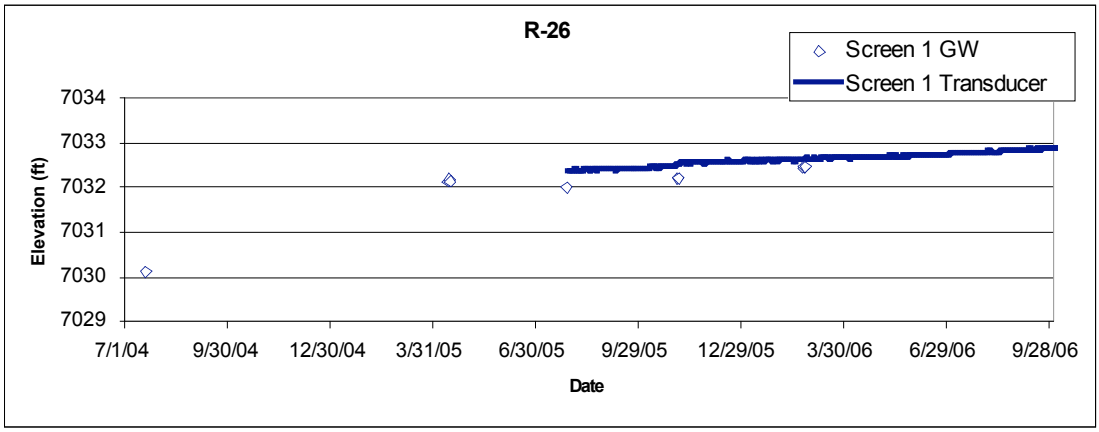
### 3.29 R-26

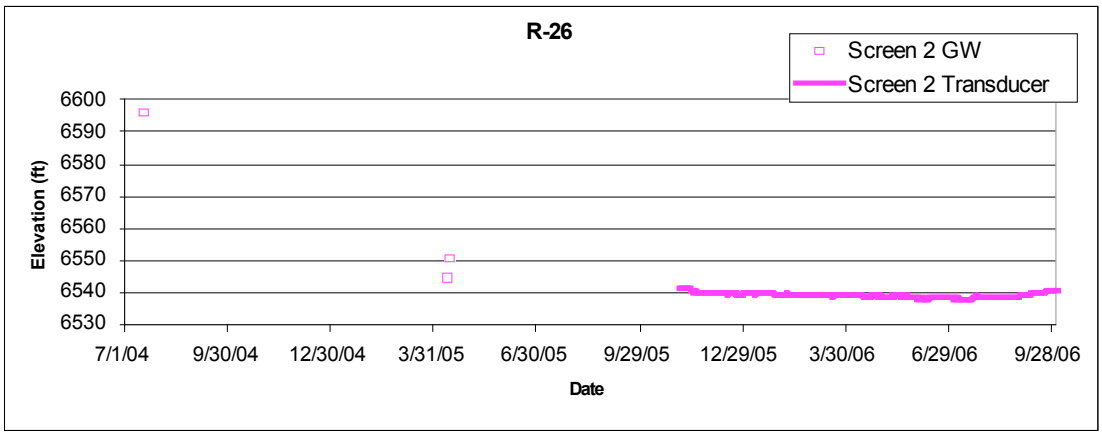
Location: R-26 is located at the western LANL boundary between Cañon de Valle and Water Canyon.
Completion Type: Multiple completion, screen 1 is in an intermediate zone, and screen 2 is within the regional aquifer. The top of screen 2 is about 319 ft below the regional water table.
Period of Record: Westbay® installed July 18, 2004, transducers installed July 29, 2005, transducer data through 2006.
Remarks: Screen 2 is in a tight zone or improperly completed zone. Sampling attempts at MP2A caused plugging of the port and sampler with bentonite; the transducers were installed in the B ports on November 3, 2005; water level data from screen 2 appear valid with some questions as to validity pending additional data and review.

**R-26 Measurement and Sampling Ports**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 651.8 | 669.9 | 6989.9 | 6971.8 | 18.1 | **MP1A** | 659.3 | 6982.4 | 10.6 | | Within Screen, Intermediate |
| | | | | | | PP1 | 664.7 | 6977.0 | 5.2 | | Within Screen |
| | | | | | | MP1B | 670.3 | 6971.4 | -0.4 | 0.8 | Below Screen |
| 2 | 1421.8 | 1445.0 | 6219.9 | 6196.7 | 23.2 | **MP2A** | 1427.0 | 6214.7 | 18.0 | | Within Screen Regional Aquifer |
| | | | | | | PP2 | 1432.4 | 6209.3 | 12.6 | | Within Screen |
| | | | | | | MP2B | 1438 | 6203.7 | 7.0 | | Within Screen |

Note: R-26 Brass Cap Ground Elevation: 7641.69 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



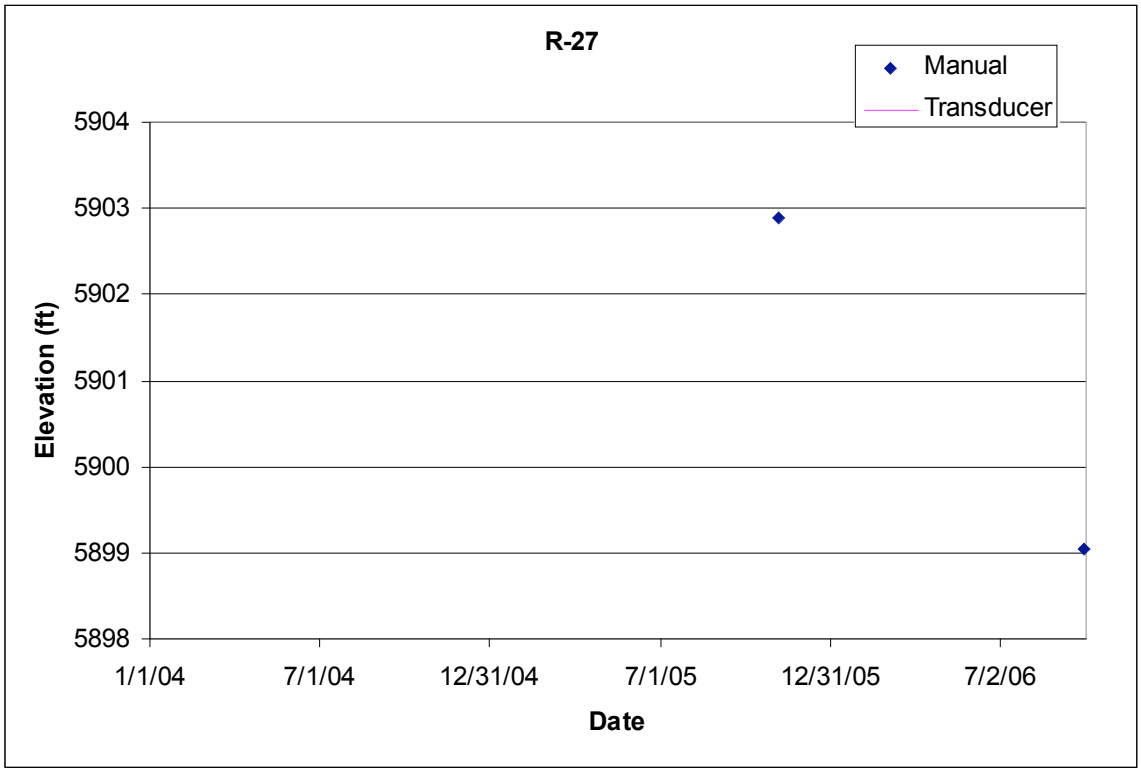
### 3.30 R-27

Location: R-27 is located in middle Water Canyon about 0.35 mile north of DT-10.
Completion Type: Single completion at the top of the regional aquifer in Puye fanglomerates. The top of the screen is about 38 ft below the water table.
Period of Record: Well completed November 2005, transducer installed September 29, 2006, transducer data pending.
Remarks: R-27 is installed to a depth of 878.7 ft, about 60 ft into the regional aquifer.

R-27 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 852.0 | 875.0 | 5861.7 | 5838.7 | 23.0 | 847 | 5866.7 | 875.0 | 5838.7 | 878.7 | 3.7 | 11.6 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6713.72 ft; all measurements are from this elevation



### 3.31 R-28

Location: R-28 is located in lower Mortandad Canyon about 1400 ft southwest of R-11 in Sandia Canyon.

Completion Type: Single completion at the top of the regional aquifer. The top of the screen is about 45 ft below the water table.

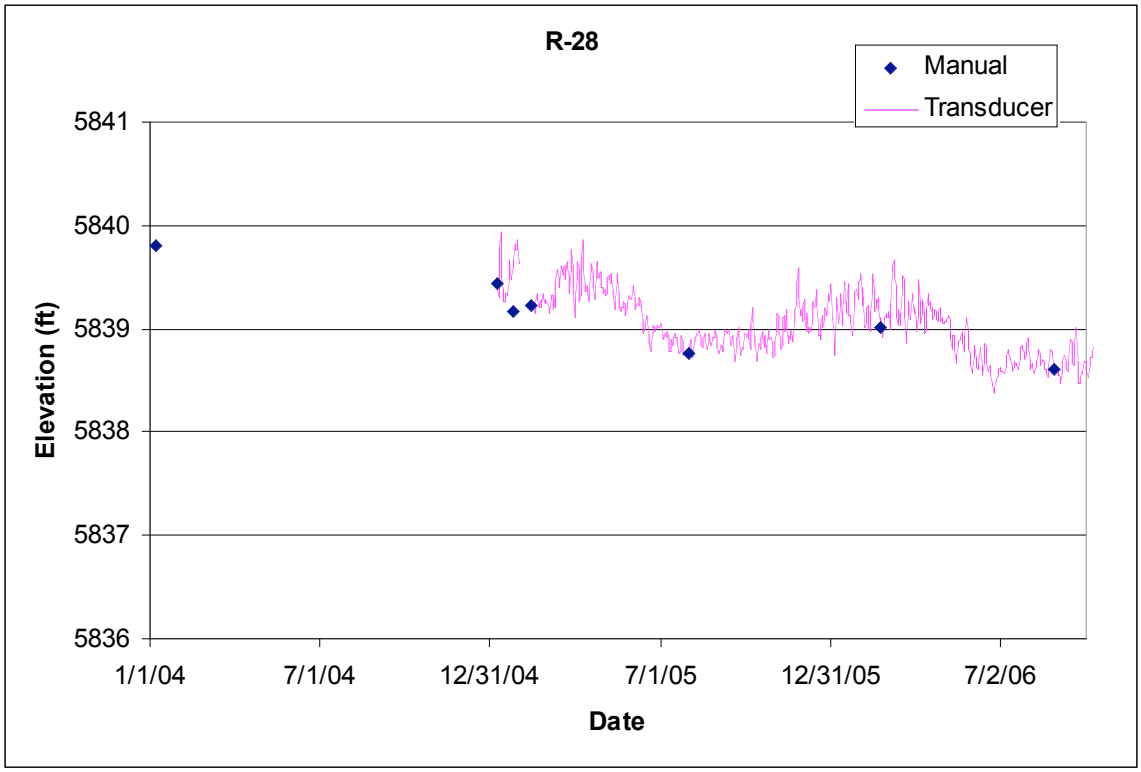
Period of Record: Well completed January 2004, transducer installed January 7, 2005, data through 2006.

Remarks: R-28 installed to a depth of 980.3 ft, about 100 ft into the regional aquifer. The water level appears to respond to pumping supply wells PM-2 and PM-5.

**R-28 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 934.3 | 958.1 | 5794.3 | 5770.5 | 23.8 | 929.6 | 5799.0 | 958.1 | 5770.5 | 980.3 | 22.2 | 68.2 | Regional Aquifer |

Note: R-28 Brass Cap Ground Elevation: 6728.61 ft; all measurements are from this elevation



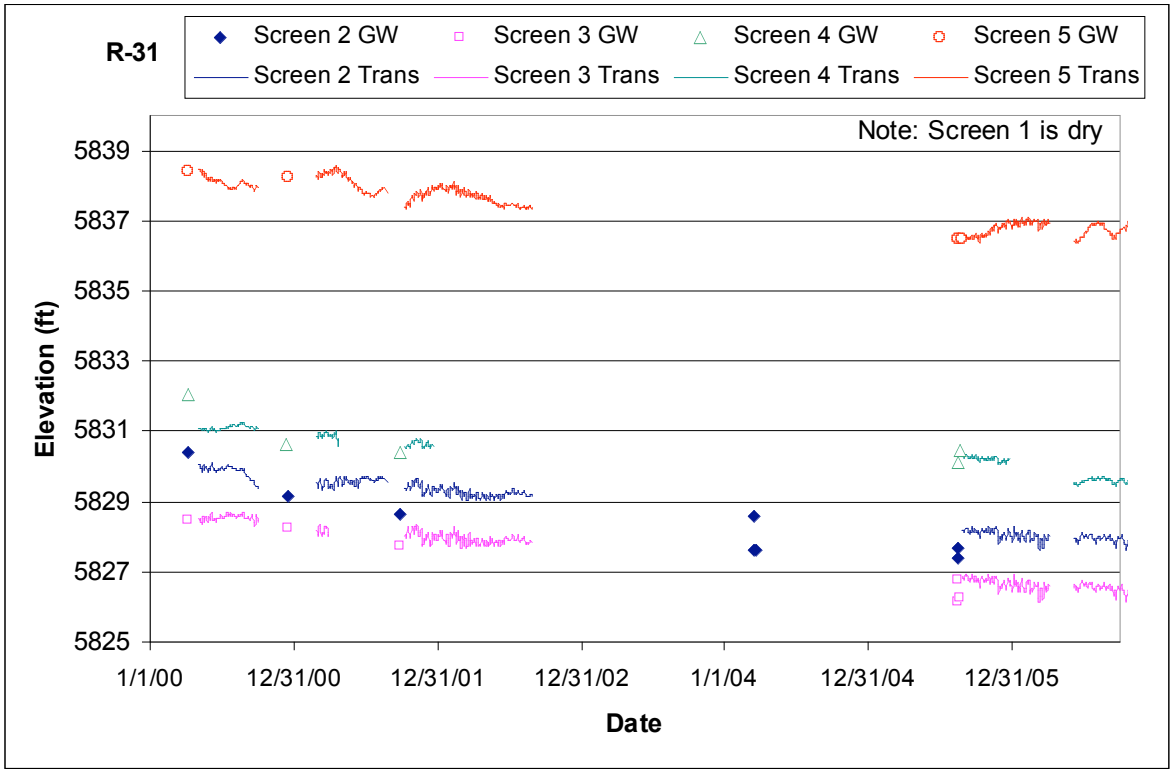
### 3.32 R-31

Location: R-31 is located in the southern part of LANL in the north Ancho Canyon tributary.
Completion Type: Multiple completion, one screen in an intermediate zone, and four screens in the regional aquifer. The intermediate screen has been dry since Westbay® installation.
Period of Record: Westbay® installed April 7, 2000, transducers installed May 4, 2000, intermittent transducer data through 2006.
Remarks: Screen 5 has the highest head values, followed by screen 4 and screen 2; screen 3 has the lowest head values.

**R-31 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 439.1 | 454.4 | 5923.4 | 5908.1 | 15.3 | MP1A | 453.8 | 5908.7 | 0.6 | | Intermediate Zone (Dry) |
| | | | | | | PP1 | 459.2 | 5903.3 | -4.8 | 13.9 | Below screen |
| | | | | | | MP1B | 464.8 | 5897.7 | -10.4 | 30.1 | Below screen |
| 2 | 515.0 | 545.7 | 5847.5 | 5816.8 | 30.7 | MP2A | 532.2 | 5830.3 | 13.5 | | Top of Regional Aquifer |
| | | | | | | MP2B | 542.5 | 5820.0 | 3.2 | | |
| | | | | | | PP2 | 547.9 | 5814.6 | -2.2 | 6.4 | Below screen |
| | | | | | | MP2C | 553.5 | 5809.0 | -7.8 | 22.6 | Below screen |
| 3 | 666.3 | 676.3 | 5696.2 | 5686.2 | 10 | MP3A | 670.3 | 5692.2 | 6.0 | | |
| | | | | | | PP3 | 675.6 | 5686.9 | 0.7 | | |
| | | | | | | MP3B | 681.3 | 5681.2 | -5.0 | 14.5 | Below screen |
| 4 | 826.6 | 836.6 | 5535.9 | 5525.9 | 10 | MP4A | 830.9 | 5531.6 | 5.7 | | |
| | | | | | | PP4 | 836.3 | 5526.2 | 0.3 | | |
| | | | | | | MP4B | 841.9 | 5520.6 | -5.3 | 15.3 | Below screen |
| 5 | 1007.1 | 1017.1 | 5355.4 | 5345.4 | 10 | MP5A | 1011.3 | 5351.2 | 5.8 | | |
| | | | | | | PP5 | 1016.7 | 5345.8 | 0.4 | | |
| | | | | | | MP5B | 1022.3 | 5340.2 | -5.2 | 15.1 | |

Brass Cap Elevation: 6362.5 ft; all measurements are from this elevation;
MP = measurement port; PP = pumping port



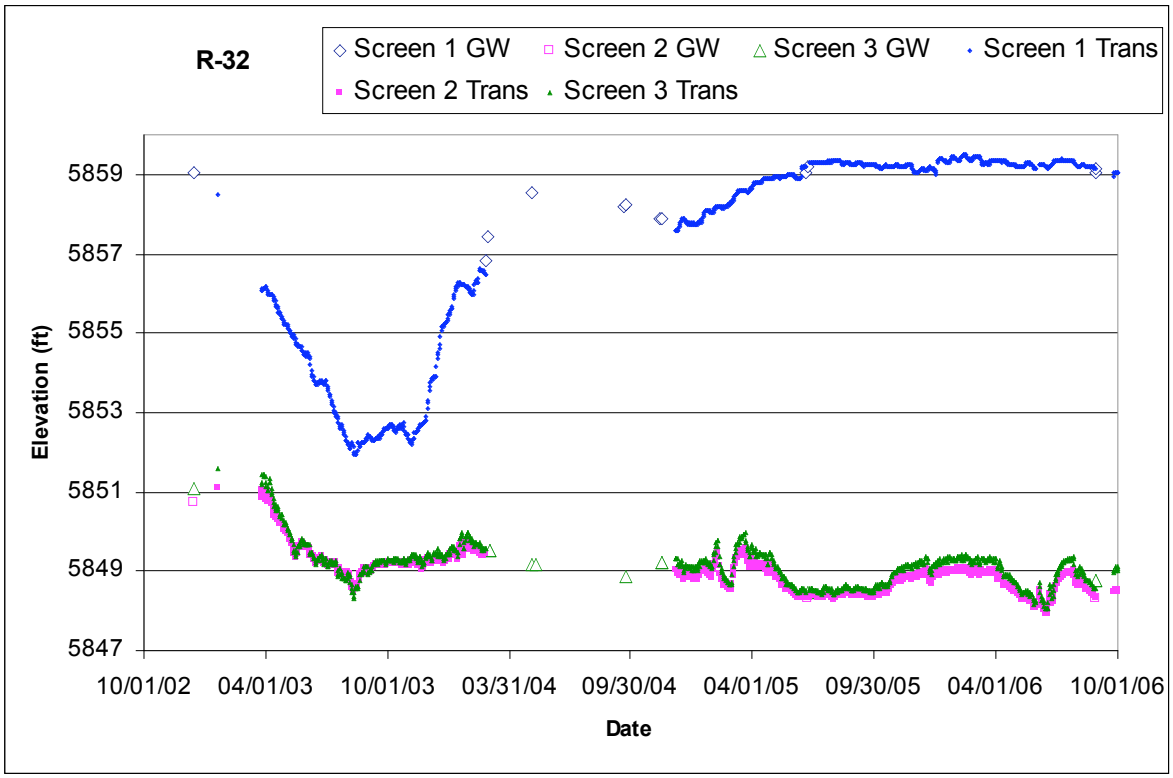
### 3.33 R-32

Location: R-32 is located in lower Pajarito Canyon about 1 mile east of supply well PM-2.
Completion Type: Multiple completion, three screens in the regional aquifer. The top of screen 1 is about 90 ft below the water table.
Period of Record: Westbay® installed December 14, 2002, transducers installed January 21, 2003, intermittent transducer data through 2006.
Remarks: Screens 2 and 3 have nearly identical head values and respond to pumping supply well PM-4 and PM-2. Screen 1 apparently responded to long-term pumping of PM-4 in 2003, but slightly to aquifer test pumping at PM-2 in 2004 and PM-4 in 2005. Screens 2 and 3 responded to the PM-4 aquifer test in January 2005 and June 2006.

**R-32 Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 867.5 | 875.2 | 5770.1 | 5762.4 | 7.7 | **MP1A** | 870.9 | 5766.7 | 4.3 | | Within Screen, Regional Aquifer |
| | | | | | | PP1 | 876.3 | 5761.3 | -1.1 | 2.4 | Below Screen |
| | | | | | | MP1B | 881.9 | 5755.7 | -6.7 | 14.5 | Below Screen |
| 2 | 931.8 | 934.9 | 5705.8 | 5702.7 | 3.1 | **MP2** | 933.1 | 5704.5 | 1.8 | | Within Screen |
| 3 | 972.9 | 980.6 | 5657.0 | 5657.0 | 7.7 | **MP3A** | 976.0 | 5661.6 | 4.6 | | Within Screen |
| | | | | | | PP3 | 981.4 | 5656.2 | -0.8 | 1.7 | Below Screen |
| | | | | | | MP3B | 987.1 | 5650.5 | -6.5 | 14.1 | Below Screen |

Note: R-32 Brass Cap Ground Elevation: 6637.63 ft; all measurements are from this elevation;
MP = Monitor Port; PP = Pump Port; Monitor Ports shown in bold are instrumented ports



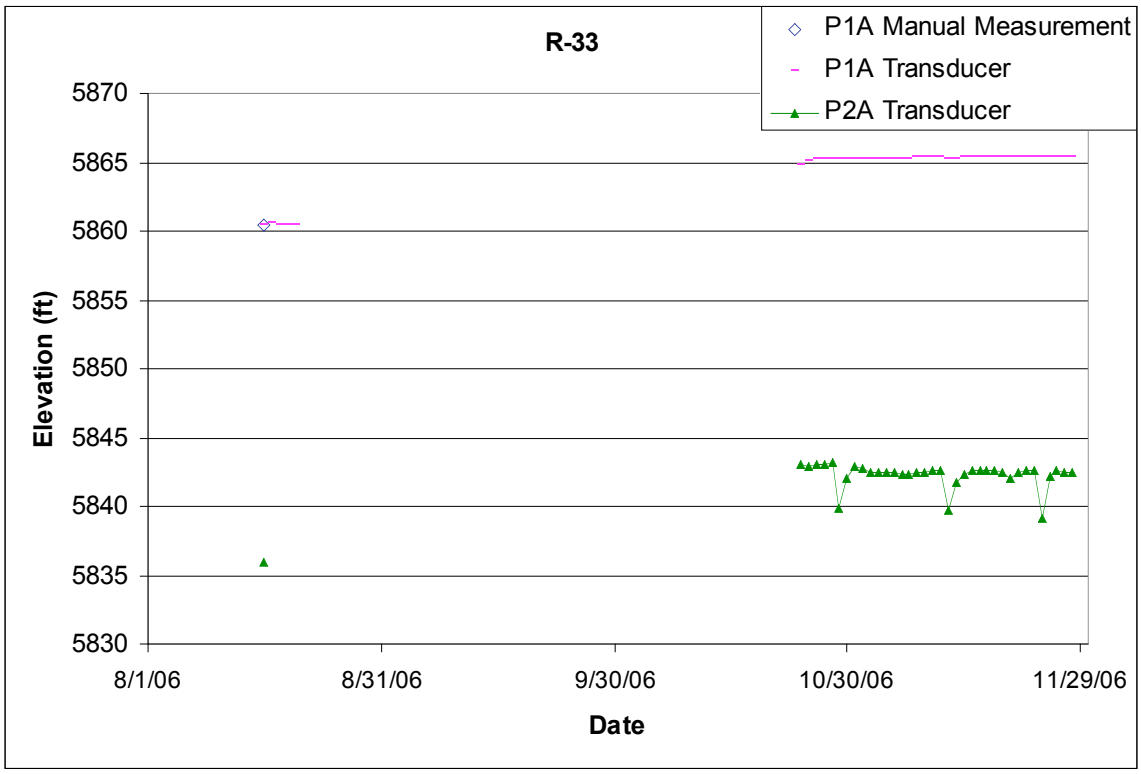
### 3.34 R-33

Location: R-33 is located in lower Ten Site Canyon about 1500 ft northeast of supply well PM-5.
Completion Type: Dual completion in the regional aquifer. Screen 1 is at the water table.
Period of Record: Well completed October 2004, transducers installed February 2005 but equipment problems hindered data collection. Transducers calibrated and the packer inflated in August 2006 and again in October 2006 with nitrogen bottle to maintain packer pressure. Water level data from October 24, 2006, to November 28, 2006.
Remarks: R-33 screen 1 installed at the top of the regional aquifer at a depth of about 1020 ft, and screen 2 within the regional aquifer to a depth of 1126 ft, about 140 ft into the regional aquifer. Equipment problems occurred until October 2006 when transducers and packer equipment became fully operational. The water level at screen 2 responds to pumping of supply well PM-5.

R-33 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Packer/ Sump (ft) | Top of Packer/ Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 995.5 | 1018.5 | 5857.8 | 5834.8 | 23.0 | 1011.9 | 5841.4 | 1080.8 | 5772.5 | 1080.8 | 62.3 | 194.8 | Regional Aquifer |
| 2 | 1112.4 | 1122.3 | 5740.9 | 5731.0 | 9.9 | 1114.9 | 5738.4 | 1122.3 | 5731.0 | 1126.0 | 3.7 | 2.0 | Regional Aquifer |

Note: R-33 Brass Cap Ground Elevation: 6853.33 ft; all measurements are from this elevation

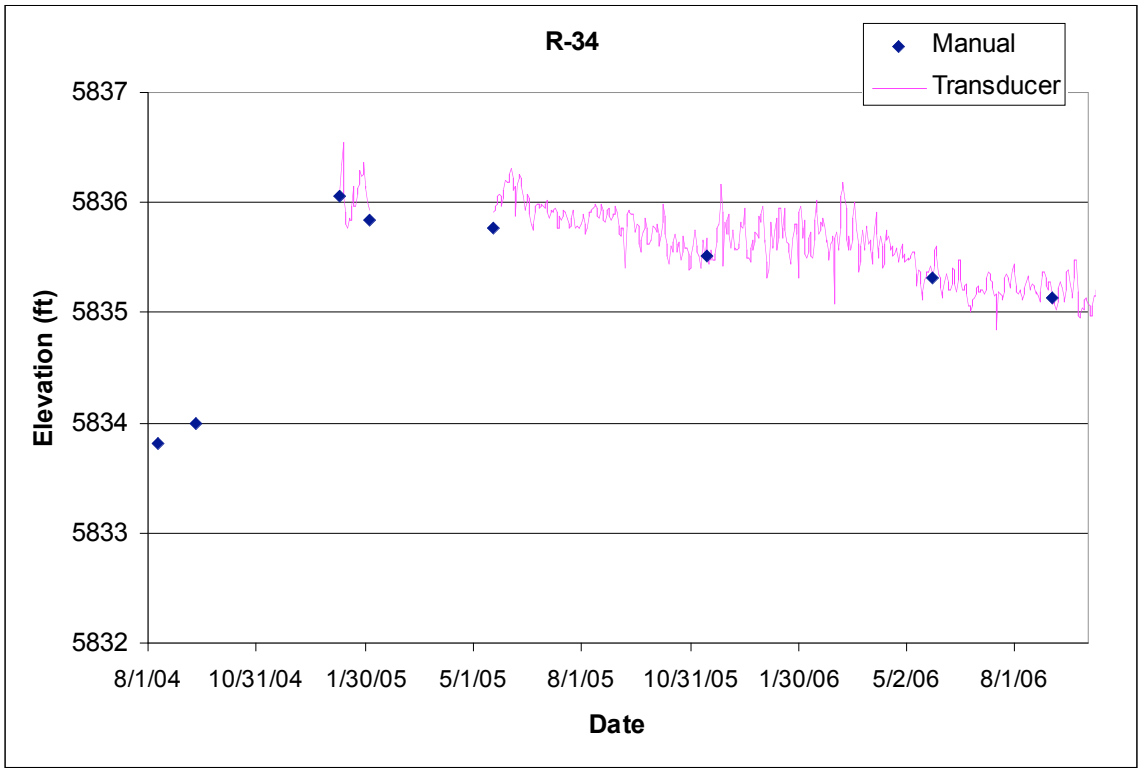


### 3.35 R-34

Location: R-34 is located in Cedro Canyon on San Ildefonso land east of LANL.
Completion Type: Single completion in the regional aquifer. The top of the screen is about 90 ft below the water table.
Period of Record: Well completed August 2004, transducer installed January 2005, water level data through 2006.
Remarks: R-34 installed at the top of the regional aquifer at a depth of 920.7 ft, about 110 ft into the regional aquifer.

| R-34 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 883.7 | 906.6 | 5746.3 | 5723.4 | 22.9 | 881.6 | 5748.4 | 906.6 | 5723.4 | 920.7 | 14.1 | 44.1 | Regional Aquifer |

Note: R-34 Brass Cap Ground Elevation: 6629.99 ft; all measurements are from this elevation



### 3.36 Test Well 1

Location: TW-1 is located in lower Pueblo Canyon downstream of supply well O-1.

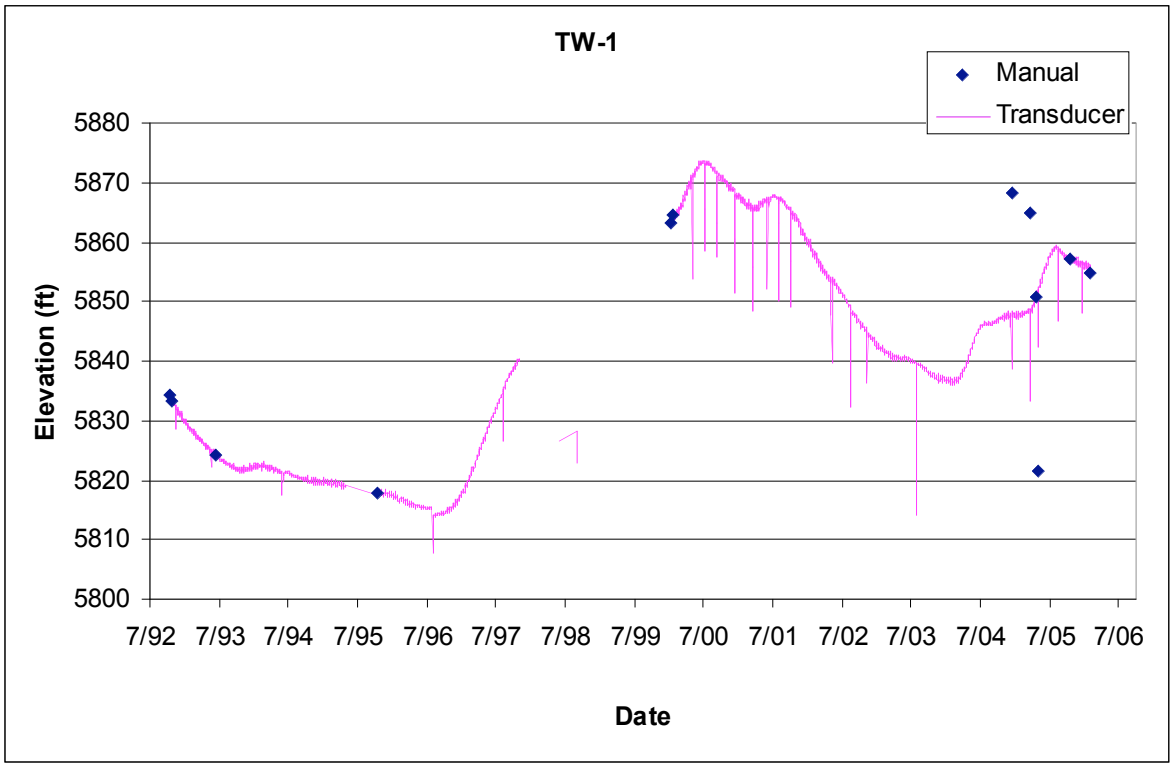
Completion Type: Single completion within the regional aquifer. The top of the screen is about 120 ft below the water level in 2006.

Period of Record: Well completed January 1950, transducer installed January 23, 1992, intermittent water level data to February 6, 2006, when the transducer was removed for well plugging and abandonment.

Remarks: TW-1 installed in the regional aquifer at a depth of 642 ft, about 100 ft into the regional aquifer. Water level in TW-1 is recharged locally by surface water from Pueblo Canyon (Koch and Rogers 2003) and does not correlate with the water level of surrounding regional aquifer wells.

| TW-1 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 632.0 | 642 | 5737.2 | 5727.2 | 10.0 | | | 642.0 | 5727.2 | 642 | 0.0 | 0.0 | Regional Aquifer |

Note: TW-1 Ground Elevation: 6369.19 ft; all measurements are from this elevation



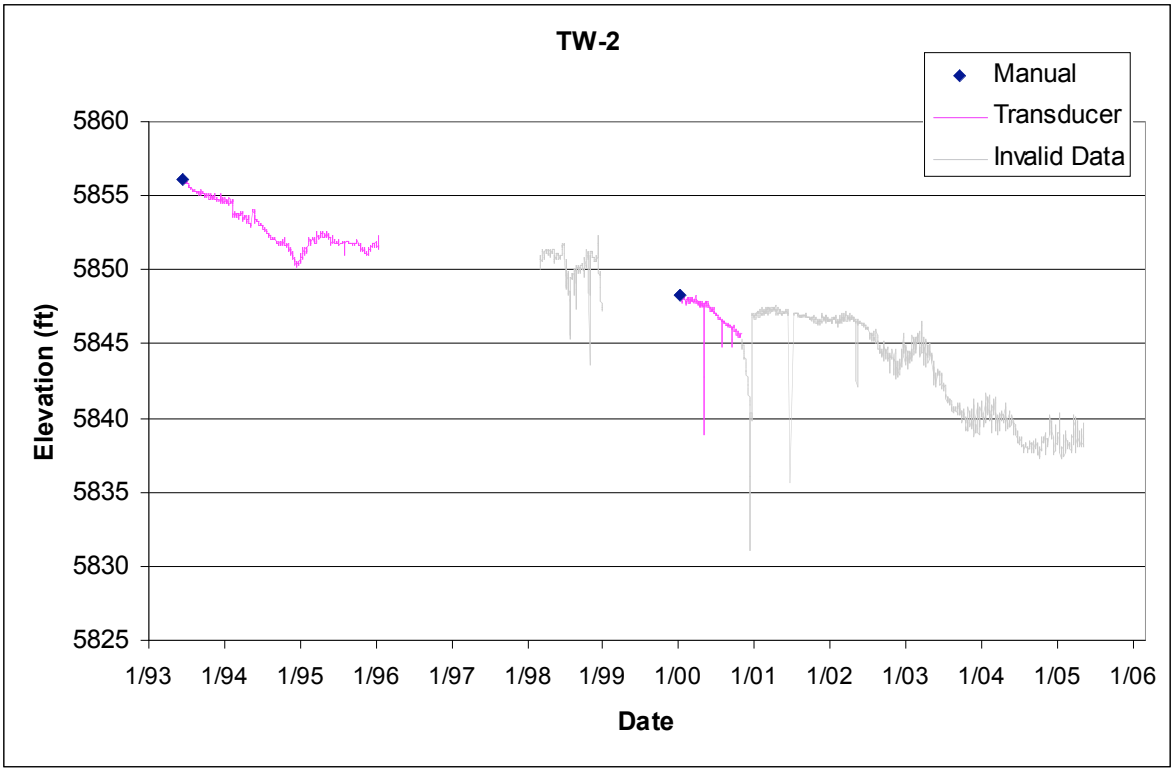
### 3.37 Test Well 2

Location: TW-2 is located in middle Pueblo Canyon.
Completion Type: Single completion at the top of the regional aquifer.
Period of Record: Well originally drilled in 1949, recompleted in 1990. Transducer installed June 1993; data to January 1996. Transducer reinstalled January 2000; transducer data to March 2005.
Remarks: TW-2 completed at the top of the regional aquifer at a depth of 824 ft, about 25 ft into the regional aquifer. The transducer failed in November 2000, transducer data since then are questionable. A manual measurement attempt in March 2005 resulted in the measurement tape stuck in the well. Thus, transducer water level data since November 2000 are not valid with respect to elevation, but are shown for reference and character information only.

**Test Well 2 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 768.0 | 824 | 5880.1 | 5824.1 | 56.0 | | | 824.0 | 5824.1 | 824 | 0.0 | 0.0 | Regional Aquifer |

Note: Test Well 2 Ground Elevation: 6648.06 ft; all measurements are from this elevation



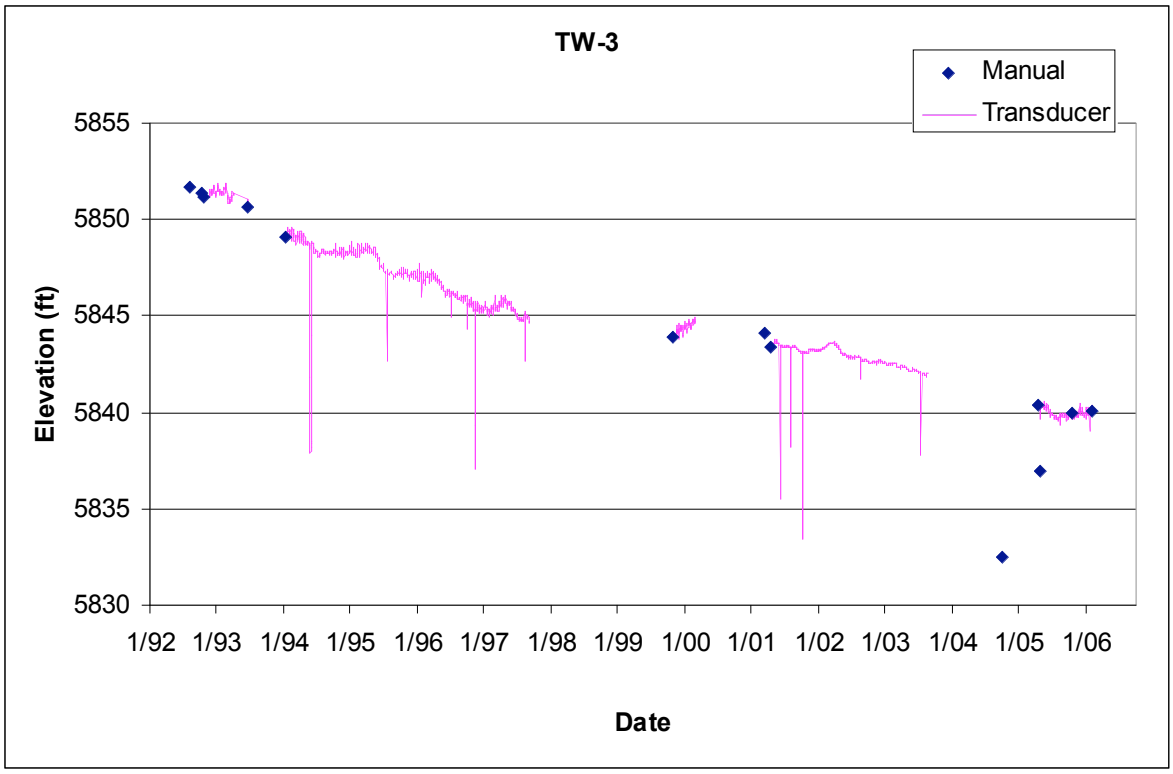
### 3.38 Test Well 3

Location: TW-3 is located in middle Los Alamos Canyon at confluence with DP Canyon.
Completion Type: Single completion at the top of the regional aquifer.
Period of Record: Well drilled in 1949, transducer installed November 1992, intermittent data to February 2006.
Remarks: TW-3 completed at the top of the regional aquifer at a depth of 815 ft, about 30 ft into the regional aquifer. Transducer removed February 9, 2006, in preparation for well plugging and abandonment.

TW-3 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 805.0 | 815 | 5821.9 | 5811.9 | 10.0 | | | 815.0 | 5811.9 | 815 | 0.0 | 0.0 | Regional Aquifer |

Note: Ground Elevation: 6626.9 ft; all measurements are from this elevation



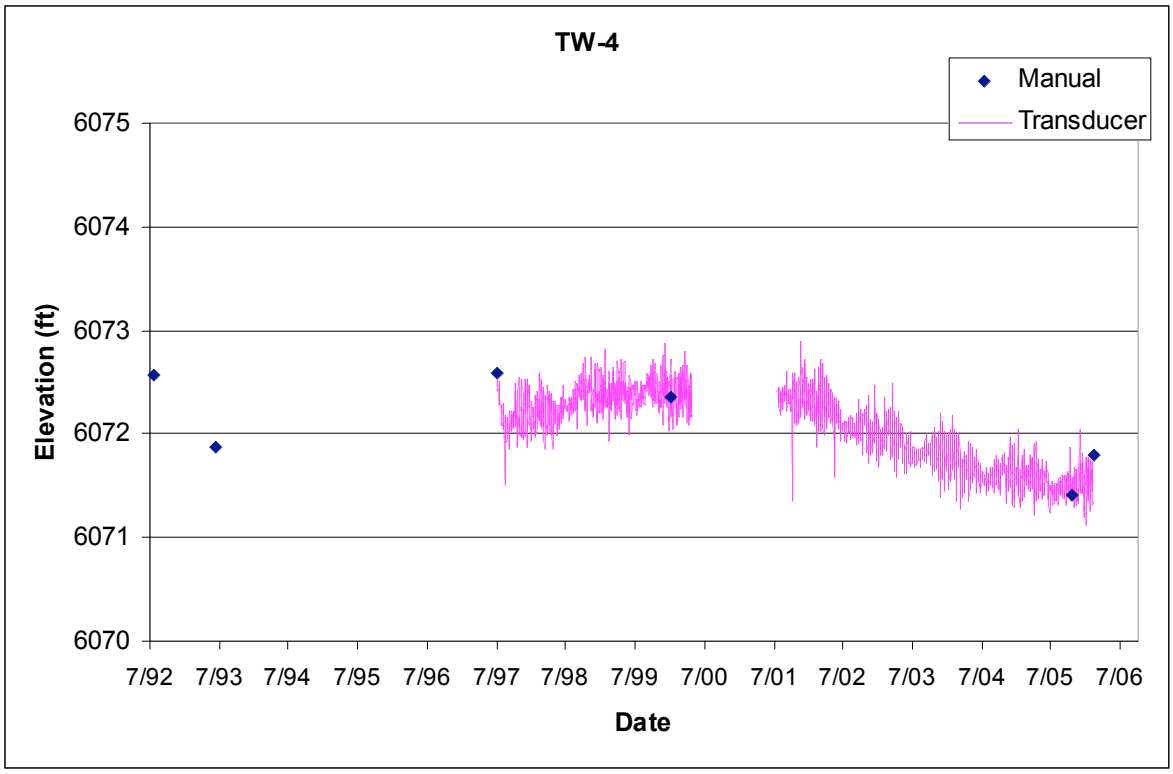
### 3.39 Test Well 4

Location: TW-4 is located east of Acid Canyon in upper Pueblo Canyon.
Completion Type: Single completion at the top of the regional aquifer.
Period of Record: Well drilled in 1950, transducer installed June 1993 but problems occurred with the transducer. Transducer reinstalled July 1997, intermittent data to February 8, 2006.
Remarks: Completed at the top of the regional aquifer at a depth of 1205 ft, about 30 ft into the regional aquifer. Transducer removed February 8, 2006, in preparation for well plugging and abandonment.

**TW-4 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1195.0 | 1205 | 6049.6 | 6039.6 | 10.0 | | | 1205.0 | 6039.6 | 1205 | 0.0 | 0.0 | Regional Aquifer |

Note: TW-4 Ground Elevation: 7244.56 ft; all measurements are from this elevation



### 3.40 Test Well 8

Location: TW-8 is located in middle Mortandad Canyon about 220 ft east of R-1, which was drilled to replace TW-8.

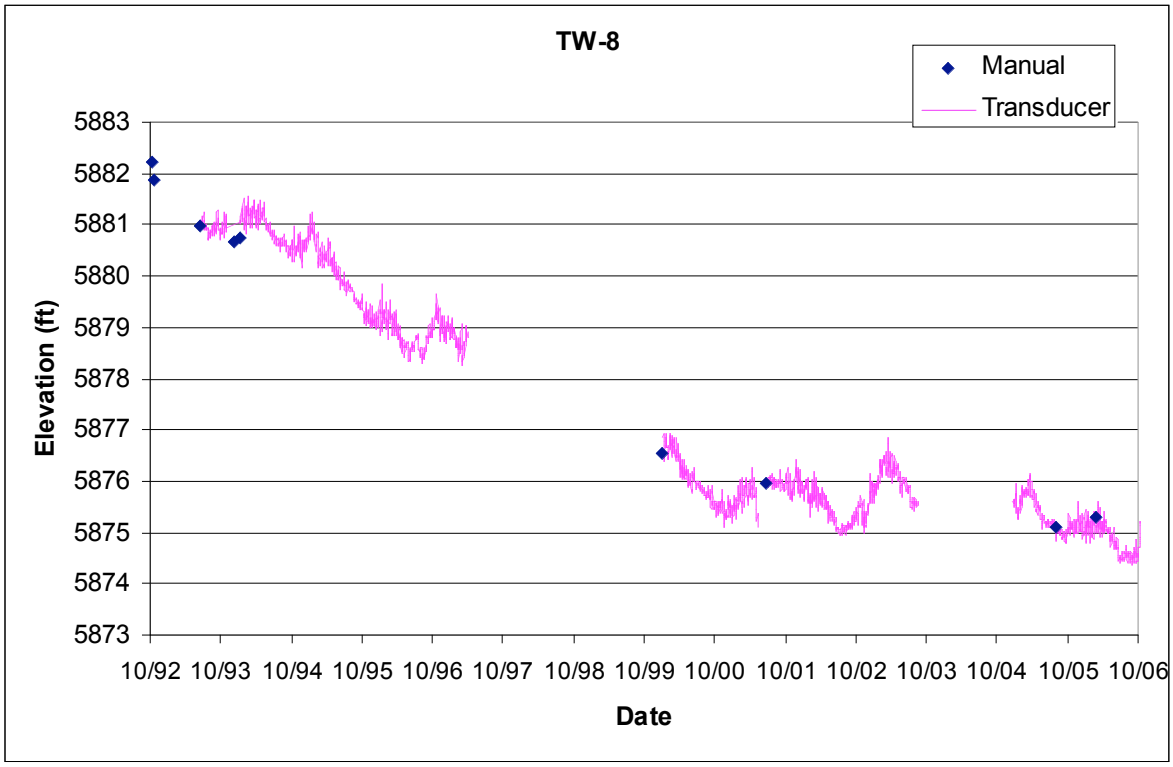
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.

Period of Record: Well drilled in 1960, transducer installed June 1993, transducer data to March 1997. Transducer reinstalled January 2000; intermittent data through 2006.

Remarks: TW-3 completed at the top of the regional aquifer at a depth of 1065 ft, about 70 ft into the regional aquifer.

| TW-8 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 953.0 | 1065 | 5920.5 | 5808.5 | 112.0 | | | 1065.0 | 5808.5 | 1065 | 0.0 | 0.0 | Regional Aquifer |

Note: Ground Elevation 6873.5 ft; all measurements are from this elevation



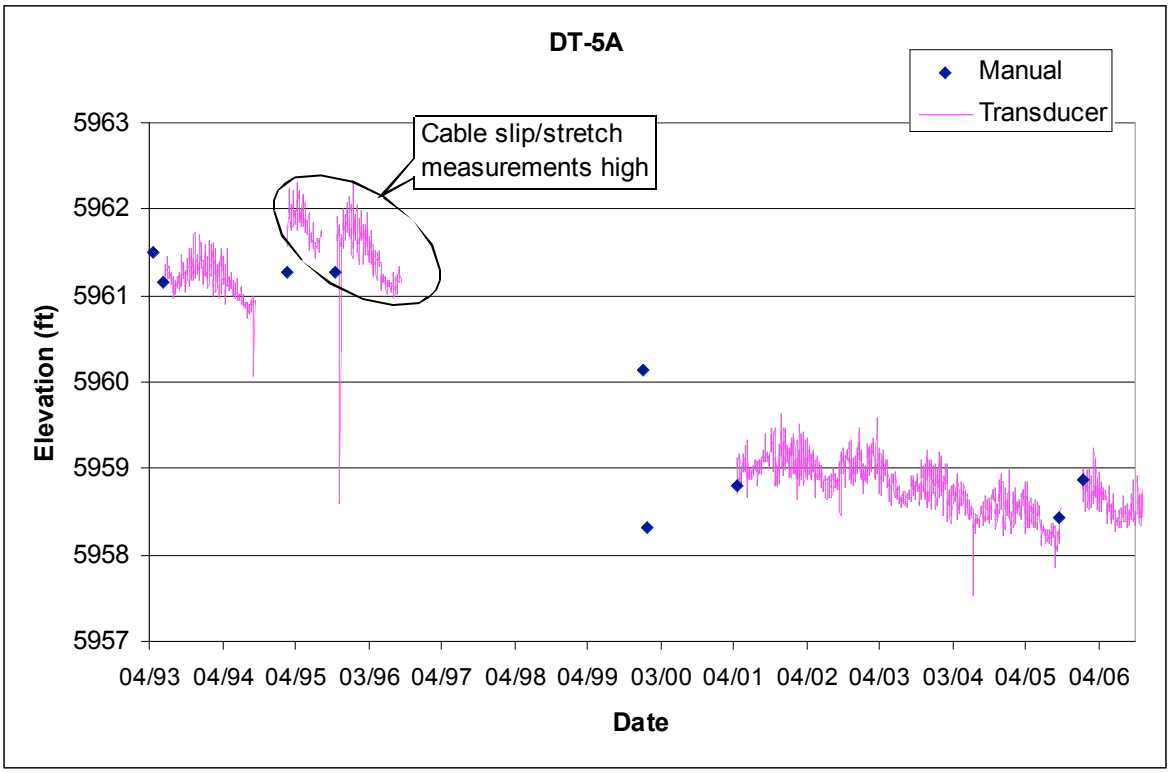
### 3.41 Test Well DT-5A

Location: DT-5A is located at TA-49 near the southern boundary of LANL.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: Well drilled in 1960, transducer installed June 1993, data to September 1996. Transducer reinstalled January 2000 but equipment problems occurred. Transducer reinstalled April 2001; data through 2006.
Remarks: DT-5A completed at the top of the regional aquifer at a depth of 1821 ft, about 650 ft into the regional aquifer. The transducer malfunctioned in September 2005, reinstalled January 2006.

**Test Well DT-5A Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1172.0 | 1821 | 5971.9 | 5322.9 | 649.0 | | 7143.9 | 1821.0 | 5322.9 | 1821 | 0.0 | 0.0 | Regional Aquifer |

Note: Brass Cap Elevation 7143.86 ft; all measurements are from this elevation



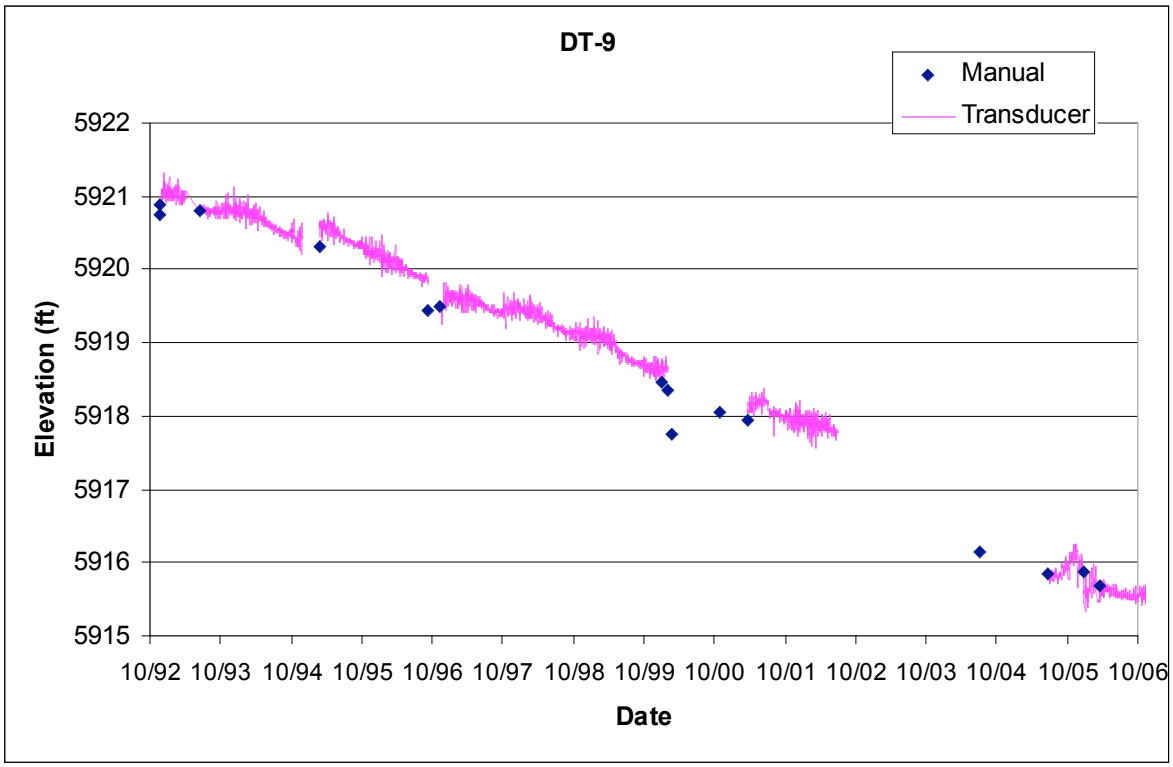
### 3.42 Test Well DT-9

Location: DT-9 is located at TA-49 near the southern LANL boundary.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: Well drilled in 1960, transducer installed November 1992, intermittent data to July 2002. Transducer reinstalled June 2005, data through 2006.
Remarks: DT-9 completed at the top of the regional aquifer at a depth of 1501 ft, about 500 ft into the regional aquifer.

Test Well DT-9 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1040.0 | 1501 | 5895.0 | 5434.0 | 461.0 | | 6935.0 | 1501.0 | 5434.0 | 1501 | 0.0 | 0.0 | Regional Aquifer |

Note: Brass Cap Elevation 6935.0 ft; all measurements are from this elevation



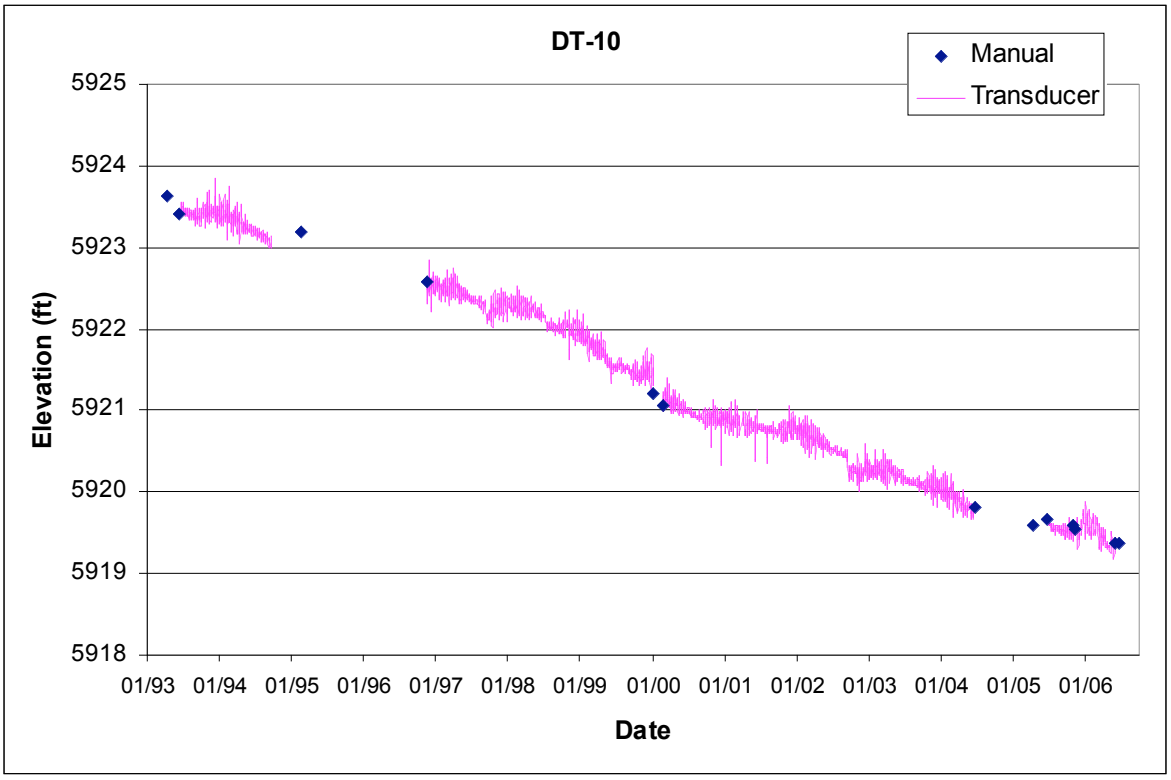
### 3.43 Test Well DT-10

Location: DT-10 is located at TA-49 near the southern LANL boundary.
Completion Type: Single completion at the top of the regional aquifer. The screen straddles the water table.
Period of Record: Well drilled in 1960, transducer installed June 1993 and again in November 1996 and June 2005, data to June 2006 when transducer equipment failed.
Remarks: DT-10 completed at the top of the regional aquifer at a depth of 1408 ft, about 300 ft into the regional aquifer.

**Test Well DT-10 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 1080.0 | 1408.0 | 5939.9 | 5611.9 | 328.0 | | | 1408.0 | 5611.9 | 1408.0 | 0.0 | 0.0 | Regional Aquifer |

Note: Ground Elevation 7019.90 ft; all measurements are from this elevation



## 4.0 Groundwater Level Data from Intermediate Wells

Table 4.1 lists the monitoring wells that specifically monitor intermediate groundwater at LANL and includes the well name, completed depth, surveyed location coordinates, and the date of completion. Table 4.2 lists the well construction information for the intermediate wells and for regional aquifer wells that have intermediate screens. The table includes information for the depth to the top and bottom of screens, screen casing size, geologic formation where the screen is completed, and whether the well/screen contains intermediate groundwater. The hydrographs for intermediate zones in the multiple completion regional aquifer wells are shown in the previous section.

Figure 4-1 shows the locations of the intermediate wells and regional wells that monitor intermediate groundwater. (Note that multiple completion regional wells that do not contain intermediate groundwater, such as CdV-R-15-3, CdV-R-37-2, and R-31, are not shown in Figure 4-1 because the intermediate screens in these wells are dry.)

**Table 4.1. General Information for Intermediate Wells at LANL.**

| Well Name | Date Completed | Completed Depth (ft) | Easting (ft) | Northing (ft) | Surface Elevation (ft) |
|---|---|---|---|---|---|
| 90LP-SE-16-02669 | 3/15/1998 | 163.4 | 1612152.57 | 1763749.00 | 7583.26 |
| CdV-16-1(i) | 11/9/2003 | 657.8 | 1615078.20 | 1764415.20 | 7382.17 |
| CdV-16-2(i) | 12/8/2003 | 1037.1 | 1616741.20 | 1764237.20 | 7457.11 |
| CdV-16-2(i)r | 7/30/2005 | 863.2 | 1616673.24 | 1764219.40 | 7456.67 |
| CdV-16-3(i) | 1/23/2004 | Open Hole | 1615981.60 | 1762434.90 | 7486.4 |
| LADP-3 | 12/17/1993 | 326.0 | 1632989.00 | 1773469.10 | 6756.70 |
| LAOI(a)-1.1 | 10/28/1994 | 309.8 | 1629427.38 | 1773924.51 | 6835.20 |
| LAOI-3.2 | 5/1/2005 | 165.0 | 1637642.10 | 1773066.93 | 6622.60 |
| LAOI-3.2a | 1/20/2006 | 194.1 | 1637619.97 | 1773100.91 | 6624.43 |
| LAOI-7 | 9/21/2005 | 264.9 | 1644788.53 | 1771584.11 | 6458.35 |
| MCOBT-4.4 | 6/30/2001 | 545.0 | 1634196.30 | 1768513.00 | 6836.18 |
| MCOI-1 | 1/9/2005 | 825.6 | 1628044.51 | 1769957.39 | 7106.20 |
| MCOI-4 | 11/6/2004 | 525.7 | 1634128.53 | 1768542.01 | 6837.20 |
| MCOI-5 | 10/25/2004 | 699.0 | 1635247.94 | 1768300.46 | 6819.70 |
| MCOI-6 | 1/13/2005 | 713.2 | 1635345.65 | 1768428.06 | 6811.10 |
| MCOI-8 | 1/7/2005 | 675.0 | 1633329.74 | 1769214.40 | 6859.20 |
| MSC-16-02665 | 10/23/1997 | 124.0 | 1614427.59 | 1762530.55 | 7516.92 |
| POI-4 | 5/1/1996 | 176.5 | 1649432.46 | 1772587.08 | 6372.29 |
| R-6i | 12/20/2004 | 615.0 | 1635992.34 | 1773889.89 | 6996.90 |
| R-9i | 3/10/2000 | 309.9 | 1648202.70 | 1770837.80 | 6383.20 |
| R-23i | 11/10/2005 | 550.7 | 1647898.02 | 1755148.04 | 6527.88 |
| TW-1A | 1/11/1950 | 225.0 | 1650056.87 | 1772065.87 | 6369.28 |
| TW-2A | 2/7/1950 | 133.0 | 1634184.87 | 1777288.12 | 6650.40 |

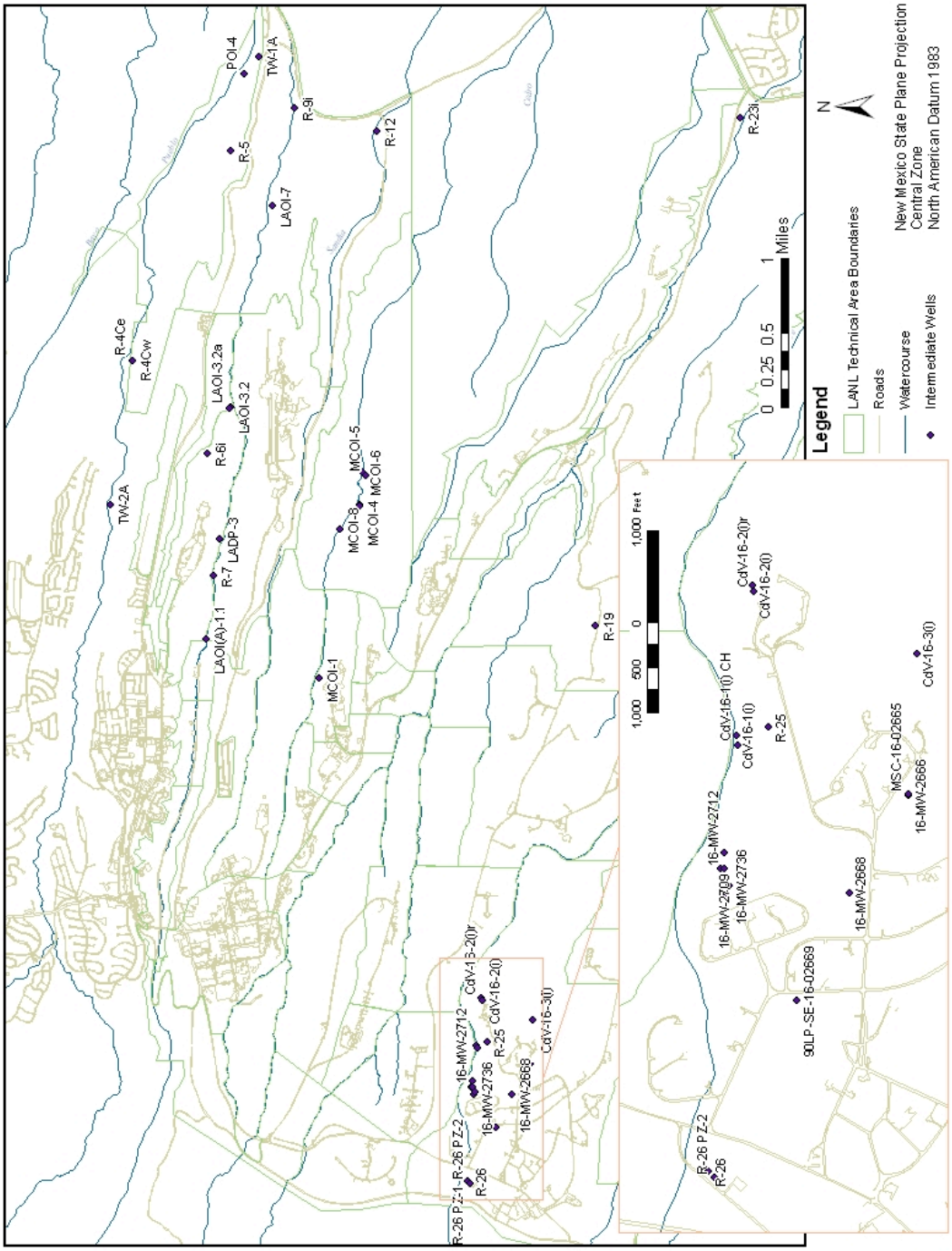



**Figure 4-1. Intermediate Monitoring Wells**

**Table 4.2. Well Completion Information for Intermediate Wells and Screens.**

| Well Name | Screen Common Name | Screen Material | Top of Screen (ft) | Bottom of Screen (ft) | Screen Inside Diameter (in.) | Geologic Unit | Comment |
|---|---|---|---|---|---|---|---|
| 90LP-SE-16-02669 | 16-02669 Screen #1 | PVC | 131.5 | 162.5 | 2.00 | Qbt3 | Dry |
| CdV-16-1(i) | CdV-16-1(i) Screen #1 | SS304 | 624.0 | 634.0 | 4.50 | Qbo | |
| CdV-16-2(i) | CdV-16-2(i) Screen #1 | SS304 | 850.2 | 867.8 | 4.46 | Tp | Dry |
| CdV-16-2(i) | CdV-16-2(i) Screen #2 | SS304 | 992.0 | 1015.2 | 4.46 | Tp | Dry |
| CdV-16-2(i)r | CdV-16-2(i)r Screen #1 | SS304 | 850.0 | 859.7 | 4.46 | Tpf | |
| CdV-16-3(i) | Open Borehole | NA | NA | NA | NA | Tt | Regional Aquifer? |
| CdV-R-15-3 | CdV-R-15-3 Screen 1 | SS312 | 617.7 | 624.5 | 4.50 | Qbo | Dry |
| CdV-R-15-3 | CdV-R-15-3 Screen 2 | SS312 | 800.8 | 807.8 | 4.50 | Tp | Dry |
| CdV-R-15-3 | CdV-R-15-3 Screen 3 | SS312 | 964.8 | 980.9 | 4.50 | Tb | Dry |
| CdV-R-37-2 | CdV-R37-2 Screen #1 | SS304 | 914.4 | 939.5 | 4.50 | Tp | Dry |
| LADP-3 | LADP-3 Screen #1 | PVC | 316.0 | 325.0 | 3.00 | Qbog | |
| LAOI(A)-1.1 | LAOI(A)-1.1 Screen #1 | PVC | 295.2 | 305.0 | 3.00 | Qbog | |
| LAOI-3.2 | LAOI-3 Screen #1 | PVC | 153.3 | 162.8 | 4.46 | Tb | |
| LAOI-3.2a | LAOI-3a Screen #1 | SS304 | 181.4 | 191.0 | 3.10 | Tpf | |
| LAOI-7 | LAOI-7 Screen #1 | SS304 | 240.0 | 259.6 | 3.00 | Tb4 | |
| MCOBT-4.4 | MCOBT4.4 Screen #1 | SS304 | 485.4 | 524.0 | 4.50 | Tpf | |
| MCOI-1 | MCOI-1 Screen #1 | SS | 815.0 | 825.5 | 1.10 | Tpf | |
| MCOI-4 | MCOI-4 Screen #1 | PVC | 498.9 | 522.0 | 4.50 | Tpf | |
| MCOI-5 | MCOI-5 Screen #1 | PVC | 689.0 | 699.0 | 4.50 | Tb | |
| MCOI-6 | MCOI-6 Screen #1 | PVC | 686.0 | 708.3 | 4.50 | Tb | |
| MCOI-8 | MCOI-6 Screen #1 | PVC | 665.0 | 675.0 | 4.46 | Tb | |
| MSC-16-02665 | 16-02665 Screen #1 | PVC | 93.5 | 123.5 | 2.00 | Qbt3 | Usually dry |
| POI-4 | POI-4 Screen #1 | PVC | 159.0 | 174.0 | 4.00 | Tb | |
| R-12 | R-12 Screen #1 | SS304 | 459.0 | 467.5 | 4.50 | Tb | |
| R-12 | R-12 Screen #2 | SS304 | 504.5 | 508.0 | 4.50 | Tp | |
| R-19 | R-19 Screen #1 | SS304 | 827.2 | 843.6 | 4.50 | Qbog | Dry |
| R-19 | R-19 Screen #2 | SS304 | 893.3 | 909.6 | 4.50 | Tp | |
| R-23i | R-23i Screen #1 | SS304 | 400.3 | 420.0 | 2.10 | Tb4 | |
| R-23i | R-23i Screen #2 | SS304 | 470.2 | 480.1 | 4.50 | Tb4 | |
| R-23i | R-23i Screen #3 | SS304 | 524.0 | 547.0 | 4.50 | Tb4 | |
| R-25 | R-25 Screen #1 | SS304 | 737.6 | 758.4 | 5.17 | Qbo | |
| R-25 | R-25 Screen #2 | SS304 | 882.6 | 893.4 | 5.17 | Tp | |
| R-25 | R-25 Screen #3 damaged | SS304 | 1054.6 | 1064.6 | 5.17 | Tp | Dry |
| R-25 | R-25 Screen #4 | SS304 | 1184.6 | 1194.6 | 5.17 | Tp | |
| R-26 | R-26 Screen #1 (Upper) | SS304 | 643.0 | 662.0 | 4.50 | Qct | |
| R-26 PZ-1 | R-26 Piezometer Screen #1 | PVC | 230.0 | 250.0 | | Qbt3 | Dry |
| R-26 PZ-2 | R-26 Piezometer Screen #2 | PVC | 150.0 | 180.0 | | Qbt3 | Dry |
| R-31 | R-31 Screen #1 | SS304 | 439.1 | 454.4 | 4.50 | Tb | Dry |
| R-5 | R-5 Screen #1 | SS304 | 326.4 | 331.5 | 4.50 | Tp | Dry |
| R-5 | R-5 Screen #2 | SS304 | 372.8 | 388.8 | 4.50 | Tp | |
| R-6i | R-6i Screen #1 | SS304 | 602.0 | 612.0 | 4.46 | Tpf | |
| R-7 | R-7 Screen #1 | SS304 | 363.2 | 379.2 | 4.50 | Tp | |
| R-7 | R-7 Screen #2 | SS304 | 730.4 | 746.4 | 4.50 | Tp | Dry |
| R-9i | R-9i Screen #1 | SS304 | 189.1 | 199.5 | 5.00 | Tb | |
| R-9i | R-9i Screen #2 | SS304 | 269.6 | 280.3 | 5.00 | Tb | |
| Test Well 1A | TW-1A Screen #1 | CS | 215.0 | 225.0 | 6.00 | Tb | |
| Test Well 2A | TW-2A Screen #1a | CS | 123.0 | 133.0 | 6.00 | Tp | |

Note: SS = stainless steel, PVC = polyvinyl chloride, Qbo = Otowi Member of the Bandelier Tuff, Tp = Puye Formation, Qbo = Otowi Member of the Bandelier Tuff, Qbog = Guaje Pumice member of the Bandelier Tuff, Tpf = fluvial facies of the Puye Formation, Tb = undifferentiated basalt, Tb4 = Cerros del Rio Basaltic Rocks; Qbt3 = Unit 3 of the Tshirege Member of the Bandelier Tuff, Tt = Tschicoma Formation (dacite).

The following sections include additional port and construction information for single and multiple completion intermediate wells at LANL. Time-series groundwater level data are shown for each well.

## 4.1 90LP-SE-16-02669

Location: 90LP-SE-16-02669 is located at TA-16 downgradient of the 90LP Pond.
Completion Type: Single completion in an intermediate zone in Unit 3 of the Bandelier Tuff.
Period of Record: Well drilled in March 1998, periodic measurements through 2006.
Remarks: The borehole contained water at the completion of drilling, but since completion of the well no water has been observed in the well; the well was last checked March 13, 2006.

| 90LP-SE-16-02669 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 131.5 | 163.0 | 7451.8 | 7420.3 | 31.5 | | | 163.0 | 7420.3 | 163.4 | 0.4 | 0.2 | Intermediate Zone |

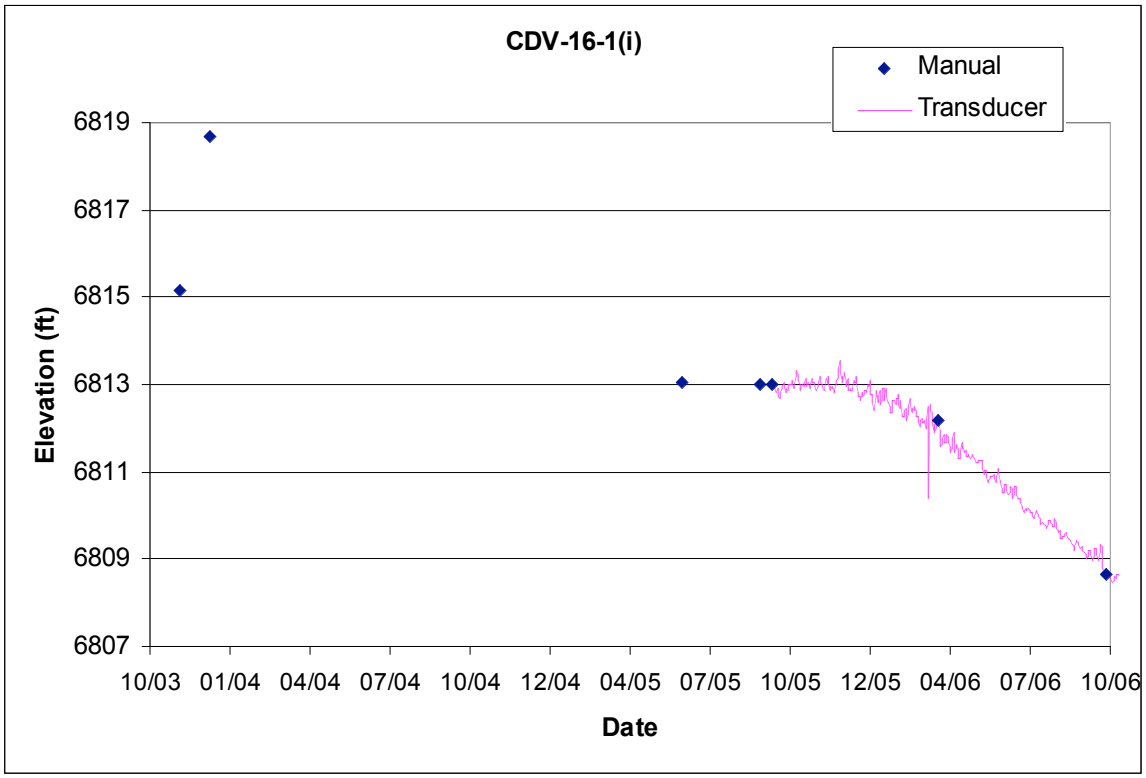
Note: Ground Elevation: 7583.26 ft; all measurements are from this elevation

## 4.2 CdV-16-1(i)

Location: CdV-16-1(i) is located at TA-16 downgradient of the TA-6-260 outfall.
Completion Type: Single completion in an intermediate zone.
Period of Record: Well drilled in 2003. Transducer installed September 2005; data through 2006.
Remarks: Well completed in an intermediate zone in the Otowi Member of the Tshirege Formation; well has about 50 ft of water above the top of the screen.

| CDV-16-1(i) Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 624.0 | 634 | 6758.2 | 6748.2 | 10.0 | 618.8 | 6763.4 | 634.0 | 6748.2 | 657.8 | 23.8 | 73.1 | Intermediate Zone |

Note: Ground Elevation: 7382.17 ft; all measurements are from this elevation



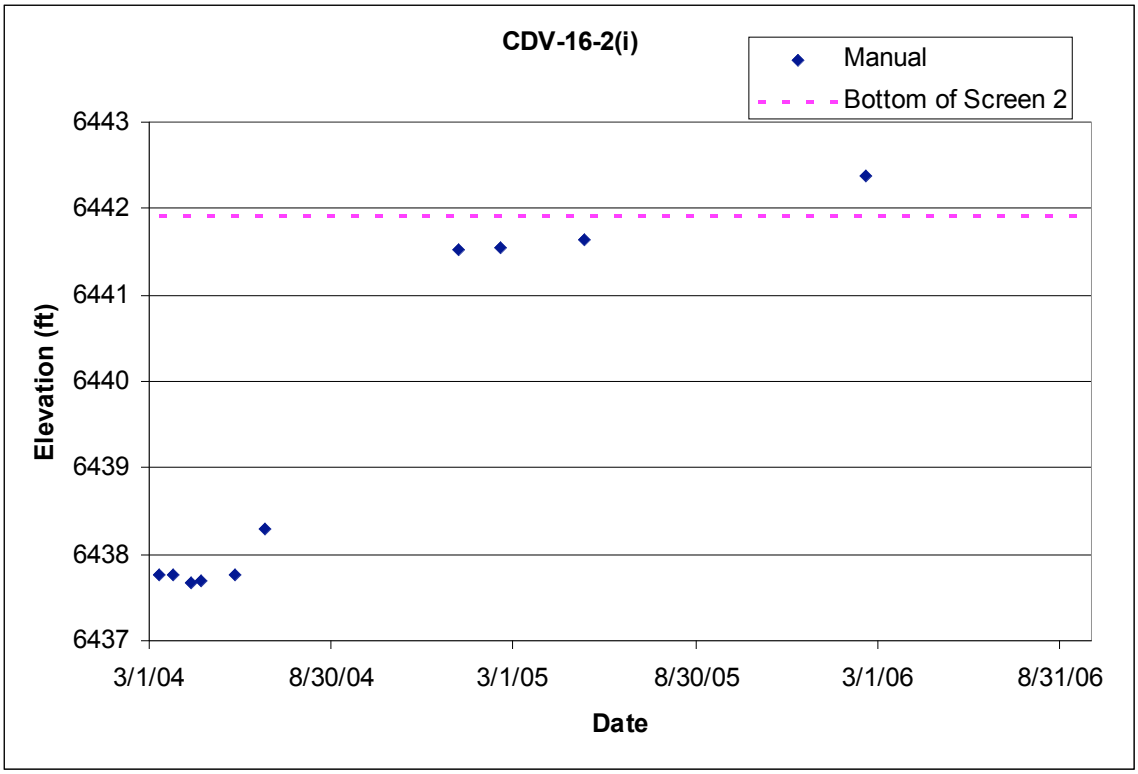
### 4.3 CdV-16-2(i)

Location: CdV-16-2(i) is located at TA-16 downgradient of the TA-6-260 outfall.
Completion Type: Dual screen completion in possible intermediate zones in the Puye Formation. Screens apparently were not placed at the zones of intermediate saturation or well construction prevents water recharge to the well.
Period of Record: Well drilled in 2003; periodic manual measurements through February 2006.
Remarks: Well completed in intermediate zones that have been dry since the well was completed. Water has usually been measured in the sump below the bottom of the lower screen. Well replaced with CdV-16-2(i)r in 2005.

**CDV-16-2(i) Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 850.2 | 867.8 | 6606.9 | 6589.3 | 17.6 | | | 867.8 | 6589.3 | 1037.1 | 169.3 | 520.1 | Intermediate Zone |
| 2 | 992.0 | 1015.2 | 6465.1 | 6441.9 | 23.2 | | | 1015.2 | 6441.9 | 1037.1 | 21.9 | 67.3 | Intermediate Zone |

Note: CDV-16-2(i) Ground Elevation: 7457.11 ft; all measurements are from this elevation

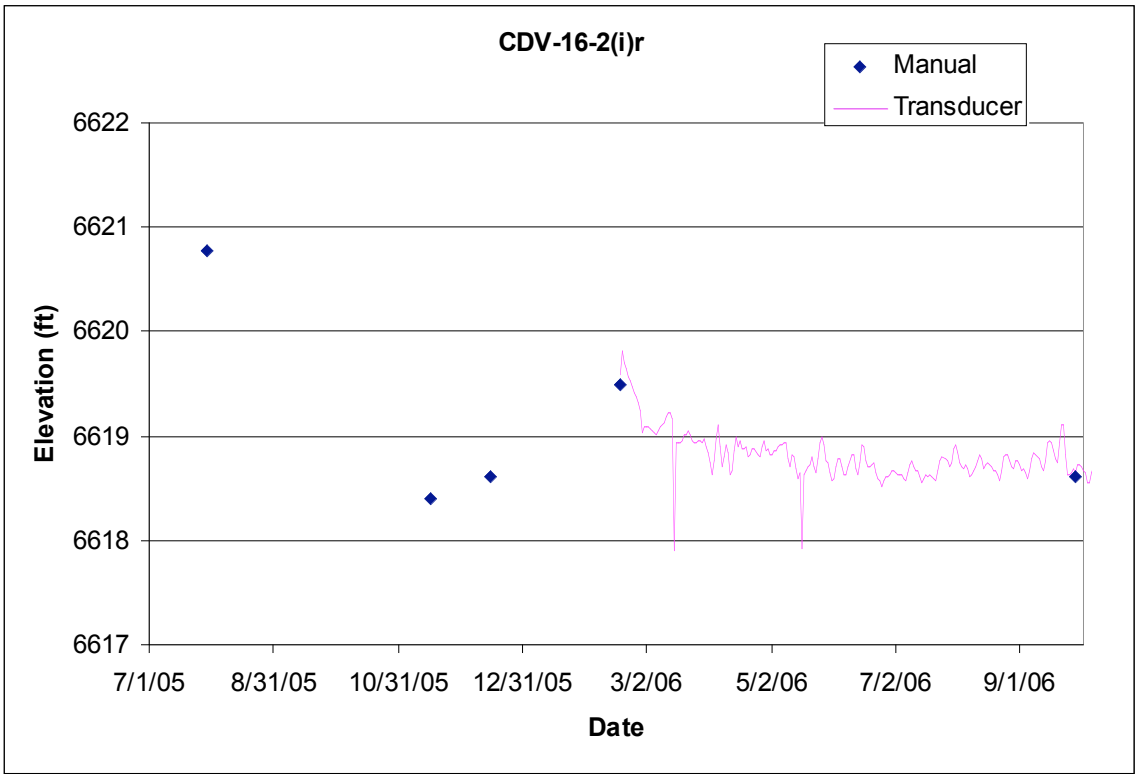


### 4.4 CdV-16-2(i)r

Location: CdV-16-2(i)r is located at TA-16 downgradient of the TA-6-260 outfall.
Completion Type: Single completion in intermediate zone in the Puye Formation.
Period of Record: Well completed in July 2005, periodic manual measurements in 2005. A transducer was installed February 16, 2006; data through 2006.
Remarks: Well replaces CdV-16-2(i). Well has about 20 ft of water above bottom of screen.

| CDV-16-2(i)r Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 850.0 | 859.7 | 6606.7 | 6597.0 | 9.7 | 855.12 | 6601.6 | 859.7 | 6597.0 | 863.2 | 3.5 | 10.8 | Intermediate Zone |

Note: Ground Elevation: 7456.67 ft; all measurements are from this elevation

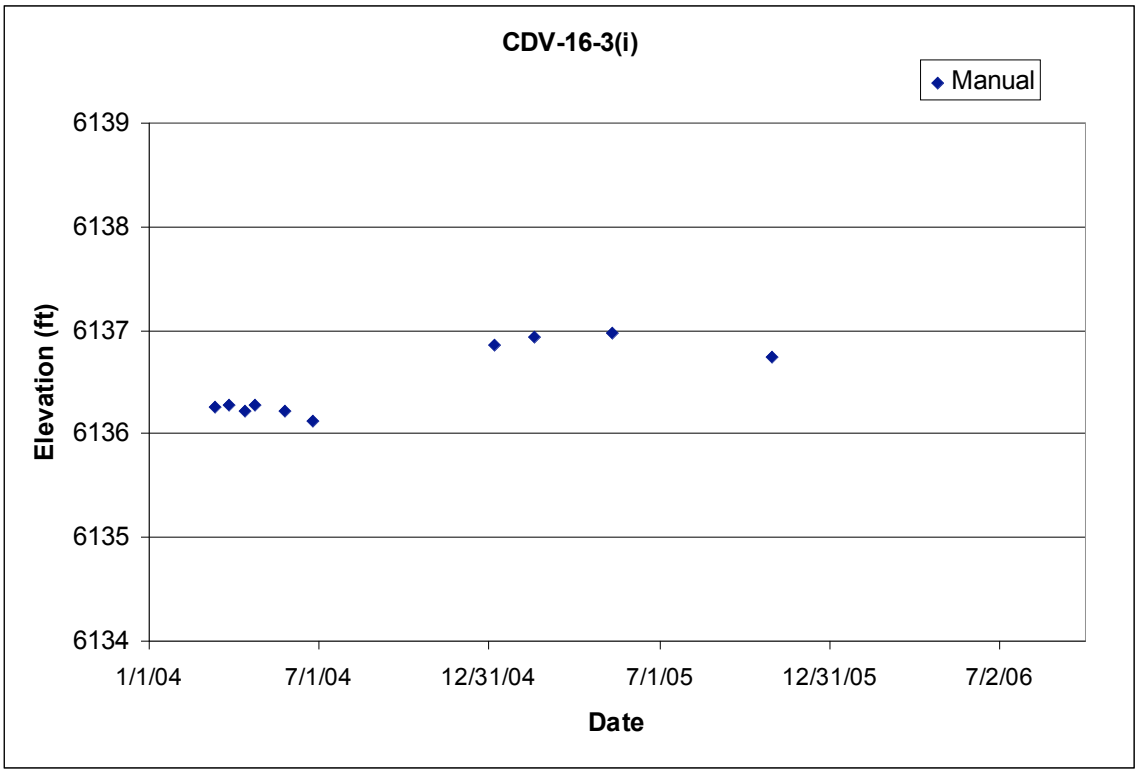


### 4.5 CdV-16-3(i)

Location: CdV-16-3(i) is located at TA-16 downgradient of the TA-6-260 outfall.
Completion Type: Open borehole, well not installed.
Period of Record: Well drilled in 2004, periodic manual measurements through 2005. Well monitoring ceased in 2005.
Remarks: Water not present in borehole when drilling was completed. Since January 2004, the borehole has contained about 40 ft of water. Note that the water level is similar to the top of the regional aquifer at CdV-R-37-2.

| CDV-16-3(i) Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Borehole Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | | | | | 0.0 | | | | | 1390 | | 0.0 | Regional Aquifer |

Note: Mag NailGround Elevation: 7486.4 ft; all measurements are from this elevation;
Well not completed, open borehole with surface pad and protective casing



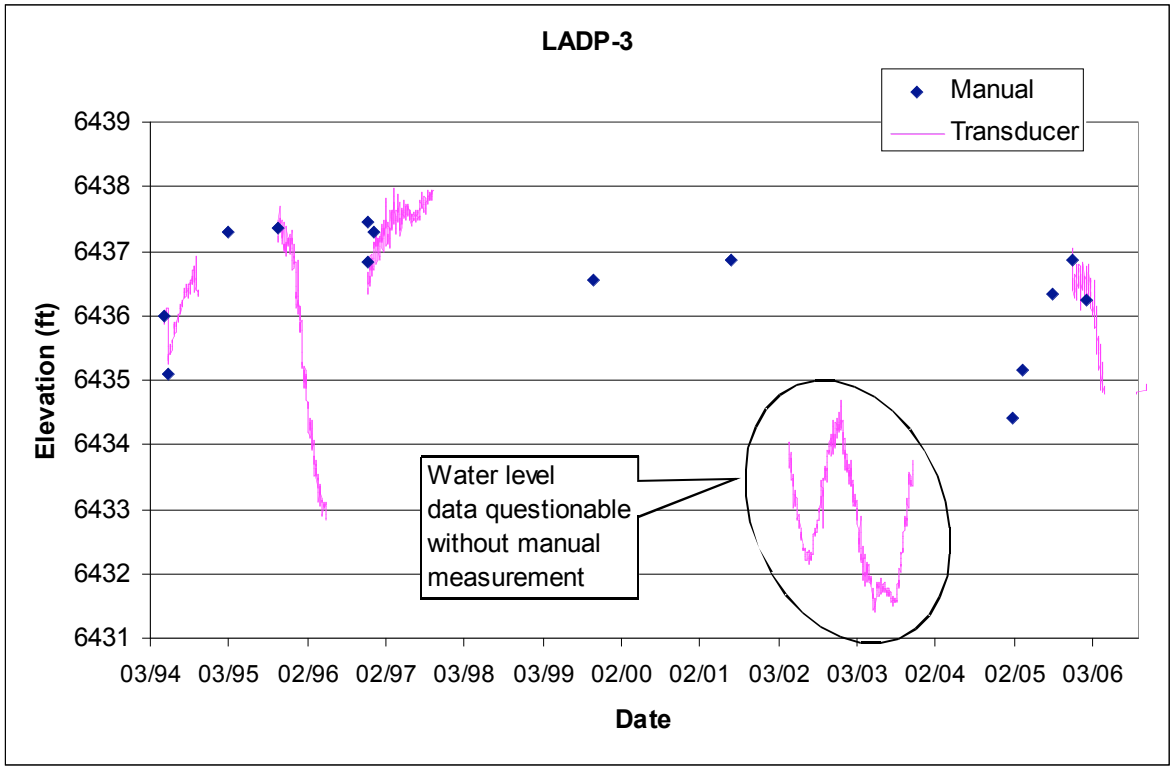
## 4.6 LADP-3

Location: LADP-3 is located in middle Los Alamos Canyon upstream of DP Canyon.
Completion Type: Single completion in an intermediate zone in the Guaje Pumice bed.
Period of Record: Well drilled in 1993. Transducer first installed May 1994, reinstalled in May 2005, intermittent transducer data through 2006.
Remarks: Transducer is installed above the bladder pump. No manual measurement available for April 2002 transducer installation, data from April 2002 to November 2003 questionable. The water level declined below the transducer in April 2006.

**LADP-3 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 316.0 | 326 | 6440.7 | 6430.7 | 10.0 | | | 326.0 | 6430.7 | 326 | 0.0 | 0.0 | Intermediate Zone |

Note: LADP-3 Ground Elevation: 6756.7 ft; all measurements are from this elevation



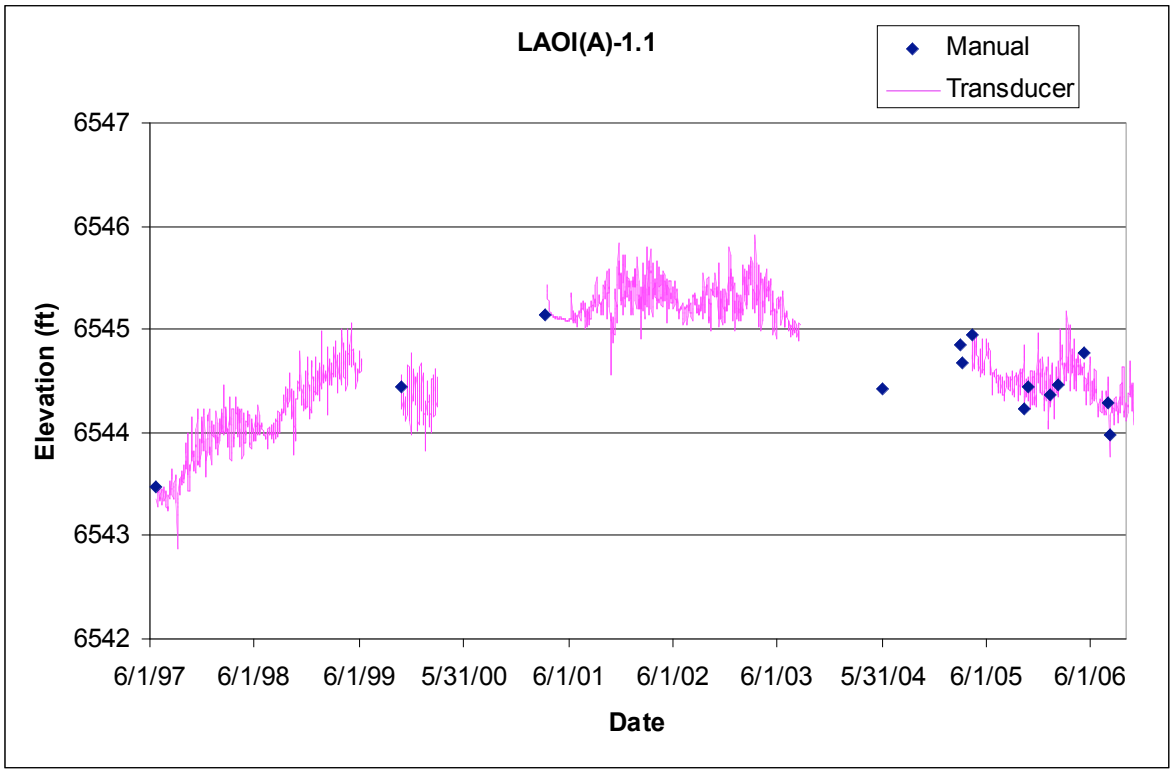
## 4.7 LAOI(a)-1.1

Location: LAOI(a)-1.1 is located in middle Los Alamos Canyon downstream of TA-2 and TA-41.
Completion Type: Single completion in an intermediate zone in the Guaje Pumice bed.
Period of Record: Well drilled in 1994. Transducer initially installed June 1997, reinstalled in April 2005; transducer data through 2006.
Remarks: None.

LAOI(A)-1.1 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 295.2 | 305 | 6540.0 | 6530.2 | 9.8 | | 6835.2 | 305.0 | 6530.2 | 309.8 | 4.8 | 6.7 | Intermediate Zone |

Note: LAOI(A)-1.1 Ground Elevation: 6835.2 ft; all measurements are from this elevation



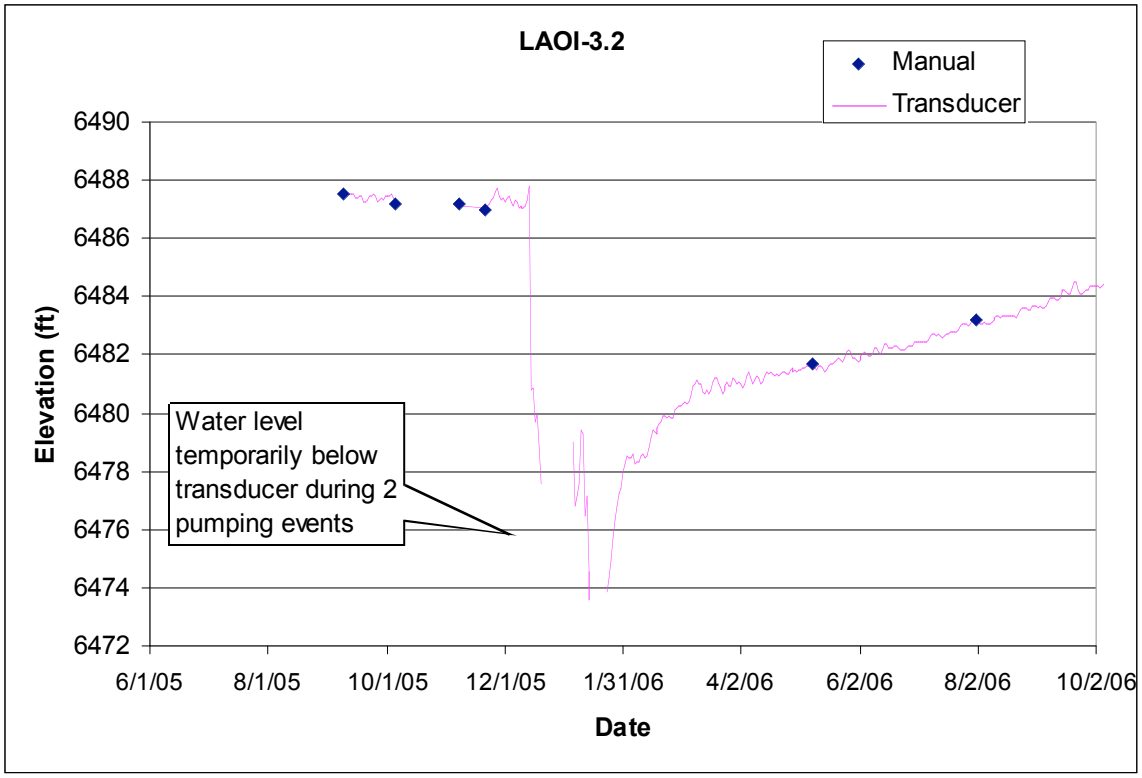
## 4.8 LAOI-3.2

Location: LAOI-3.2 is located in middle Los Alamos Canyon at the confluence with DP Canyon.
Completion Type: Single completion in an intermediate zone in basalt.
Period of Record: Well completed in May 2005. Transducer installed September 2005; transducer data through 2006.
Remarks: The transducer was removed in October 2005 for pump installation. The transducer was reinstalled in November 2005 above the pump. The water level declined below the level of the transducer for a time during pumping of the well in December 2005.

LAOI-3.2 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 153.3 | 162.8 | 6469.3 | 6459.8 | 9.5 | 159.3 | 6463.3 | 162.8 | 6459.8 | 165 | 2.2 | 1.5 | Intermediate Zone |

Note: Ground Elevation: 6622.6 ft; all measurements are from this elevation



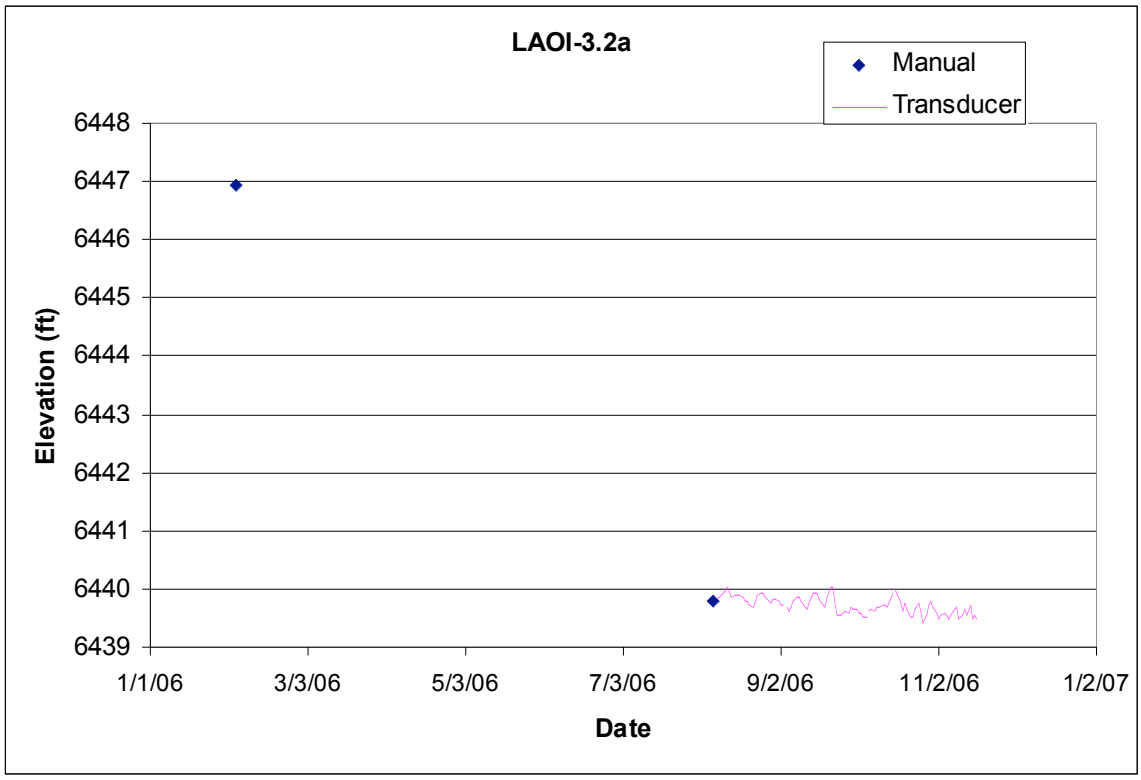
## 4.9 LAOI-3.2a

Location: LAOI-3.2a is located in middle Los Alamos Canyon near the confluence with DP Canyon and about 50 ft northwest of LAOI-3.2.
Completion Type: Single completion in an intermediate zone in Puye fanglomerate.
Period of Record: Well completed in January 2006. Transducer installed August 2006; transducer data through 2006.
Remarks: The water level is about 6 ft above the bottom of the screen.

LAOI-3.2a Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 181.4 | 191 | 6443.0 | 6433.4 | 9.6 | 189 | 6435.4 | 191.0 | 6433.4 | 191.4 | 0.4 | 0.6 | Intermediate Zone |

Note: Ground Elevation: 6624.43 ft; all measurements are from this elevation

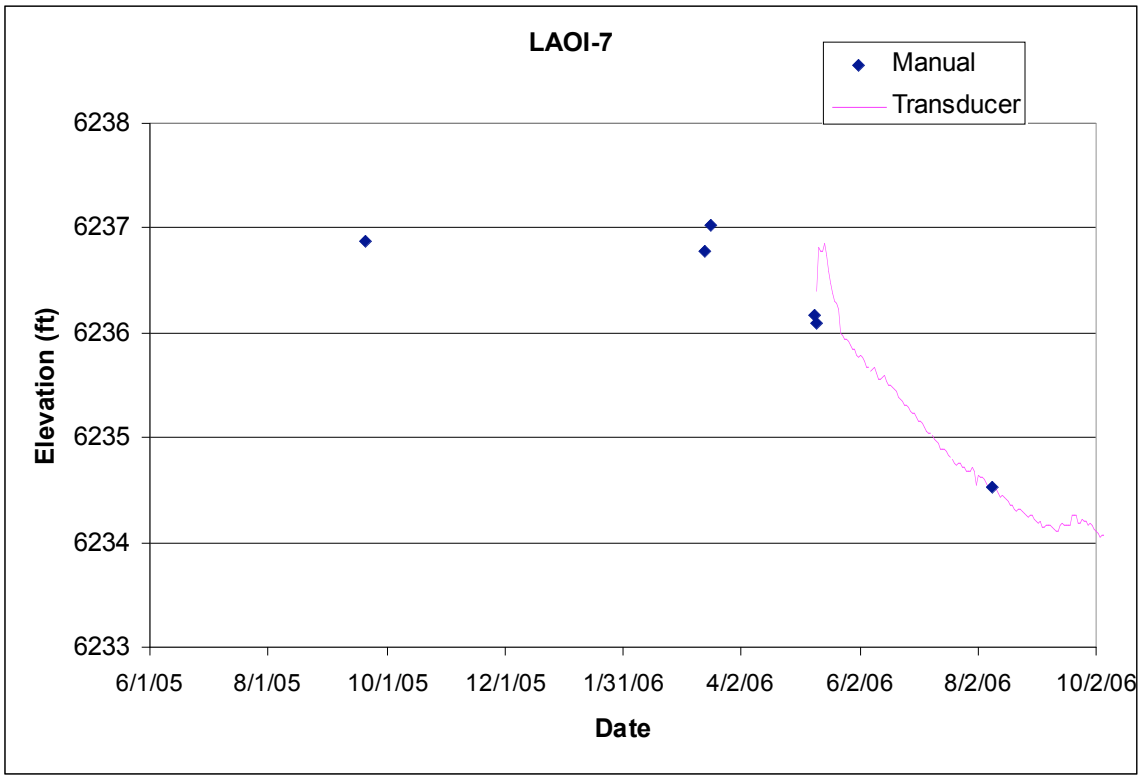


## 4.10 LAOI-7

Location: LAOI-7 is located in middle Los Alamos Canyon about 0.75 mile upstream of R-9i.
Completion Type: Single completion in an intermediate zone in basalt.
Period of Record: Well completed in September 2005, transducer installed May 2006, data through 2006.
Remarks: The water level declined through most of 2006 and was about 16 ft above the top of the screen.

| LAOI-7 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 240.0 | 259.6 | 6218.4 | 6198.8 | 19.6 | 240 | 6218.4 | 259.6 | 6198.8 | 264.9 | 5.3 | 7.4 | Intermediate Zone |

Note: Brass Cap Elevation: 6458.35 ft; all measurements are from this elevation



### 4.11 MCOBT-4.4

Location: MCOBT-4.4 is located in lower Mortandad Canyon near the confluence with Ten Site Canyon.

Completion Type: Single completion at the base of the Puye Formation fanglomerate member and the top of basalt.

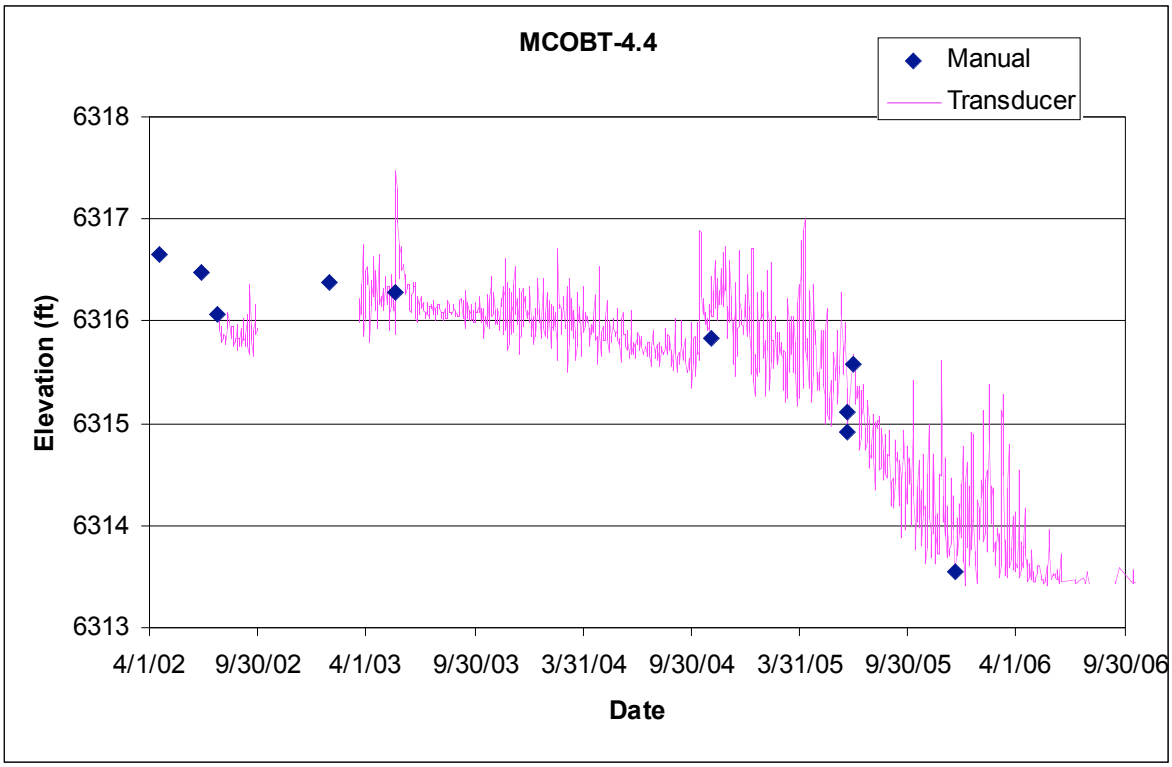
Period of Record: Well completed in June 2001, transducer installed July 2002, data through 2006.

Remarks: MCOI-4 is located about 70 ft west of MCOBT-4.4. The water level declined below the transducer measurement tube for portions of 2006. The water level appeared to remain about 1 ft above the bottom of the screen.

**MCOBT-4.4 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 485.4 | 524 | 6350.8 | 6312.2 | 38.6 | 524 | 6312.2 | 524.0 | 6312.2 | 545 | 21.0 | 64.5 | Intermediate Zone |

Note: Brass Cap Elevation: 6836.18 ft; all measurements are from this elevation



## 4.12 MCOI-1

Location: MCOI-1 is located adjacent to upper Mortandad Canyon below the confluence with Effluent Canyon.
Completion Type: Single completion in the Puye Formation.
Period of Record: Well completed in January 2005. Periodic manual checks for water through 2006.
Remarks: MCOI-1 was dry when completed and has not contained water during periodic checks. Soundings for water throughout 2006 have been dry with a total depth of 813.8 ft below ground surface, encountering sand at total depth. This total depth is above the screen; thus it appears that the well screen in the 1-in.-diameter PVC may have parted from the tubing or has been somehow damaged, potentially rendering the well inoperative.

| MCOI-1 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 815.0 | 825.5 | 6291.2 | 6280.8 | 10.5 | | 7106.2 | 825.5 | 6280.8 | 825.58 | 0.1 | 0.0 | Intermediate Zone |

Note: Ground Elevation: 7106.20 ft; all measurements are from this elevation

### 4.13 MCOI-4

Location: MCOI-4 is located in lower Mortandad Canyon near the confluence with Ten Site Canyon and about 65 ft upstream of MCOBT-4.4.

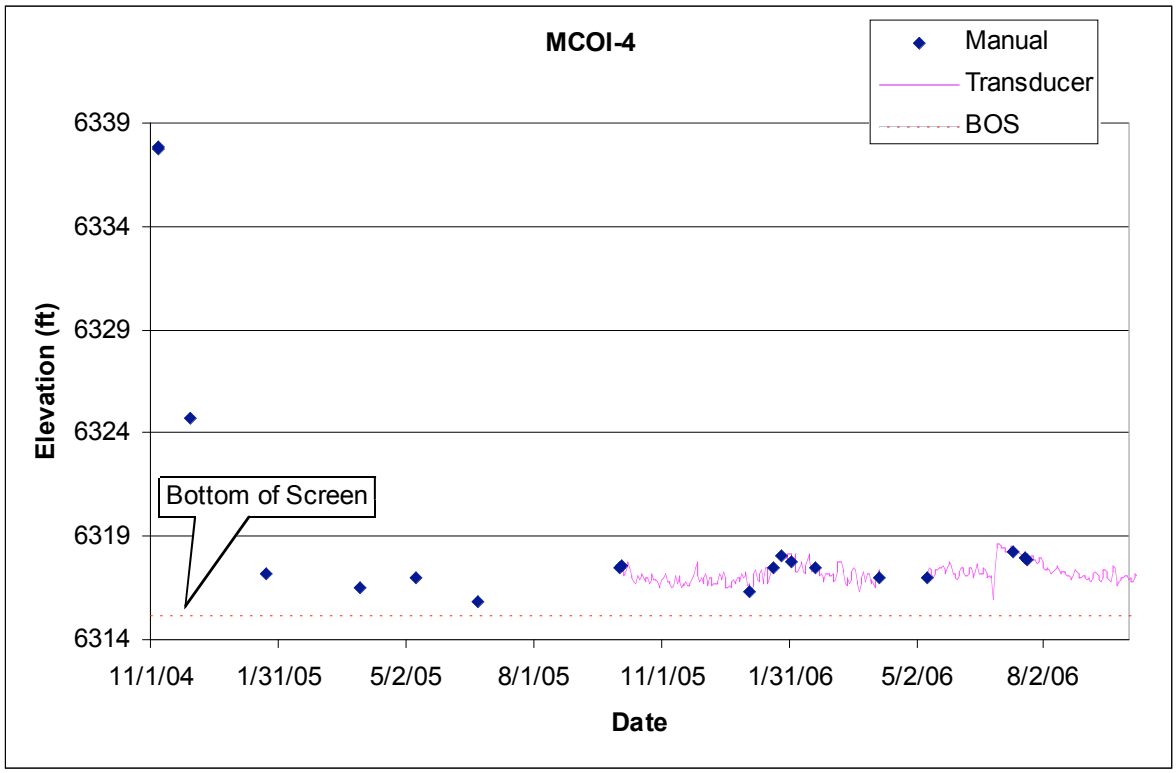
Completion Type: Single completion at the base of the Puye Formation fanglomerate member and the top of basalt.

Period of Record: Well completed in November 2004, transducer installed October 2005, data through 2006.

Remarks: The water level in MCOI-4 is 2 to 3 ft higher than in adjacent well MCOBT-4.4.

| MCOI-4 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 499.0 | 522.0 | 6338.2 | 6315.2 | 23.0 | | 6837.2 | 522.0 | 6315.2 | 525.7 | 3.7 | 11.6 | Intermediate Zone |

Note: Ground Elevation: 6837.20 ft; all measurements are from this elevation



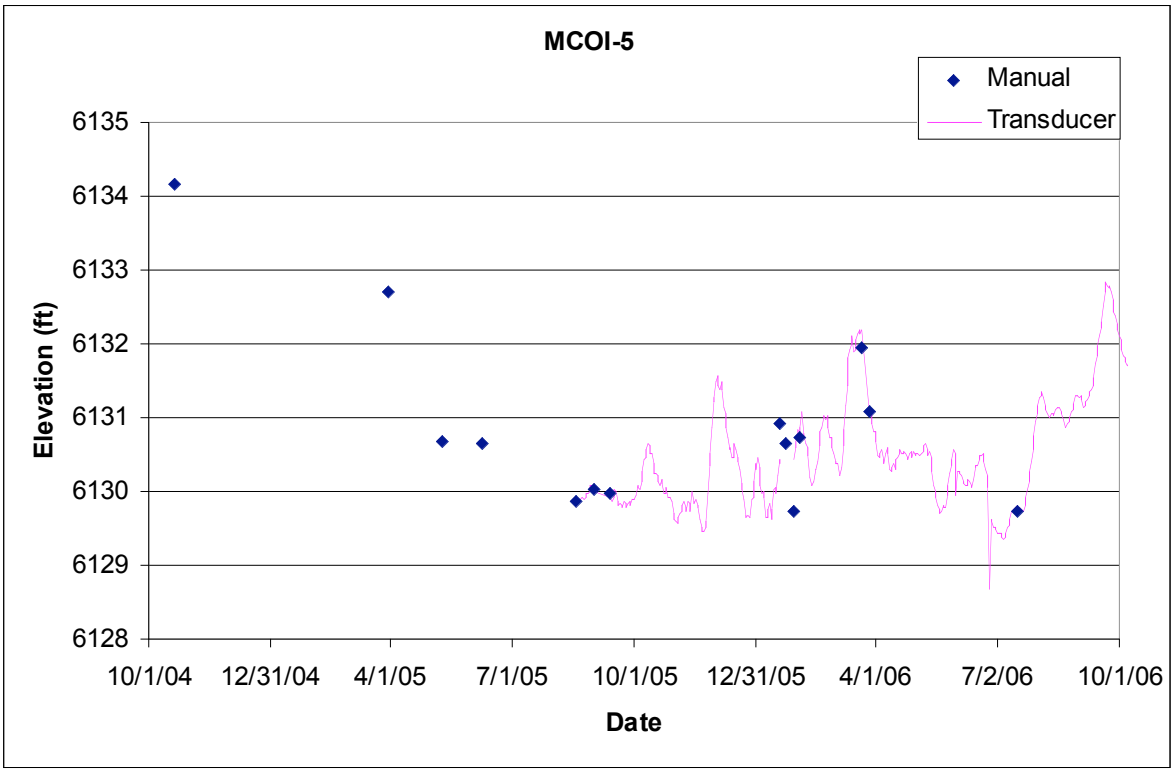
### 4.14 MCOI-5

Location: MCOI-5 is located in lower Mortandad Canyon near regional aquifer well R-15.
Completion Type: Single completion in Cerros del Rio basalt.
Period of Record: Well completed in October 2004, transducer installed August 2005, data through 2006.
Remarks: The transducer was removed for sampling by bailing in 2005. Dedicated submersible pump installed March 2006.

MCOI-5 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 689.0 | 699.0 | 6130.7 | 6120.7 | 10.0 | | | 699.0 | 6120.7 | 702.7 | 3.7 | 11.6 | Intermediate Zone |

Note: Brass cap elevation: 6819.70 ft; all measurements are from this elevation

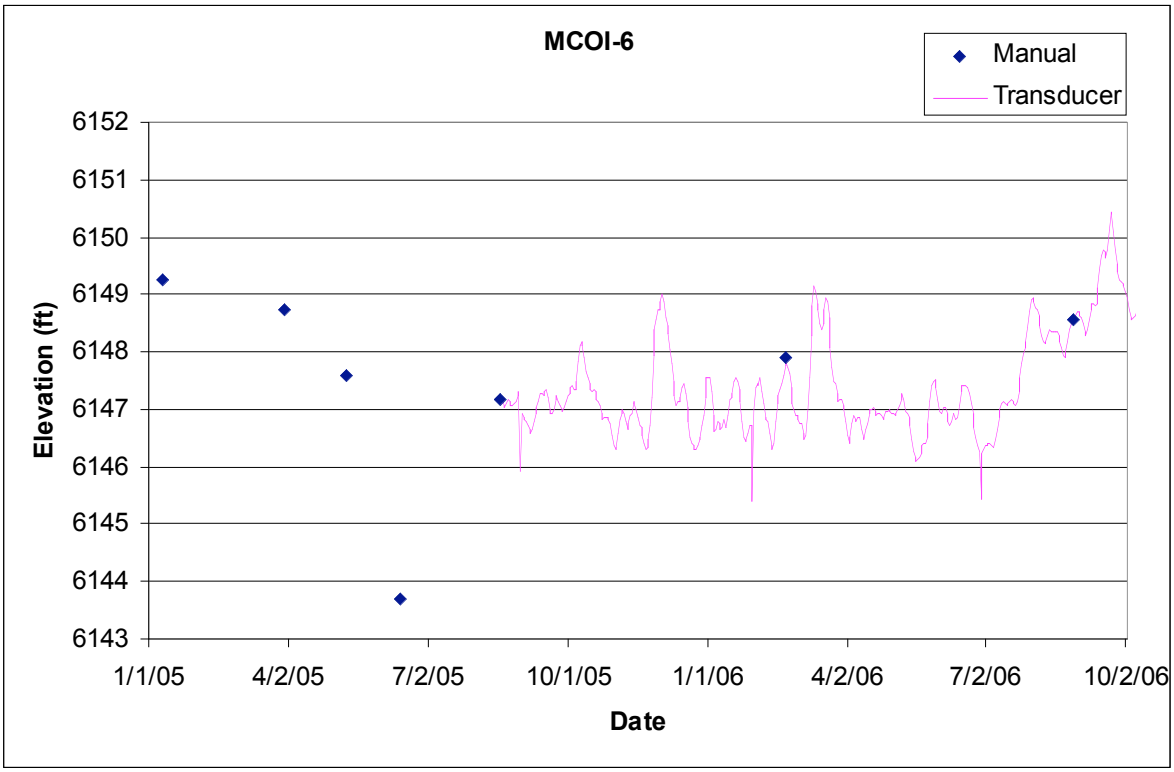


### 4.15 MCOI-6

Location: MCOI-6 is located in lower Mortandad Canyon about 160 ft northeast of MCOI-5.
Completion Type: Single completion in Cerros del Rio basalt.
Period of Record: Well completed in January 2005, transducer installed August 2005, data through 2006.
Remarks: Water level is about 20 ft above the top of the screen.

| MCOI-6 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 686.0 | 708.3 | 6125.1 | 6102.8 | 22.3 | | | 708.3 | 6102.8 | 713.2 | 4.9 | 15.3 | Intermediate Zone |

Note: Brass cap elevation: 6811.10 ft; all measurements are from this elevation



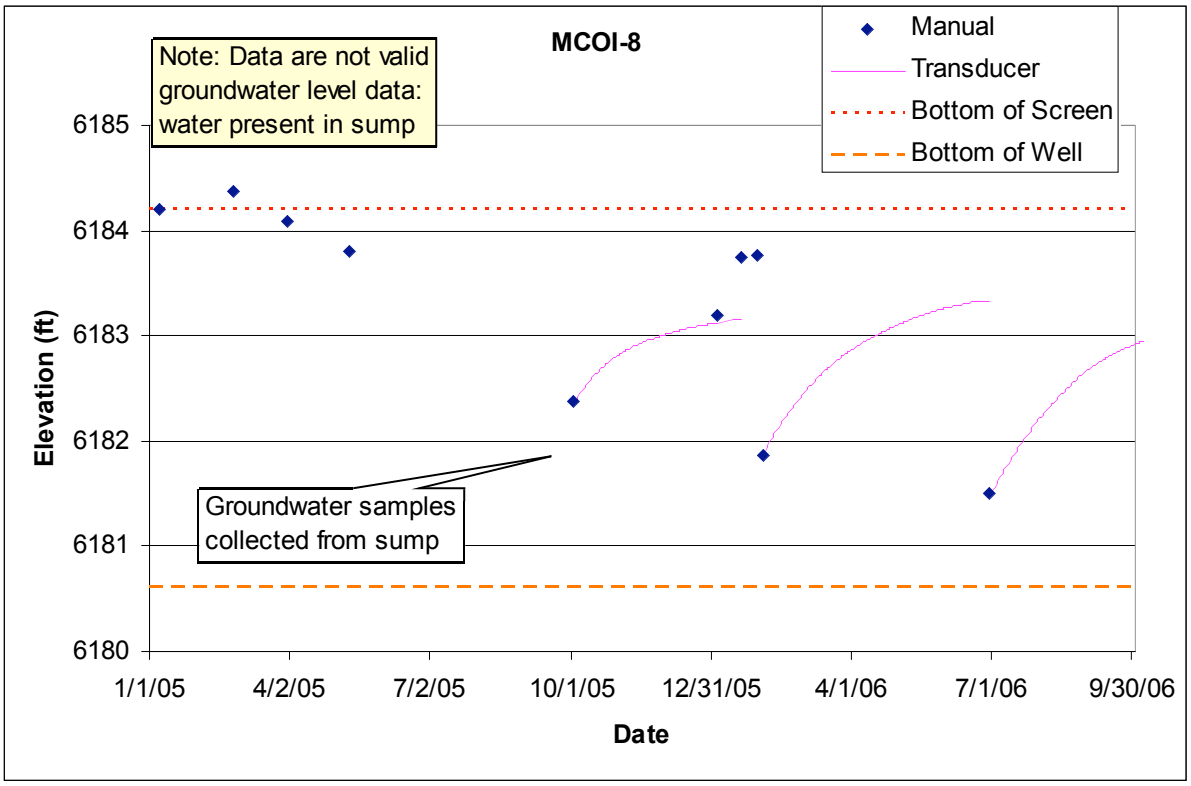
### 4.16 MCOI-8

Location: MCOI-8 is located in lower Mortandad Canyon above the confluence with Ten Site Canyon.
Completion Type: Single completion in Cerros del Rio basalt.
Period of Record: Well completed in January 2005, transducer installed August 2005, data through 2005.
Remarks: Since well completion, water has been measured in the sump of the well; thus data are not valid groundwater level data.

**MCOI-8 Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 665.0 | 675.0 | 6194.2 | 6184.2 | 10.0 | | | 675.0 | 6184.2 | 678.6 | 3.6 | 11.4 | Intermediate Zone |

Note: Ground Elevation: 6859.20 ft; all measurements are from this elevation



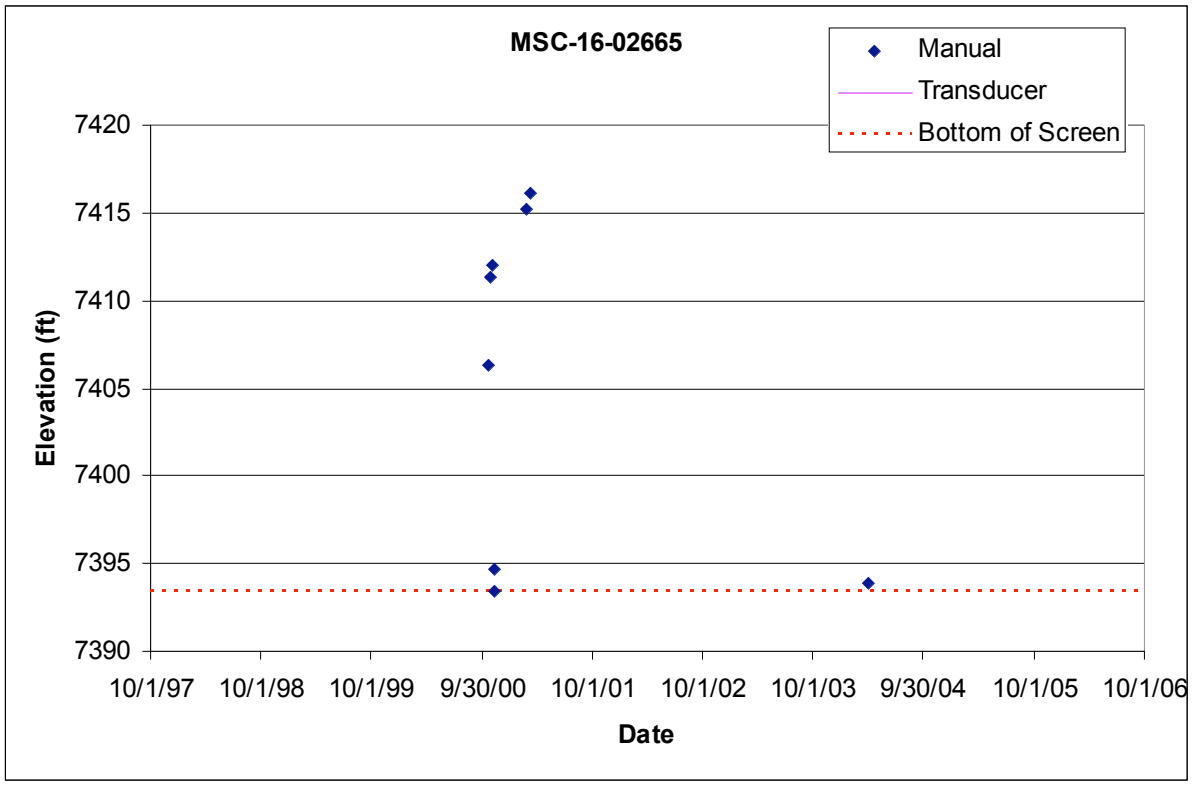
### 4.17 MSC-16-02665

Location: MSC-16-02665 is located at TA-16 at the head of Martin Spring Canyon (S-Site Canyon) about 1500 ft west of CdV-16-3(i) and about 700 ft northwest of Martin Spring.
Completion Type: Single completion in Unit 3 of the Bandelier tuff.
Period of Record: Well completed in October 1997, no transducer has been installed, periodic manual measurements through March 2006.
Remarks: MSC-16-02665 has usually been dry; water has been observed in the well after heavy precipitation periods and snowmelt runoff (LANL 2003, p. 4-58). The well was dry when checked in 2005 and 2006.

MSC-16-02665 Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 93.5 | 123.5 | 7423.4 | 7393.4 | 30.0 | | | 123.5 | 7393.4 | 124 | 0.5 | 0.3 | Intermediate Zone |

Note: Ground Elevation: 7516.92 ft; all measurements are from this elevation

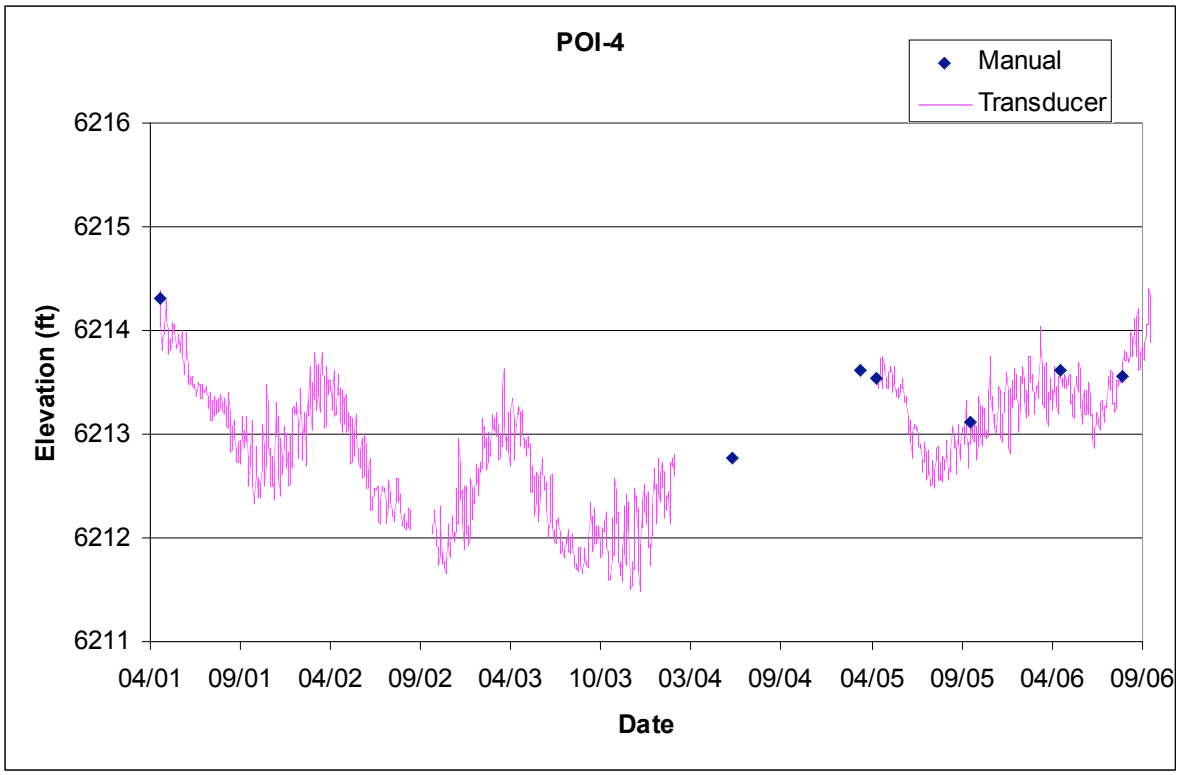


### 4.18 POI-4

Location: POI-4 is located in lower Pueblo Canyon about 800 ft upstream of TW-1 and about 370 ft north of supply well O-1.
Completion Type: Single completion in Cerros del Rio basalt.
Period of Record: Well completed in 1996, transducer installed April 2001 and again in April 2005, intermittent data through 2006.
Remarks: None.

| POI-4 Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 159.0 | 174 | 6213.3 | 6198.3 | 15.0 | 173 | 6199.3 | 174.0 | 6198.3 | 176.5 | 2.5 | 6.2 | Intermediate Zone |

Note: Ground Elevation: 6372.29 ft; all measurements are from this elevation



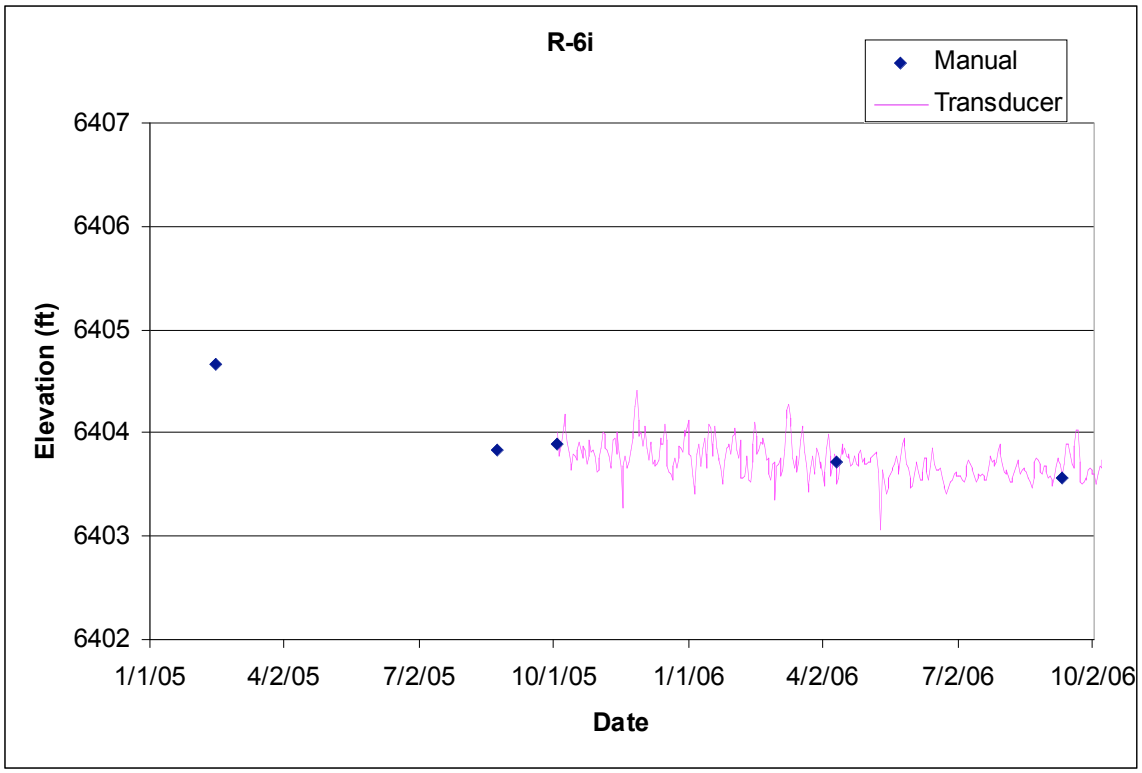
### 4.19 R-6i

Location: R-6i is located at the eastern extent of DP Mesa near the confluence of DP Canyon and Los Alamos Canyon and adjacent to R-6.
Completion Type: Single completion in the Puye Formation fanglomerate member.
Period of Record: Well completed December 2004, transducer installed October 2005, data through 2005.
Remarks: None.

R-6i Construction Information

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 602.0 | 612 | 6394.9 | 6384.9 | 10.0 | 609.0 | 6387.9 | 612.0 | 6384.9 | 615 | 3.0 | 9.2 | Regional Aquifer |

Note: Brass Cap Ground Elevation: 6996.9 ft; all depths are from this elevation



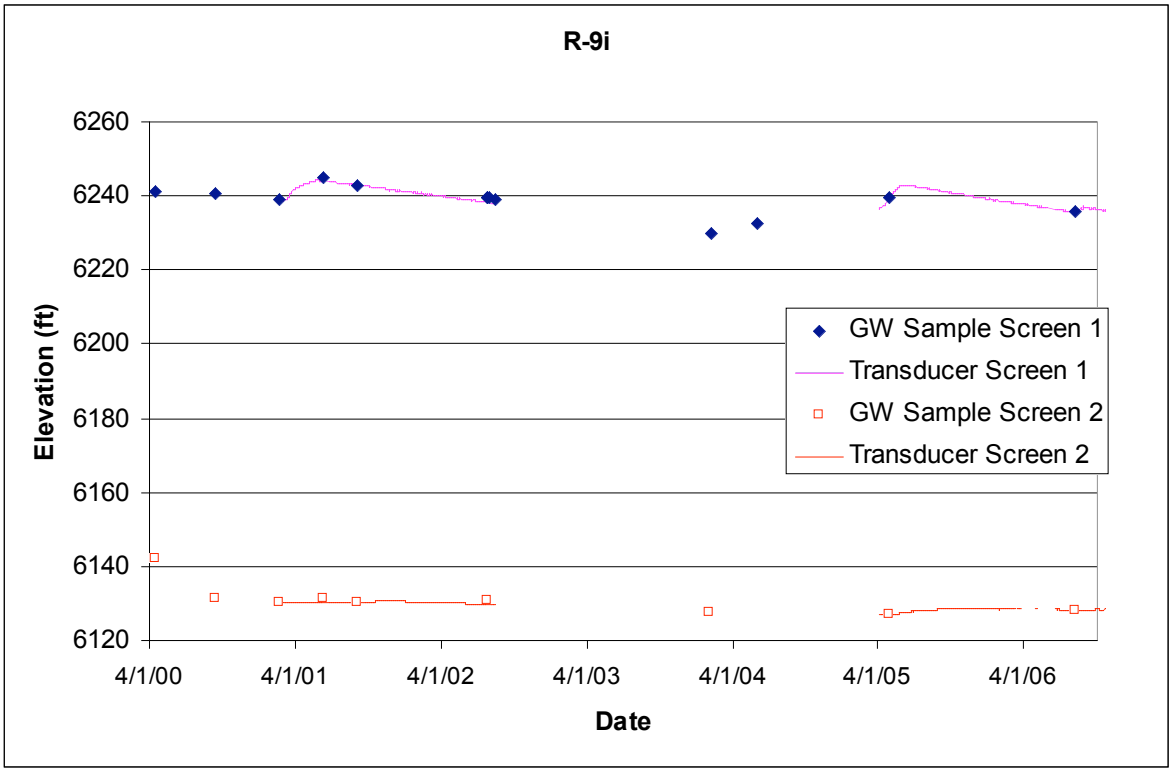
### 4.20 R-9i

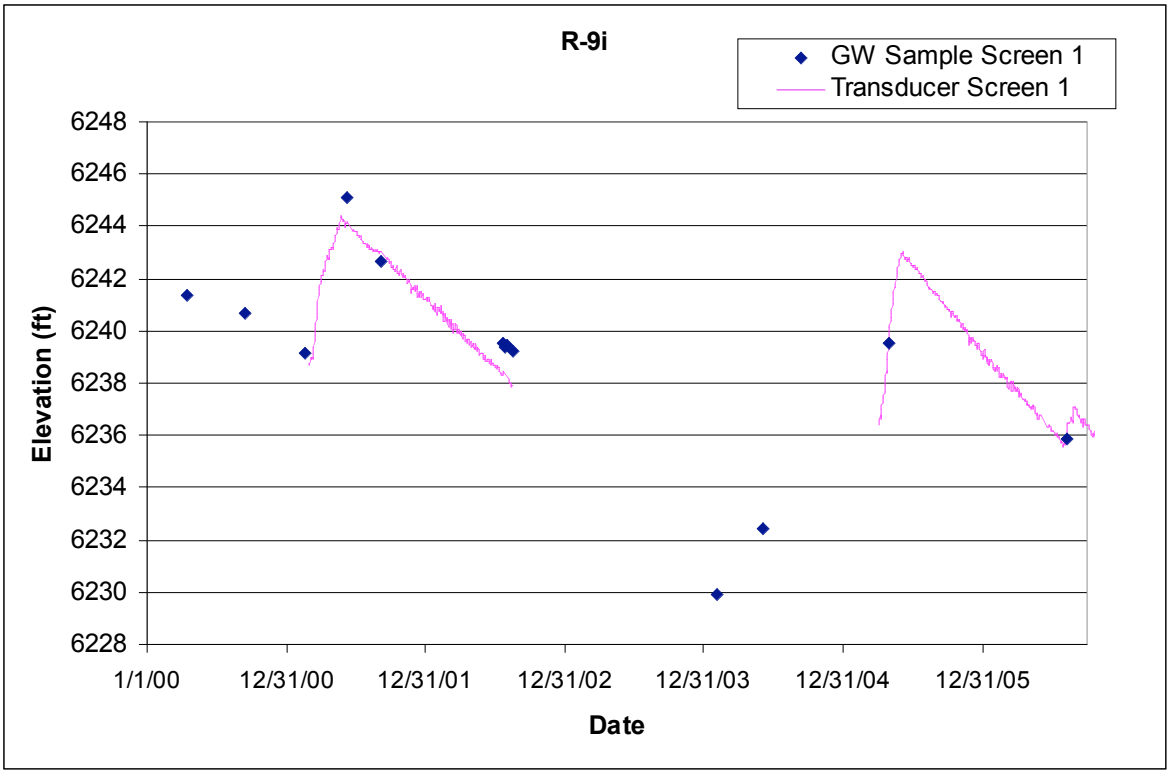
Location: R-9i is located in Los Alamos Canyon near the eastern LANL boundary and adjacent to R-9.
Completion Type: Dual Westbay® completion; both screens in Cerros del Rio basalt.
Period of Record: Well completed March 2000, transducers installed March 2001, intermittent data through 2006.
Remarks: The screens are about 70 ft apart and the heads in the two intermediate zones are about 110 ft apart. The water level at screen 1 is about 40 ft above the top of the screen; the water level at screen 2 is about 15 ft above the top of the screen. Groundwater at screen 1 appears to be recharged from large runoff events in lower Los Alamos Canyon.

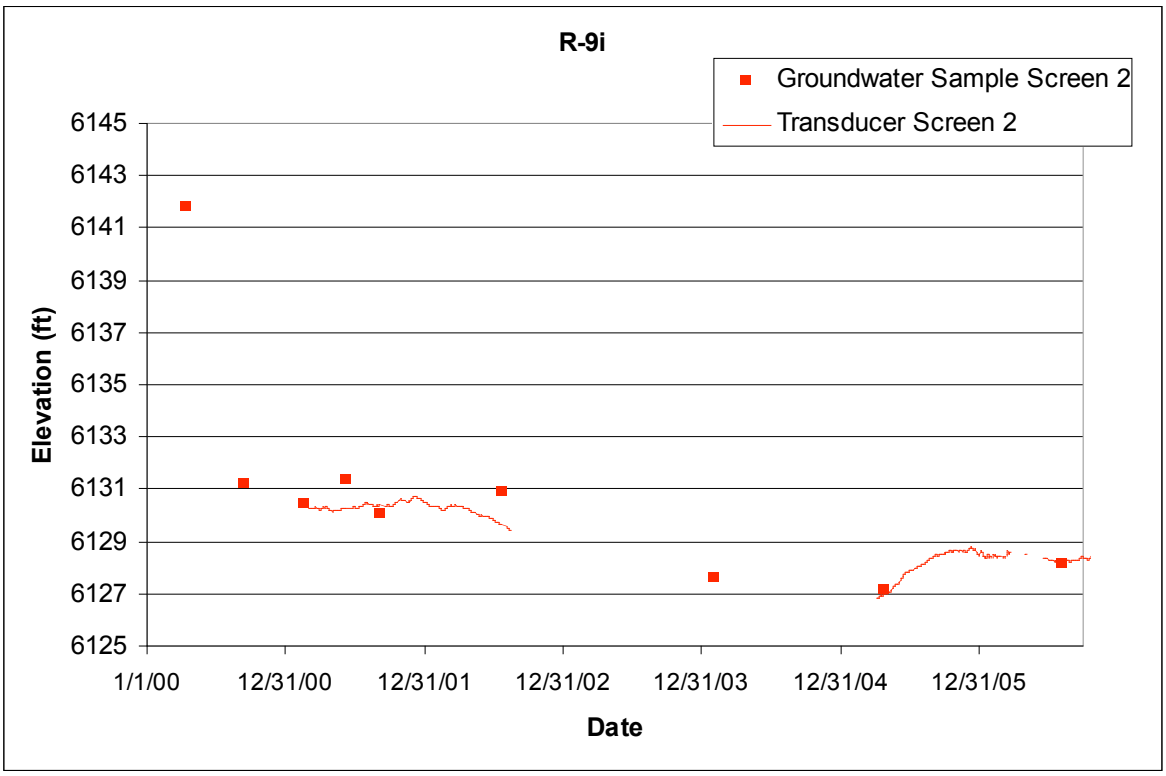
**R-9i Port Data**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Port | Port Depth (ft) | Port Elevation (ft) | Distance from Bottom of Screen (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 189.1 | 199.5 | 6194.1 | 6183.7 | 10.4 | **MP1A** | 198.8 | 6184.4 | 0.7 | | Intermediate Zone |
| | | | | | | PP1 | 204.1 | 6179.1 | -4.6 | 13.3 | Below screen |
| | | | | | | MP1B | 209.8 | 6173.4 | -10.3 | 29.8 | Below screen |
| 2 | 269.6 | 280.3 | 6113.6 | 6102.9 | 10.7 | **MP2A** | 278.8 | 6104.4 | 1.5 | | Intermediate Zone |
| | | | | | | PP2 | 284.1 | 6099.1 | -3.8 | 11.0 | Below screen |
| | | | | | | MP2B | 289.8 | 6093.4 | -9.5 | 27.5 | Below screen |

Note: Brass Cap Elevation is 6383.2 ft; all measurements are from this elevation;
MP = Monitoring Port, PP = Pumping Port; Ports shown in Bold are instrumented with transducers




R-9i
GW Sample Screen 1
Transducer Screen 1
Elevation (ft)
6248
6246
6244
6242
6240
6238
6236
6234
6232
6230
6228
1/1/00
12/31/00
12/31/01
12/31/02
12/31/03
12/31/04
12/31/05
Date


R-9i
Groundwater Sample Screen 2
Transducer Screen 2
Elevation (ft)
6145
6143
6141
6139
6137
6135
6133
6131
6129
6127
6125
1/1/00
12/31/00
12/31/01
12/31/02
12/31/03
12/31/04
12/31/05
Date

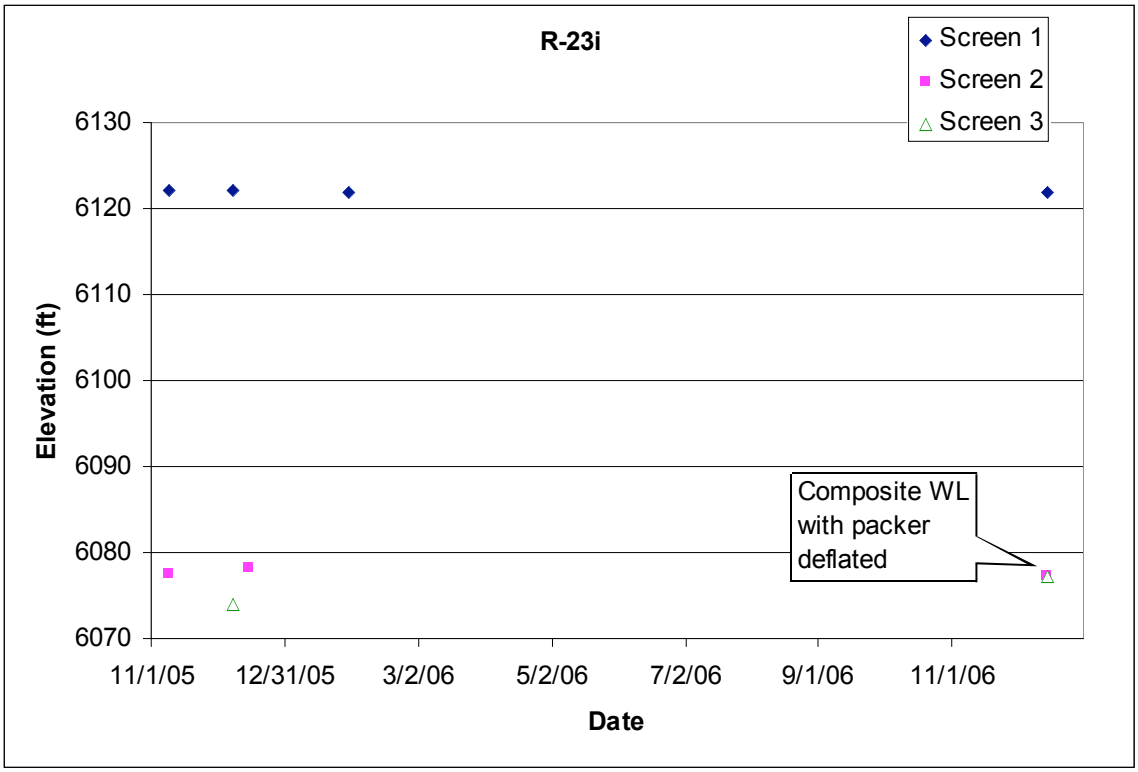
### 4.21 R-23i

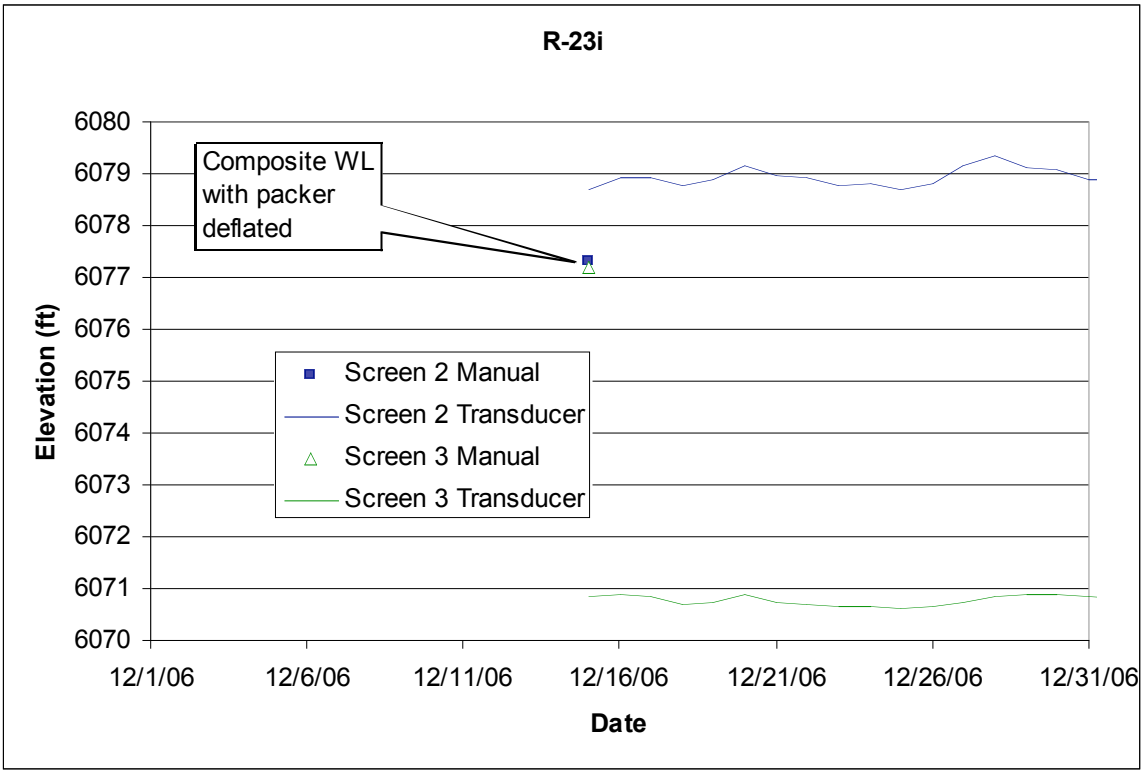
Location: R-23i is located in lower Pajarito Canyon near SR-4 and adjacent to regional well R-23.
Completion Type: Multiple completion, three screens, screen 1 is in a 2.1-in.-diameter piezometer and screens 2 and 3 in a 4-in.-diameter well. A Baski packer and dual pump system were installed at screens 2 and 3 in December 2006. All screens are in Cerros del Rio basalt.
Period of Record: Well completed November 2005, manual measurements at well completion. Transducers installed December 2006.
Remarks: Screens 2 and 3 have similar head; head at screen 1 is about 45 ft higher than screen 2.

**R-23i Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Packer/ Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 400.3 | 420.0 | 6127.6 | 6107.9 | 19.7 | | | 420.0 | 6107.9 | 425.3 | 5.3 | 16.6 | Intermediate |
| 2 | 470.2 | 480.1 | 6057.7 | 6047.8 | 9.9 | 477.1 | 6050.8 | 495.3 | 6032.5 | 495.3 | 0.0 | 0.0 | Intermediate |
| 3 | 524.0 | 547.0 | 6003.9 | 5980.9 | 23.0 | 516.7 | 6011.2 | 547.0 | 5980.9 | 550.7 | 3.7 | 11.6 | Intermediate |

Note: Brass Cap Ground Elevation: 6527.88 ft; all measurements are from this elevation




R-23i
Composite WL with packer deflated
Screen 2 Manual
Screen 2 Transducer
Screen 3 Manual
Screen 3 Transducer
Elevation (ft)
6080
6079
6078
6077
6076
6075
6074
6073
6072
6071
6070
12/1/06
12/6/06
12/11/06
12/16/06
12/21/06
12/26/06
12/31/06
Date

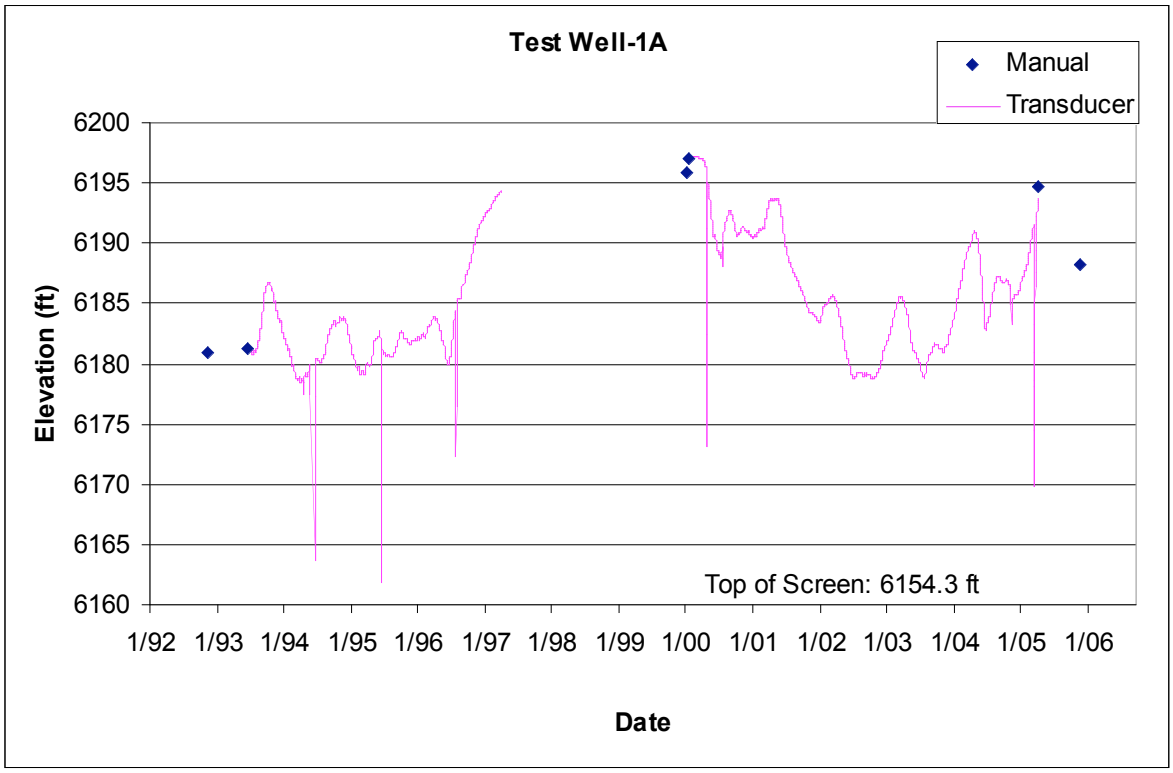
### 4.22 Test Well 1A

Location: TW-1A is located in lower Pueblo Canyon adjacent to TW-1.
Completion Type: Single completion in Cerros del Rio basalt.
Period of Record: Well completed in 1950, transducer installed June 1993, intermittent data to April 2005 when problems were encountered with equipment and the transducer was removed from the well.
Remarks: The wellhead equipment was removed from the well in February 2006 in preparation for plugging and abandonment of the well. The well is not planned for further monitoring.

**TW-1A Construction Information**

| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 215.0 | 225 | 6154.3 | 6144.3 | 10.0 | | 6369.3 | 225.0 | 6144.3 | 225 | 0.0 | 0.0 | Intermediate Zone |

Note: TW-1A Ground Elevation: 6369.28 ft; all depths are from this elevation

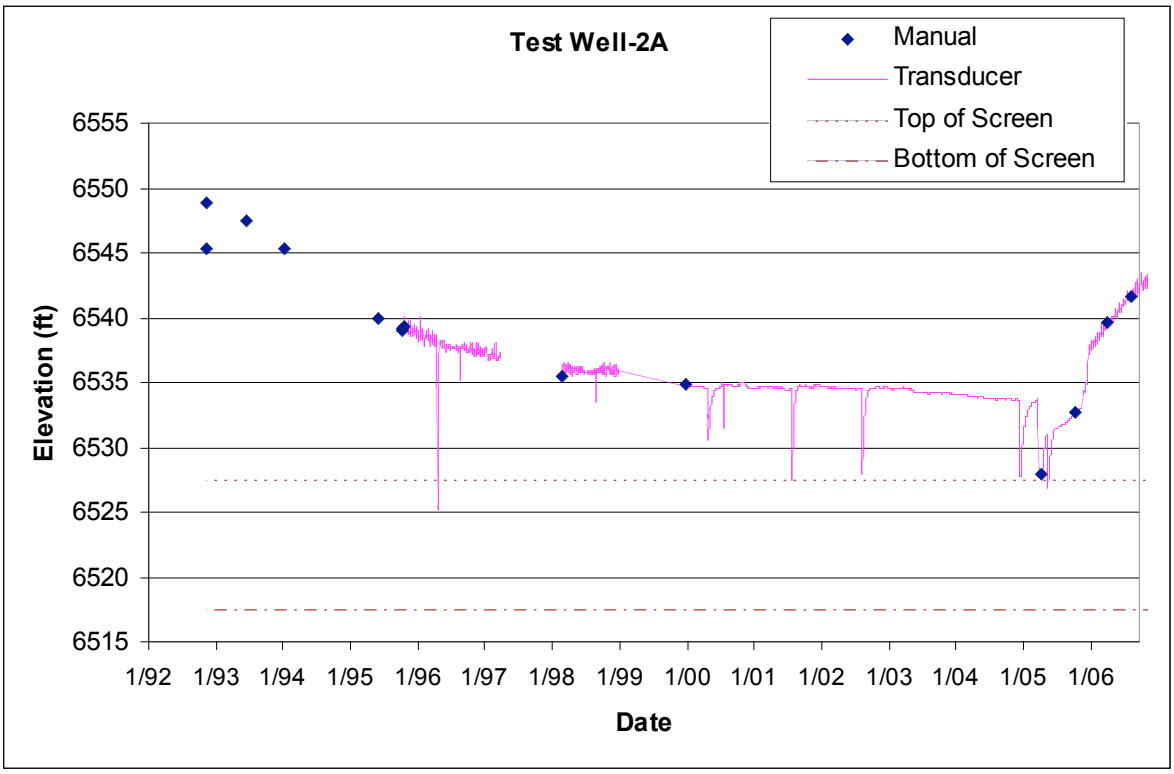


### 4.23 Test Well 2A

Location: TW-2A is located in middle Pueblo Canyon adjacent to TW-2.
Completion Type: Single completion in the Puye Formation.
Period of Record: Well completed in 1950, transducer installed January 1994 but equipment problems preclude data until 1995; intermittent data through 2006.
Remarks: Recent pumping of TW-2A has shown slow recovery of the water in the well.

| TW-2A Construction Information | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Zone | Screen Top Depth (ft) | Screen Bottom Depth (ft) | Screen Top Elev (ft) | Screen Bottom Elev (ft) | Screen Length (ft) | Pump Intake Depth (ft) | Pump Intake Elevation (ft) | Depth to Top of Sump (ft) | Top of Sump Elevation (ft) | Depth to Sump Bottom (ft) | Sump Length (ft) | Sump Volume (L) | Comment |
| 1 | 123.0 | 133.0 | 6527.4 | 6517.4 | 10.0 | 130 | 6520.4 | 133.0 | 6517.4 | 133 | 0.0 | 0.0 | Intermediate Zone |

Note: TW-2A Ground Elevation: 6650.4 ft; all measurements are from this elevation



## 5.0 Groundwater Level Data from Alluvial Wells

Table 5-1 lists the alluvial wells that were monitored for groundwater levels in FY 2006. The table provides the well name, date of completion, well depth, surveyed location coordinates, ground surface elevation, and the screen top and bottom depths for each well. Figure 5-1 shows the locations of the wells.

**Table 5-1. Information and Location Data for Alluvial Aquifer Wells at LANL.**

| Well Name | Date Completed | Completed Depth (ft) | Easting (ft) | Northing (ft) | Surface Elevation (ft) | Screen Top Depth (ft) | Screen Bottom Depth (ft) |
|---|---|---|---|---|---|---|---|
| 18-BG-1 | 8/1/1994 | 35 | 1634152.9 | 1762575.36 | 6776.45 | 10 | 35 |
| 18-BG-4 | 2/18/1998 | 6.5 | 1633510 | 1760760 | 6768 | 2.5 | 6.5 |
| 18-MW-7 | 7/6/1994 | 30 | 1634846.28 | 1761791.52 | 6755.5 | 10 | 30 |
| 18-MW-8 | 8/4/1994 | 37.9 | 1634714.26 | 1760658.14 | 6747.79 | 8 | 38 |
| 18-MW-9 | 7/21/1994 | 21 | 1635949.81 | 1760893.56 | 6732.91 | 6 | 31 |
| 18-MW-17 | 8/1/1995 | 22 | 1637778.2 | 1759717.1 | 6695.2 | 12 | 22 |
| 18-MW-18 | 7/31/1995 | 23 | 1639925 | 1758247.2 | 6654.7 | 12.5 | 23 |
| 39-UM-3 | 8/15/1994 | 54 | 1637032 | 1747663 | 6394.2 | 44 | 54 |
| 39-DM-6 | 8/15/1994 | 60 | 1637094 | 1747228 | 6384.57 | 50 | 60 |
| APCO-1 | 8/15/1990 | 19.7 | 1649209.62 | 1773020.12 | 6367.53 | 4.7 | 14.7 |
| CDBO-1 | 4/17/1985 | 13 | 1637968.59 | 1760943.96 | 6757.6 | 5.1 | 13.1 |
| CDBO-2 | 4/18/1985 | 18 | 1638119.02 | 1761103.11 | 6758.2 | 5.9 | 17.9 |
| CDBO-3 | 4/18/1985 | 12 | 1640677.11 | 1759611.02 | 6670.2 | 4.4 | 12.4 |
| CDBO-4 | 4/18/1985 | 12 | 1645474.9 | 1758546.9 | 6564.5 | 4.1 | 12.1 |
| CDBO-5 | 6/1/1992 | 17 | 1633583.37 | 1765818.37 | 6879.01 | 7 | 17 |
| CDBO-6 | 6/1/1992 | 49 | 1636209.25 | 1764759.75 | 6817.2 | 34 | 44 |
| CDBO-7 | 6/1/1992 | 44 | 1637400 | 1763301 | 6771.81 | 29 | 39 |
| CDBO-8 | 6/1/1992 | 23 | 1639294 | 1762366 | 6722.47 | 3 | 13 |
| CDBO-9 | 6/1/1992 | 34 | 1642119.12 | 1759702.87 | 6633 | 19 | 29 |
| CdV-16-02655 | 9/27/1997 | 7.6 | 1611299.09 | 1764153.134 | 7583.7 | 2.3 | 7.3 |
| CdV-16-02656 | 11/5/1997 | 8.2 | 1613634.46 | 1764932.79 | 7443.18 | 3 | 8 |
| CdV-16-02657 | 10/10/1997 | 5.7 | 1613813.19 | 1764850.1 | 7433.25 | 0.4 | 5.4 |
| CdV-16-02658 | 9/16/1997 | 7.2 | 1615071.38 | 1764469.56 | 7375.6 | 1.9 | 6.9 |
| CdV-16-02659 | 9/8/1997 | 7 | 1616712.08 | 1765035.06 | 7300.5 | 1.7 | 6.7 |
| FCO-1 | 8/22/1989 | 12.4 | 1642409 | 1751177 | 6509.24 | 2.4 | 12.4 |
| LAO-B | 4/28/1994 | 27.2 | 1615148.8 | 1775170.4 | 7323.59 | 11.84 | 26.84 |
| LAO-0.3 | 5/17/1994 | 11.25 | 1624799 | 1774511.6 | 6968.13 | 5.9 | 10.9 |
| LAO-0.6 | 5/6/1994 | 13.35 | 1626748.1 | 1774332.9 | 6910.74 | 8 | 13 |
| LAO-0.91 | 5/12/1994 | 14.85 | 1628654.3 | 1774207 | 6861.74 | 9.5 | 14.5 |
| LAO-1 | 2/1/1996 | 28 | 1629395 | 1773956.37 | 6836.24 | 8 | 28 |
| LAO-1.2 | 8/15/1969 | 18 | 1632646.25 | 1773361.37 | 6720 | 8 | 18 |
| LAO-1.6g | 3/20/1996 | 30.82 | 1636083.42 | 1772557.63 | 6658.01 | 10.47 | 25.47 |
| LAO-1.8 | 4/15/1969 | 18 | 1635446.25 | 1772661.37 | 6680 | 8 | 18 |

| Table 5.1 Information and Location Data for Alluvial Aquifer Wells at LANL (cont.) | | | | | | | |
|---|---|---|---|---|---|---|---|
| Well Name | Date Completed | Completed Depth (ft) | Easting (ft) | Northing (ft) | Surface Elevation (ft) | Screen Top Depth (ft) | Screen Bottom Depth (ft) |
| LAO-2 | 2/1/1996 | 32 | 1637607.75 | 1773095.87 | 6592.97 | 7 | 32 |
| LAO-3a | 9/14/1989 | 14.7 | 1637980.87 | 1773099.75 | 6579.4 | 4.7 | 14.7 |
| LAO-4.5c | 11/1/1989 | 23.3 | 1643547.37 | 1772076.5 | 6457.63 | 13.3 | 23.3 |
| LAO-5 | 2/15/1966 | 25 | 1646202.25 | 1771424.12 | 6398.3 | 5 | 25 |
| LAO-6 | 2/1/1966 | 16 | 1646222.12 | 1771329.5 | 6395.3 | 6 | 16 |
| LAO-6a | 8/1/1989 | 14.2 | 1646221.62 | 1771344 | 6395.88 | 4.2 | 14.2 |
| LAUZ-1 | | 10.55 | 1633435.13 | 1774809.81 | 7032.42 | 5.35 | 10.35 |
| LAUZ-2 | | 10.47 | 1634014.47 | 1774728.63 | 7026.72 | 5.27 | 10.27 |
| LLAO-1(b) | 7/16/1997 | 24.17 | 1659738.7 | 1772381.65 | 5850.34 | 11.32 | 21.32 |
| LLAO-3 | 7/22/1997 | 21.5 | 1665475 | 1775952.59 | 5692.62 | 8.65 | 18.65 |
| LLAO-4 | 9/30/1996 | 18.1 | 1671820.23 | 1774468.01 | 5515.46 | 5.24 | 15.24 |
| LLAO-5 | 6/27/1996 | 24.22 | 1672275.4 | 1774271.6 | 5508.21 | 11.37 | 21.37 |
| MCA-1 | 1/24/2005 | 5.9 | 1626586.5 | 1770410.77 | 7070.6 | 2.4 | 5.4 |
| MCA-2 | 10/24/2004 | 65 | 1634097.23 | 1768585.88 | 6837.2 | 45 | 60 |
| MCA-3a | 11/29/2004 | 43.4 | 1633586.89 | 1769068.28 | 6853 | 42.9 | 43.4 |
| MCA-3c | 11/30/2004 | 43.4 | 1633586.89 | 1769068.28 | 6853 | 38.4 | 38.9 |
| MCA-3b | 11/22/2004 | 42.1 | 1633589.4 | 1769069.84 | 6852.9 | 40.9 | 41.4 |
| MCA-3d | 12/2/2004 | 55.8 | 1634886.02 | 1768523.27 | 6819.8 | 54.6 | 55.1 |
| MCA-3e | 12/2/2004 | 55.8 | 1634886.02 | 1768523.27 | 6819.8 | 51 | 51.5 |
| MCA-3f | 12/2/2004 | 55.8 | 1634886.02 | 1768523.27 | 6819.8 | 47.5 | 48 |
| MCA-4 | 2/1/2005 | 6 | 1625945.5 | 1770129.55 | 7135.1 | 3.3 | 5.3 |
| MCA-5 | 2/1/2005 | 5.4 | 1627354.17 | 1770233.59 | 7053.8 | 1.75 | 5.75 |
| MCA-8 | 9/29/2004 | 86.3 | 1641325.48 | 1767372.92 | 6668.8 | 66 | 81 |
| MCA-9 | 12/4/2004 | 113 | 1641470.29 | 1767393.22 | 6671.7 | 92.8 | 107.8 |
| MCO-0.6 | 2/25/1999 | 3.1 | 1623987.8 | 1771179.5 | 7188.28 | 1.05 | 3.05 |
| MCO-2 | 11/1/1960 | 9 | 1625919.25 | 1770135.12 | 7136.6 | 2 | 9 |
| MCO-3 | 3/1/1967 | 12 | 1627362.5 | 1770236.75 | 7052.6 | 2 | 12 |
| MCO-4B | 8/1/1990 | 33.9 | 1632036.37 | 1769697 | 6886.75 | 8.9 | 28.9 |
| MCO-5 | 10/1/1960 | 46 | 1632466.12 | 1769538 | 6875.66 | 21 | 46 |
| MCO-6 | 3/1/1974 | 47 | 1633635.37 | 1769012.75 | 6849.48 | 27 | 47 |
| MCO-7 | 10/1/1960 | 69 | 1634517.87 | 1768509.87 | 6827.31 | 39 | 69 |
| MCO-7.5 | 4/1/1974 | 60 | 1635454.87 | 1768440.5 | 6808.88 | 35 | 60 |
| MCWB-5 | 12/6/1994 | 33 | 1632578.31 | 1769484.6 | 6876.22 | 17 | 27 |
| MCWB-5.5B | 12/22/1994 | 37.5 | 1633420.54 | 1769125.78 | 6856.89 | 22.5 | 32.5 |
| MCWB-6.2A | 12/7/1994 | 45.5 | 1633754.49 | 1768968.15 | 6848.29 | 30.5 | 40.5 |
| MCWB-6.5E | 12/21/1994 | 50 | 1633833.36 | 1768583.81 | 6843.8 | 35 | 45 |
| MCWB-7A | 12/9/1994 | 52 | 1634356.62 | 1768551.02 | 6831.17 | 37 | 47 |
| MCWB-7.4B | 12/13/1994 | 70 | 1635287.73 | 1768407.84 | 6813.07 | 45 | 65 |
| MCWB-7.7B | 12/20/1994 | 70 | 1635921.84 | 1768517.26 | 6798.97 | 55 | 65 |
| MSC-16-06293 | 1/27/2000 | 7.3 | 1615809.67 | 1761331.78 | 7370.79 | 2 | 7 |
| MSC-16-06294 | 1/26/2000 | 7.6 | 1617848.17 | 1761298.779 | 7288.44 | 2.5 | 7.3 |
| MSC-16-06295 | 1/31/2000 | 6.9 | 1618630.67 | 1761004.778 | 7257.03 | 1.5 | 6.5 |

| Table 5.1 Information and Location Data for Alluvial Aquifer Wells at LANL (cont.) | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Well Name** | **Date Completed** | **Completed Depth (ft)** | **Easting (ft)** | **Northing (ft)** | **Surface Elevation (ft)** | **Screen Top Depth (ft)** | **Screen Bottom Depth (ft)** |
| MT-1 | 11/1/1988 | 69 | 1635262.86 | 1768493.96 | 6811.63 | 39 | 59 |
| MT-2 | 11/1/1988 | 64 | 1636019.79 | 1768544.59 | 6796.2 | 44 | 64 |
| MT-3 | 11/1/1988 | 74 | 1635980.95 | 1768657.83 | 6796.65 | 44 | 64 |
| MT-4 | 11/1/1988 | 74 | 1636558.75 | 1768634.37 | 6783.59 | 54 | 64 |
| PAO-1 | 10/30/1998 | 13.74 | 1624165.85 | 1778988.716 | 6954.97 | 5.89 | 10.89 |
| PAO-2 | 11/2/1998 | 13.91 | 1625040.9 | 1778710 | 6930.98 | 6.06 | 11.06 |
| PAO-2.5 | 8/31/1998 | 10.25 | 1630646.12 | 1777700.31 | 6722.39 | 2.4 | 7.4 |
| PAO-3 | 8/27/1998 | 13.47 | 1637747.7 | 1776856.31 | 6578.58 | 5.62 | 10.62 |
| PAO-4 | 7/24/1997 | 9.82 | 1646090.28 | 1775098.35 | 6437.37 | 1.97 | 6.97 |
| PAO-5N | 3/24/1998 | 15.28 | 1649271.93 | 1773133.5 | 6369.79 | 7.43 | 12.43 |
| PAO-5S | 3/23/1998 | 20.9 | 1649180.35 | 1772991.48 | 6368.3 | 8.05 | 18.05 |
| PCO-1 | 6/30/1985 | 12 | 1637919.25 | 1759990.62 | 6687 | 4 | 12 |
| PCO-2 | 6/30/1985 | 9.5 | 1641700.37 | 1757442.75 | 6618.3 | 1.5 | 9.5 |
| PCO-3 | 6/30/1985 | 17.7 | 1646088.62 | 1755489.37 | 6546.3 | 5.7 | 17.7 |
| SCO-1 | 8/15/1989 | 19.3 | 1642297.62 | 1769502.25 | 6618.67 | 9.3 | 19.3 |
| SCO-2 | 8/16/1989 | 19.4 | 1647259 | 1767864 | 6500.67 | 9.4 | 19.4 |
| TSCA-6 | 11/9/2005 | 21.3 | 1632954.6 | 1768471.44 | 6863.2 | 16.2 | 20.9 |
| TSWB-6 | 12/21/1994 | 40 | 1633383.09 | 1768490.75 | 6853.21 | 25 | 35 |
| WCO-1 | 10/31/1989 | 34.4 | 1632758.75 | 1755069.12 | 6616.41 | 24.4 | 34.4 |
| WCO-2 | 10/26/1989 | 23.5 | 1636870.37 | 1753228.37 | 6524.57 | 13.5 | 23.5 |
| WCO-3 | 10/25/1989 | 12.4 | 1640212.5 | 1750620.25 | 6436.43 | 7.4 | 12.4 |

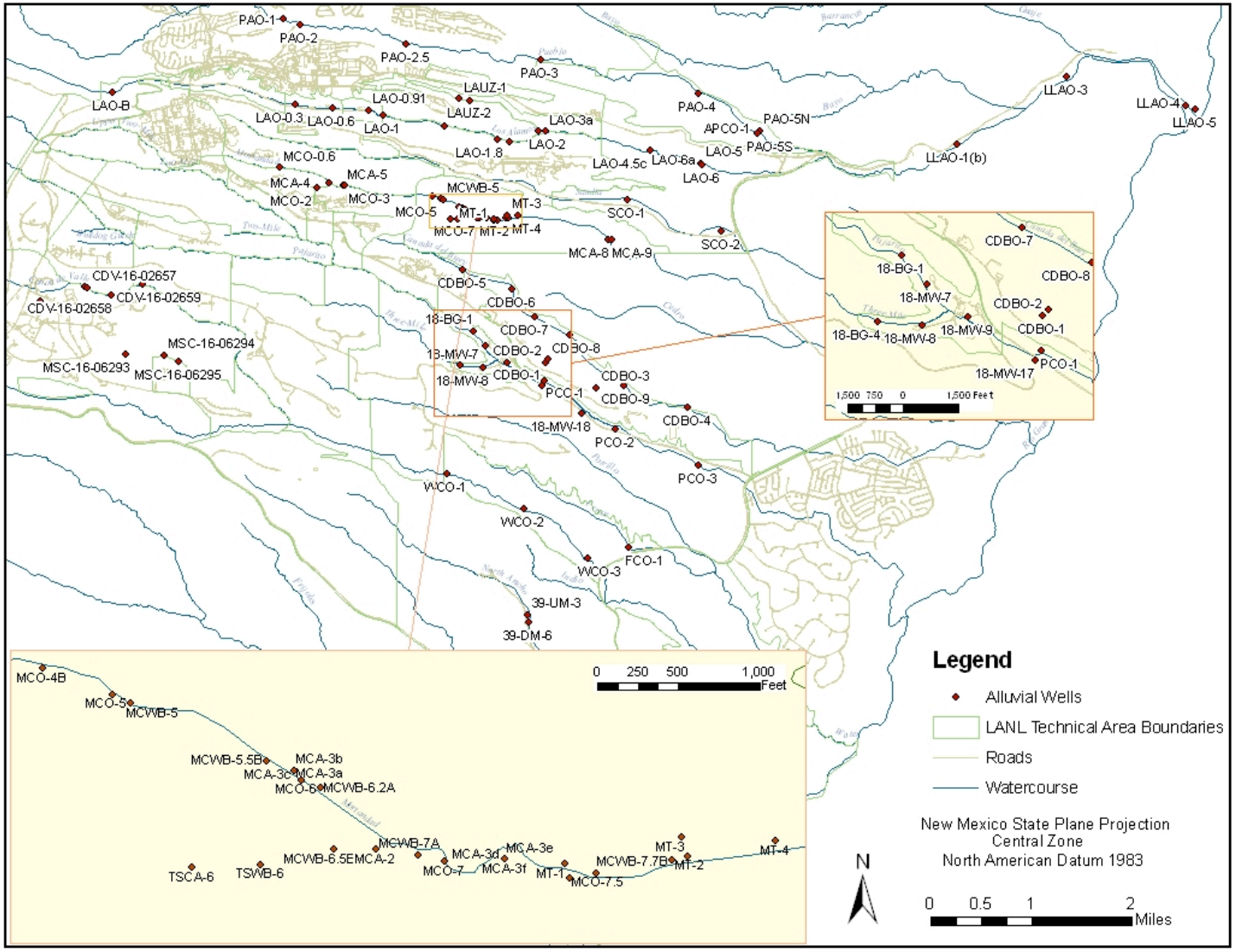
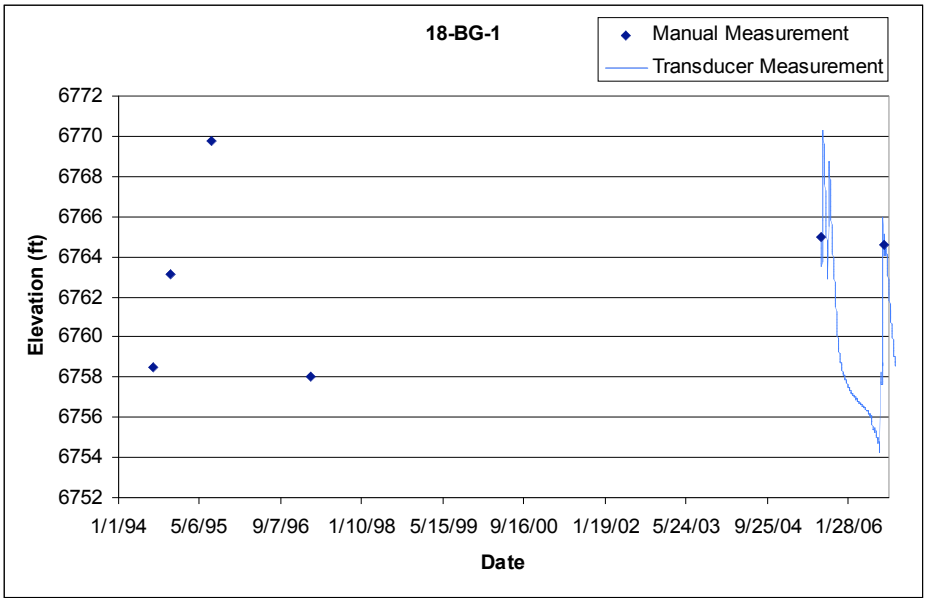
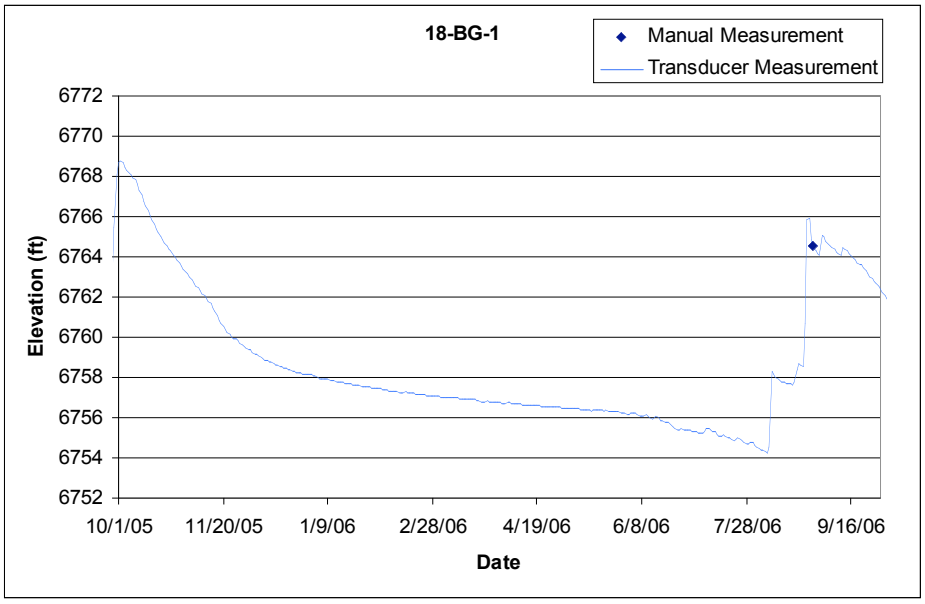



**Figure 5-1. Alluvial Wells Monitored for Groundwater Levels in FY 2006**

## 5.1 18-BG-1

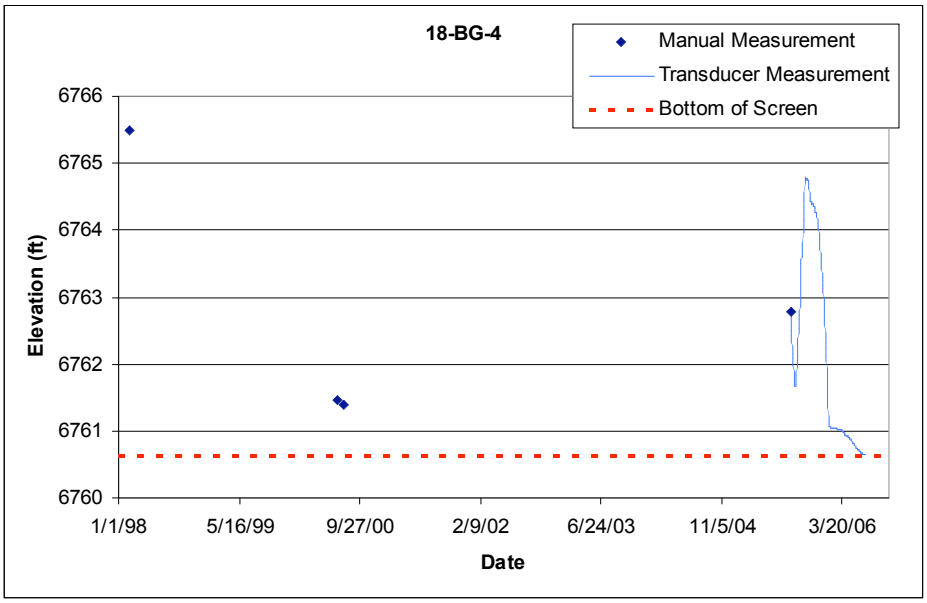
Location: Pajarito Canyon, about 0.4 mile west of the TA-18 facilities.
Period of Record: August 1, 1994, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-BG-1 on August 16, 2005. The screen bottom elevation is 6741.45 ft.

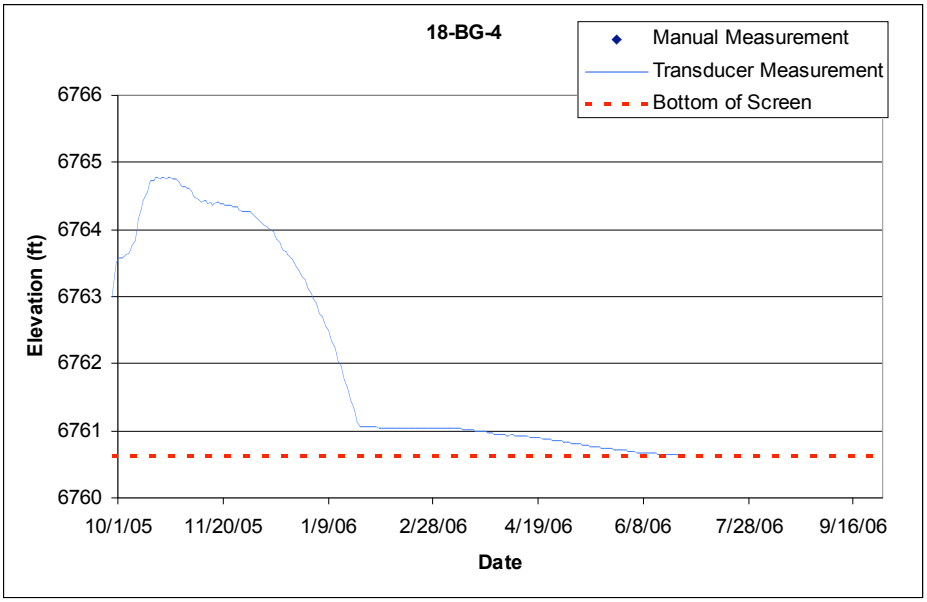


## 5.2 18-BG-4

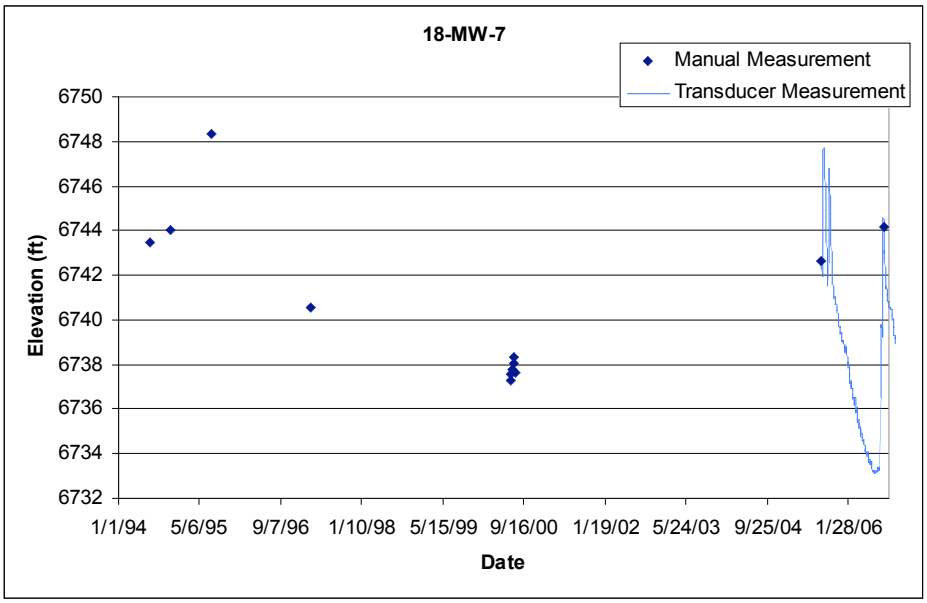
Location: Threemile Canyon, about 0.3 mile west of the TA-18 facilities.
Period of Record: February 18, 1998, through September 30, 2006.
Remarks: A pressure transducer was installed on August 18, 2005.

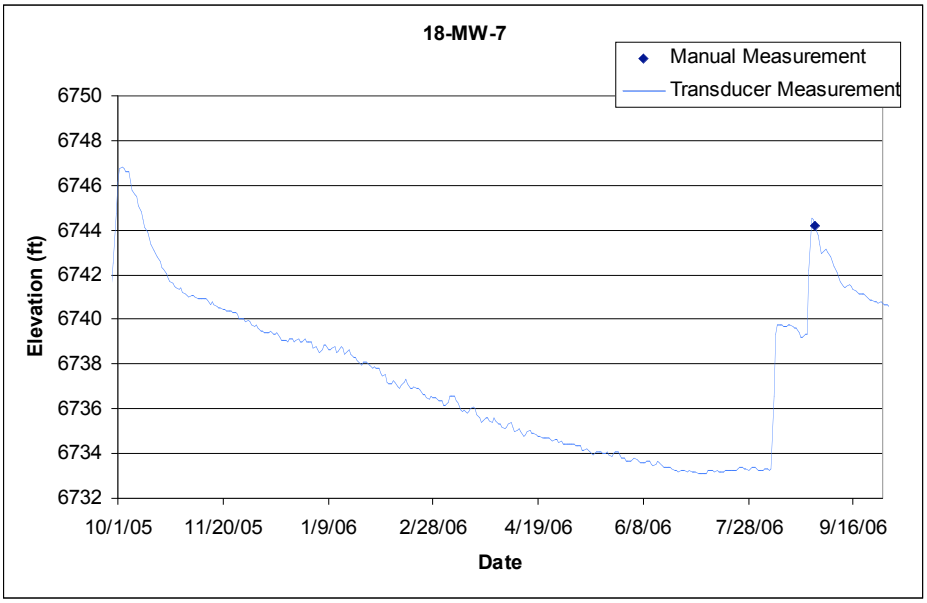


### 5.3 18-MW-7

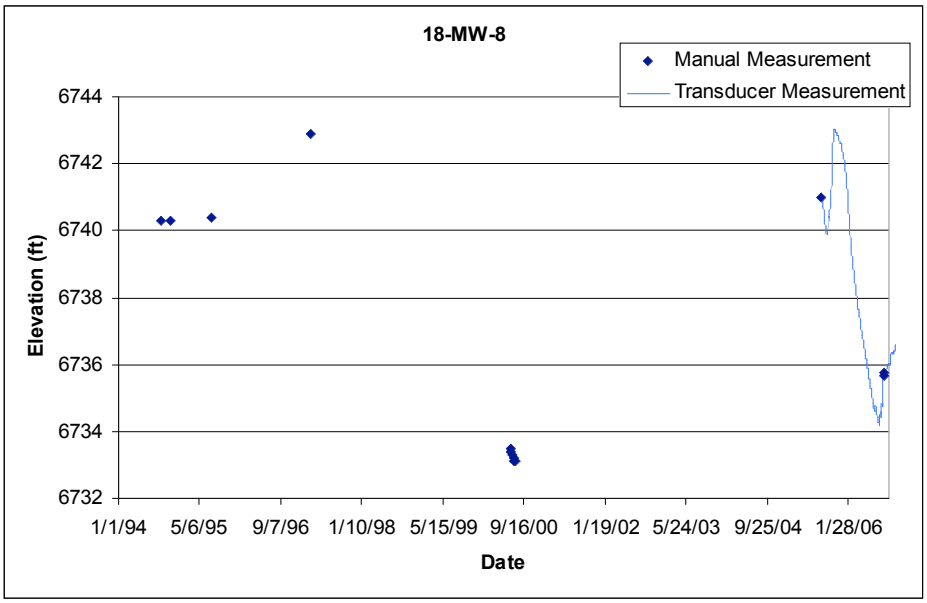
Location: Pajarito Canyon, about 0.2 mile west of the TA-18 facilities.
Period of Record: July 6, 1994, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-MW-7 on August 18, 2005. Screen bottom elevation is 6725.5 ft.

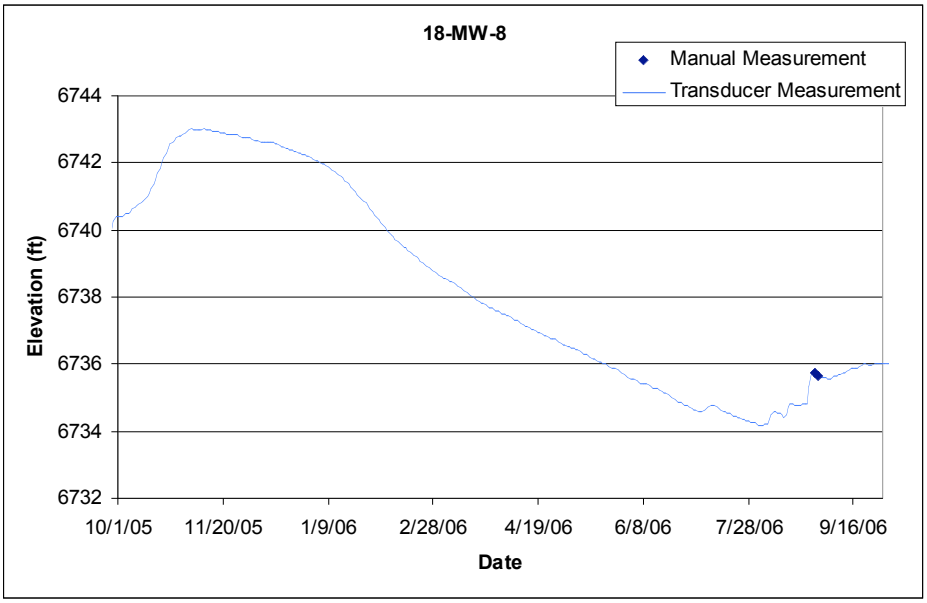


## 5.4 18-MW-8

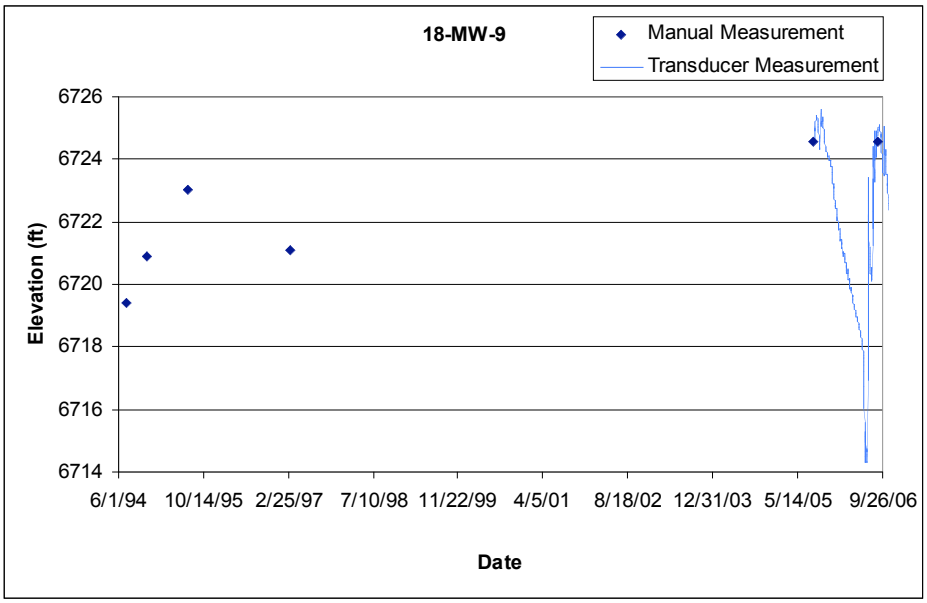
Location: Threemile Canyon, about 0.1 mile west of the TA-18 facilities.
Period of Record: September 15, 1994, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-MW-8 on August 18, 2005. Screen bottom elevation is 6709.8 ft.

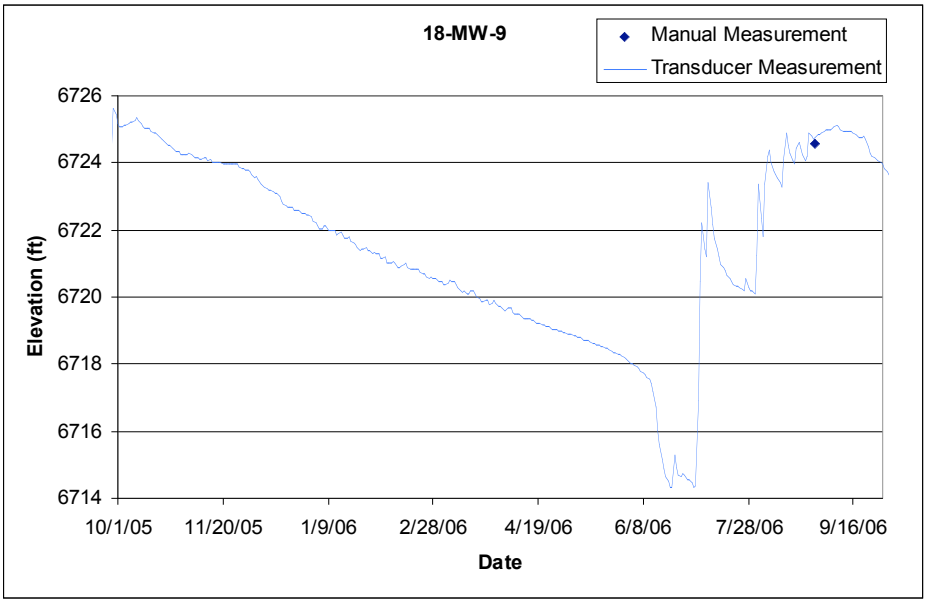


## 5.5 18-MW-9

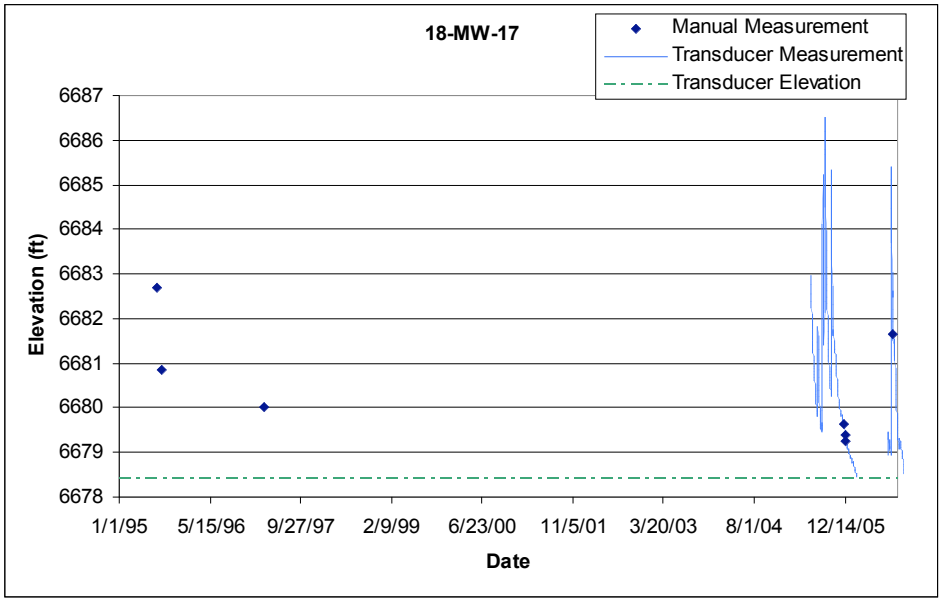
Location: Pajarito Canyon, directly south of the main guard gate to TA-18.
Period of Record: July 21, 1994, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-MW-9 on August 18, 2005. Screen bottom elevation is 6711.9 ft.

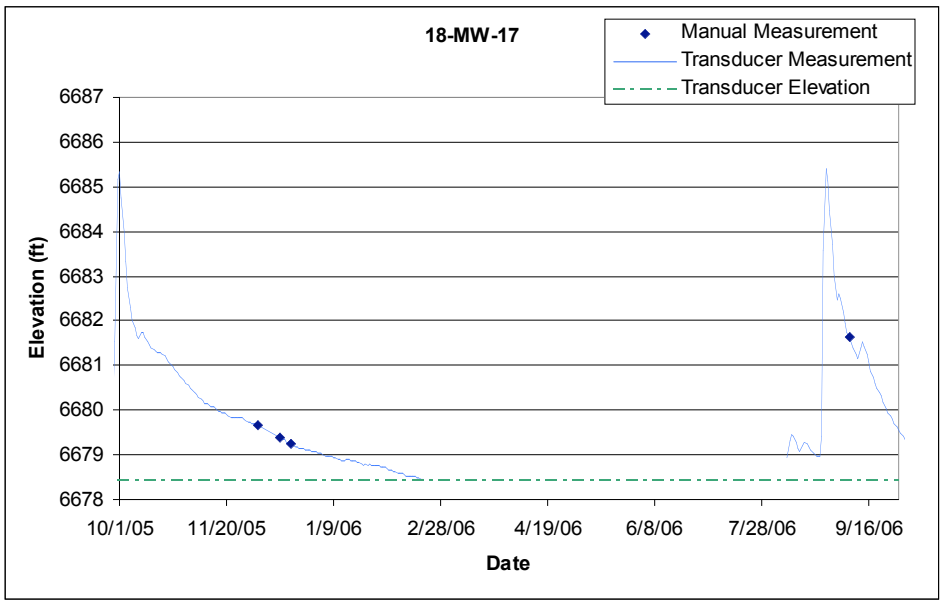


### 5.6 18-MW-17

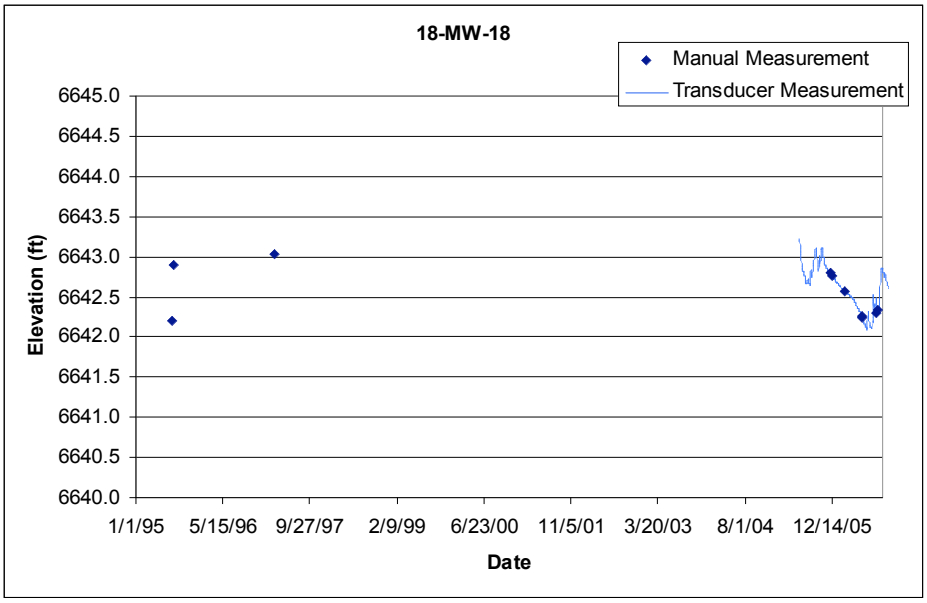
Location: Pajarito Canyon, east of TA-18.
Period of Record: August 1, 1995, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-MW-17 on June 9, 2005. Screen bottom elevation is 6673.2 ft. The pressure transducer is installed above the top of the bladder pump. Due to the 2-in. well construction, the transducer does not fit below the pump. The water level declined below the transducer elevation on February 20, 2006.

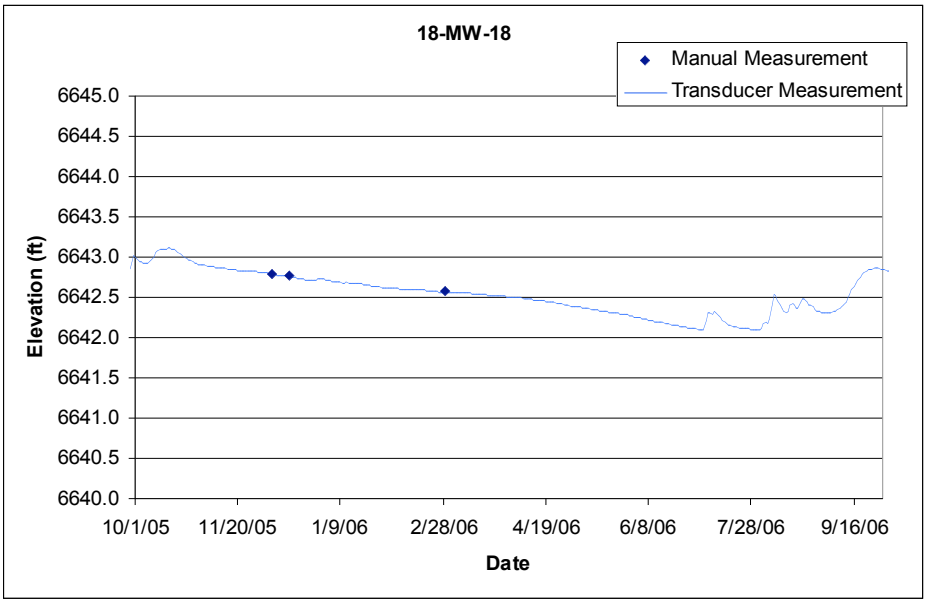


### 5.7 18-MW-18

Location: Alluvial well 18-MW-18 is located in Pajarito Canyon, east of TA-18.
Period of Record: July 31, 1995, through September 30, 2006.
Remarks: A pressure transducer was installed in 18-MW-18 on June 9, 2005. Screen bottom elevation is 6631.7 ft.



### 5.8 39-UM-3

Location: Ancho Canyon, TA-39, approximately 2100 ft north of regional well R-31.
Period of Record: March 9, 2006, through September 7, 2006.
Remarks: Well was dry during quarterly manual measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| 39-UM-3 | 3/9/2006 10:00:00 AM | | Dry |
| 39-UM-3 | 6/13/2006 7:07:00 AM | | Dry, TD = 57.81 ft |
| 39-UM-3 | 9/7/2006 1:06:00 PM | | Dry |

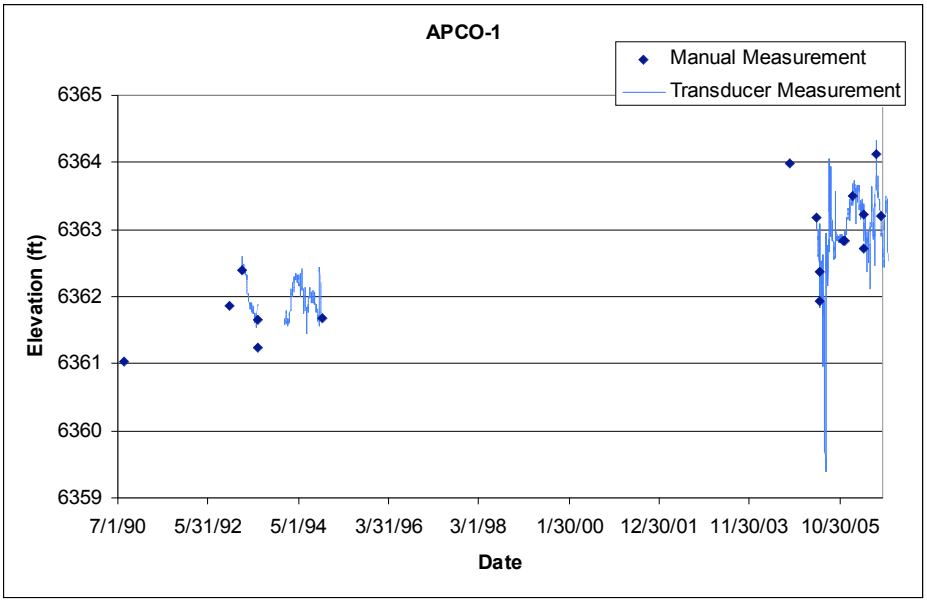
### 5.9 39-DM-6

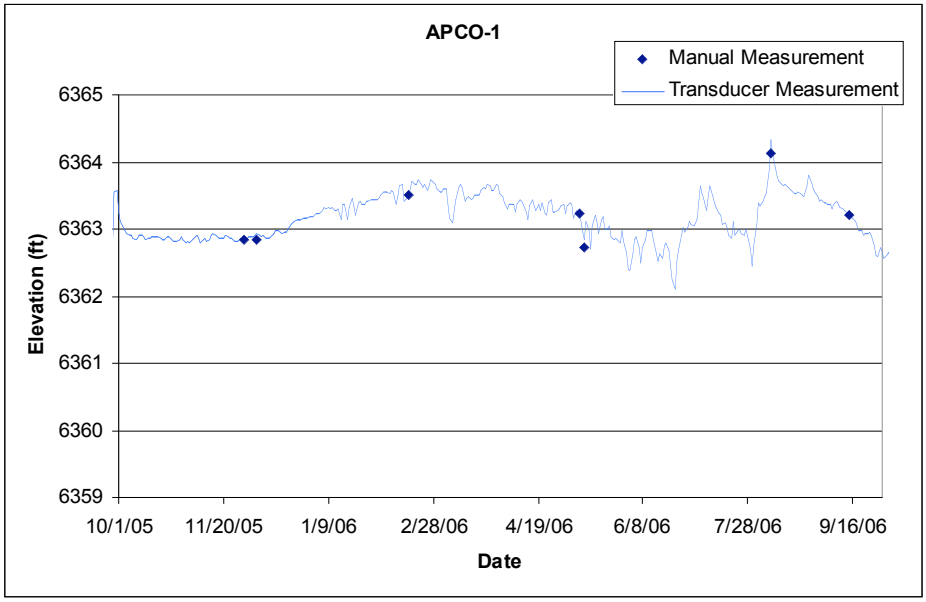
Location: Ancho Canyon, TA-39, approximately 1600 ft north of regional well R-31.
Period of Record: March 9, 2006, through September 7, 2006.
Remarks: Well was dry during quarterly manual measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| 39-DM-6 | 3/9/2006 10:28:00 AM | | Dry |
| 39-DM-6 | 6/13/2006 7:25:00 AM | | Dry, TD = 60.19 ft |
| 39-DM-6 | 9/7/2006 1:03:00 PM | | Dry |

### 5.10 APCO-1

Location: Alluvial well APCO-1 is located in lower Pueblo Canyon.
Period of Record: August 17, 1990, through September 30, 2006.
Remarks: A pressure transducer was installed in APCO-1 February 17, 1993, through June 17, 1993, January 11, 1994, through November 9, 1994, and May 9, 2005. Screen bottom elevation is 6352.83 ft.



### 5.11 CDBO-1

Location: Alluvial well CDBO-1 is located in Cañada del Buey, approximately 1320 ft north of regional well R-20.
Period of Record: March 8, 2006, through September 27, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-1 | 3/8/2006 2:53:00 PM | | Dry |
| CDBO-1 | 6/26/2006 9:58:00 AM | | Dry, TD = 14.41 ft |
| CDBO-1 | 9/6/2006 9:44:00 AM | | Dry |
| CDBO-1 | 9/27/2006 11:15:00 AM | | Dry |

### 5.12 CDBO-2

Location: Alluvial well CDBO-2 is located in Cañada del Buey, approximately 260 ft northeast of CDBO-1.
Period of Record: March 8, 2006, through September 27, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-2 | 3/8/2006 11:08:00 AM | | Dry |
| CDBO-2 | 6/26/2006 10:05:00 AM | | Dry, TD = 19.24 ft |
| CDBO-2 | 9/6/2006 9:52:00 AM | | Dry |
| CDBO-2 | 9/27/2006 11:25:00 AM | | Dry |

### 5.13 CDBO-3

Location: Alluvial well CDBO-3 is located in Cañada del Buey, approximately 630 ft northwest of regional well R-21.
Period of Record: December 6, 2005, through September 27, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-3 | 12/6/2005 1:00:00 PM | | Dry |
| CDBO-3 | 3/8/2006 10:06:00 AM | | Dry |
| CDBO-3 | 6/26/2006 9:27:00 AM | | Dry, TD = 13.53 ft |
| CDBO-3 | 9/6/2006 9:19:00 AM | | Dry |
| CDBO-3 | 9/27/2006 11:00:00 AM | | Dry |

### 5.14 CDBO-4

Location: Alluvial well CDBO-4 is located in Cañada del Buey, approximately 1600 ft north of regional well R-22.
Period of Record: December 6, 2005, through September 6, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-4 | 12/7/2005 1:50:00 PM | | Dry |
| CDBO-4 | 3/8/2006 9:24:00 AM | | Dry |
| CDBO-4 | 6/26/2006 9:12:00 AM | | Dry, TD = 13.42 ft |
| CDBO-4 | 9/6/2006 8:58:00 AM | | Dry |

### 5.15 CDBO-5

Location: Alluvial well CDBO-5 is located in Cañada del Buey, approximately 0.5 mile west-northwest of CDBO-6.
Period of Record: December 7, 2005, through September 6, 2006.
Remarks: Well was dry or moisture was found below the bottom of the screen during quarterly measurements.

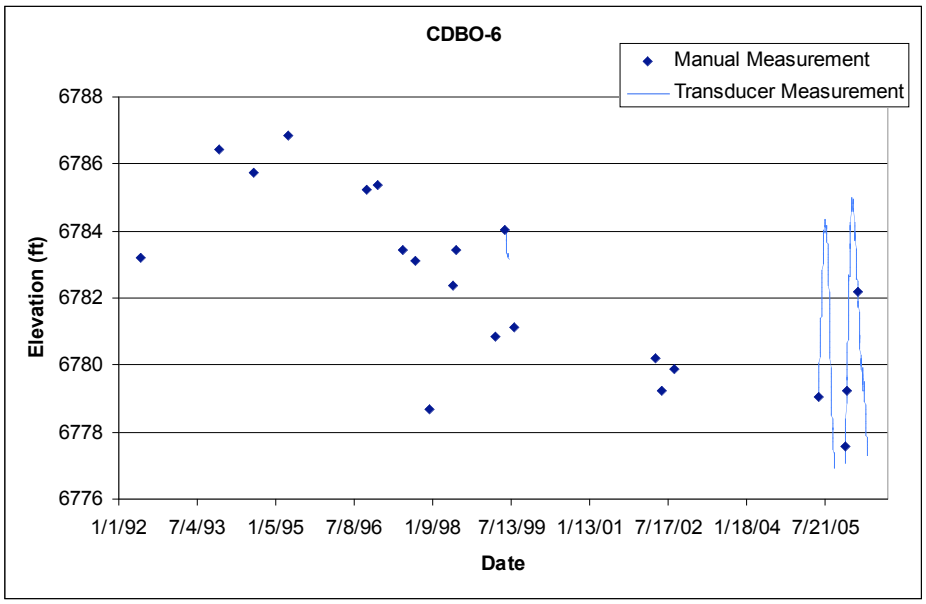
| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-5 | 12/7/2005 10:20 AM | | Dry |
| CDBO-5 | 3/8/2006 12:23 PM | | Water is in sump. |
| CDBO-5 | 6/26/2006 12:24 PM | | Water is in sump, TD = 20.99 ft |
| CDBO-5 | 9/6/2006 11:34 AM | | Water is in sump. |

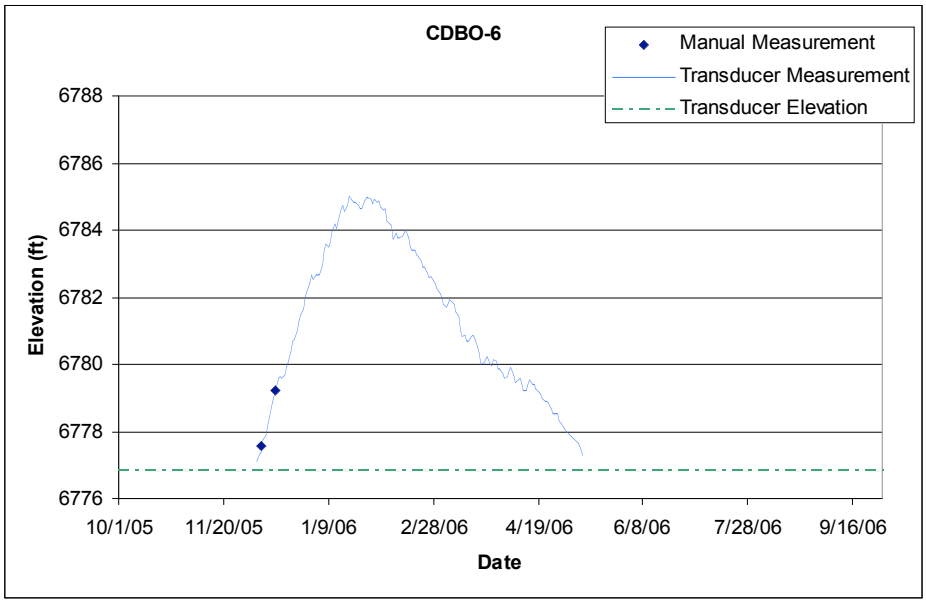
### 5.16 CDBO-6

Location: Alluvial well CDBO-6 is located in Cañada del Buey, approximately 420 ft east of production well PM-4.

Period of Record: June 1, 1992, through September 30, 2006.

Remarks: Alluvial well CDBO-6 has a bladder pump installed in a 2-in. casing. The pressure transducer sensor elevation is 6776.83 ft. The transducer may not be installed any lower due to interference with the pump. The screen bottom elevation is 6773.2 ft. The groundwater elevation may at times be above the screen bottom, but below the transducer sensor.



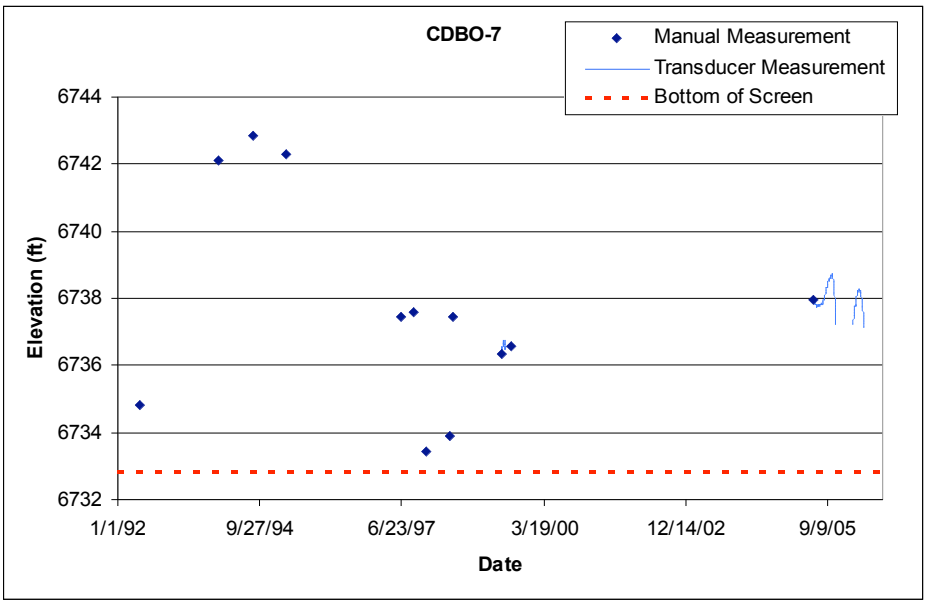



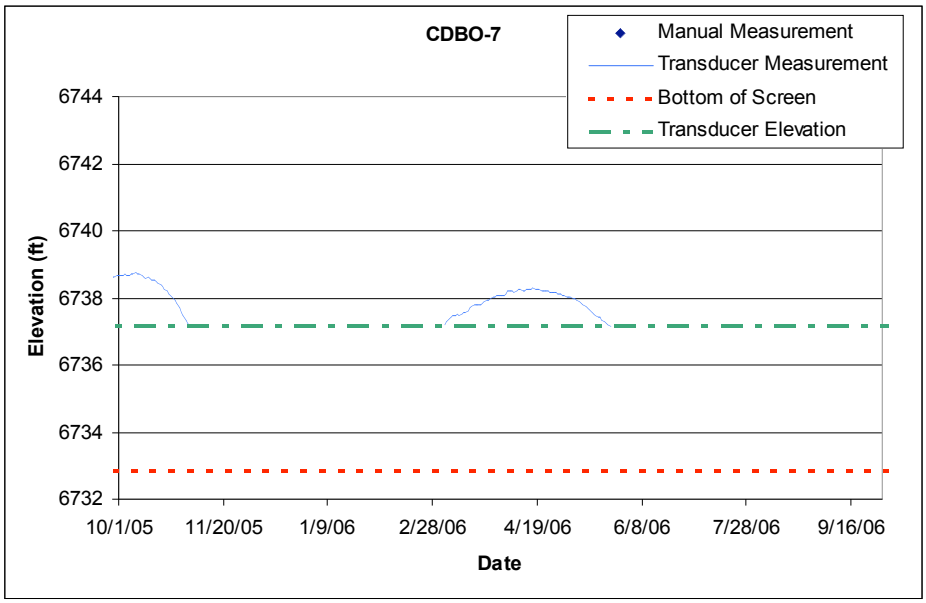
### 5.17 CDBO-7

Location: Alluvial well CDBO-7 is located in Cañada del Buey, approximately 0.3 mile southeast of CDBO-6.

Period of Record: June 1, 1992, through September 30, 2006.

Remarks: Alluvial well CDBO-7 has a bladder pump installed in a 2-in. casing. The pressure transducer sensor elevation is 6737.14 ft. The transducer may not be installed any lower due to interference with the pump. The screen bottom elevation is 6732.8 ft. The groundwater elevation may at times be above the screen bottom, but below the transducer sensor.



### 5.18 CDBO-8

Location: Alluvial well CDBO-8 is located in Cañada del Buey, approximately 0.4 mile southeast of CDBO-7.
Period of Record: July 2, 2001, through September 7, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-8 | 7/2/2001 12:00:00 PM | | Dry |
| CDBO-8 | 8/22/2001 12:00:00 PM | | Dry |
| CDBO-8 | 10/18/2001 12:00:00 PM | | Dry |
| CDBO-8 | 4/16/2002 12:00:00 PM | | Dry |
| CDBO-8 | 8/27/2002 12:00:00 PM | | Dry |
| CDBO-8 | 11/15/2002 12:00:00 PM | | Dry |
| CDBO-8 | 2/19/2003 12:00:00 PM | | Dry |
| CDBO-8 | 2/19/2003 12:00:00 PM | | Dry |
| CDBO-8 | 12/7/2005 1:30:00 PM | | Dry |
| CDBO-8 | 3/8/2006 2:51:00 PM | | Dry |
| CDBO-8 | 6/26/2006 10:53:00 AM | | Dry, TD = 25.66 ft |
| CDBO-8 | 9/7/2006 8:14:00 AM | | Dry |

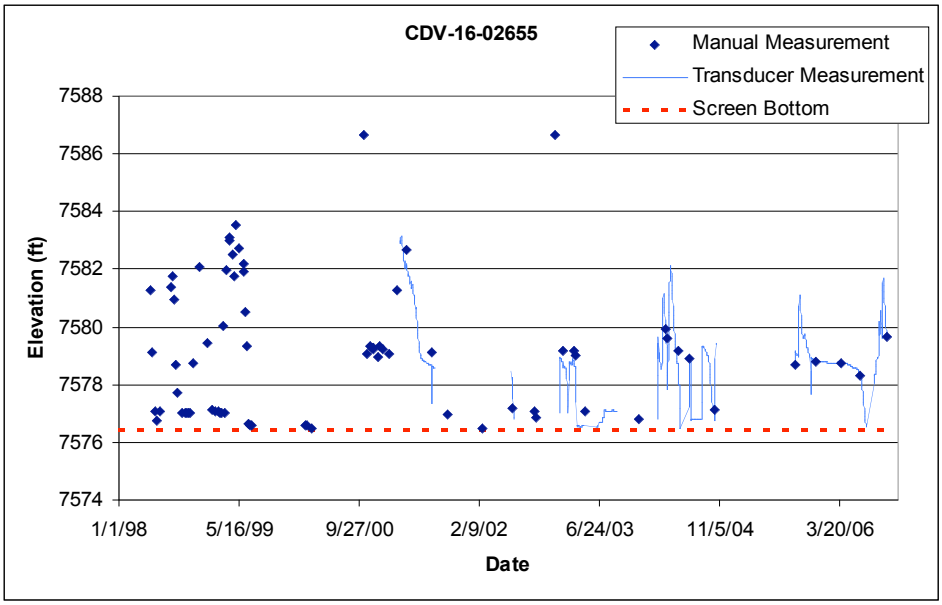
### 5.19 CDBO-9

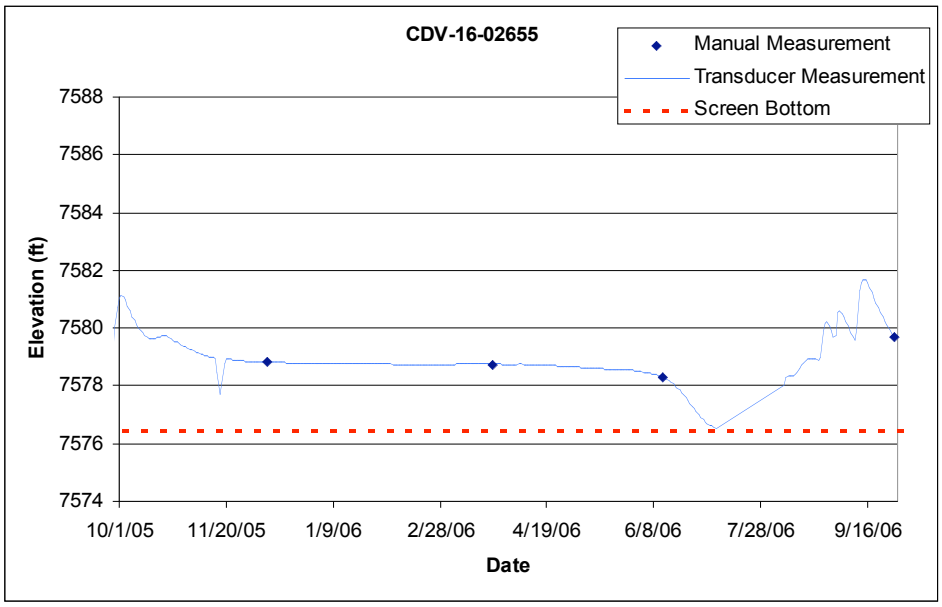
Location: Alluvial well CDBO-9 is located in Cañada del Buey, approximately 0.7 mile southeast of CDBO-8.
Period of Record: July 2, 2001, through September 6, 2006.
Remarks: Well was dry during quarterly measurements.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| CDBO-9 | 7/2/2001 12:00:00 PM | | Dry |
| CDBO-9 | 8/22/2001 12:00:00 PM | | Dry |
| CDBO-9 | 10/18/2001 12:00:00 PM | | Dry |
| CDBO-9 | 4/16/2002 12:00:00 PM | | Dry |
| CDBO-9 | 8/27/2002 12:00:00 PM | | Dry |
| CDBO-9 | 11/15/2002 12:00:00 PM | | Dry |
| CDBO-9 | 2/19/2003 12:00:00 PM | | Dry |
| CDBO-9 | 6/3/2003 12:00:00 PM | | Dry |
| CDBO-9 | 12/6/2005 1:45:00 PM | | Dry |
| CDBO-9 | 3/8/2006 2:42:00 PM | | Dry |
| CDBO-9 | 6/26/2006 10:34:00 AM | | Dry, TD = 33.58 ft |
| CDBO-9 | 9/6/2006 10:27:00 AM | | Dry |

### 5.20 CdV-16-02655

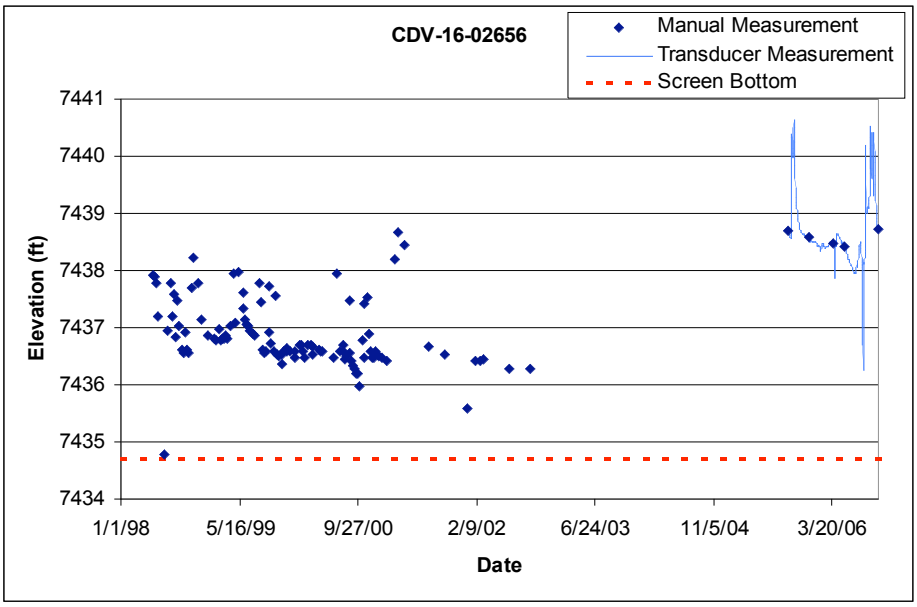
Location: Westernmost upper Cañon de Valle in TA-16, approximately 800 feet east of Anchor Ranch Road.
Period of Record: May 15, 1998, through September 30, 2006.
Remarks: None.

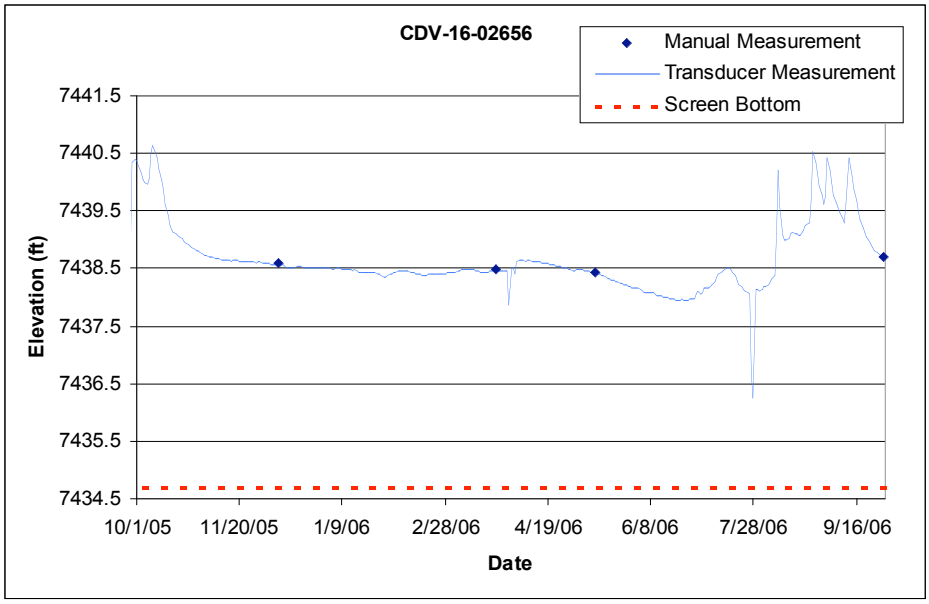


### 5.21 CdV-16-02656

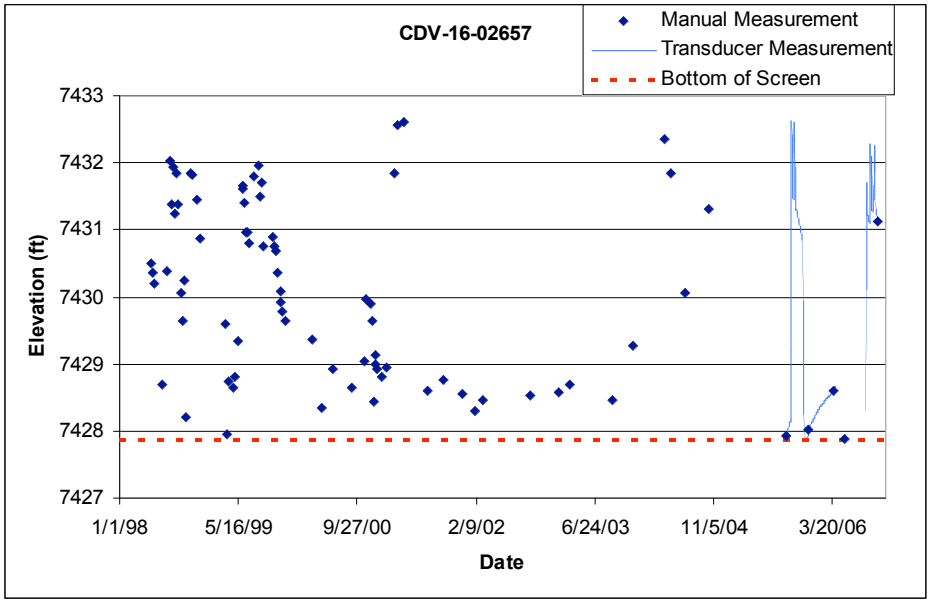
Location: Upper Cañon de Valle at northern boundary of TA-16.
Period of Record: May 15, 1998, through September 30, 2006.
Remarks: None.

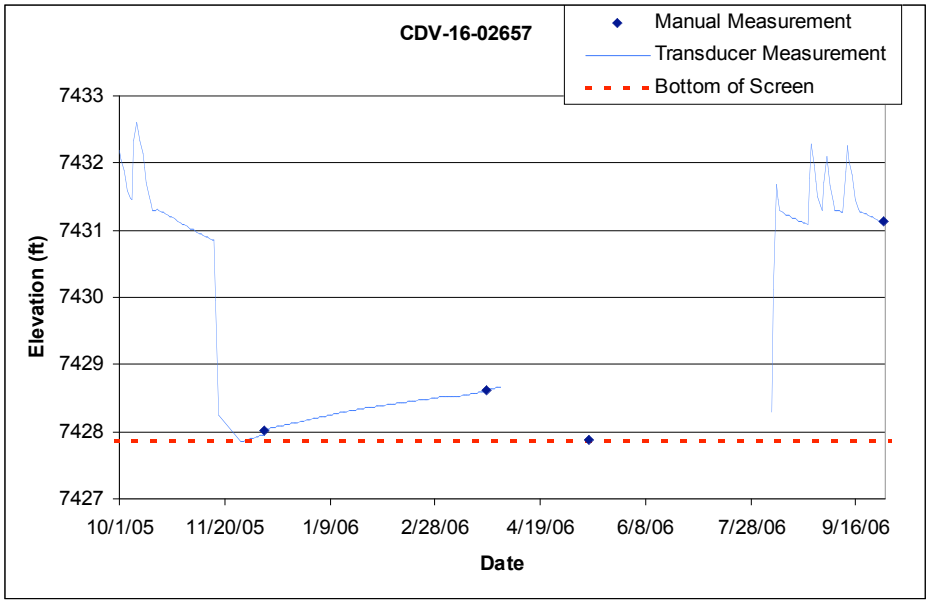


### 5.22 CdV-16-02657

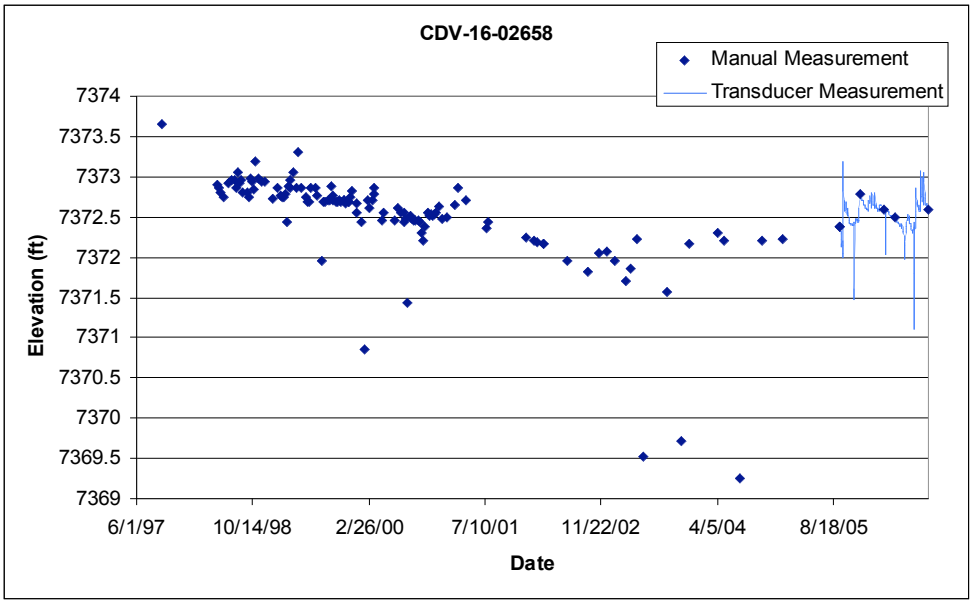
Location: Upper Cañon de Valle at northern boundary of TA-16, approximately 200 feet east-southeast of well CdV-16-02656.
Period of Record: May 15, 1998, through September 30, 2006.
Remarks: Well was bailed dry on March 31, 2006, and did not recover until August 7, 2006.

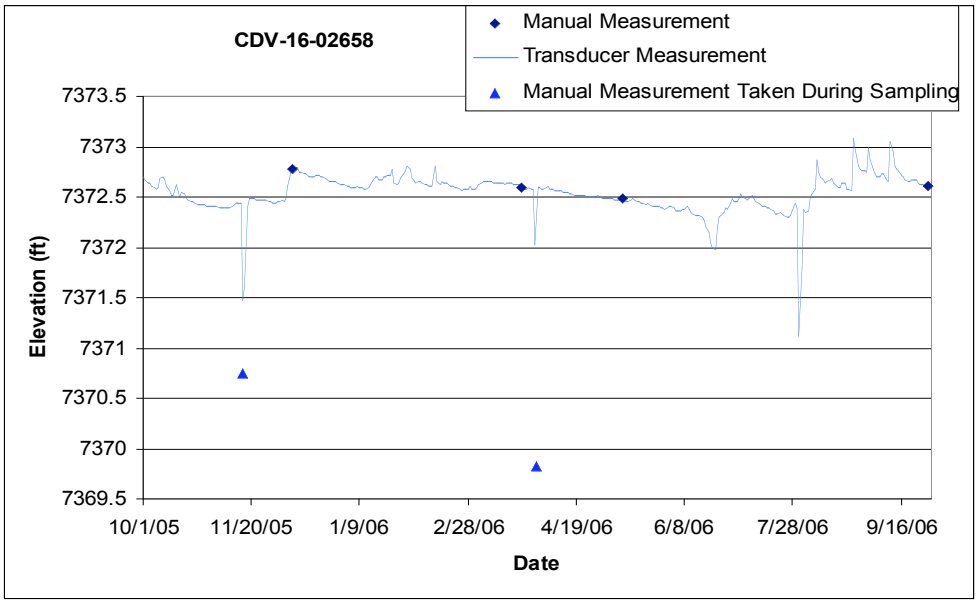


### 5.23 CdV-16-02658

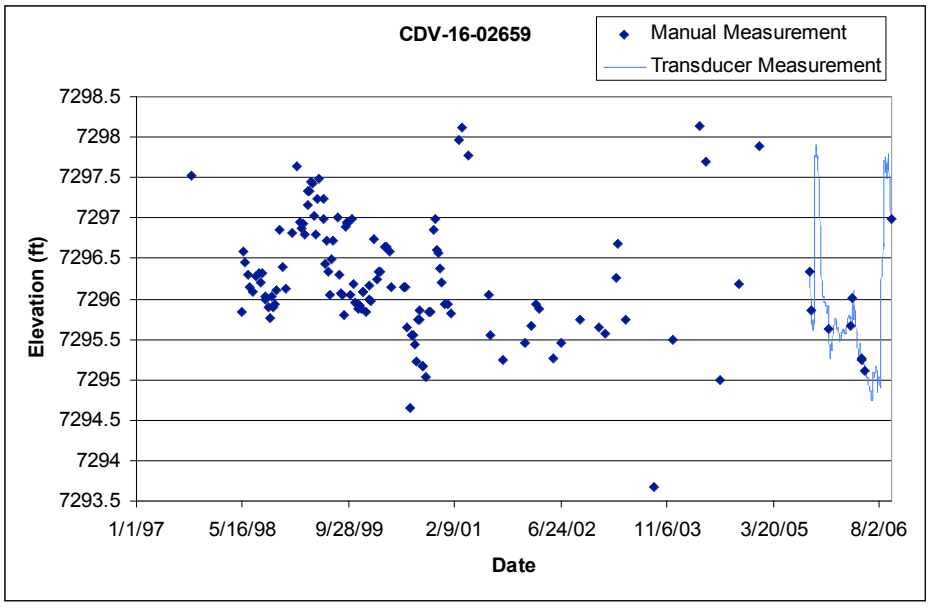
Location: Upper Cañon de Valle at northern boundary of TA-16, approximately 200 ft east-southeast of well CdV-16-02657 and approximately 800 ft east-southeast of Burning Ground Spring.
Period of Record: September 15, 1997, through September 30, 2006.
Remarks: Screen bottom elevation is 7368.26 ft.

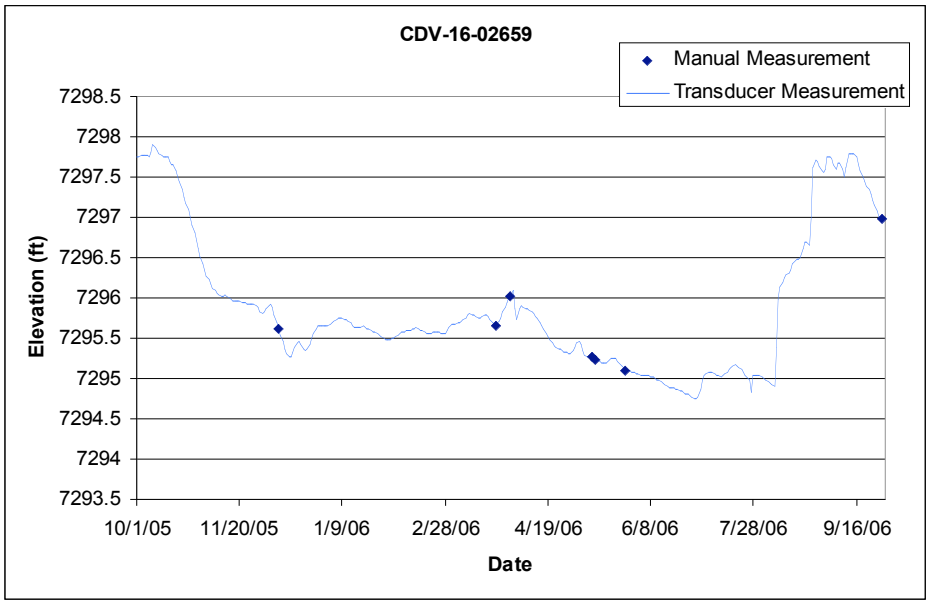


### 5.24 CdV-16-02659

Location: Upper Cañon de Valle at northern boundary of TA-16, approximately 1800 ft east-northeast of well CdV-16-02657.
Period of Record: September 17, 1997, through September 30, 2006.
Remarks: Screen bottom elevation is 7293.32 ft.



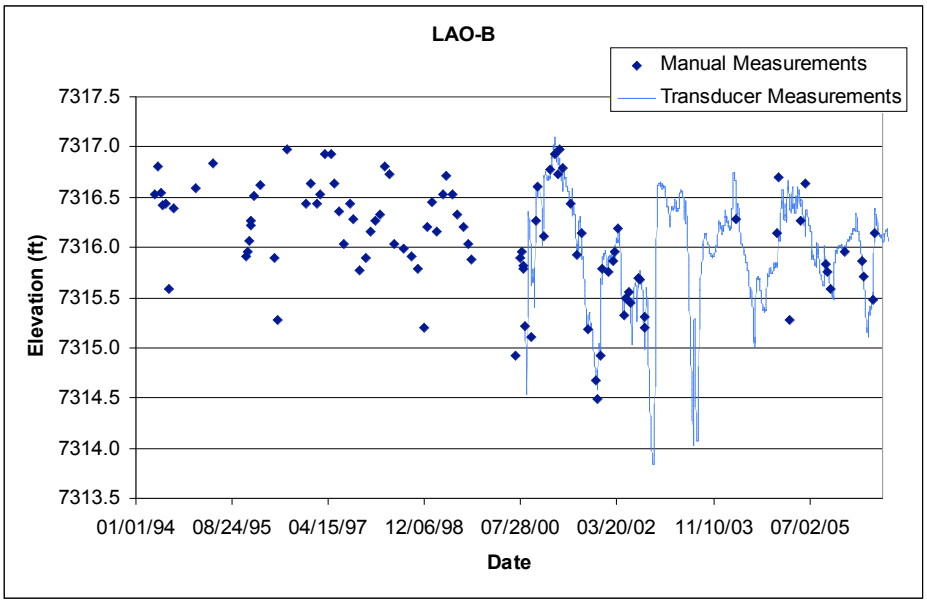
### 5.25 FCO-1

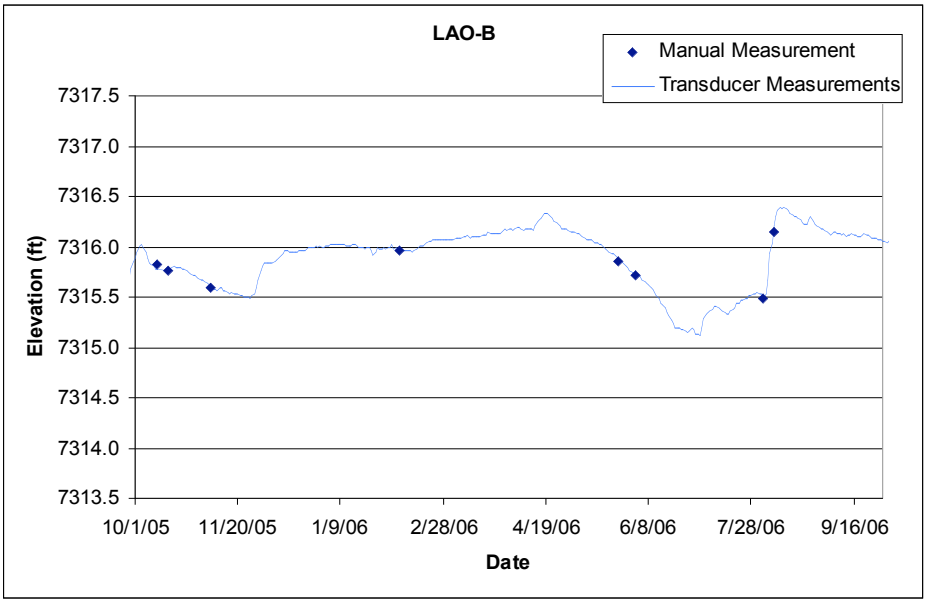
Location: Fence Canyon, approximately 0.1 mile northwest of SR-4.
Period of Record: June 9, 1997, through September 8, 2006.
Remarks: Well has been dry during all measuring events.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| FCO-1 | 6/9/1997 12:00:00 PM | | Dry |
| FCO-1 | 10/13/1997 12:00:00 PM | | Dry |
| FCO-1 | 3/25/1998 12:00:00 PM | | Dry |
| FCO-1 | 5/29/1998 12:00:00 PM | | Dry |
| FCO-1 | 7/28/1998 12:00:00 PM | | Dry |
| FCO-1 | 3/3/1999 12:00:00 PM | | Dry |
| FCO-1 | 6/23/1999 12:00:00 PM | | Dry |
| FCO-1 | 8/30/1999 12:00:00 PM | | Dry |
| FCO-1 | 11/15/1999 12:00:00 PM | | Dry |
| FCO-1 | 3/26/2000 12:00:00 PM | | Dry |
| FCO-1 | 5/16/2000 12:00:00 PM | | Dry |
| FCO-1 | 8/30/2000 12:00:00 PM | | Dry |
| FCO-1 | 10/8/2000 12:00:00 PM | | Dry |
| FCO-1 | 4/16/2002 12:00:00 PM | | Dry |
| FCO-1 | 8/19/2002 12:00:00 PM | | Dry |
| FCO-1 | 11/13/2002 12:00:00 PM | | Dry |
| FCO-1 | 2/19/2003 12:00:00 PM | | Dry |
| FCO-1 | 5/18/2003 12:00:00 PM | | Dry |
| FCO-1 | 4/7/2004 12:00:00 PM | | Dry |
| FCO-1 | 9/14/2005 10:26:00 AM | | Dry |
| FCO-1 | 6/23/2006 1:08:00 PM | | Dry, TD = 13.50 ft |
| FCO-1 | 9/8/2006 9:21:00 AM | | Dry |

### 5.26 LAO-B

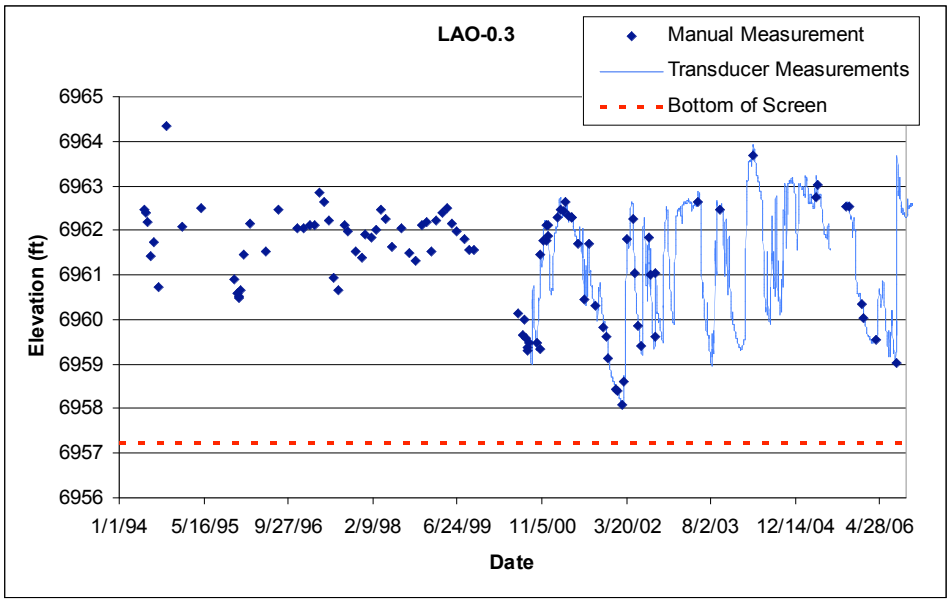
Location: Upper Los Alamos Canyon, approximately 3000 ft west of the Diamond Drive bridge.
Period of Record: April 28, 1994, through September 30, 2006.
Remarks: Screen bottom elevation is 7296.8 ft. Some of the manual measurements in the upper chart were taken during sampling events and are not representative of static water level elevations.

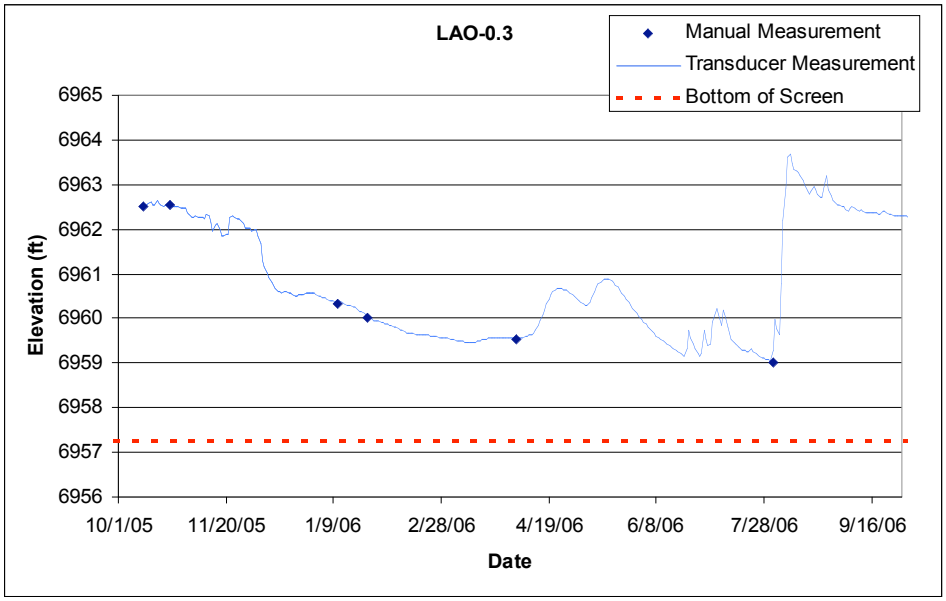


### 5.27 LAO-0.3

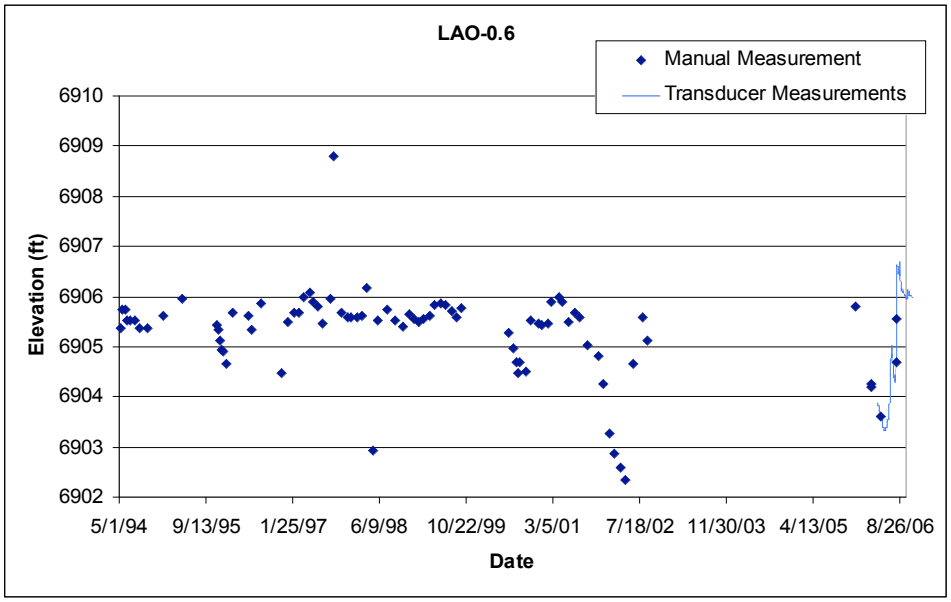
Location: Upper Los Alamos Canyon, approximately 5700 ft east of the Diamond Drive bridge.
Period of Record: June 1, 1994, through September 30, 2006.
Remarks: Transducer readings were not valid from July 7, 2005, through October 12, 2005. The pressure sensor was in the mud at the bottom of the well.

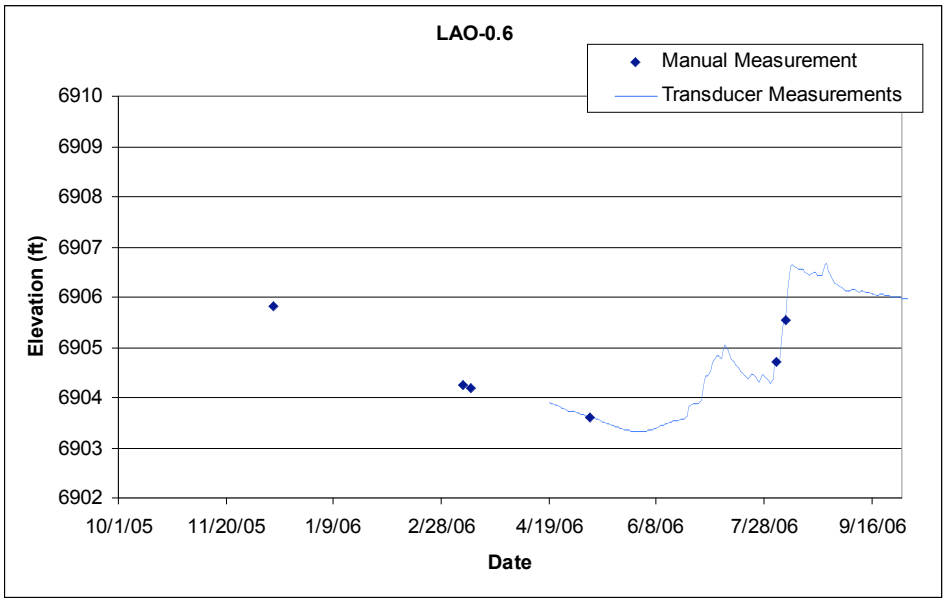


### 5.28 LAO-0.6

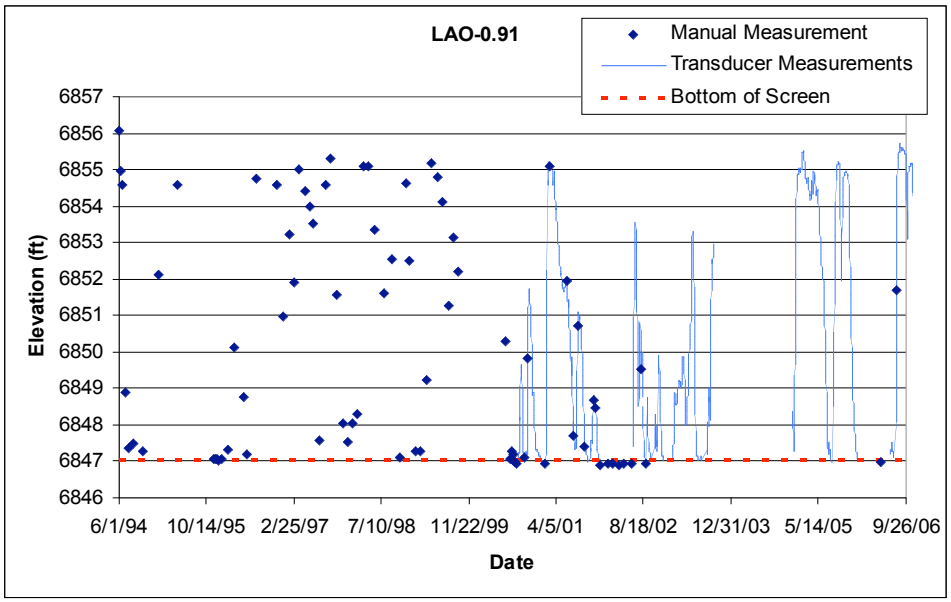
Location: Los Alamos Canyon, approximately 7500 ft east of the Diamond Drive bridge.
Period of Record: May 6, 1994, through September 30, 2006.
Remarks: Screen bottom elevation is 6897.34 ft.

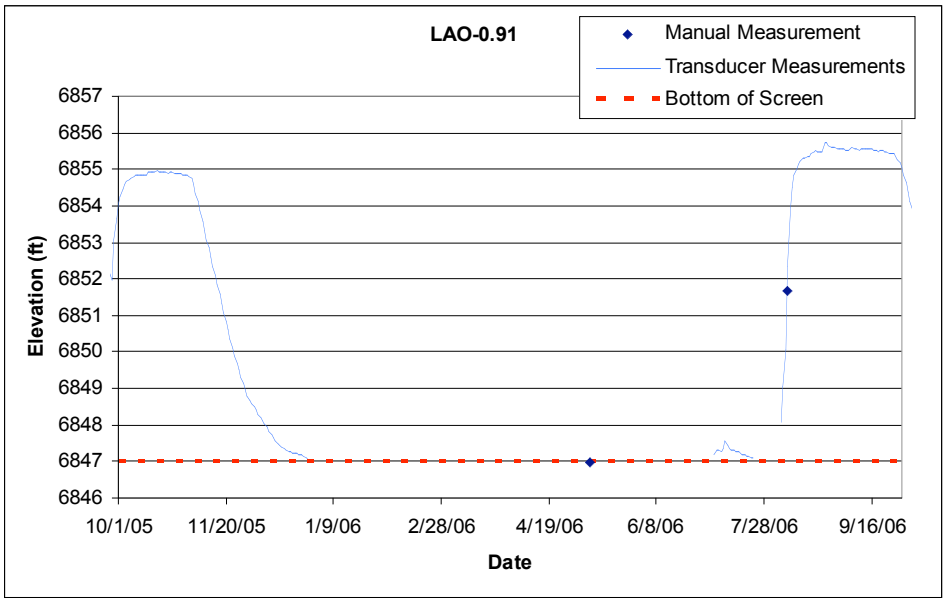


### 5.29 LAO-0.91

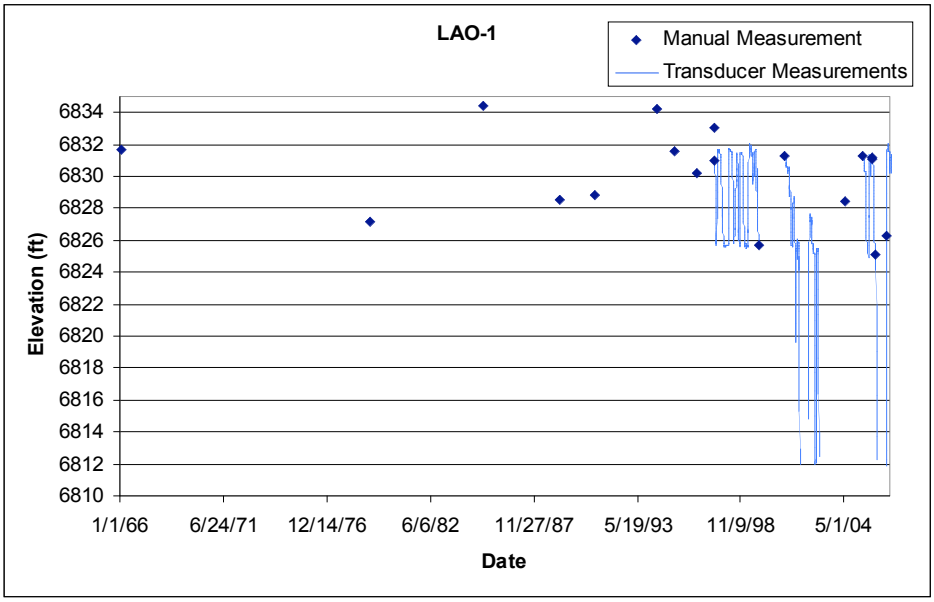
Location: Los Alamos Canyon approximately 10,200 ft east of the Diamond Drive bridge and approximately 100 ft east of the eastern boundary of TA-2.
Period of Record: June 1, 1994, through September 30, 2006.
Remarks: The water level was below the screen for much of 2006.

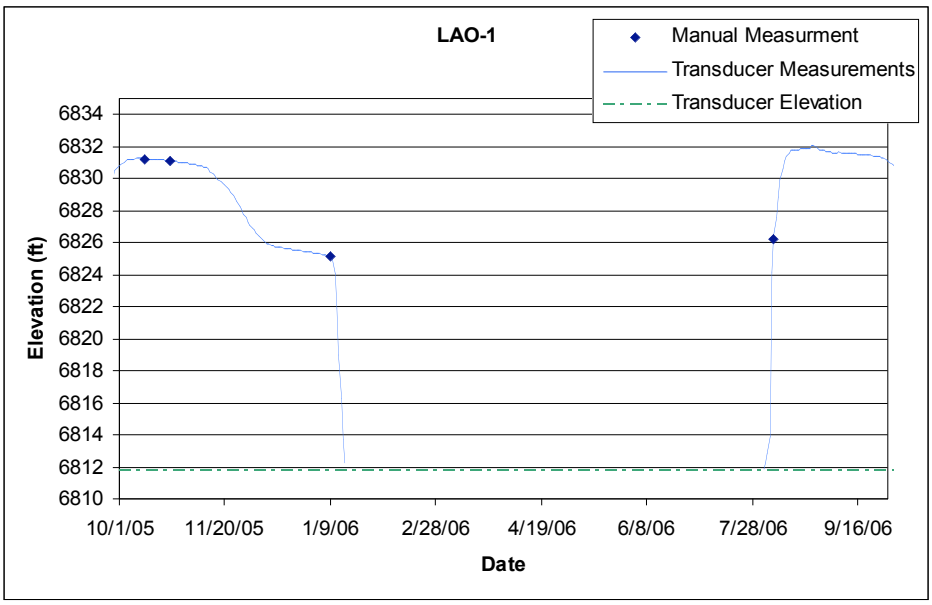


### 5.30 LAO-1

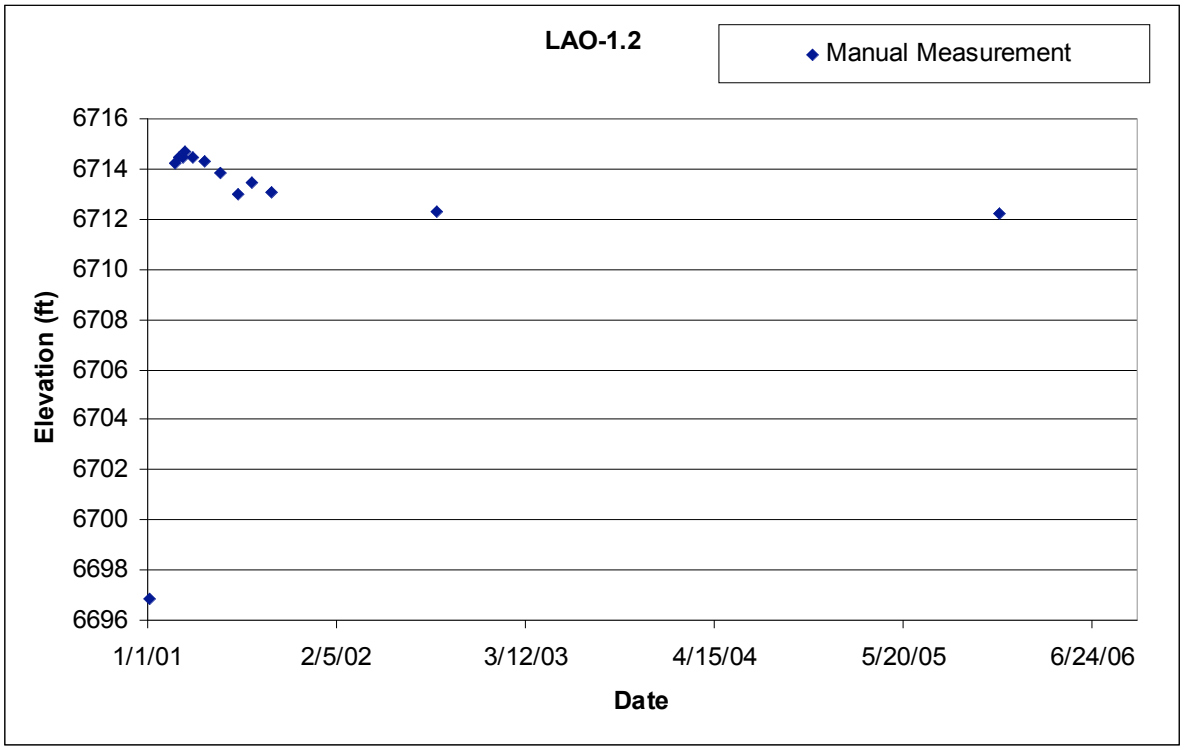
Location: Los Alamos Canyon, near the eastern border of TA-2.
Period of Record: February 15, 1966, through September 30, 2006.
Remarks: LAO-1 is a 2-in.-diameter well with a dedicated bladder pump. The transducer is sitting on top of the pump. The water level was below the transducer for much of 2006. Screen bottom elevation is 6808.24 ft.



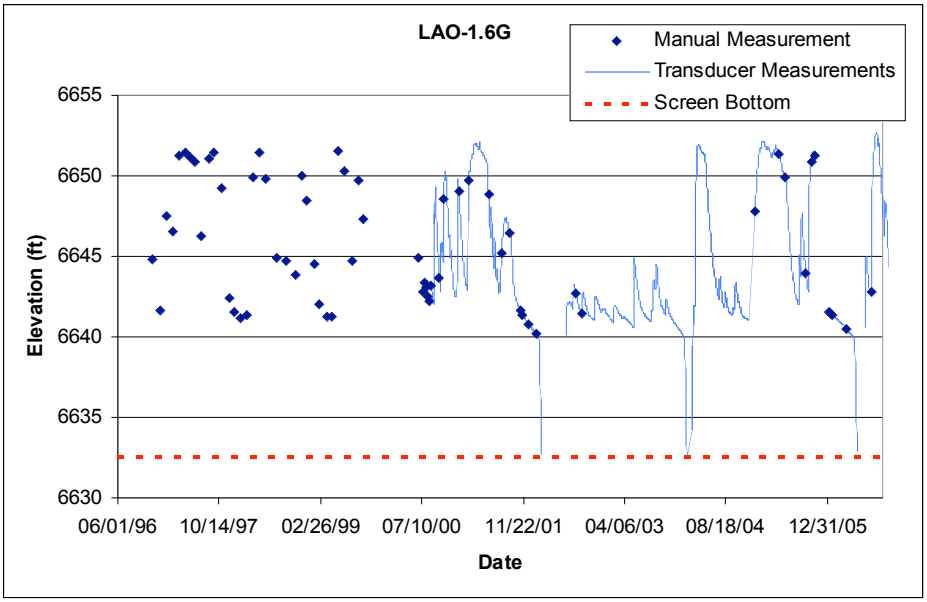
### 5.31 LAO-1.2

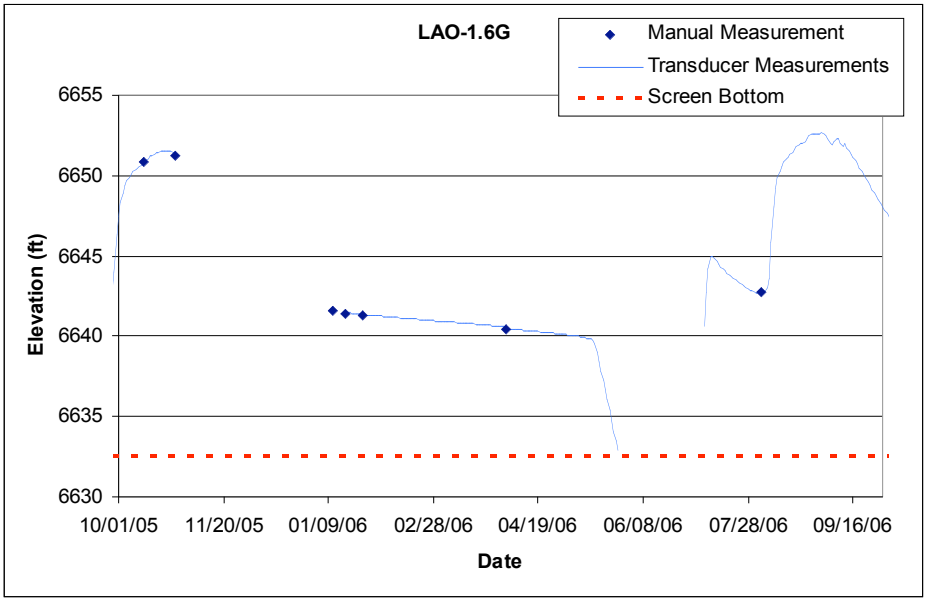
Location: Los Alamos Canyon, approximately 0.2 mile east of regional well R-7.
Period of Record: August 15, 2000, through June 14, 2006.
Remarks: LAO-1.2 is often dry. Bottom of well elevation is 6694.77 ft.



### 5.32 LAO-1.6g

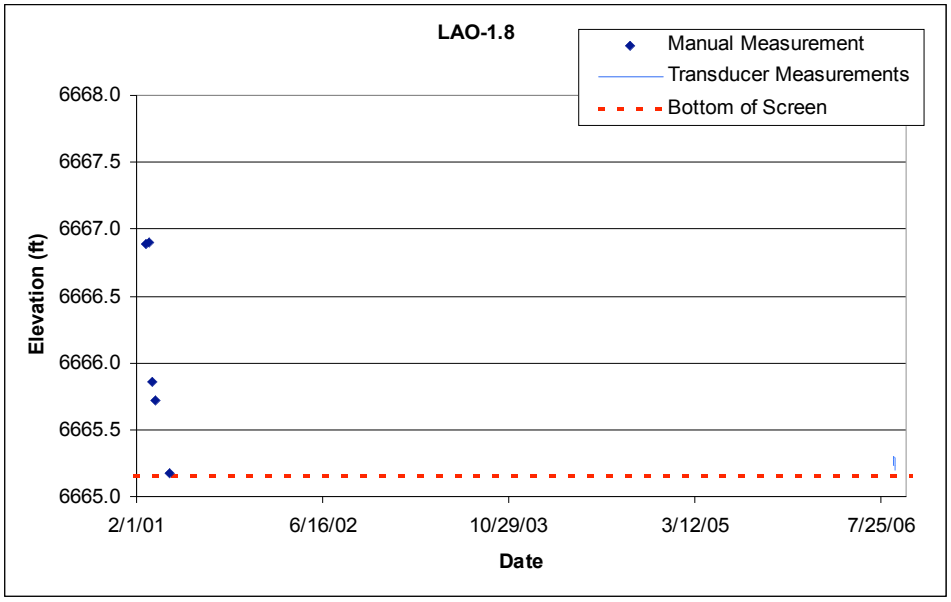
Location: Los Alamos Canyon, approximately 400 ft west of the confluence with DP Canyon.
Period of Record: November 22, 1996, through September 30, 2006.
Remarks: A transducer malfunction occurred after the download on October 28, 2005. Transducer data were lost from October 29, 2005, through January 17, 2006, due to equipment malfunction. The water level declined below the bottom of the screen May 27, 2006, to July 7, 2006.

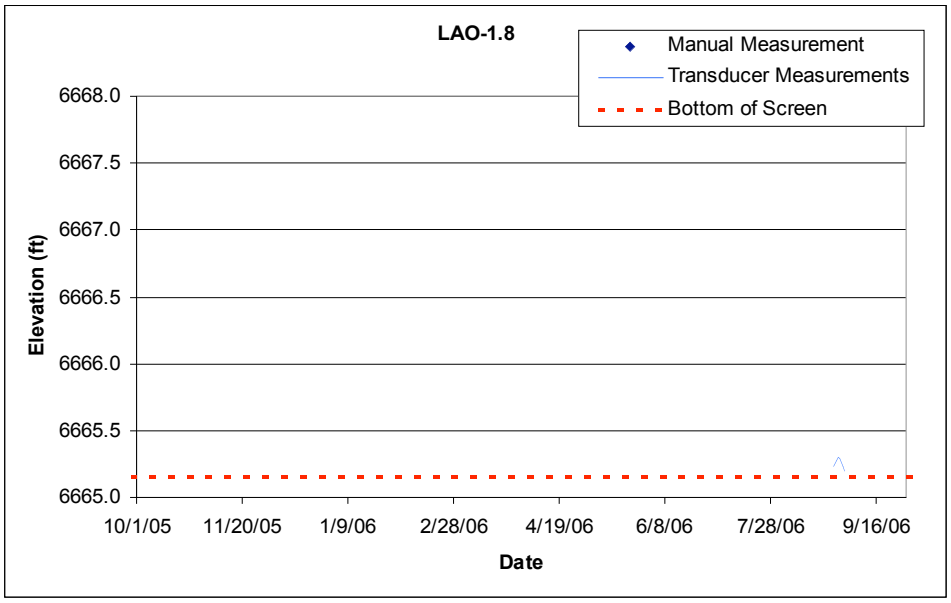


### 5.33 LAO-1.8

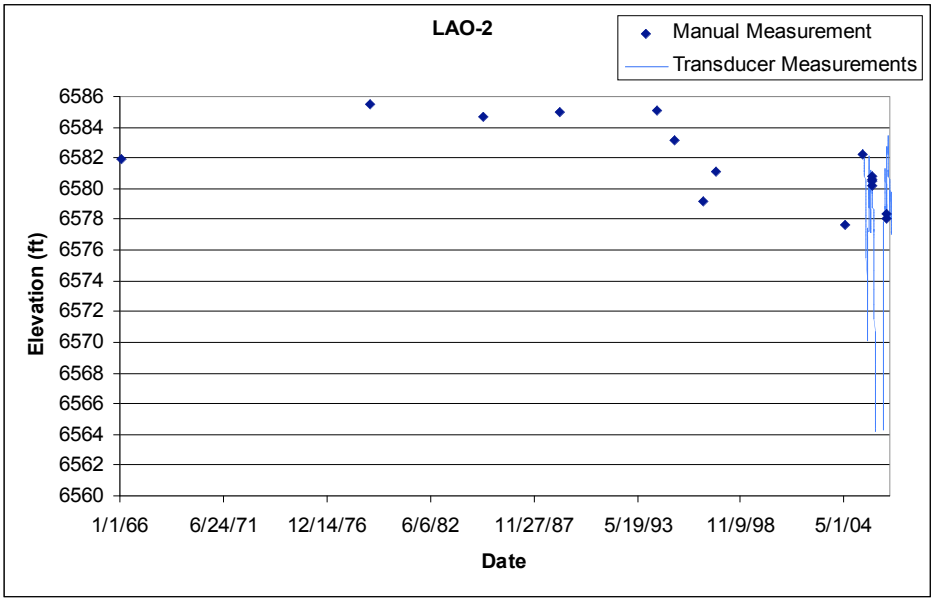
Location: Los Alamos Canyon, approximately 650 ft west of LAO-1.6g.
Period of Record: January 8, 2001, through September 30, 2006.
Remarks: Well has been dry for most of period of record. Groundwater entered well screen temporarily from August 27, 2006, through September 1, 2006, due to August 2006 storm runoff.

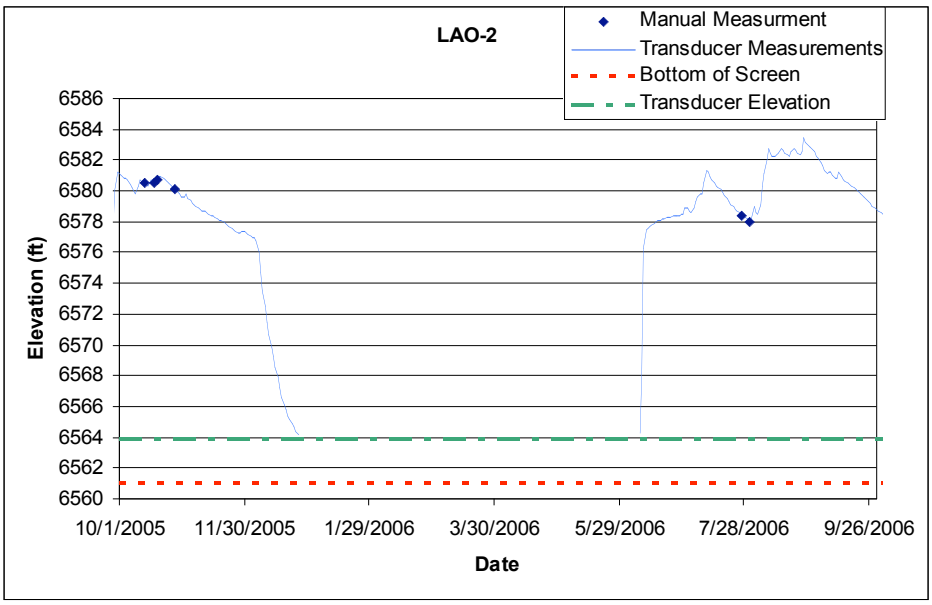


### 5.34 LAO-2

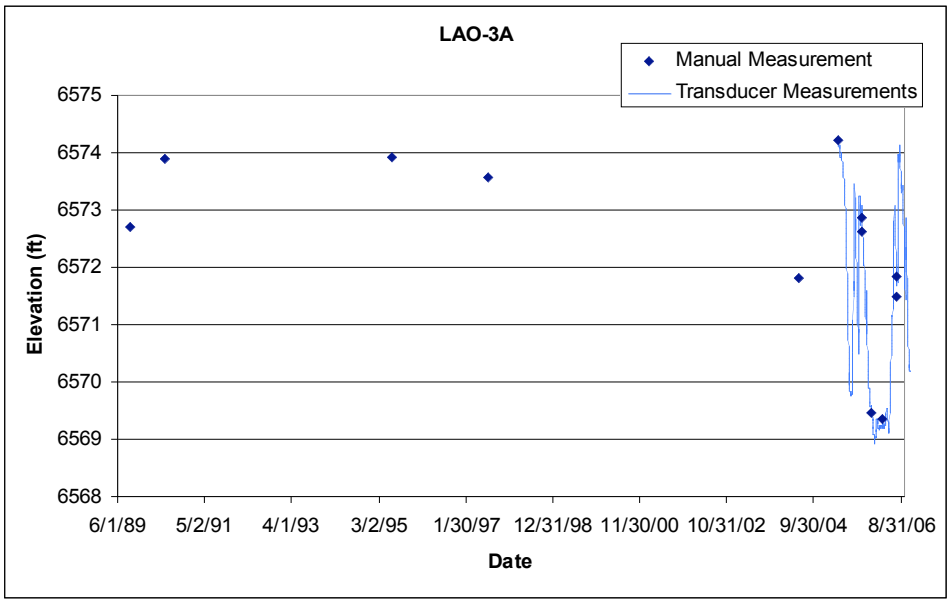
Location: Los Alamos Canyon, approximately 75 ft north of the confluence with DP Canyon.
Period of Record: February 1, 1966, through September 30, 2006.
Remarks: Screen bottom elevation 6560.97 ft. LAO-2 is a 2-in.-diameter well with a bladder pump. The water level declined below the top of the pump and the transducer sensor from December 26, 2005, through June 28, 2006.

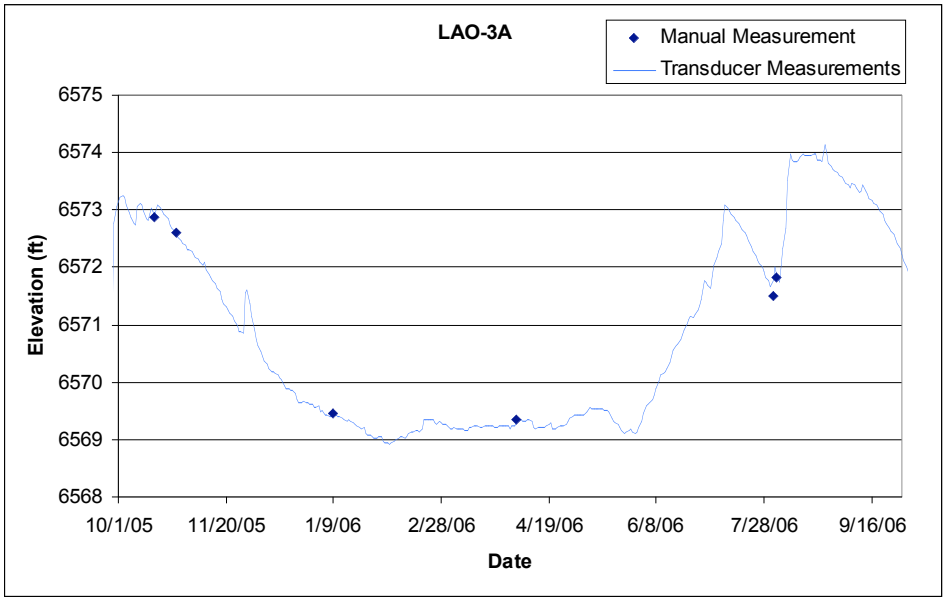


### 5.35 LAO-3a

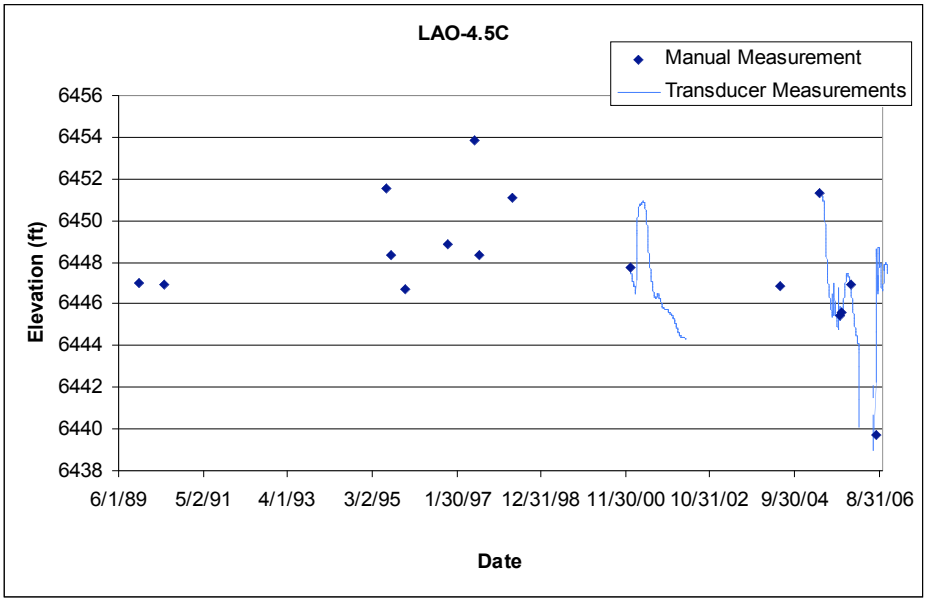
Location: Los Alamos Canyon, approximately 1000 ft east of the confluence with DP Canyon.
Period of Record: September 15, 1989, through September 30, 2006.
Remarks: Screen bottom elevation is 6564.7 ft.

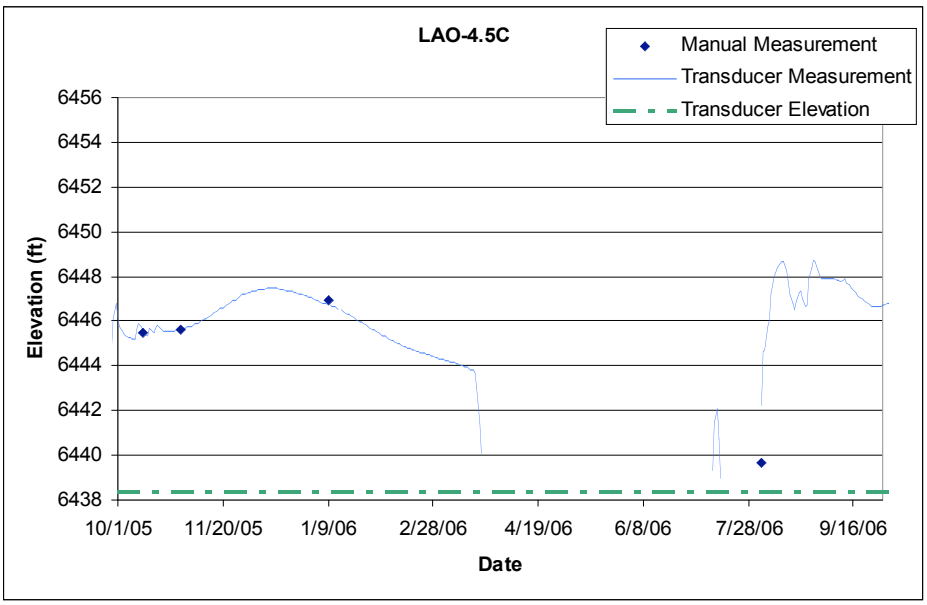


### 5.36 LAO-4.5c

Location: Los Alamos Canyon, approximately 1.25 miles east of the confluence with DP Canyon.
Period of Record: November 22, 1989, through September 30, 2006.
Remarks: Screen bottom elevation is 6434.33 ft. The elevation of the transducer is 6438.34 ft and is sitting on top of the bladder pump. The water level declined below the top of the pump March 23, 2006, through July 11, 2006, and again from July 15, 2006, through August 3, 2006.



### 5.37 LAO-5

Location: Los Alamos Canyon, approximately 1 mile west of SR-4.
Period of Record: December 14, 2005, through September 7, 2006.
Remarks: LAO-5 is measured quarterly.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| LAO-5 | 12/14/2005 2:10:00 PM | | Dry |
| LAO-5 | 3/14/2006 11:00:00 AM | 6380.35 | |
| LAO-5 | 6/13/2006 9:24:00 AM | | Dry, TD = 23.28 ft |
| LAO-5 | 8/2/2006 12:45:00 PM | | Dry. |
| LAO-5 | 8/3/2006 8:26:00 AM | | Dry |
| LAO-5 | 9/7/2006 9:35:00 AM | | Dry |

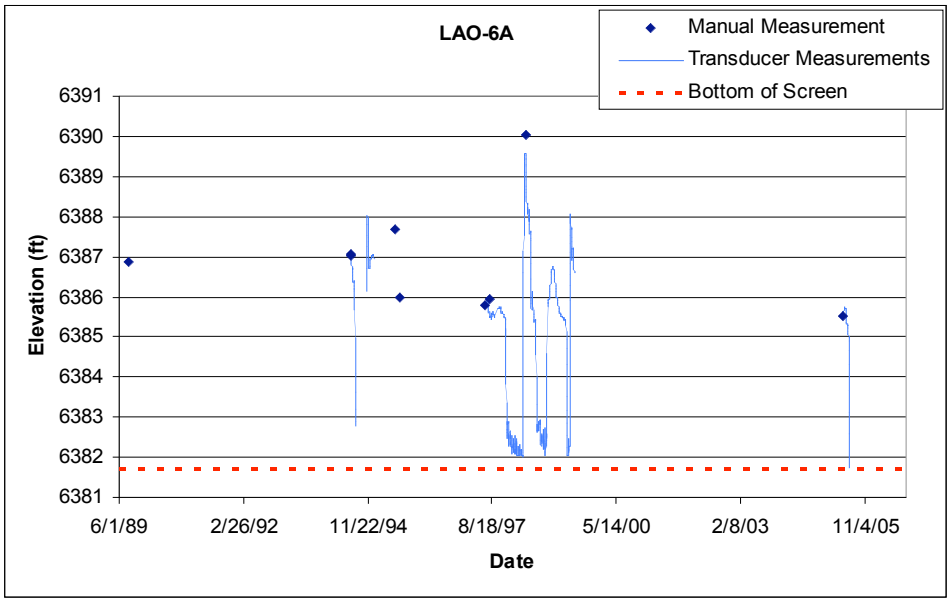
### 5.38 LAO-6

Location: Los Alamos Canyon, approximately 1 mile west of SR-4.
Period of Record: June 26, 1995, through September 7, 2006.
Remarks: LAO-6 is measured quarterly.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| LAO-6 | 6/26/1995 12:00:00 PM | 6385.6 | |
| LAO-6 | 8/8/1995 12:00:00 PM | 6385.1 | |
| LAO-6 | 12/7/1995 12:00:00 PM | 6383.5 | |
| LAO-6 | 3/14/2006 11:05:00 AM | | Dry. |
| LAO-6 | 4/19/2006 11:34:00 AM | | Dry to top of pump. |
| LAO-6 | 6/13/2006 8:54:00 AM | | Dry, TD = 16.45 ft |
| LAO-6 | 7/27/2006 11:40:00 AM | | Dry. |
| LAO-6 | 9/7/2006 9:21:00 AM | | Dry |

### 5.39 LAO-6a

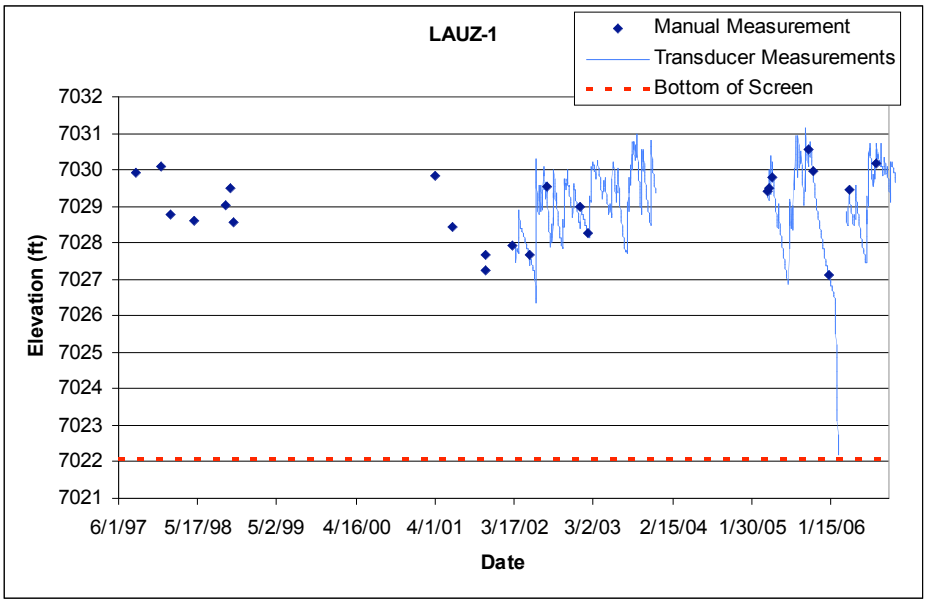
Location: Los Alamos Canyon, approximately 1 mile west of SR-4.
Period of Record: August 17, 1989, through September 30, 2006.
Remarks: Well was dry during the October 1, 2005, through September 30, 2006, reporting period.

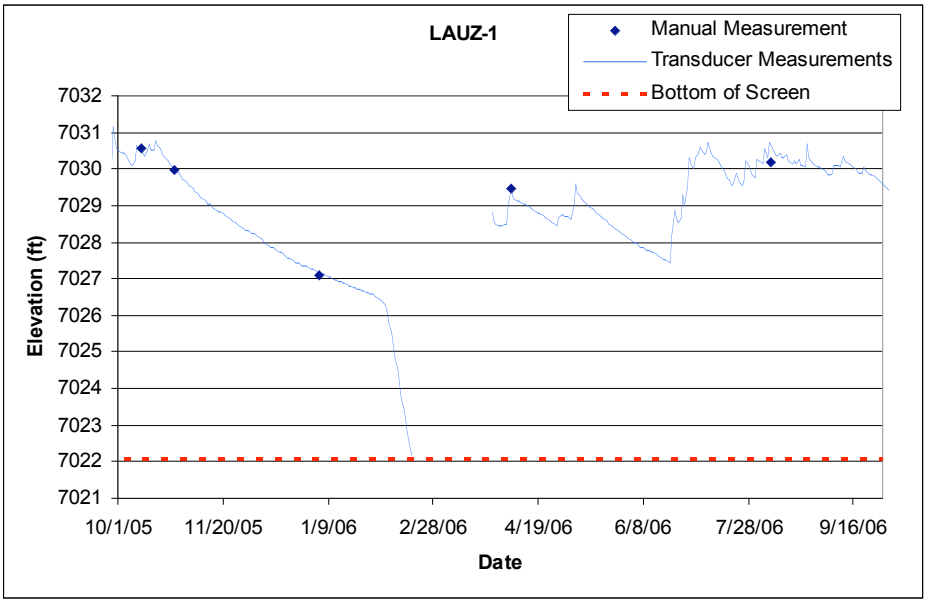



| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| LAO-6A | 10/13/2005 1:20:00 PM | | WI recorded as "dry" |
| LAO-6a | 12/23/2005 11:16:00 AM | | Dry |
| LAO-6a | 1/4/2006 3:28:00 PM | | Dry above pump. |
| LAO-6a | 3/1/2006 10:15:00 AM | | Well is dry. |
| LAO-6a | 6/6/2006 11:07:00 AM | | Dry |
| LAO-6a | 6/12/2006 2:08:00 PM | | Dry |
| LAO-6a | 7/27/2006 12:30:00 PM | | Dry above pump. |
| LAO-6a | 7/31/2006 10:52:00 AM | | Dry above transducer |
| LAO-6a | 11/14/2006 11:32:00 AM | | Dry |

### 5.40 LAUZ-1

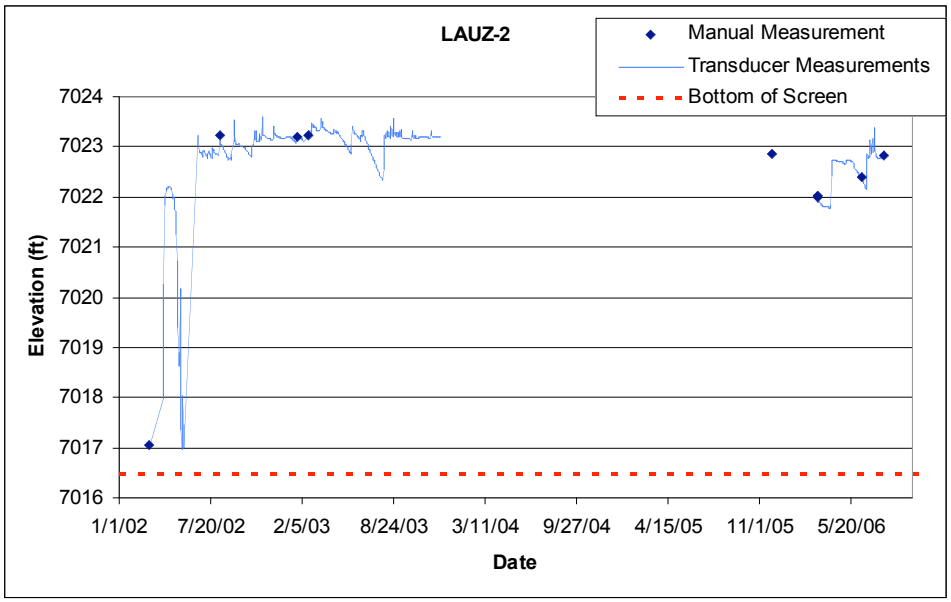
Location: DP Canyon, north of TA-21.
Period of Record: August 20, 1997, through September 30, 2006.
Remarks: Screen bottom elevation is 7022.1 ft. The water level declined below the screen from February 18, 2006, through March 28, 2006.

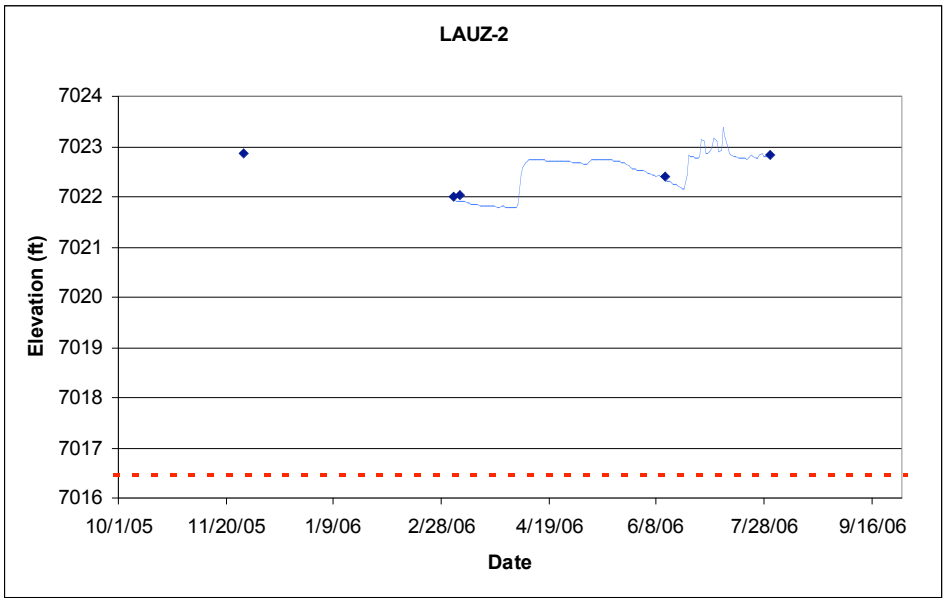


### 5.41 LAUZ-2

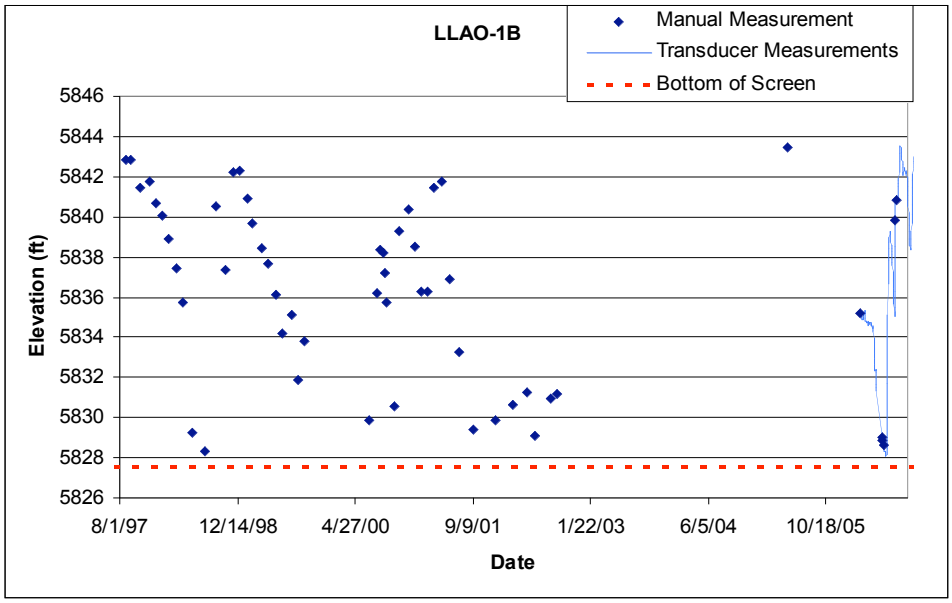
Location: DP Canyon, north of TA-21.
Period of Record: March 7, 2002, through July 31, 2006.
Remarks: Water level monitoring was discontinued at LAUZ-2 on July 31, 2006. Monitoring in FY 2007 at LAUZ-2 is not planned.

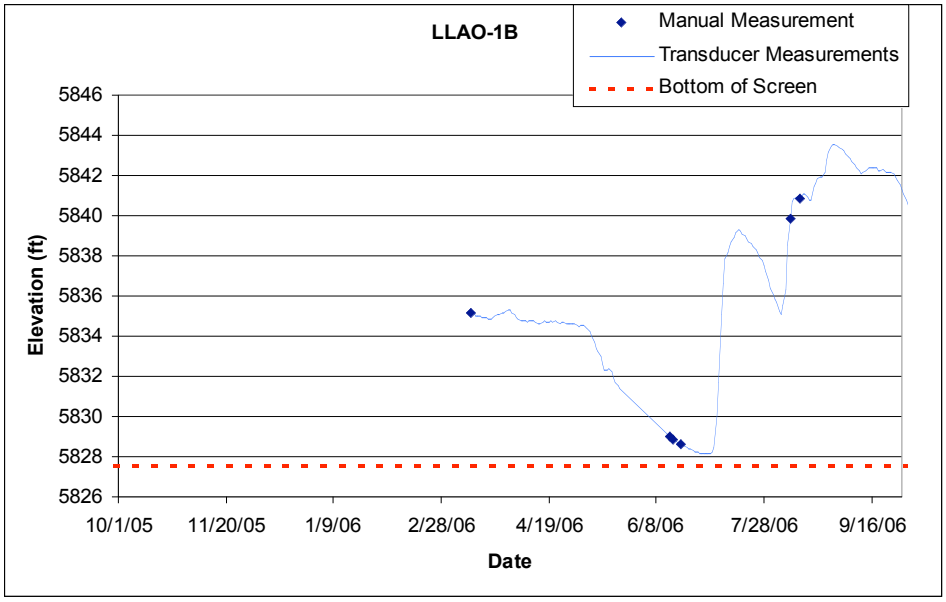


### 5.42 LLAO-1(b)

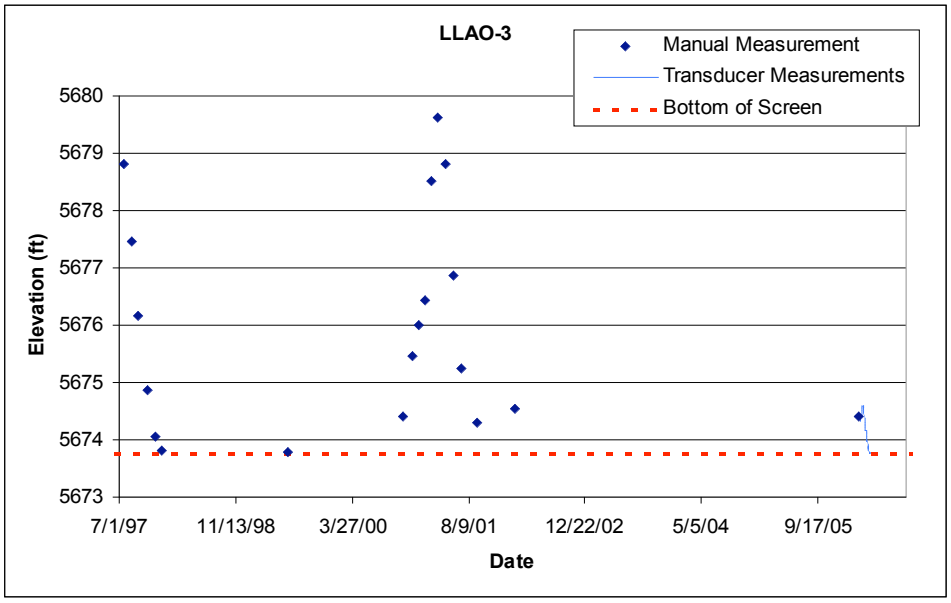
Location: Lower Los Alamos Canyon, approximately 3000 ft southwest of Totavi, San Ildefonso.
Period of Record: August 27, 1997, through September 30, 2006.
Remarks: A pressure transducer was installed on March 14, 2006.

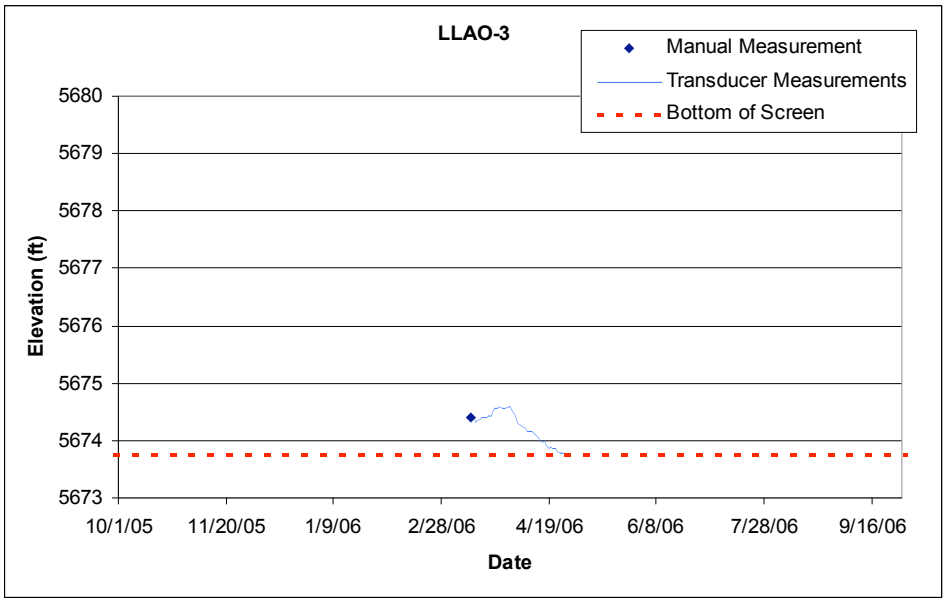


### 5.43 LLAO-3

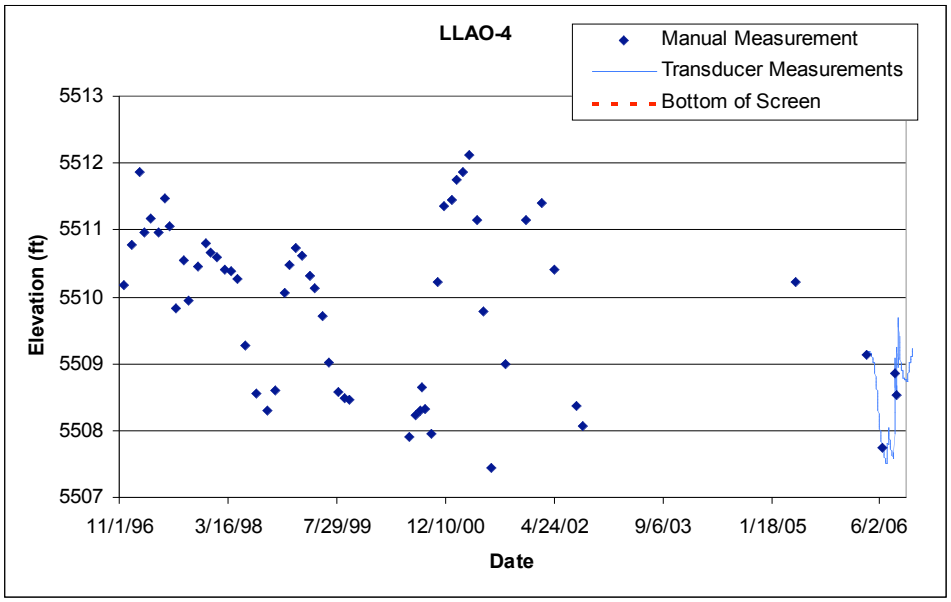
Location: Lower Los Alamos Canyon, approximately 3500 ft northeast of Totavi, San Ildefonso.
Period of Record: July 22, 1997, through August 1, 2006. Water level monitoring was discontinued at LLAO-3 on August 1, 2006. Monitoring in FY 2007 at LLAO-3 is not planned.
Remarks: The water level declined below the screen in April 2006.

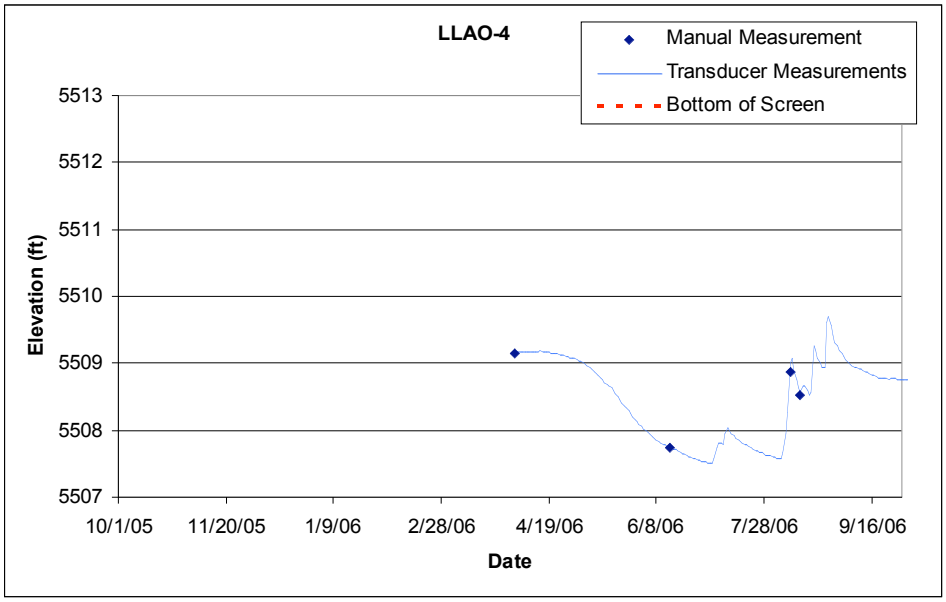


### 5.44 LLAO-4

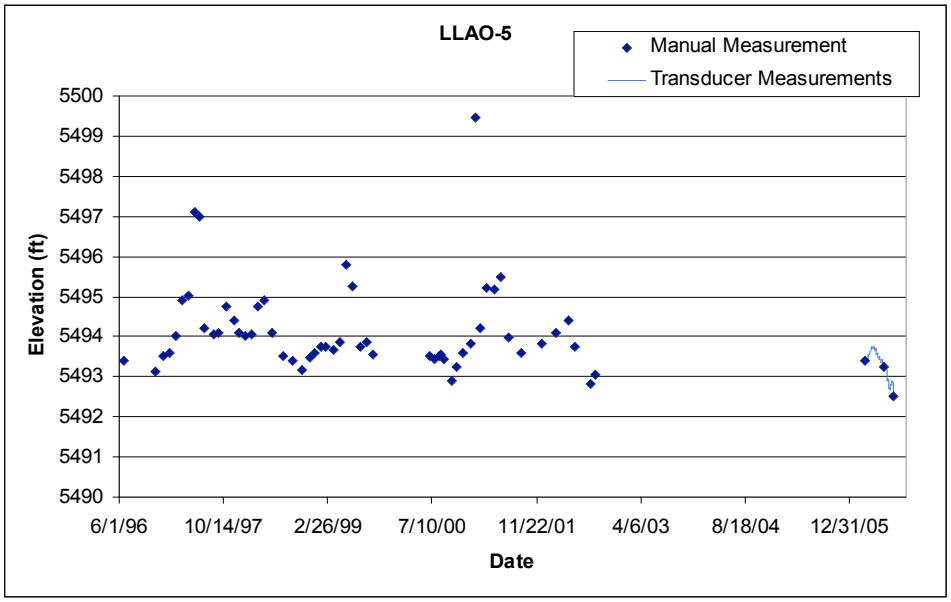
Location: Lower Los Alamos Canyon, approximately 700 ft northwest of the Rio Grande at SR-502.
Period of Record: November 22, 1996, through September 30, 2006.
Remarks: A pressure transducer was installed on April 3, 2006.

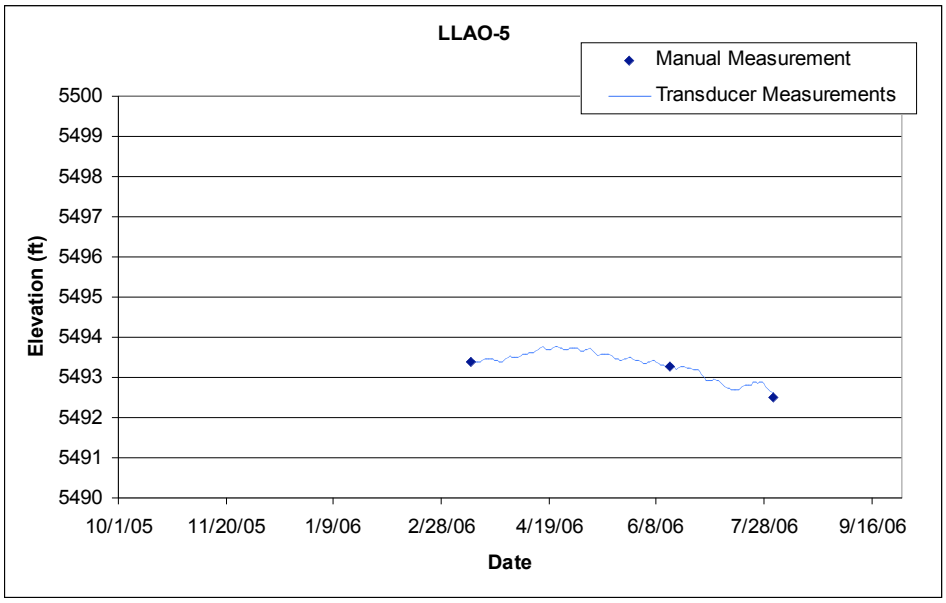


### 5.45 LLAO-5

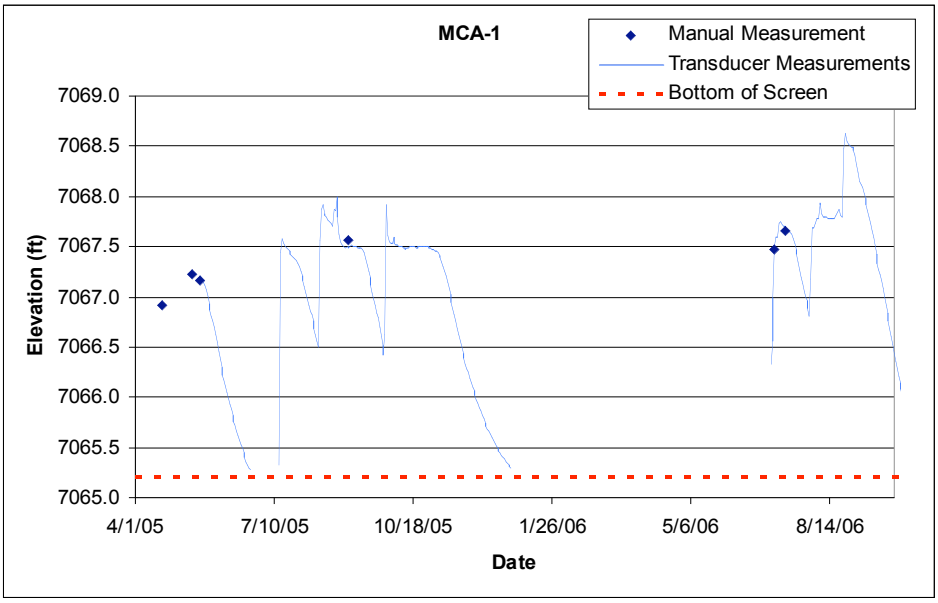
Location: Lower Los Alamos Canyon, approximately 500 ft north of the Rio Grande at SR-502.
Period of Record: June 27, 1996, through August 1, 2006.
Remarks: Water level monitoring was discontinued at LLAO-3 on August 1, 2006. Monitoring in FY 2007 at LLAO-3 is not planned. The bottom of the screen is 5486.84 ft.

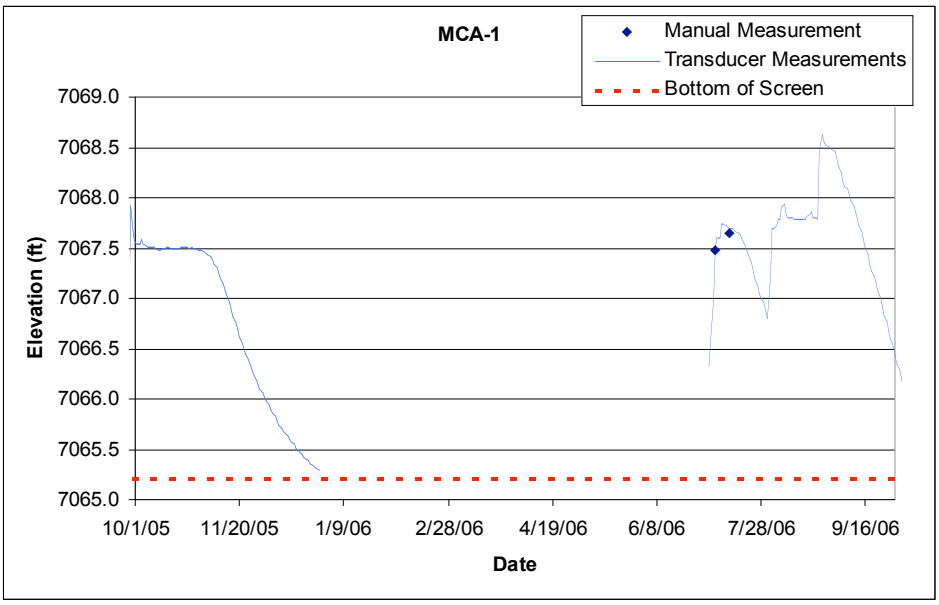


### 5.46 MCA-1

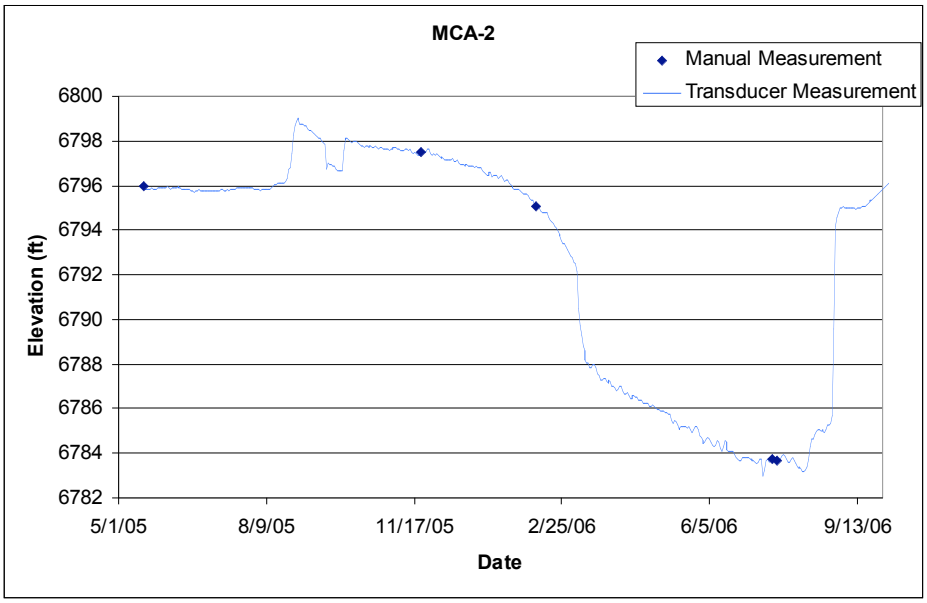
Location: Upper Mortandad Canyon, approximately 700 ft northeast of the TA-50 outfall.
Period of Record: April 20, 2005, through September 30, 2006.
Remarks: Well was dry from December 28, 2005, through July 3, 2006.

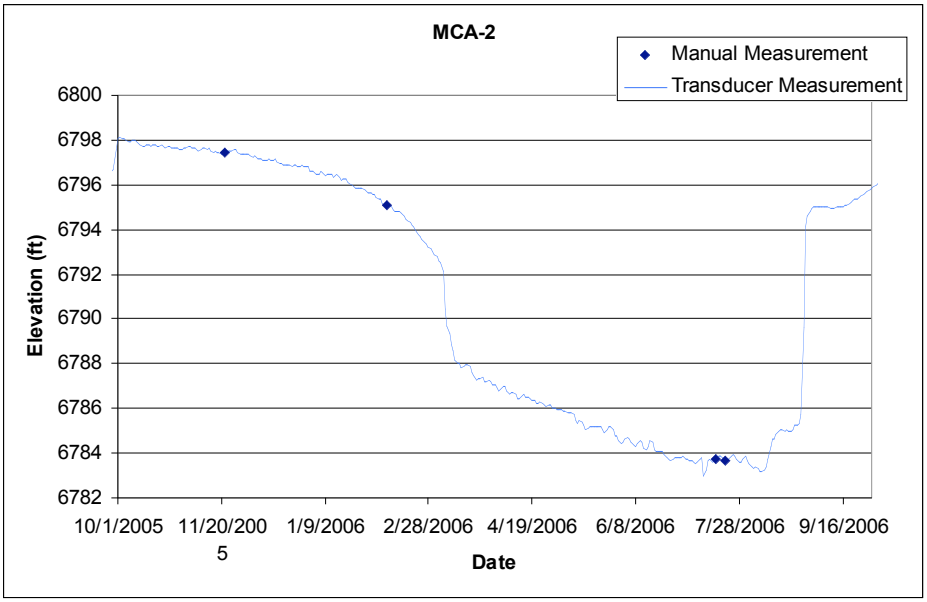


### 5.47 MCA-2

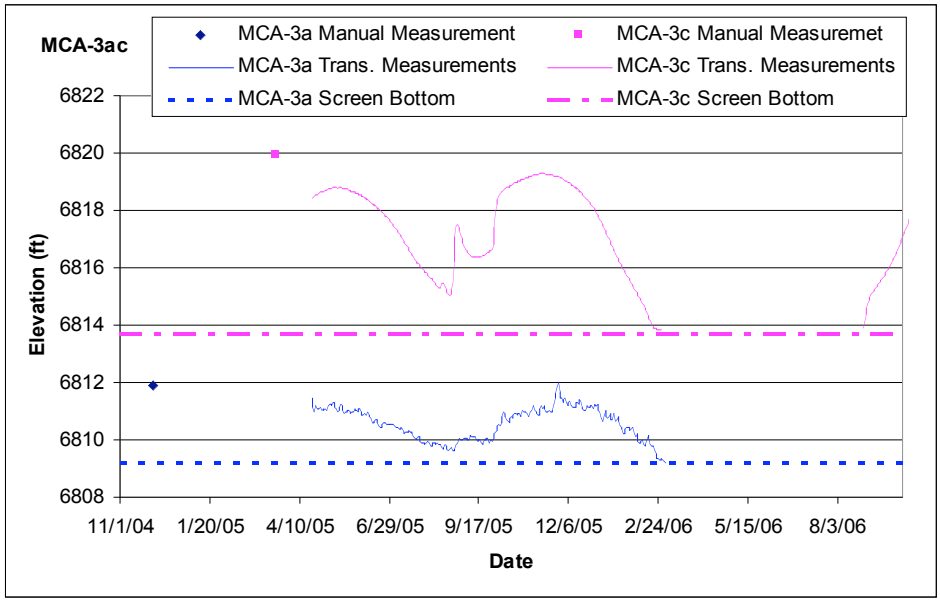
Location: Mortandad Canyon, approximately 400 ft up canyon of the upper sediment trap.
Period of Record: May 18, 2005, through September 30, 2006.
Remarks: Screen bottom elevation is 6777.2 ft.

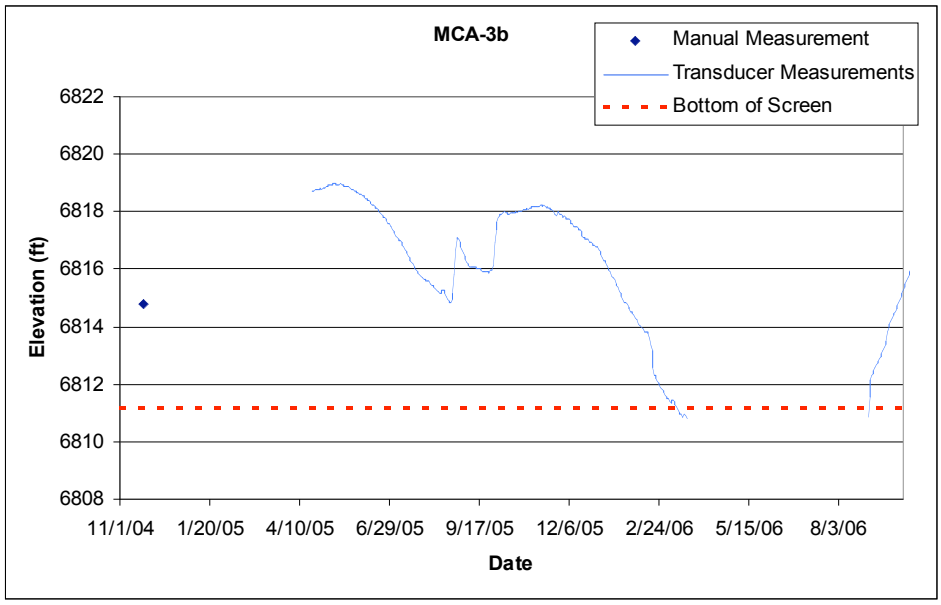


### 5.48 MCA-3ac & MCA-3b

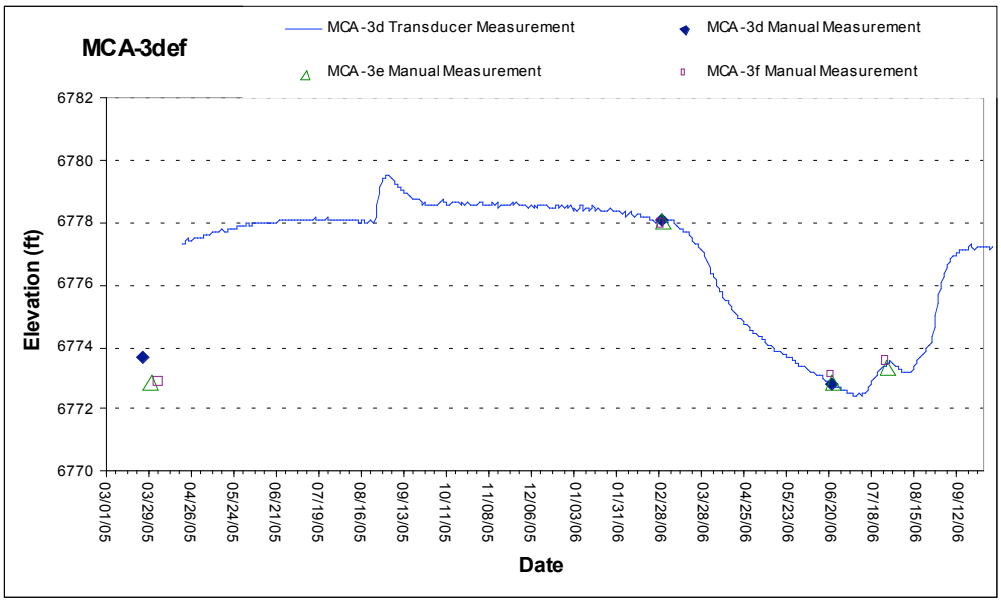
Location: Middle Mortandad Canyon
Period of Record: MCA-3ac November 30, 2004, through September 30, 2006; MCA-3b November 22, 2004, through September 30, 2006.
Remarks: MCA-3ac is a nested piezometer located about 5 ft south of MCA-3b. Valid manual measurements in 1-in. pvc casing were not possible with transducer installed until 2006 when a small-diameter water level tape was purchased, but water was below the top of the transducer when measured, and the tape could not fit past the diameter of the transducer to reach the water. Transducer data are considered valid with some validity question.

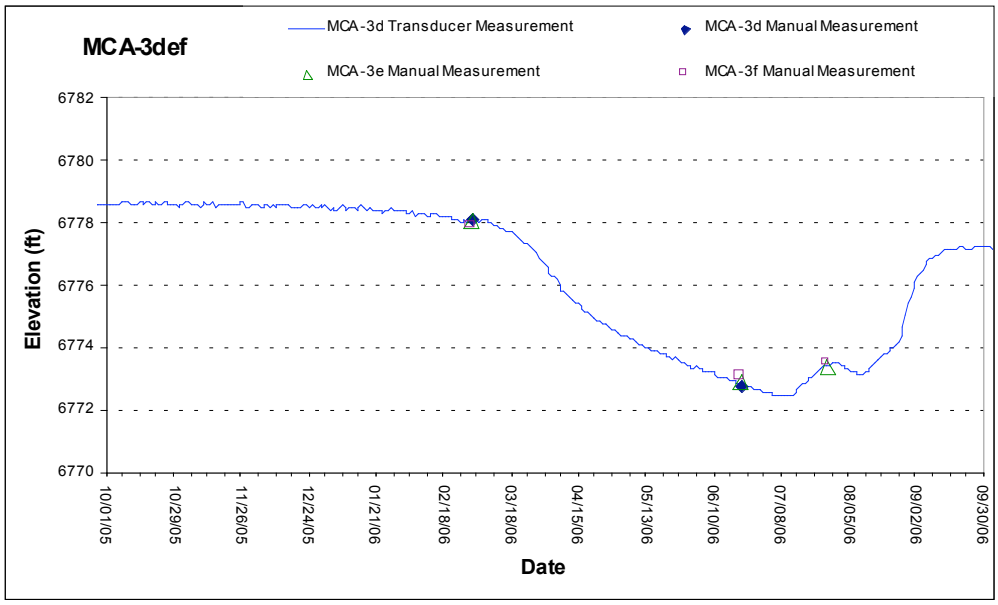


### 5.49 MCA-3def

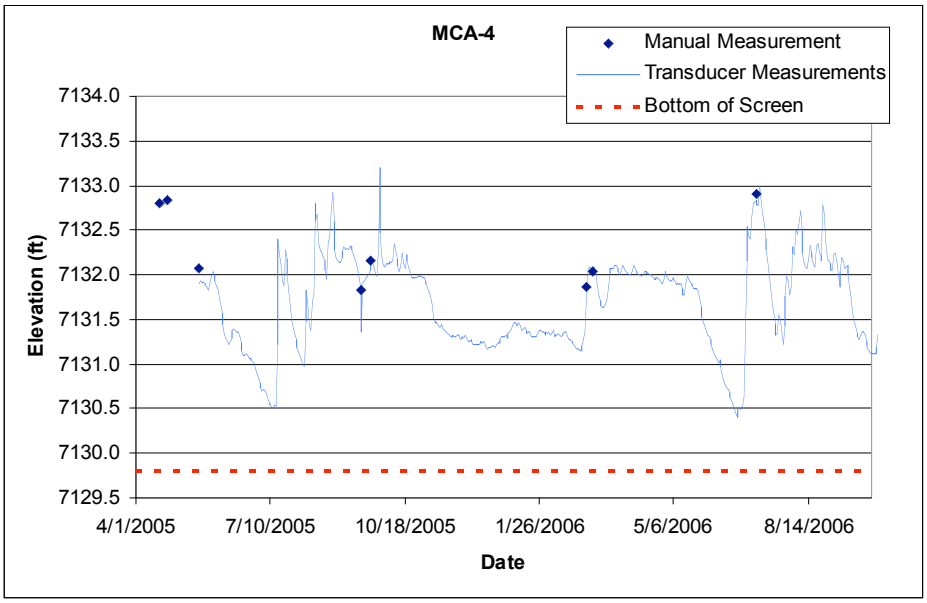
Location: Middle Mortandad Canyon, south of sediment traps.
Period of Record: MCA-3d March 25, 2005, through September 30, 2006; MCA-3e March 30, 2005, through September 30, 2006; MCA-3f April 5, 2005, through September 30, 2006.
Remarks: MCA-3def is a nested piezometer. Screen bottom elevations: MCA-3d 6764.4 ft, MCA-3e 6768.0 ft, MCA-3f 6771.5 ft. Pressure transducers in MCA-3e and MCA-3f malfunctioned December 7, 2005, through October 16, 2006, no valid data available. Transducers were replaced on October 16, 2006.

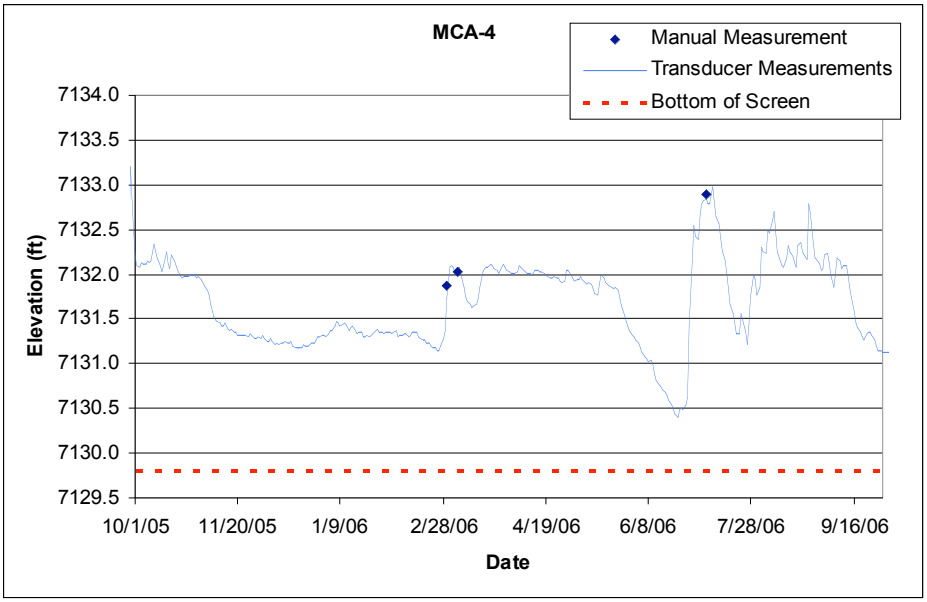


### 5.50 MCA-4

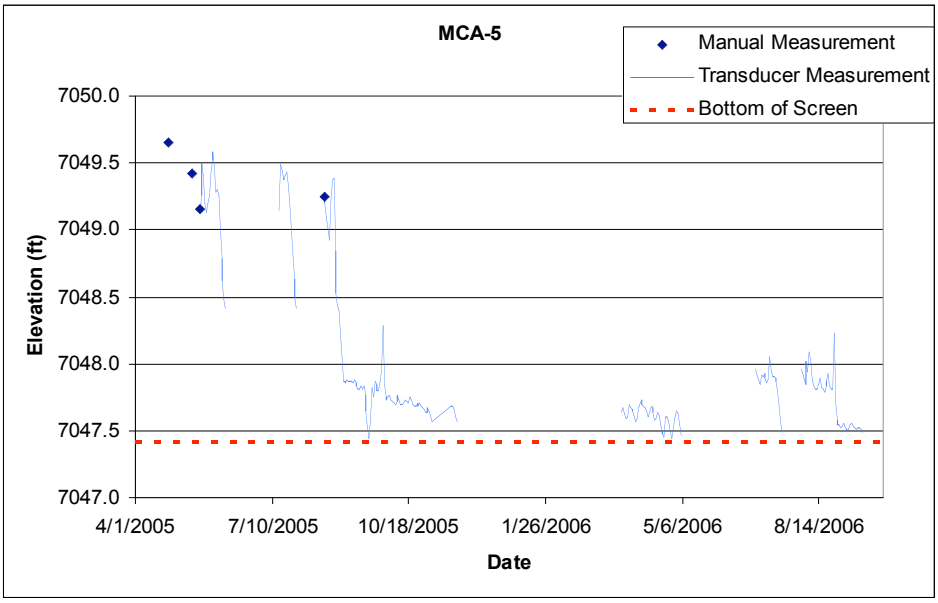
Location: Upper Effluent Canyon, approximately 200 ft west of TA-50 outfall.
Period of Record: April 18, 2005, through September 30, 2006.
Remarks: Screen bottom elevation is 7129.8 ft.

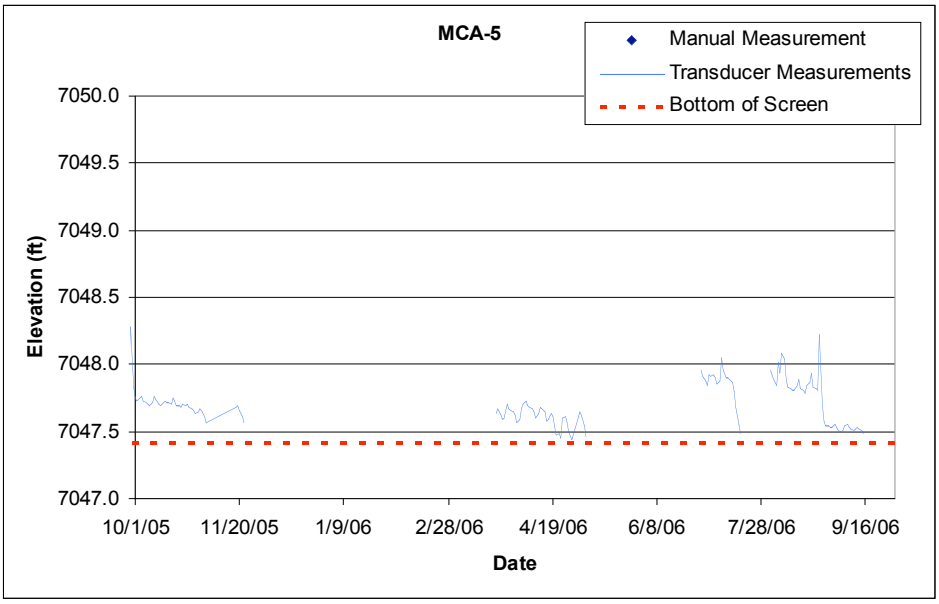


### 5.51 MCA-5

Location: Upper Mortandad Canyon, approximately 1250 ft downstream of TA-50 outfall.
Period of Record: April 25, 2005, through September 30, 2006.
Remarks: Well is intermittently dry.



### 5.52 MCA-8

Location: Lower Mortandad Canyon
Period of Record: October 3, 2005, through September 30, 2006.
Remarks: No valid water level data exist for this well. Water has occurred only in the sump since completion on September 29, 2004.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| MCA-8 | 10/3/2005 9:50:00 AM | 6582.43 | Install transducer, water is in sump. |
| MCA-8 | 1/4/2006 12:27:00 PM | 6583.52 | Water is in sump |
| MCA-8 | 4/13/2006 10:29:00 AM | 6584.09 | Water is in sump |
| MCA-8 | 7/18/2006 12:26:00 PM | 6584.14 | Water is in sump |
| MCA-8 | 10/30/2006 1:12:00 PM | 6584.17 | Water is in sump. |
| MCA-8 | 9/5/2006 1:03:00 PM | 6584.16 | Water is in sump. |

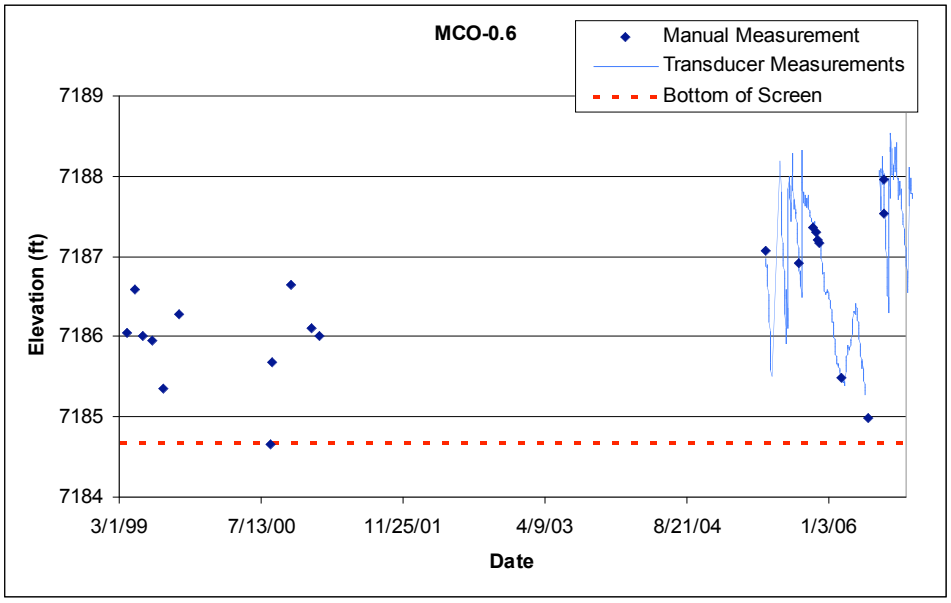
### 5.53 MCA-9

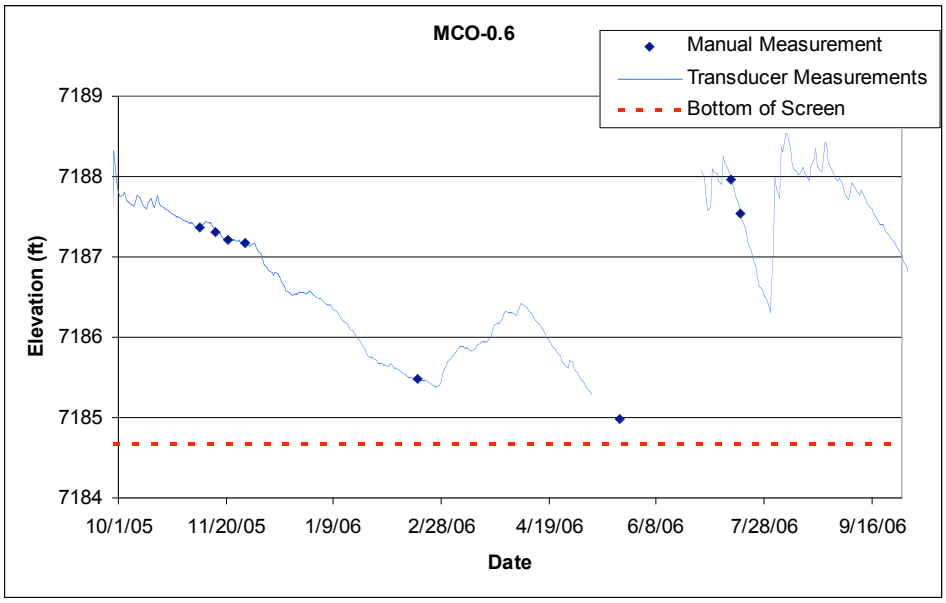
Location: Lower Mortandad Canyon
Period of Record: August 17, 2005, through September 30, 2006.
Remarks: No valid water level data exist for this well. Water has occurred only in the sump since completion on December 4, 2004.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| MCA-9 | 8/17/2005 11:52:00 AM | 6558.59 | Install transducer Dry |
| MCA-9 | 2/23/2006 2:23:00 PM | 6558.76 | Water in sump |
| MCA-9 | 5/16/2006 12:26:00 PM | 6558.74 | Water in sump |
| MCA-9 | 5/16/2006 1:01:00 PM | 6558.77 | Water in sump |
| MCA-9 | 7/18/2006 12:07:00 PM | 6558.76 | Water is in sump |

### 5.54 MCO-0.6

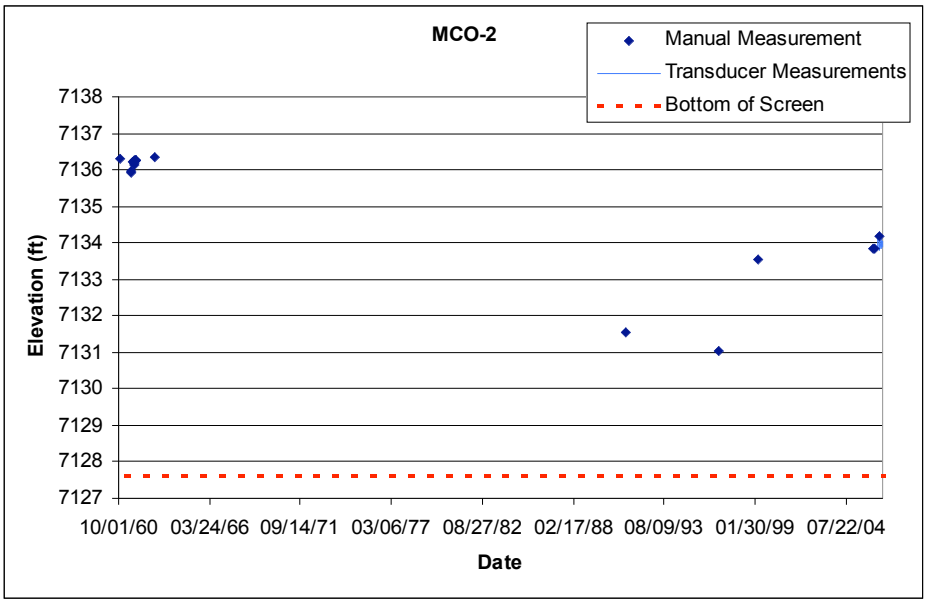
Location: Upper Mortandad Canyon, north of TA-48.
Period of Record: March 31, 1999, through September 30, 2006.
Remarks: The water level declined below the transducer sensor May 9, 2006, through June 29, 2006.

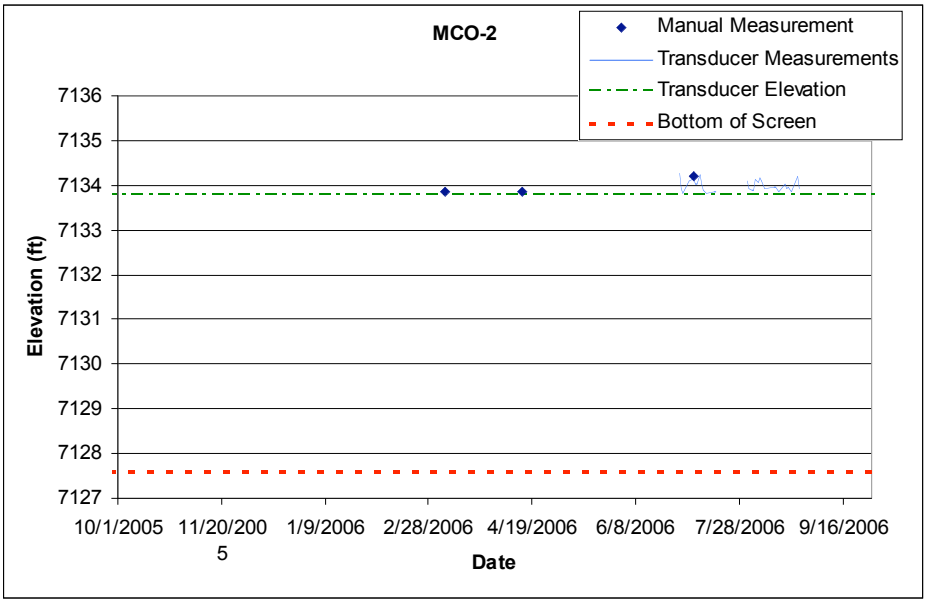


### 5.55 MCO-2

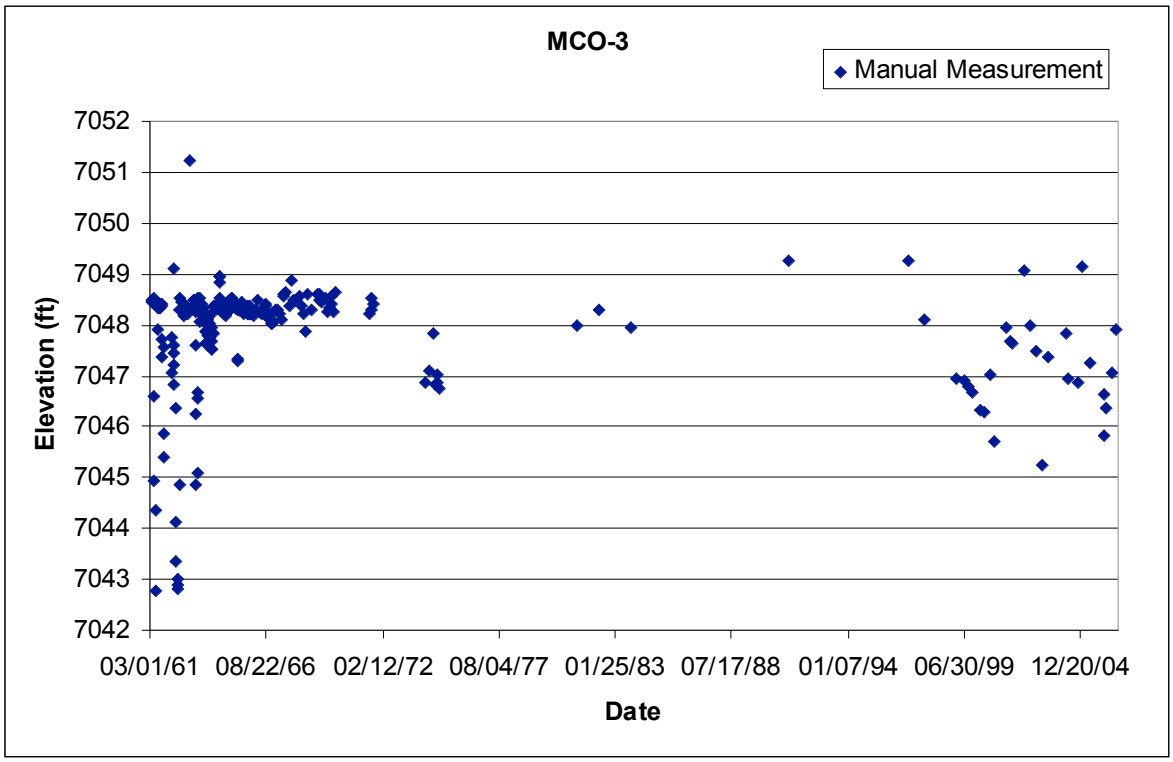
Location: Upper Effluent Canyon, approximately 200 ft west of TA-50 outfall.
Period of Record: November 1, 1960, through September 30, 2006.
Remarks: The transducer is sitting on top of the bladder pump in a 2-in.-diameter well. Transducer elevation is 7133.8 ft. The water level is below the transducer most of the time.



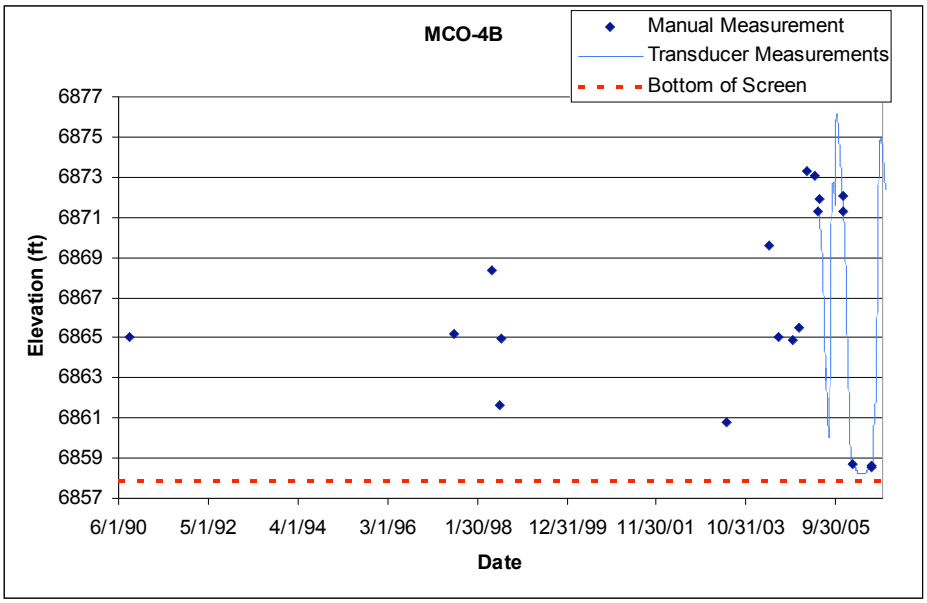
### 5.56 MCO-3

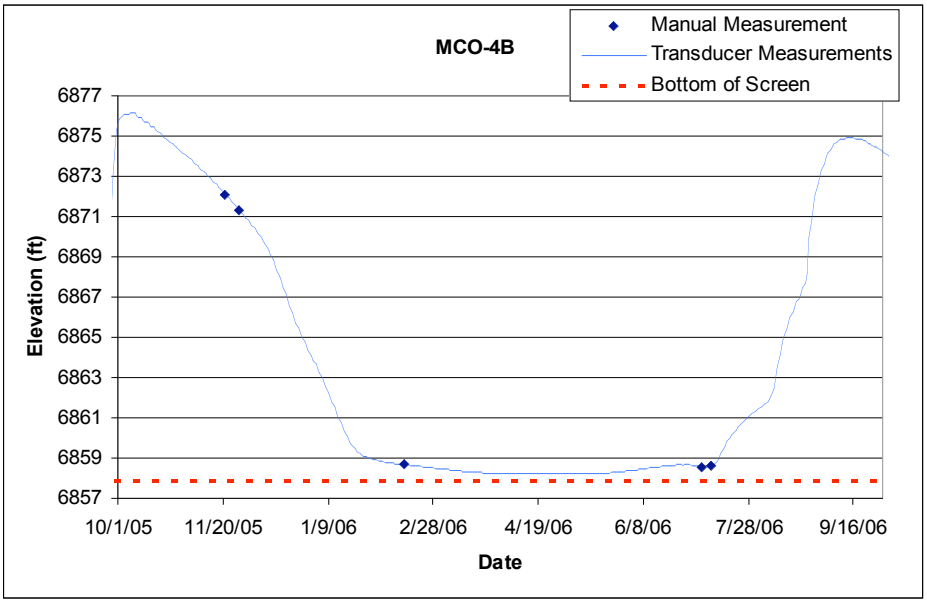
Location: Upper Mortandad Canyon, approximately 1250 ft downstream of TA-50 outfall.
Period of Record: March 27, 1961, through September 6, 2006.
Remarks: MCO-3 was monitored in FY 2006 with manual measurements only. Bottom of screen elevation is 7040.72 ft.



### 5.57 MCO-4B

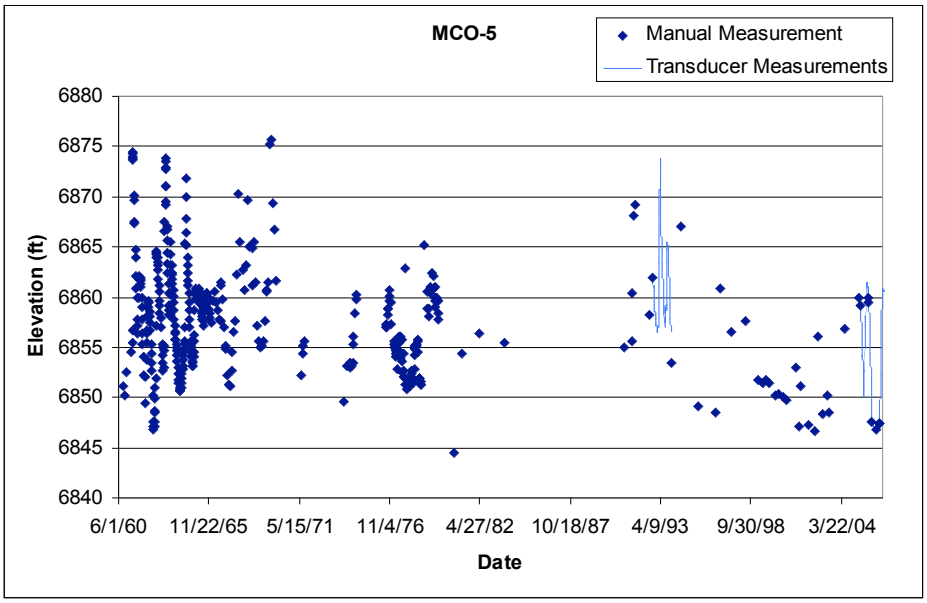
Location: Middle Mortandad Canyon, approximately 3000 ft up canyon from sediment traps.
Period of Record: August 21, 1990, through September 30, 2006.
Remarks: Screen bottom elevation is 6857.9 ft.

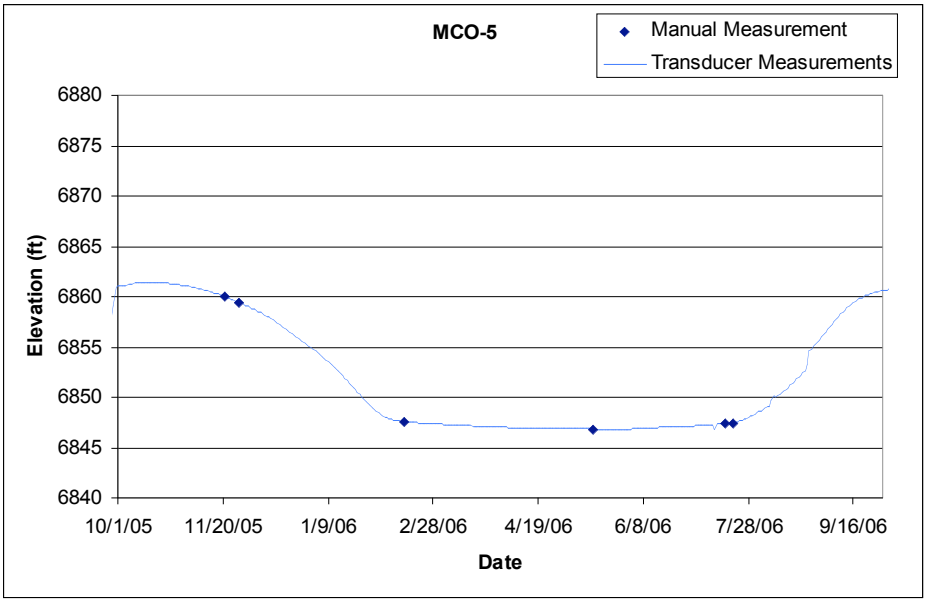


### 5.58 MCO-5

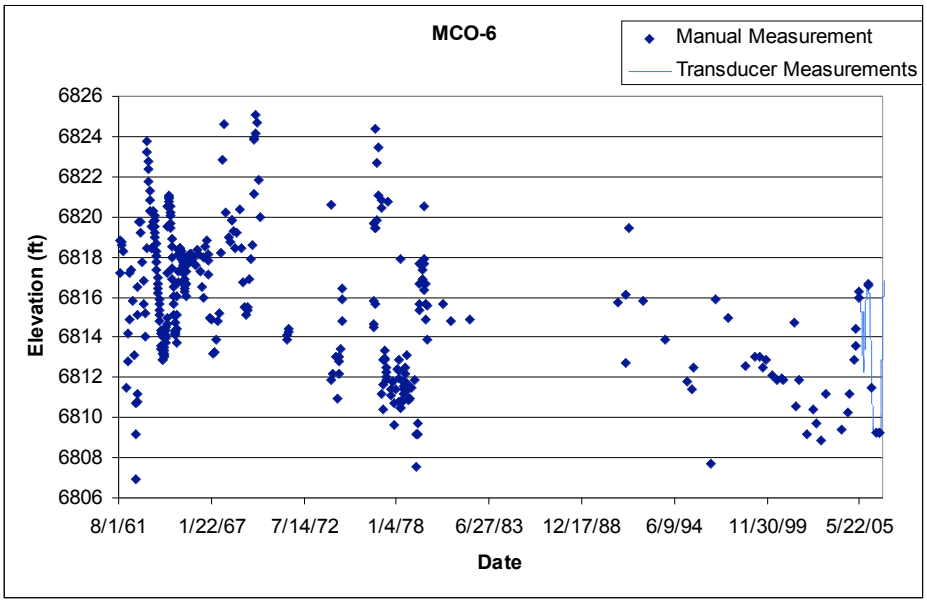
Location: Middle Mortandad Canyon, approximately 2300 ft up canyon from sediment traps.
Period of Record: October 1, 1960, through September 30, 2006.
Remarks: Bottom of screen elevation is 6829.66 ft.

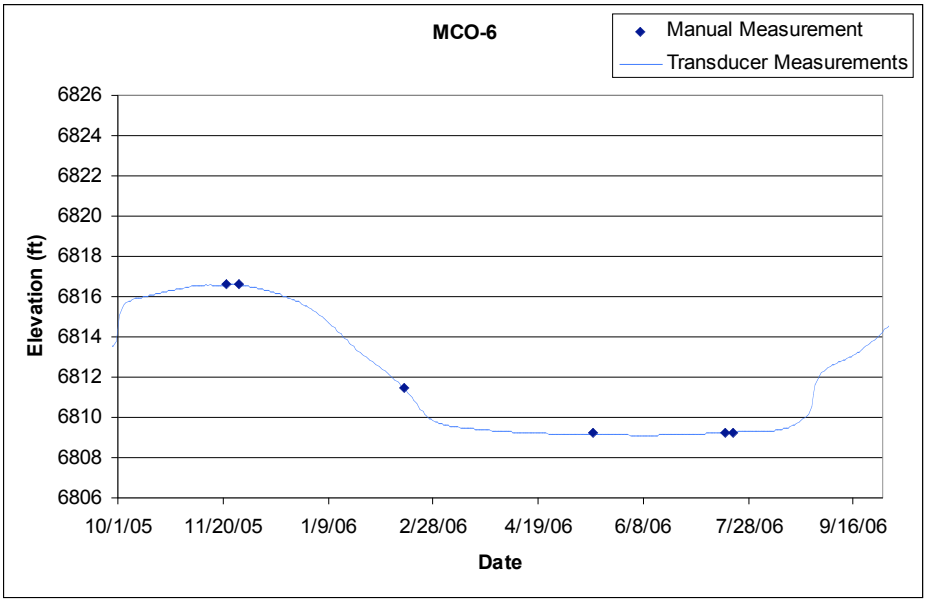


### 5.59 MCO-6

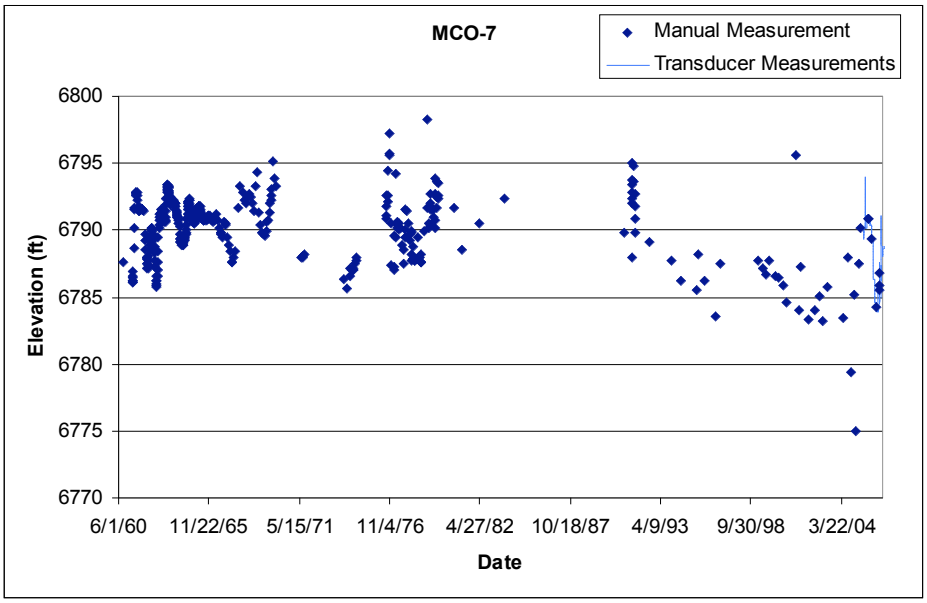
Location: Middle Mortandad Canyon, approximately 0.25 mile east of MCO-5.
Period of Record: August 25, 1961, through September 30, 2006.
Remarks: Bottom of screen elevation is 6802.5 ft.

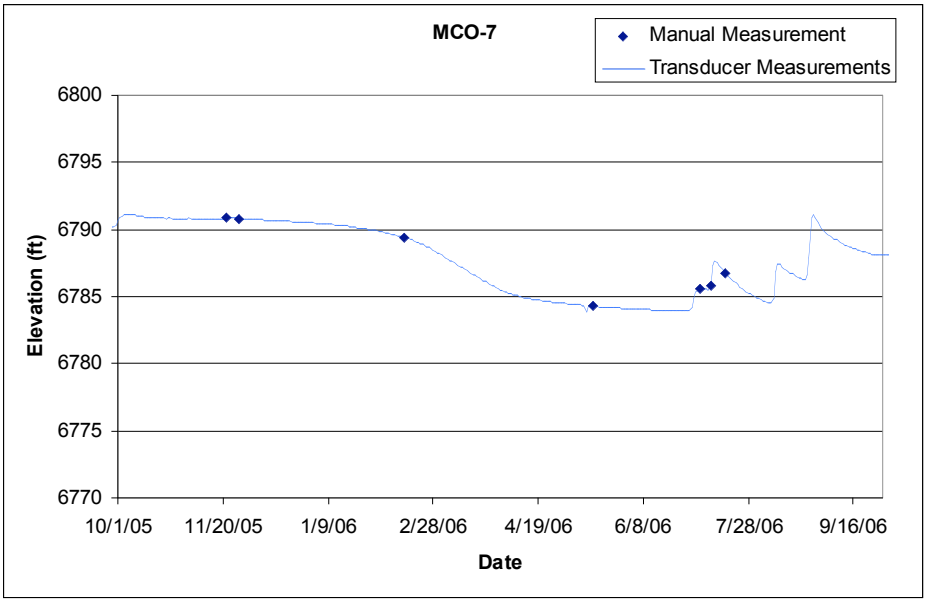


### 5.60 MCO-7

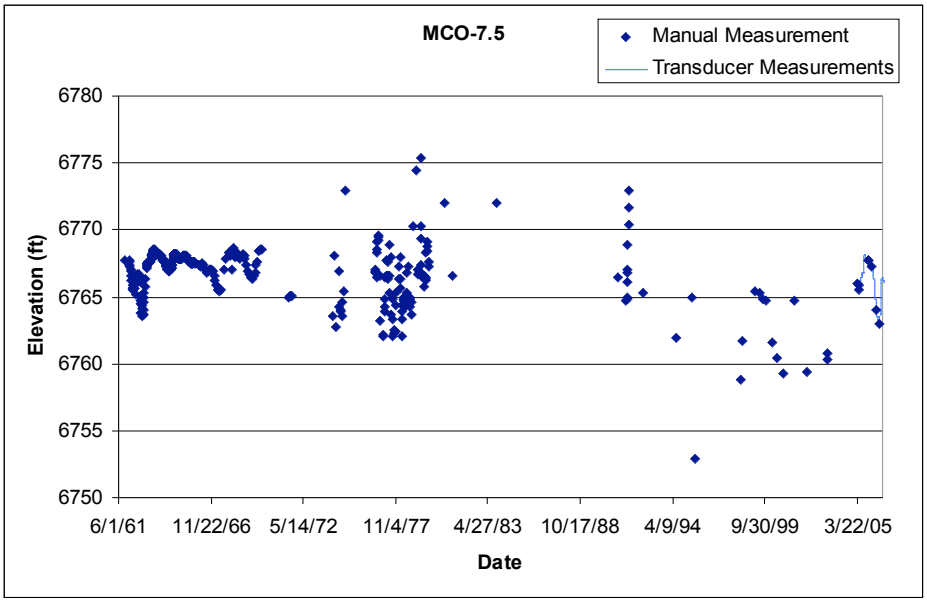
Location: Middle Mortandad Canyon, approximately 0.2 mile east of MCO-6.
Period of Record: October 1, 1960, through September 30, 2006.
Remarks: Bottom of screen elevation is 6758.31 ft.

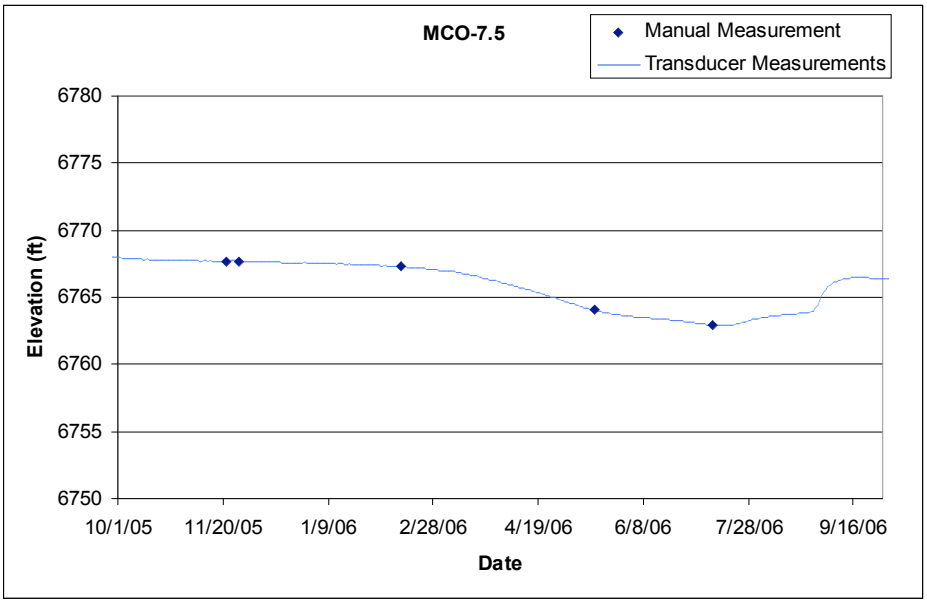


### 5.61 MCO-7.5

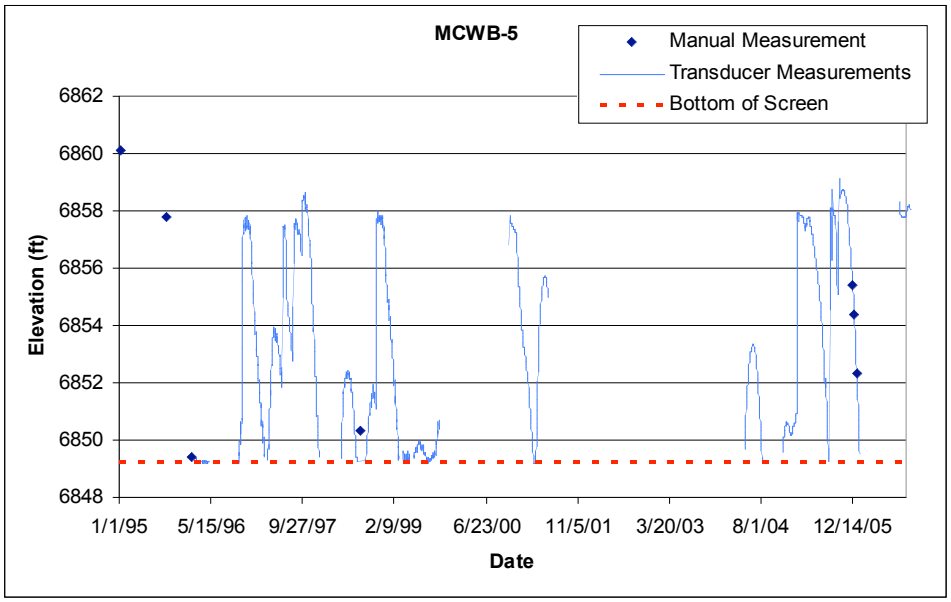
Location: Middle Mortandad Canyon, approximately 0.2 mile east of MCO-7.
Period of Record: November 1, 1961, through September 30, 2006.
Remarks: Bottom of screen elevation is 6748.88 ft.

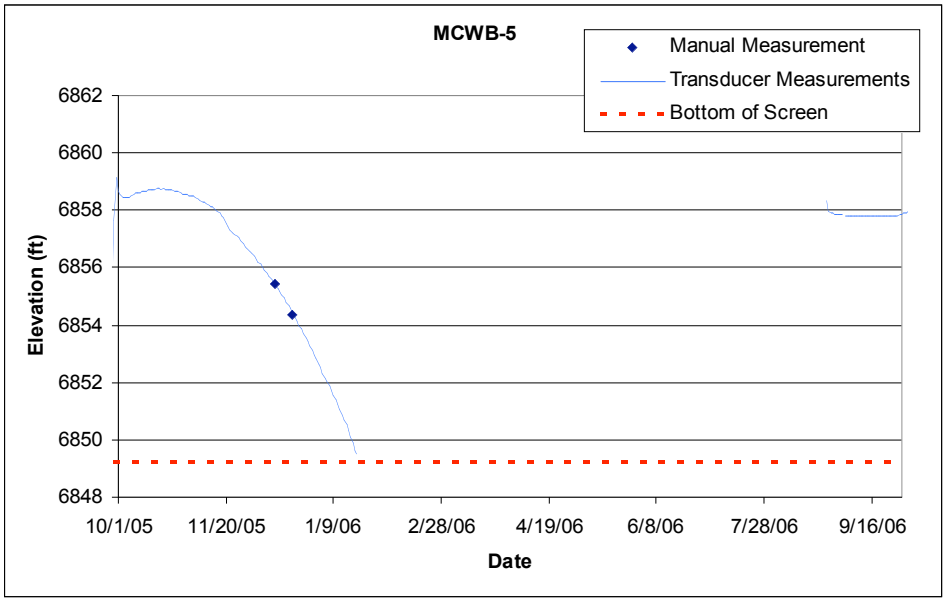


### 5.62 MCWB-5

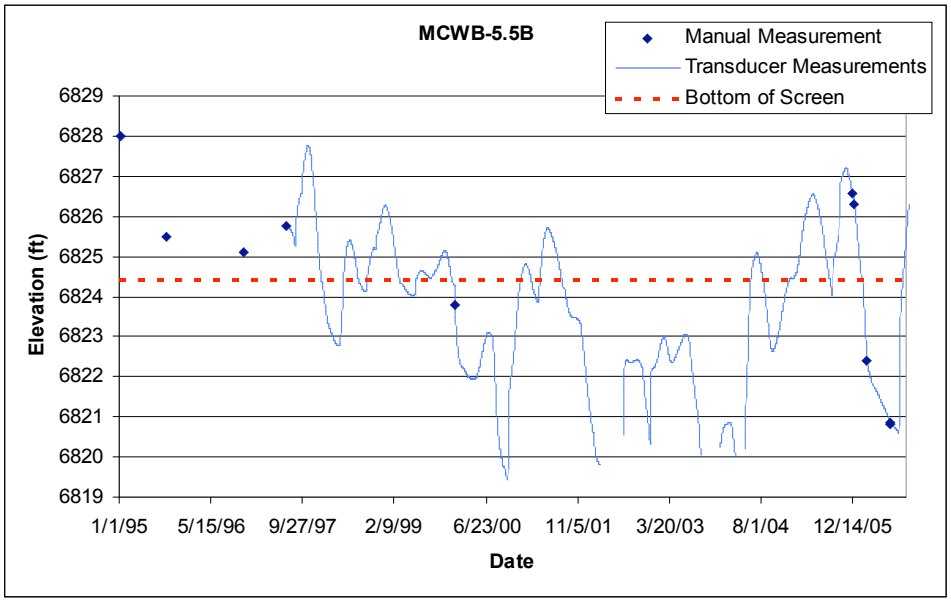
Location: Middle Mortandad Canyon, up canyon from the sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: None.

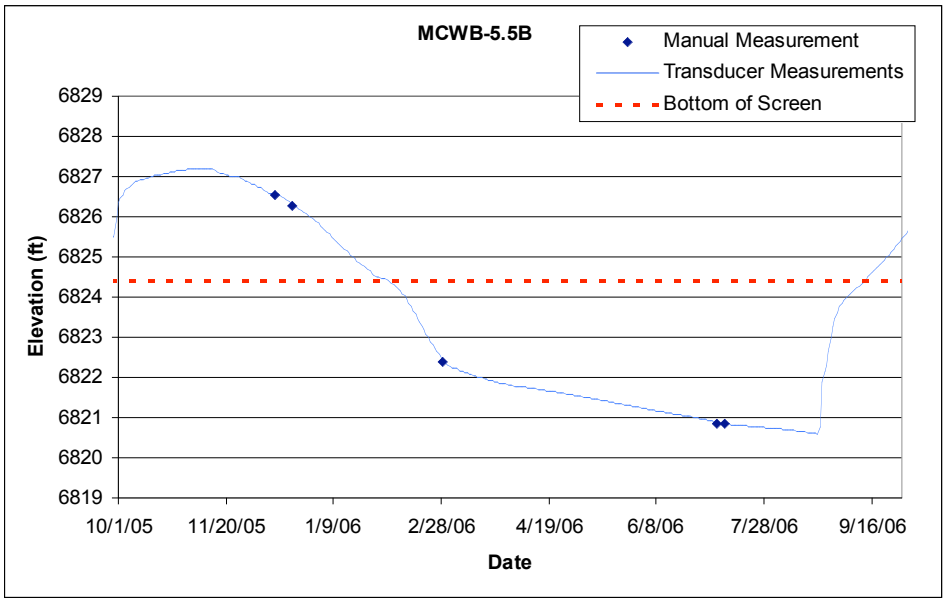


### 5.63 MCWB-5.5B

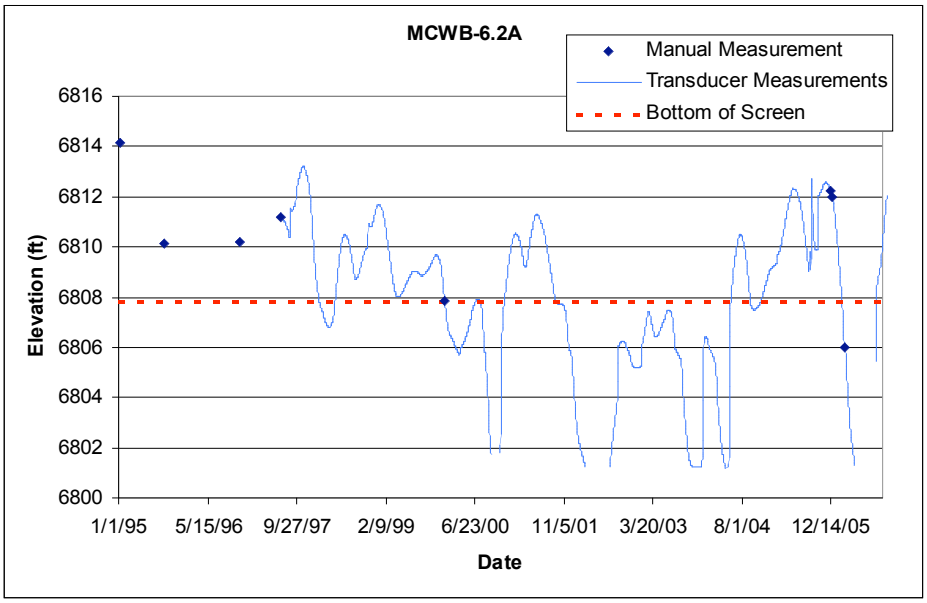
Location: Middle Mortandad Canyon, up canyon from sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: Water in sump appears to respond to groundwater level fluctuations.

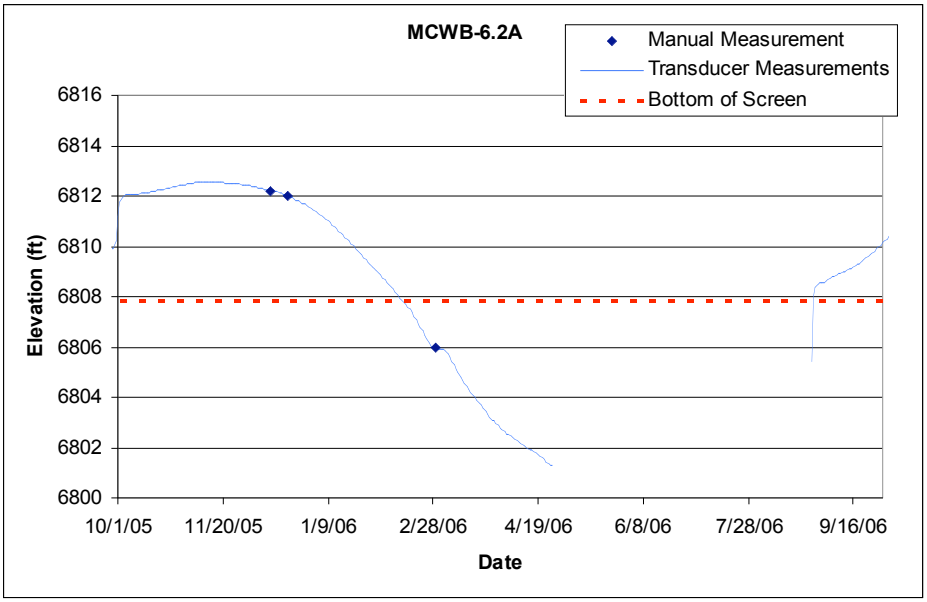


### 5.64 MCWB-6.2A

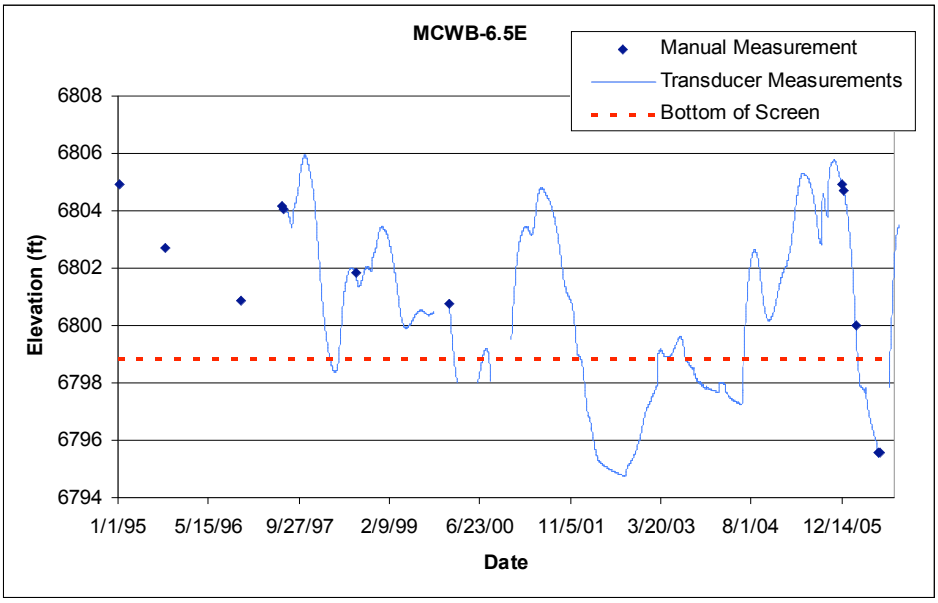
Location: Middle Mortandad Canyon, up canyon from sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: Water in sump appears to respond to groundwater level fluctuations.

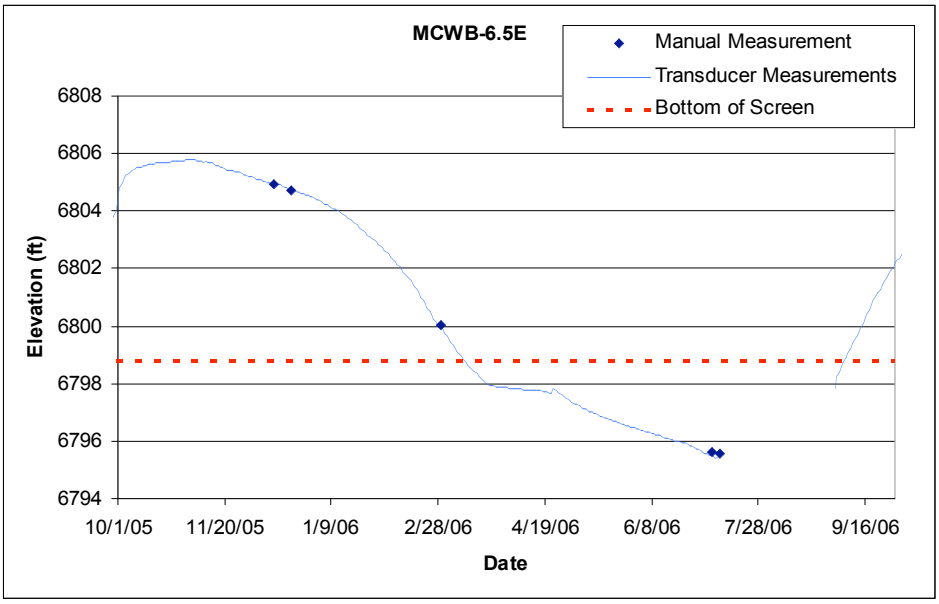


### 5.65 MCWB-6.5E

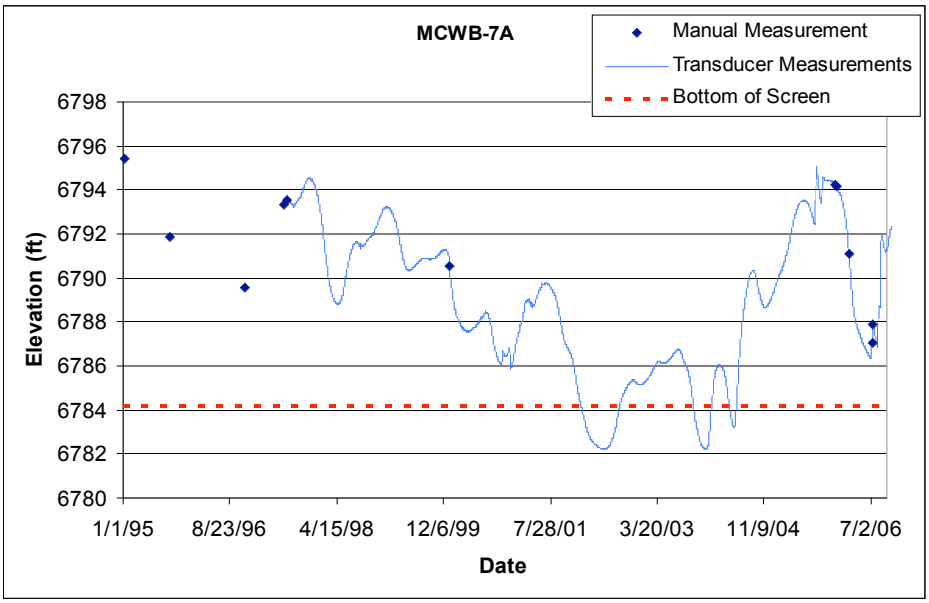
Location: Middle Mortandad Canyon, up canyon of the sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: Water in sump appears to respond to groundwater level fluctuations.

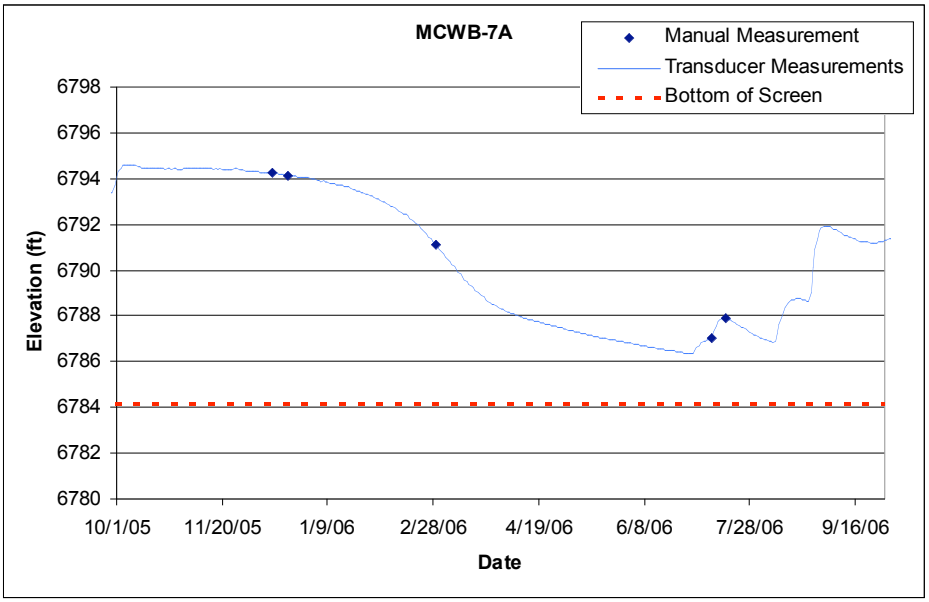


### 5.66 MCWB-7A

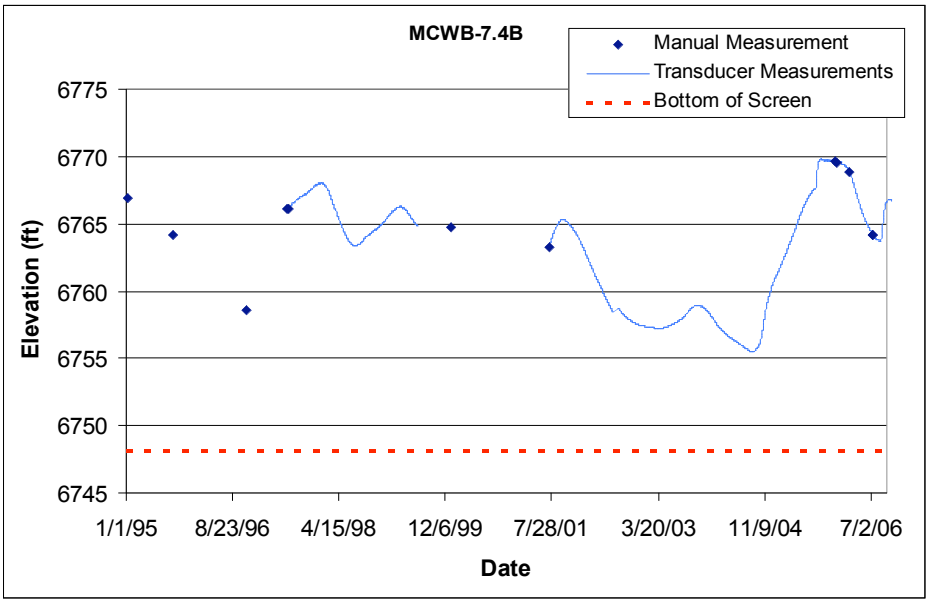
Location: Middle Mortandad Canyon, near sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: Water in sump appears to respond to groundwater level fluctuations.

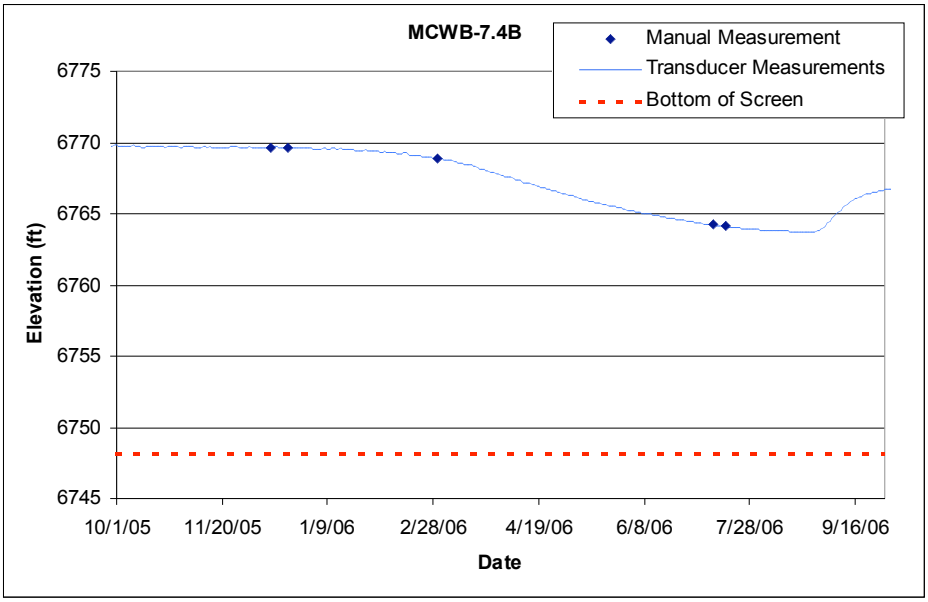


### 5.67 MCWB-7.4B

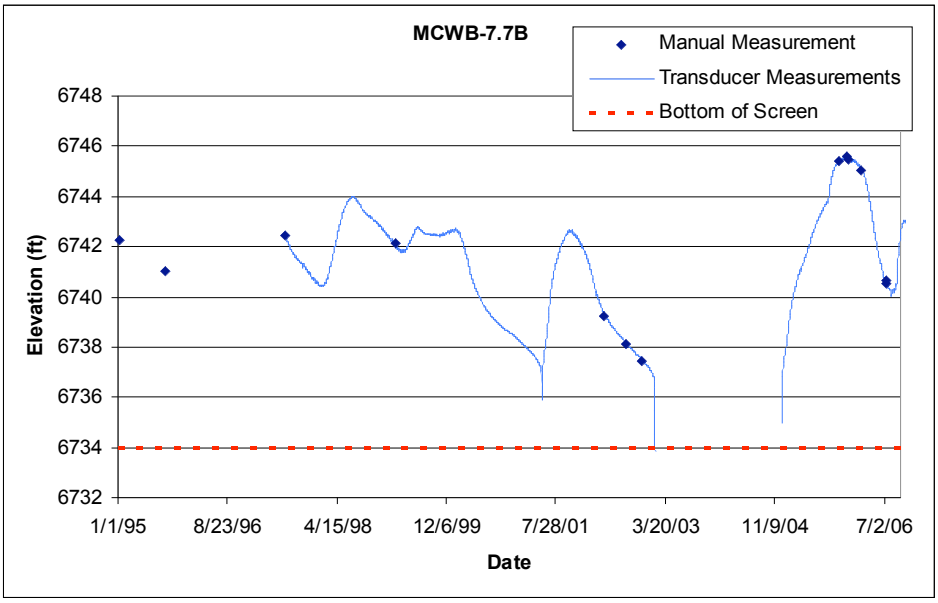
Location: Middle Mortandad Canyon, down canyon from sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: None.

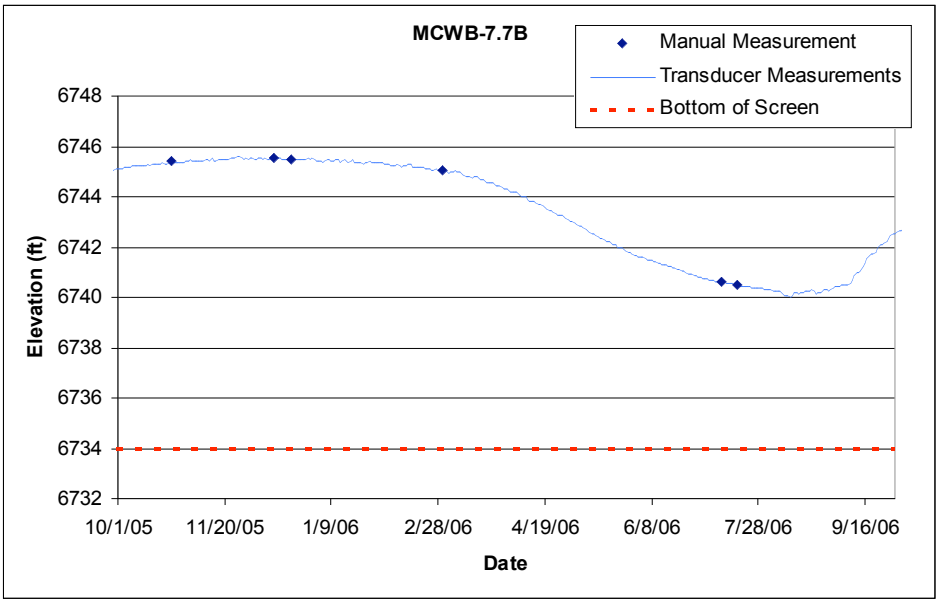


### 5.68 MCWB-7.7B

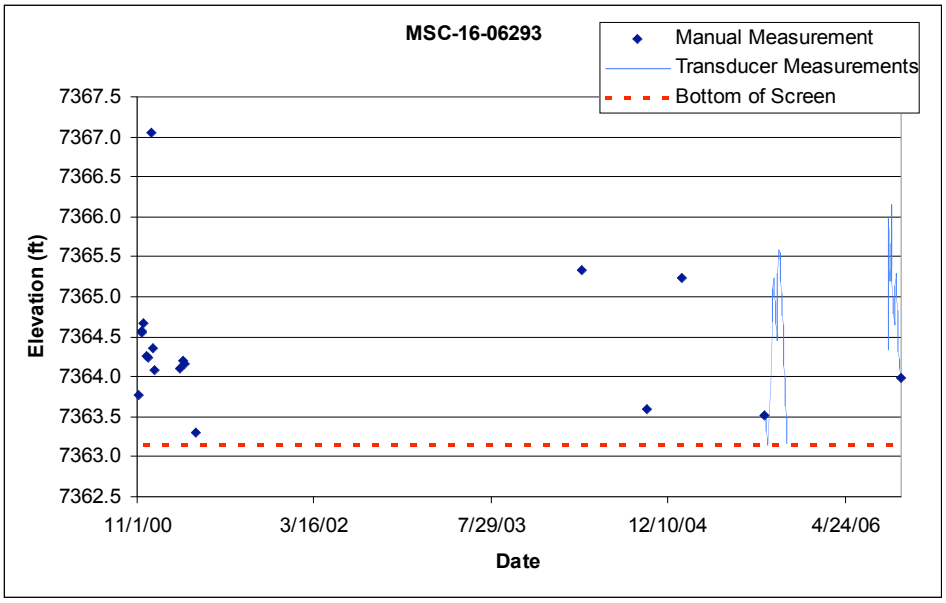
Location: Middle Mortandad Canyon, down canyon from sediment traps.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: None.

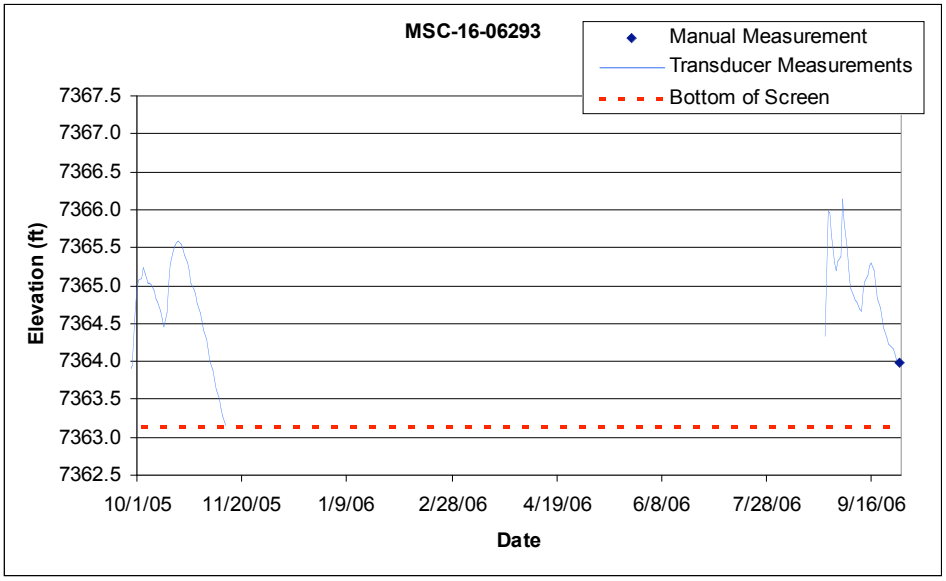


### 5.69 MSC-16-06293

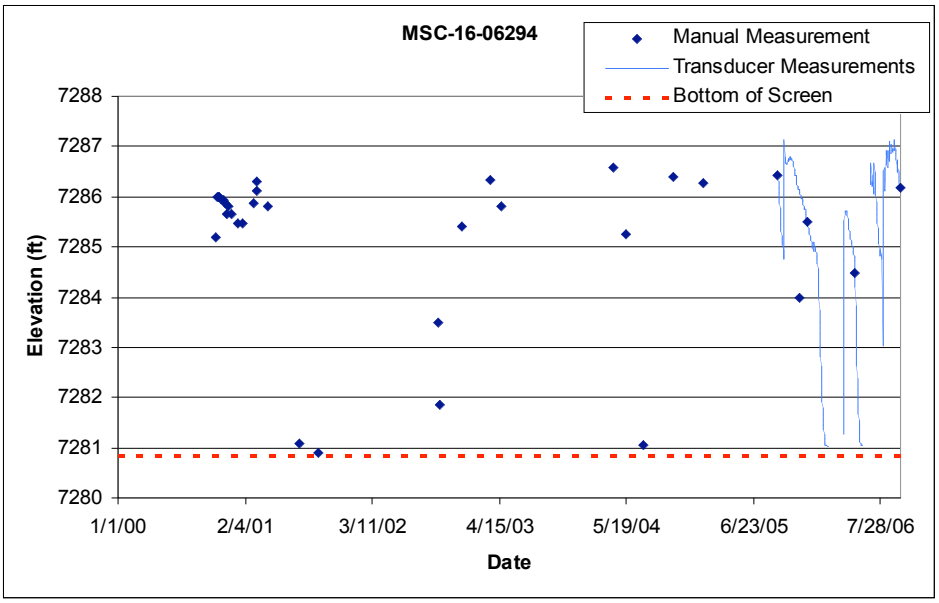
Location: Martin Spring Canyon, about 1600 feet down drainage from Martin Spring outlet.
Period of Record: November 6, 2000, through September 30, 2006.
Remarks: MSC-16-06293 was dry from November 12, 2005, through August 25, 2006.

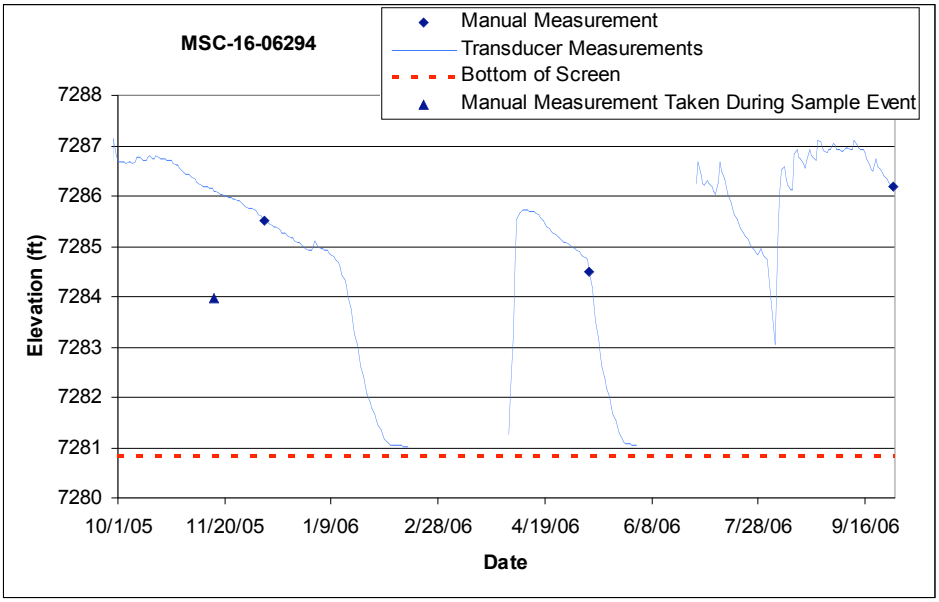


### 5.70 MSC-16-06294

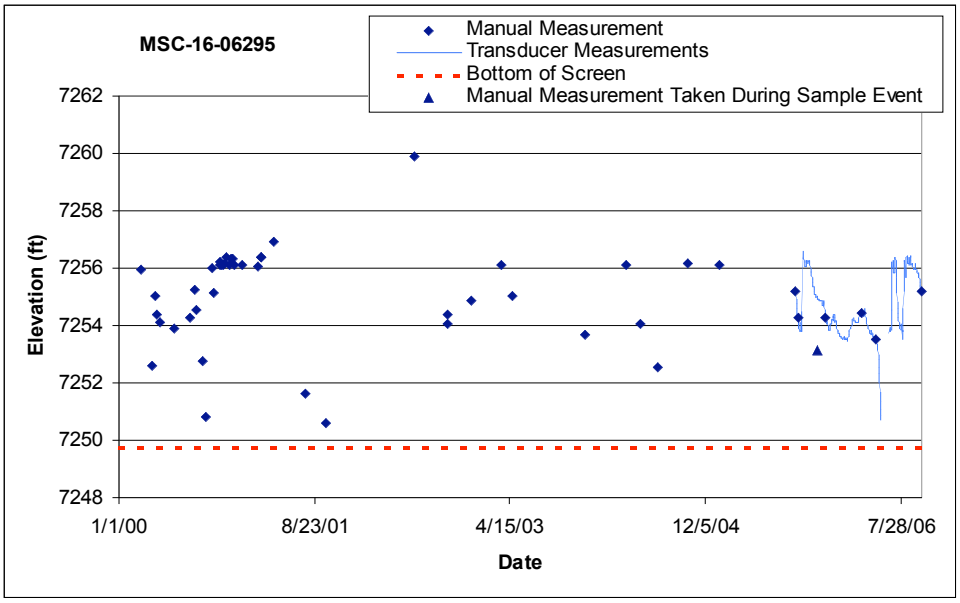
Location: Martin Spring Canyon, about 1600 ft upstream of the K-site wetlands.
Period of Record: November 6, 2000, through September 30, 2006.
Remarks: Water level declines below screen at times.

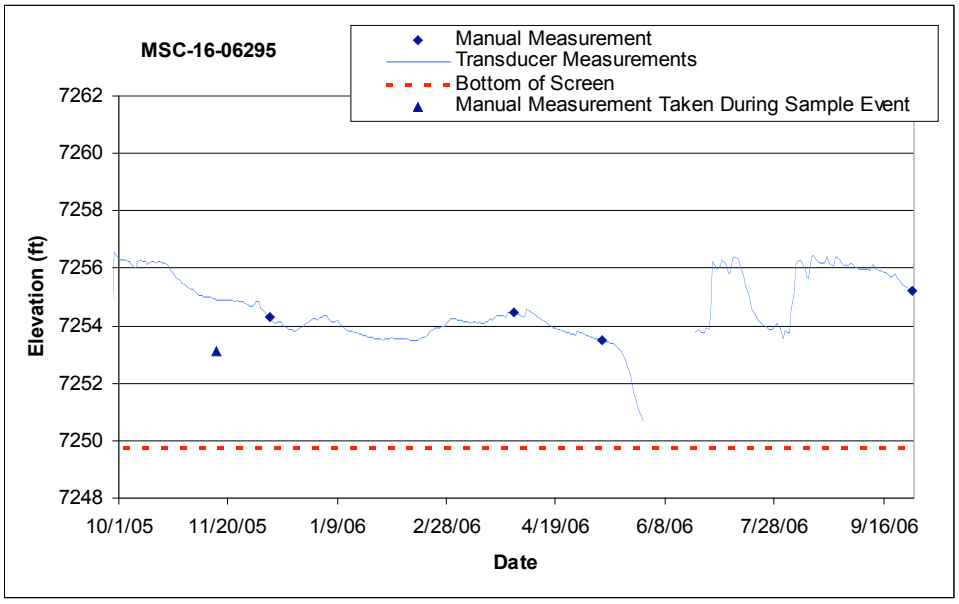


### 5.71 MSC-16-06295

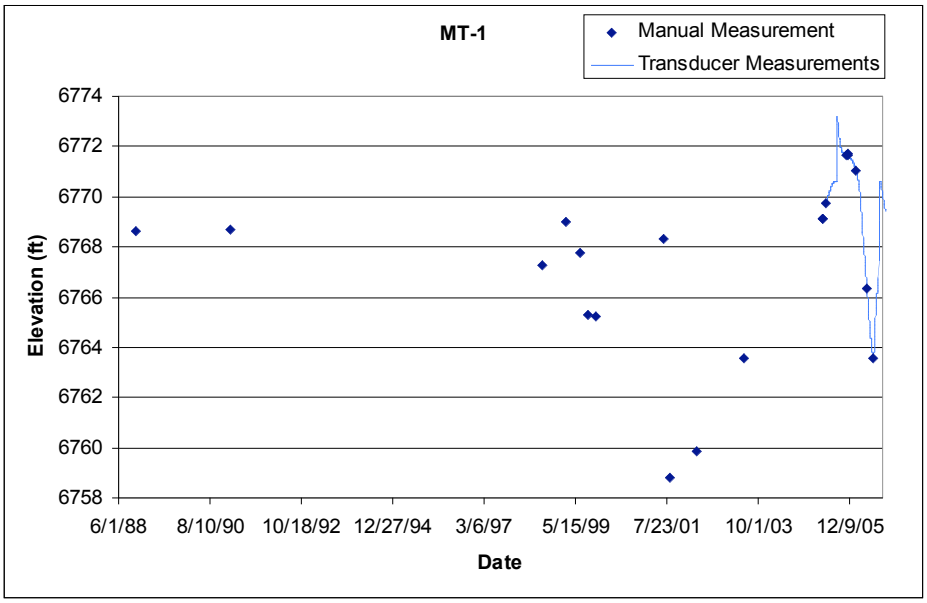
Location: Martin Spring Canyon, just downstream of the K-site wetlands and north of the TA-11 drop tower.
Period of Record: March 10, 2000, through September 30, 2006.
Remarks: None.

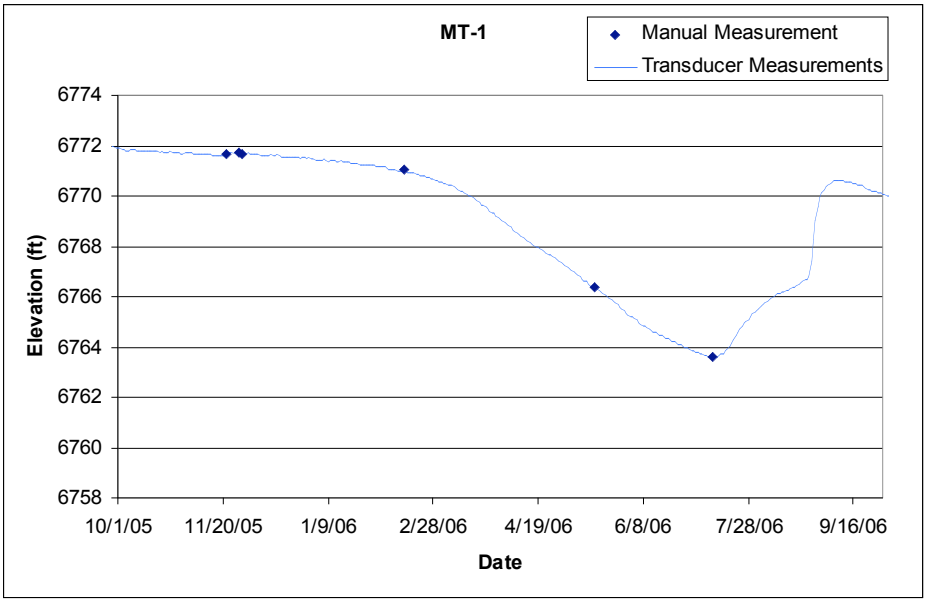


### 5.72 MT-1

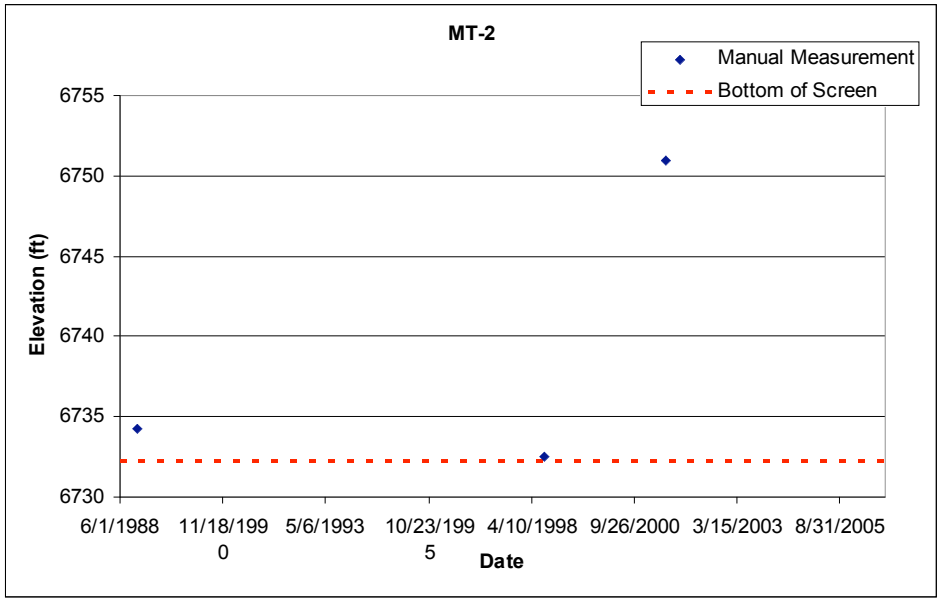
Location: Middle Mortandad Canyon, approximately 0.12 mile east of MCO-7.
Period of Record: November 1, 1988, through September 30, 2006.
Remarks: Bottom of screen elevation is 6752.6 ft.



### 5.73 MT-2

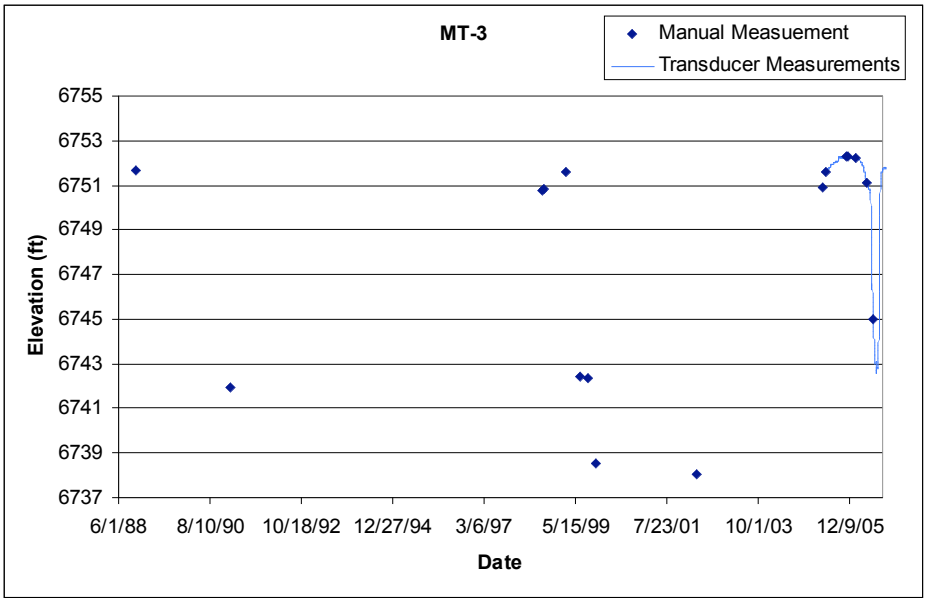
Location: Middle Mortandad Canyon, down canyon of sediment traps, approximately 0.12 mile east of MT-1.
Period of Record: November 1, 1988, through September 30, 2006.
Remarks: No valid water level data for FY 2006 because the water level was below the top of the pump.

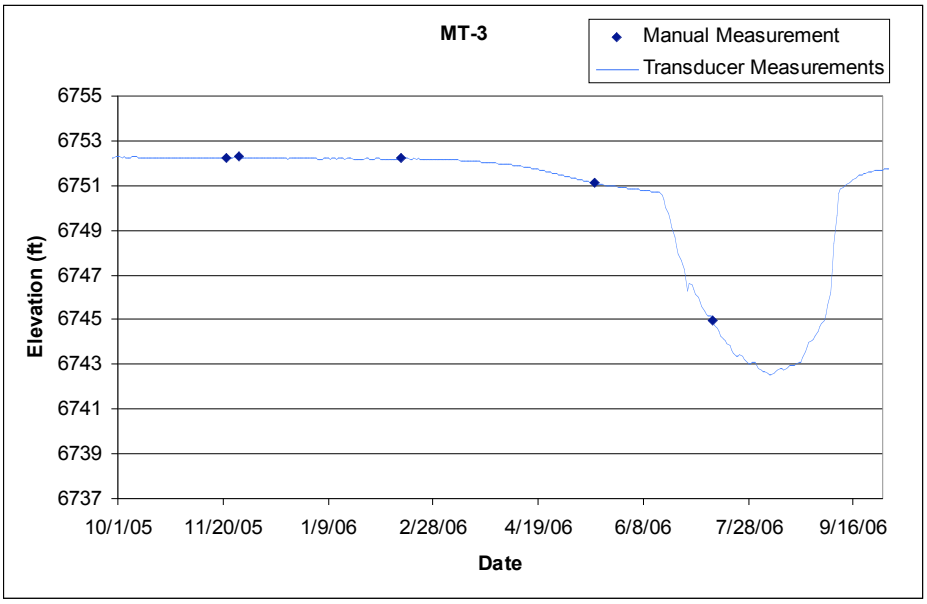



| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| MT-2 | 11/22/2005 2:36:00 PM | | Dry above pump. |
| MT-2 | 2/13/2006 1:55:00 PM | | Dry above pump. |
| MT-2 | 5/16/2006 8:38:00 AM | | Dry above pump. |
| MT-2 | 11/22/2005 2:30:00 PM | | Dry above pump. |
| MT-2 | 11/28/2005 2:08:00 PM | | Dry above pump. |
| MT-2 | 7/11/2006 1:24:00 PM | | Dry above pump, 2-in. casing. |

### 5.74 MT-3

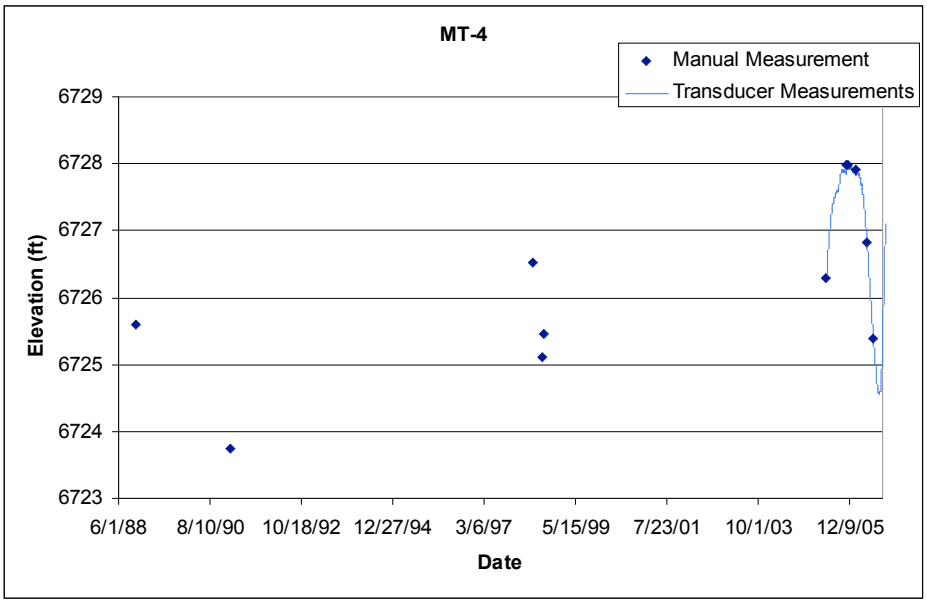
Location: Middle Mortandad Canyon, down canyon of sediment traps, approximately 0.12 mile east of MT-1 and approximately 50 ft north of MT-2.
Period of Record: November 1, 1988, through September 30, 2006.
Remarks: Bottom of screen elevation is 6732.7 ft.

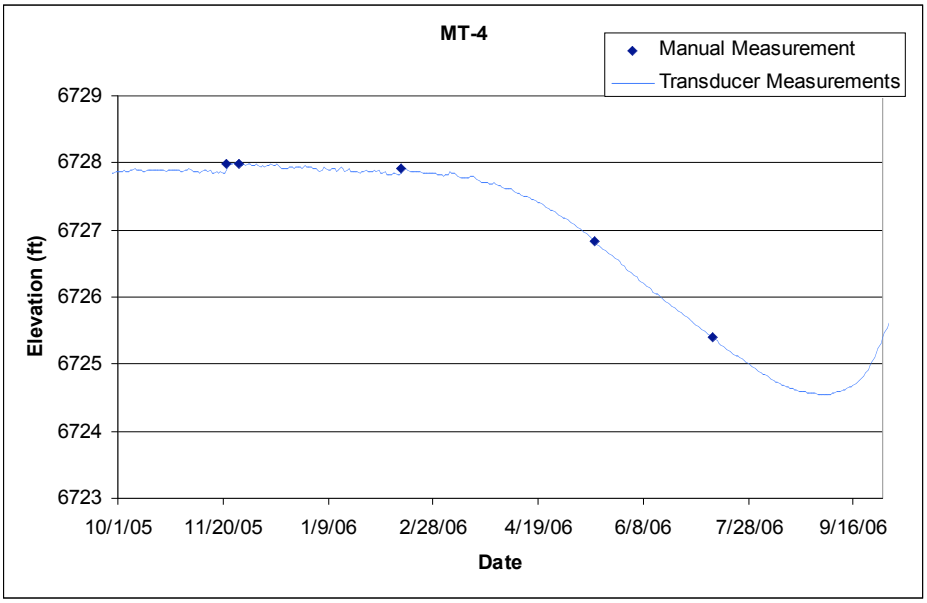


### 5.75 MT-4

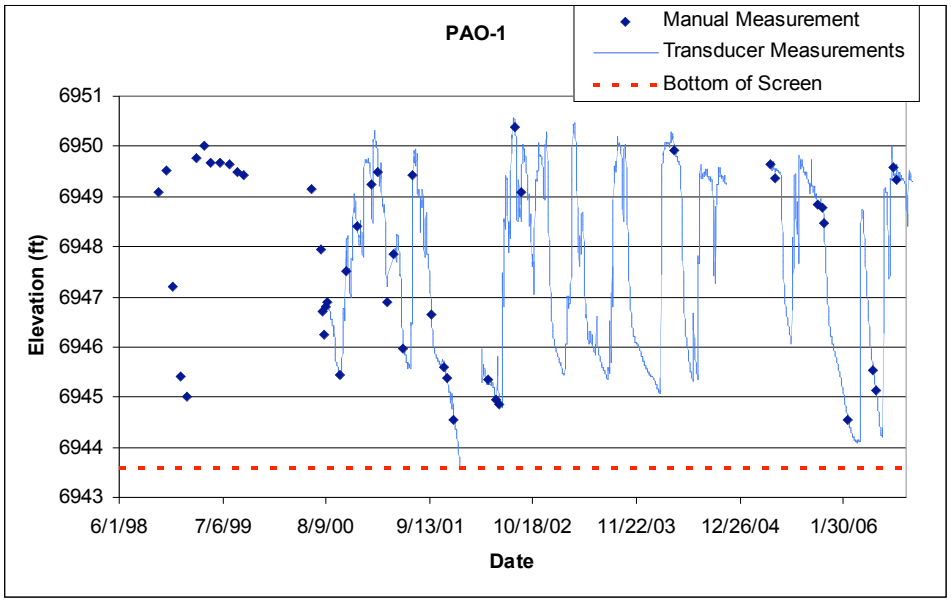
Location: Middle Mortandad Canyon, down canyon of the sediment traps, approximately 525 ft east of MT-3.
Period of Record: November 1, 1988, through September 30, 2006.
Remarks: Bottom of screen elevation is 6719.59 ft.

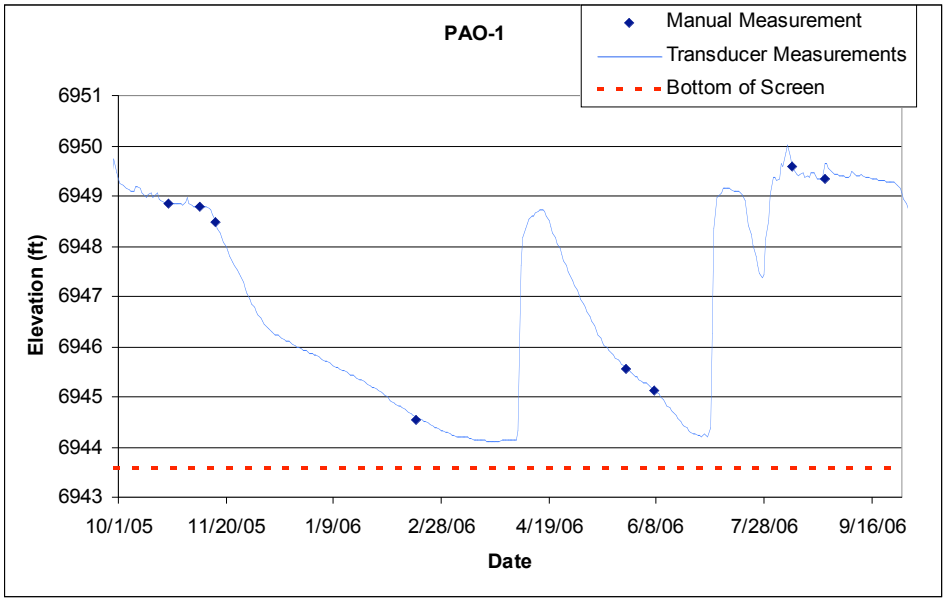


### 5.76 PAO-1

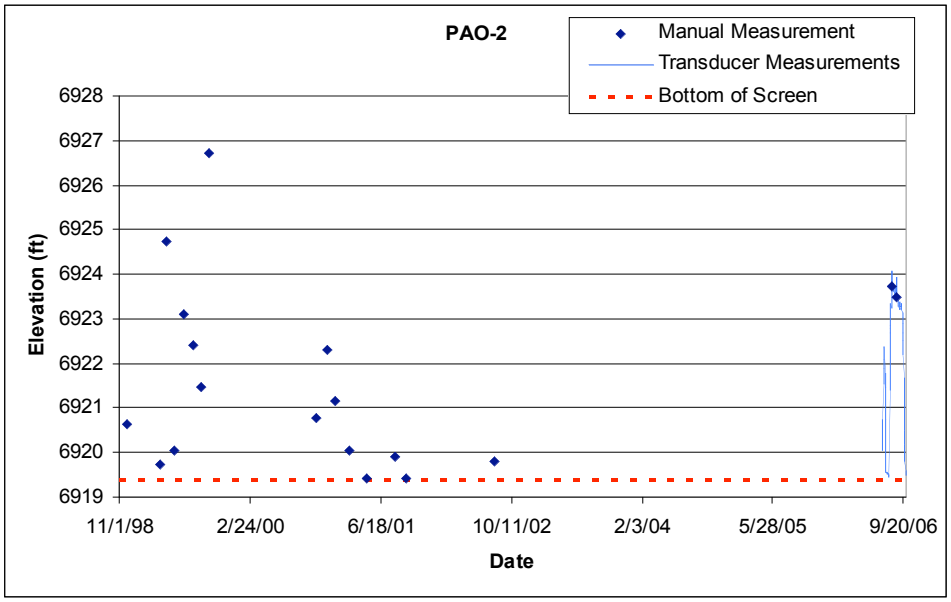
Location: Upper Pueblo Canyon, approximately 1000 ft west of the confluence with Acid Canyon.
Period of Record: October 29, 1998, through September 30, 2006.
Remarks: None.

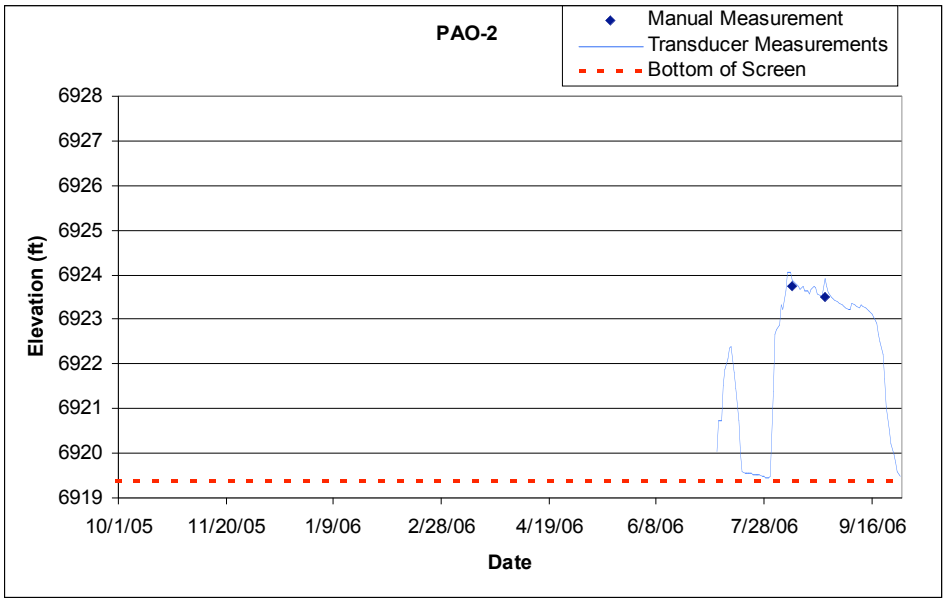


### 5.77 PAO-2

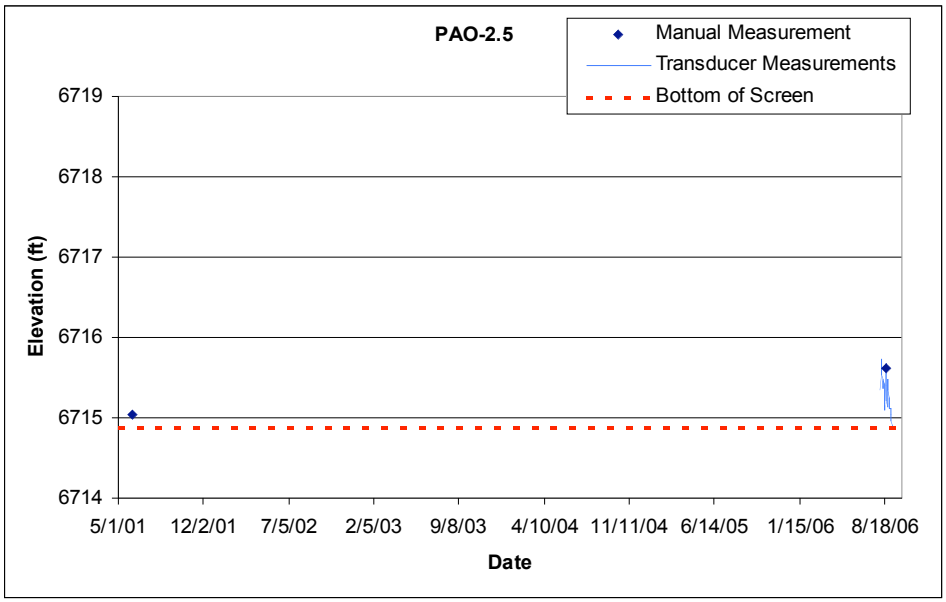
Location: Upper Pueblo Canyon, approximately 500 ft east of the Acid Canyon confluence.
Period of Record: November 30, 1998, through September 30, 2006.
Remarks: A pressure transducer was installed on April 6, 2006.

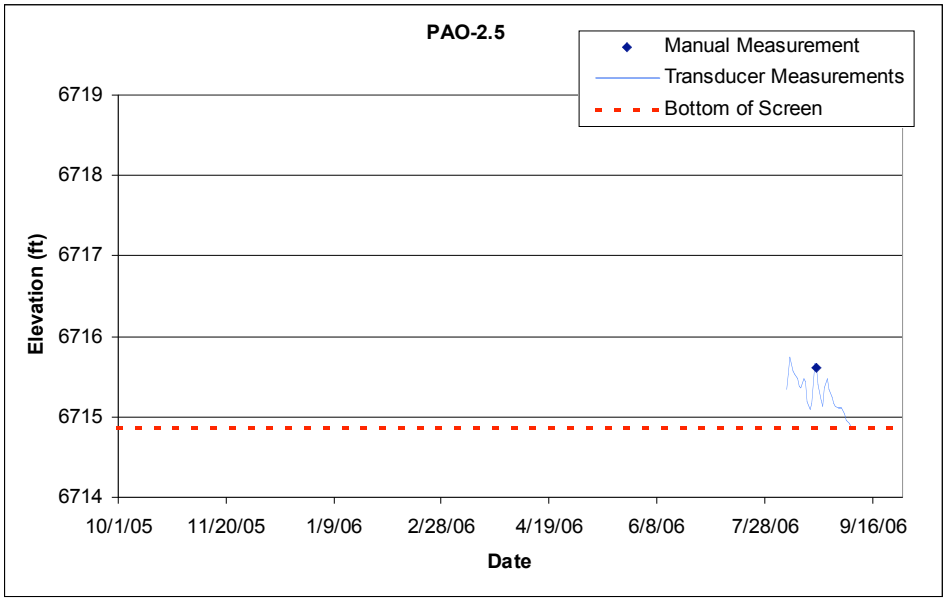


### 5.78 PAO-2.5

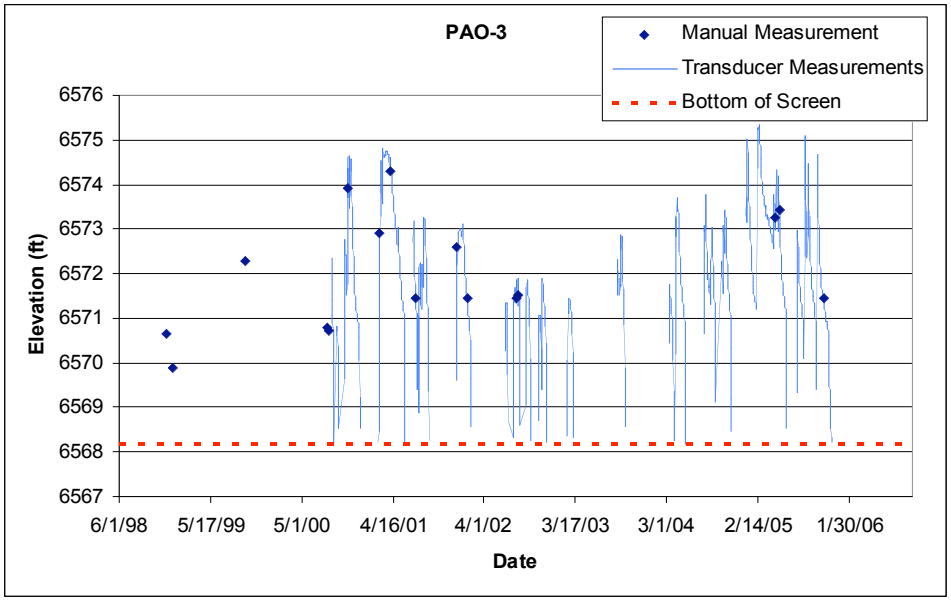
Location: Middle Pueblo Canyon, approximately 7250 ft west of previous location of PAO-3.
Period of Record: December 1, 1998, through September 30, 2006.
Remarks: A pressure transducer was installed on March 7, 2006. The water in PAO-2.5 is usually below the bottom of the screen.

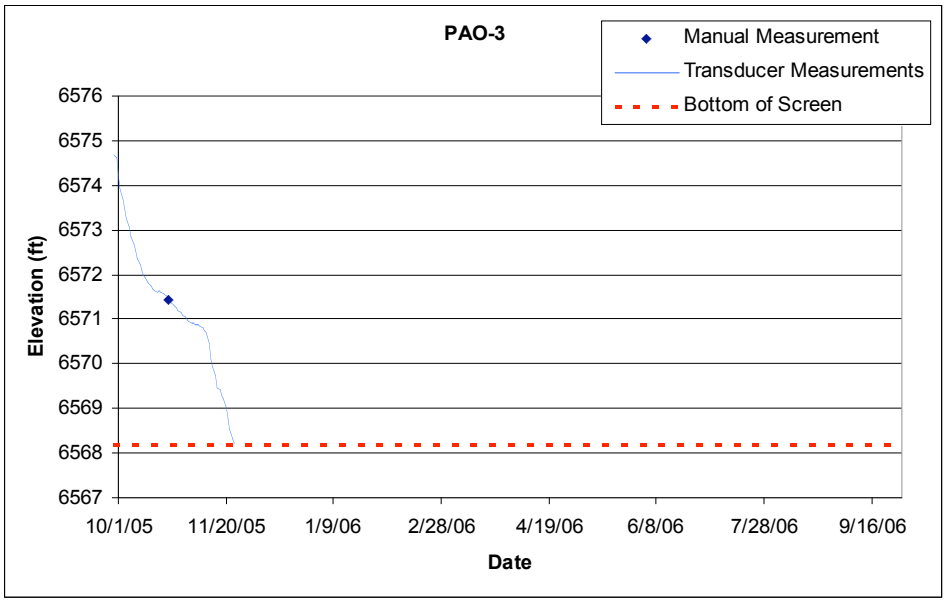


### 5.79 PAO-3

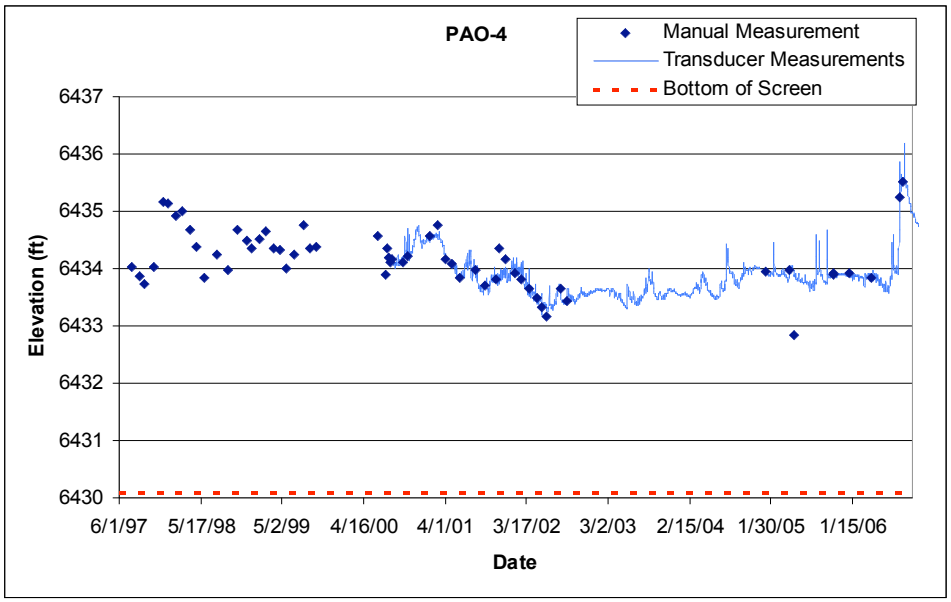
Location: Middle Pueblo Canyon, approximately 5200 ft west of the Los Alamos County Bayo Sewage Treatment Plant.
Period of Record: November 30, 1998, through May 9, 2006.
Remarks: Flooding destroyed PAO-3 in August 2006. The transducer and wellhead completion dates were not found.

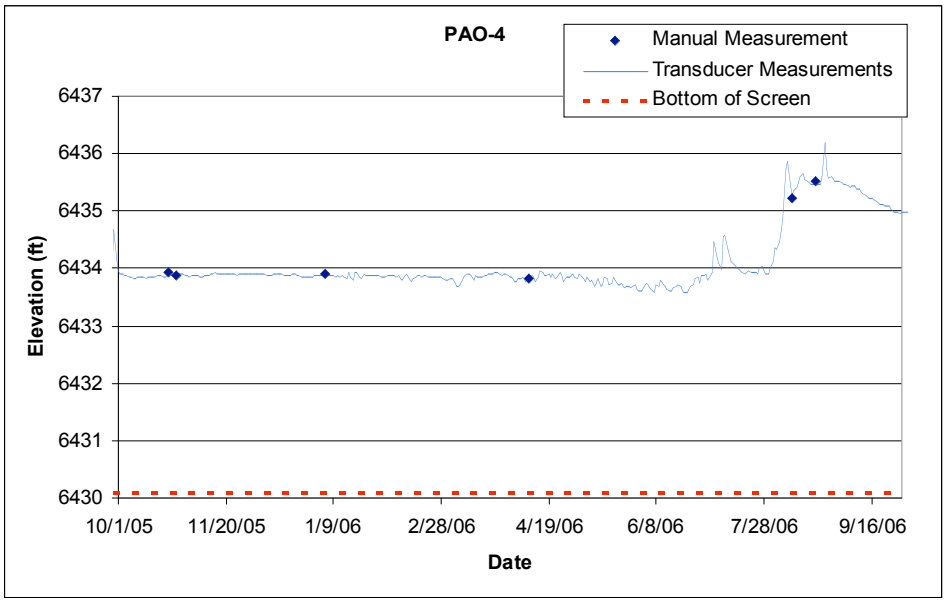


## 5.80 PAO-4

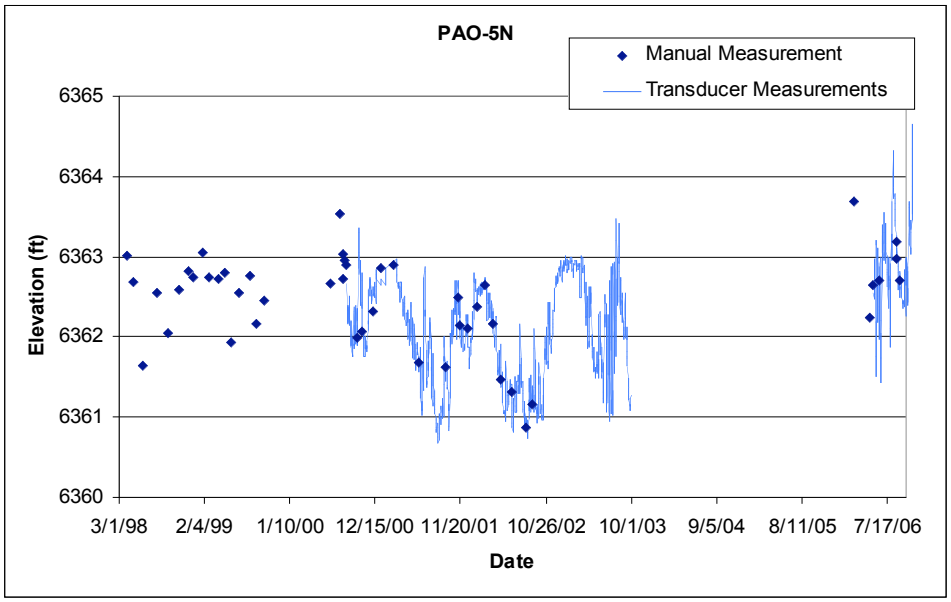
Location: Lower Pueblo Canyon, approximately 3100 ft southeast of the Los Alamos County Sewage Treatment Plant.
Period of Record: July 24, 1997, through September 30, 2006.
Remarks: None.

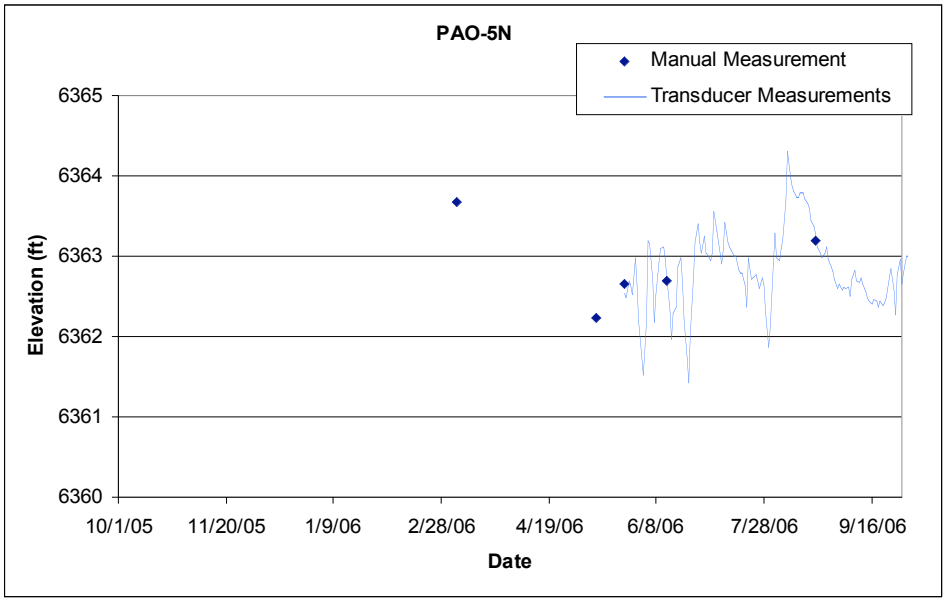


### 5.81 PAO-5N

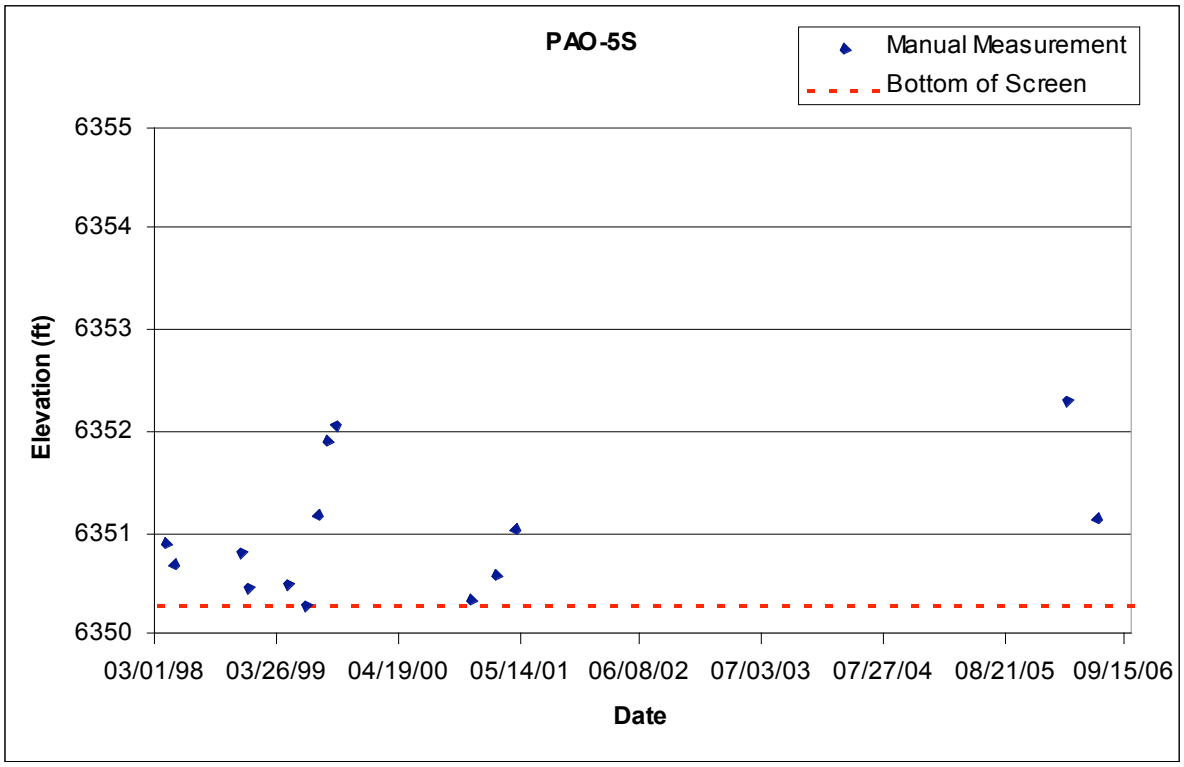
Location: Lower Pueblo Canyon, approximately 950 ft north-northwest of the Otowi-1 supply well.
Period of Record: March 31, 1998, through September 30, 2006.
Remarks: Bottom of screen elevation is 6357.36 ft.



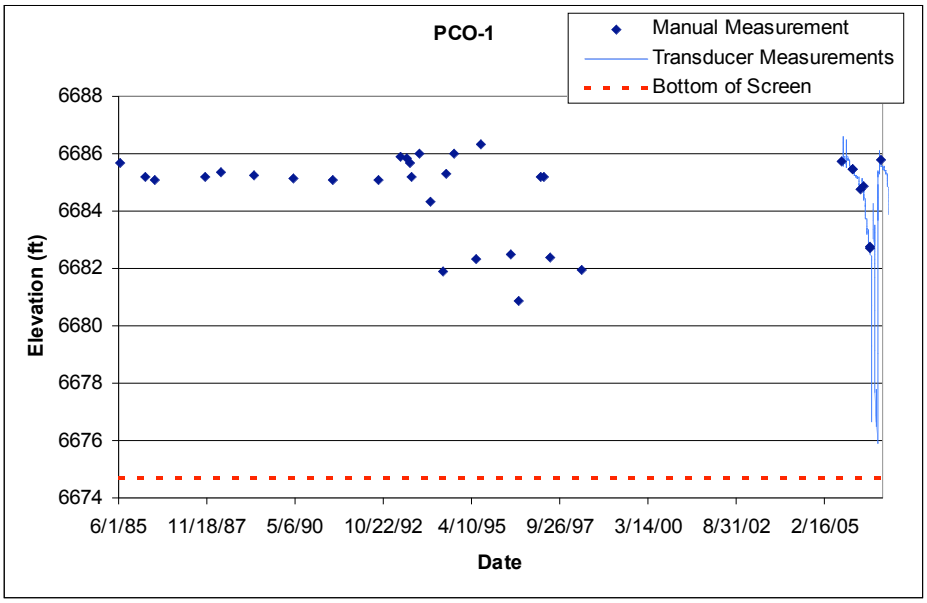
### 5.82 PAO-5S

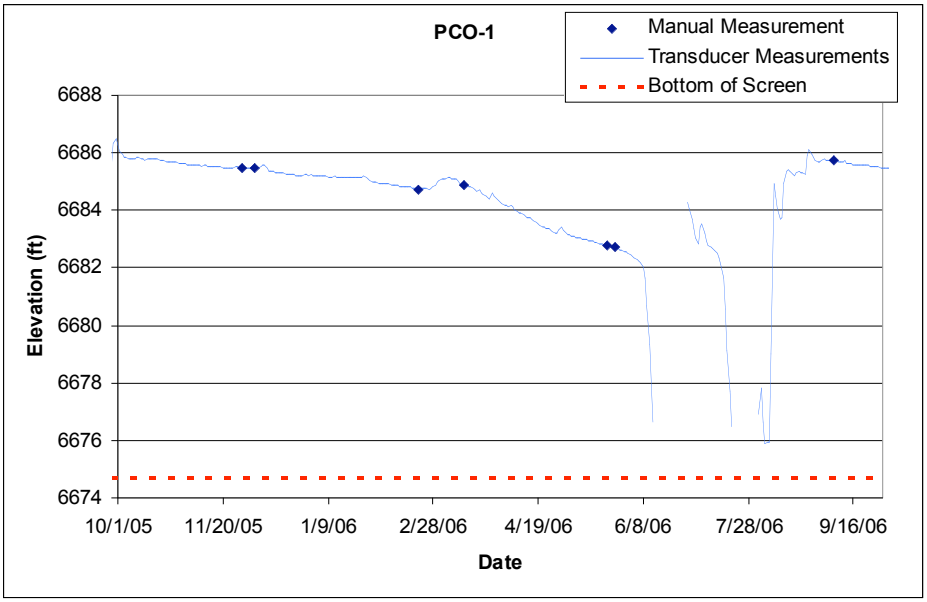
Location: Approximately 50 ft south of alluvial well APCO-1.
Period of Record: March 31, 1998, through June 13, 2006.
Remarks: Water level monitoring at PAO-5S is not scheduled for FY 2007.



### 5.83 PCO-1

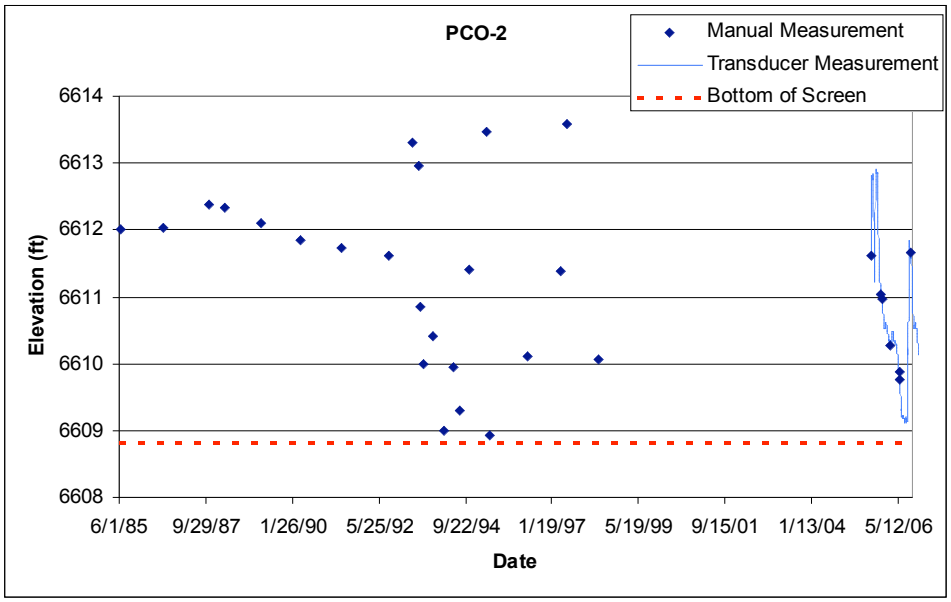
Location: Pajarito Canyon, approximately 200 ft north of R-20.
Period of Record: June 11, 1985, through September 30, 2006.
Remarks: Bottom of screen elevation is 6674.7 ft.

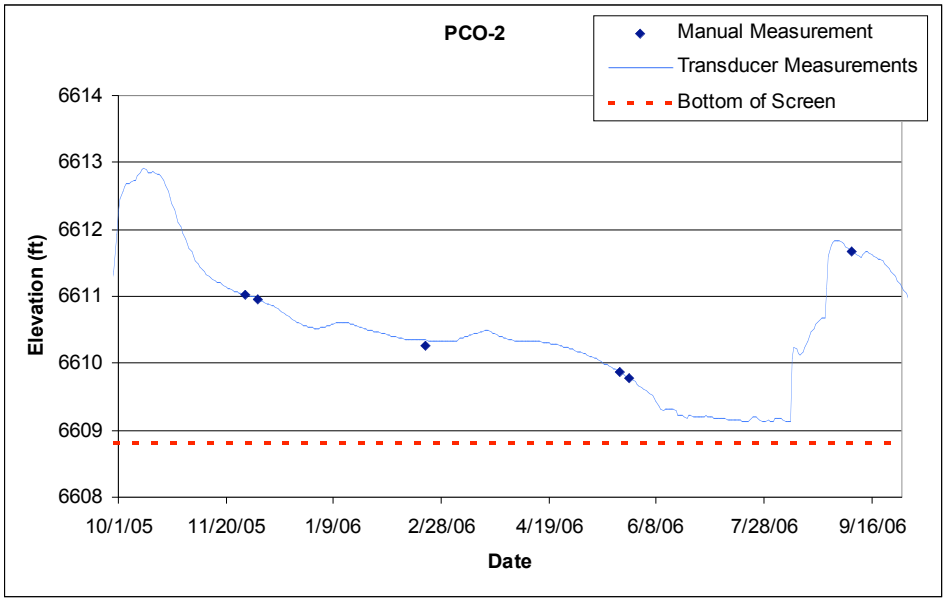


### 5.84 PCO-2

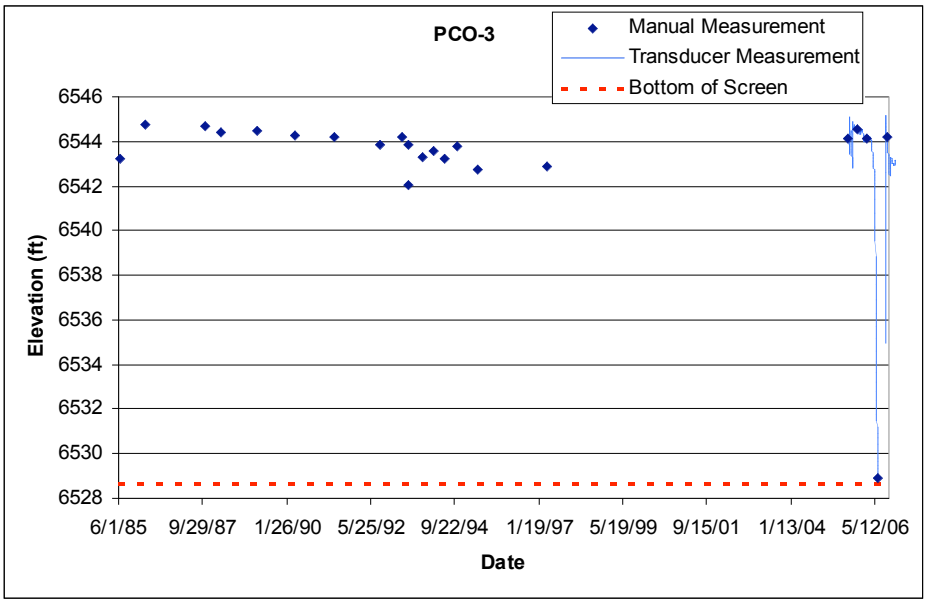
Location: Pajarito Canyon, approximately 0.1 mile east of R-32.
Period of Record: June 11, 1985, through September 30, 2006.
Remarks: None.

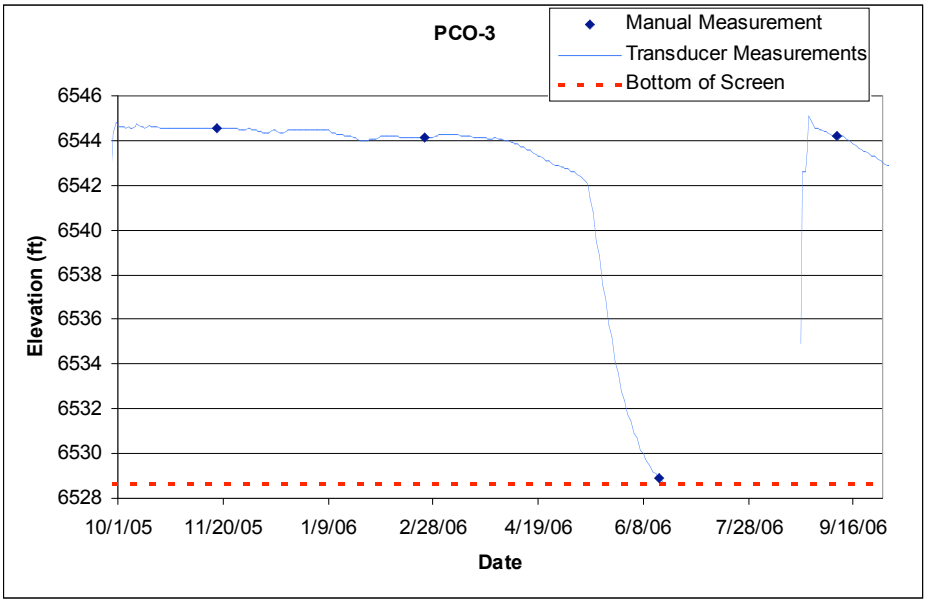


### 5.85 PCO-3

Location: Pajarito Canyon, approximately 1 mile east of R-32, in wetlands on the south side of the road.
Period of Record: June 11, 1985, through September 30, 2006.
Remarks: Bottom of screen elevation is 6529.3 ft. The water level declined below the screen in June 2006.



### 5.86 SCO-1

Location: Sandia Canyon, approximately 0.1 mile east of R-11.
Period of Record: June 7, 1997, through September 7, 2006.
Remarks: No valid data, well has been dry during every measurement event.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| SCO-1 | 8/14/1989 12:00:00 PM | | Dry |
| SCO-1 | 6/9/1997 12:00:00 PM | | Dry |
| SCO-1 | 10/13/1997 12:00:00 PM | | Dry |
| SCO-1 | 3/25/1998 12:00:00 PM | | Dry |
| SCO-1 | 5/29/1998 12:00:00 PM | | Dry |
| SCO-1 | 7/28/1998 12:00:00 PM | | Dry |
| SCO-1 | 3/3/1999 12:00:00 PM | | Dry |
| SCO-1 | 6/23/1999 12:00:00 PM | | Dry |
| SCO-1 | 8/30/1999 12:00:00 PM | | Dry |
| SCO-1 | 11/15/1999 12:00:00 PM | | Dry |
| SCO-1 | 3/26/2000 12:00:00 PM | | Dry |
| SCO-1 | 5/16/2000 12:00:00 PM | | Dry |
| SCO-1 | 8/30/2000 12:00:00 PM | | Dry |
| SCO-1 | 10/8/2000 12:00:00 PM | | Dry |
| SCO-1 | 7/2/2001 12:00:00 PM | | Dry |
| SCO-1 | 8/22/2001 12:00:00 PM | | Dry |
| SCO-1 | 10/18/2001 12:00:00 PM | | Dry |
| SCO-1 | 1/27/2002 12:00:00 PM | | Dry |
| SCO-1 | 4/19/2002 12:00:00 PM | | Dry |
| SCO-1 | 8/27/2002 12:00:00 PM | | Dry |
| SCO-1 | 2/19/2003 12:00:00 PM | | Dry |
| SCO-1 | 5/18/2003 12:00:00 PM | | Dry |
| SCO-1 | 2/28/2005 1:00:00 PM | | Dry |
| SCO-1 | 6/7/2005 12:00:00 PM | | Dry |
| SCO-1 | 6/14/2005 1:40:00 PM | | Dry |
| SCO-1 | 12/8/2005 10:30:00 AM | | Dry |
| SCO-1 | 10/18/2005 8:08:00 AM | | Dry |
| SCO-1 | 3/7/2006 9:36:00 AM | | Dry |
| SCO-1 | 6/13/2006 8:32:00 AM | | Dry, TD = 20.44 ft |
| SCO-1 | 8/28/2006 3:15:00 PM | | Dry |
| SCO-1 | 9/7/2006 9:05:00 AM | | Dry |

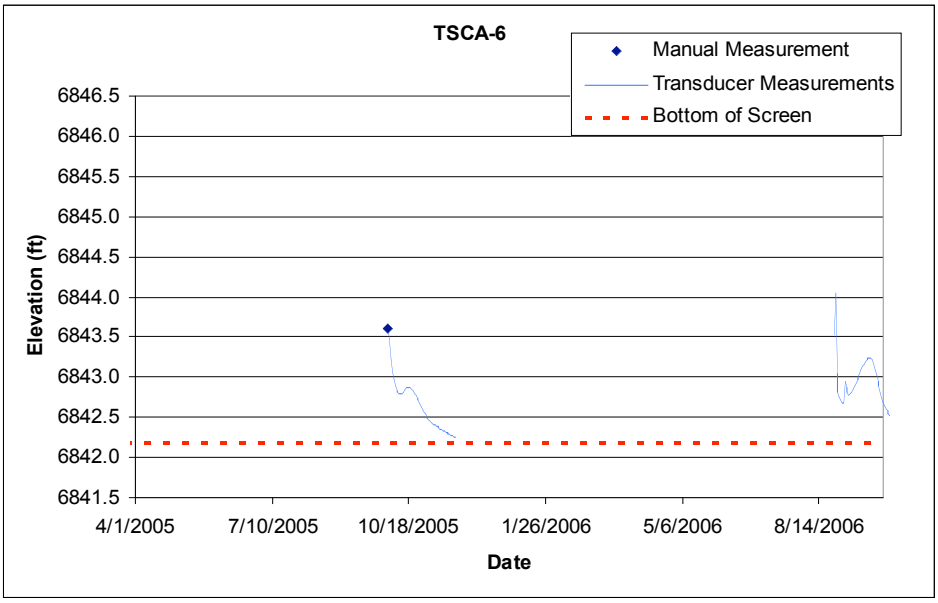
### 5.87 SCO-2

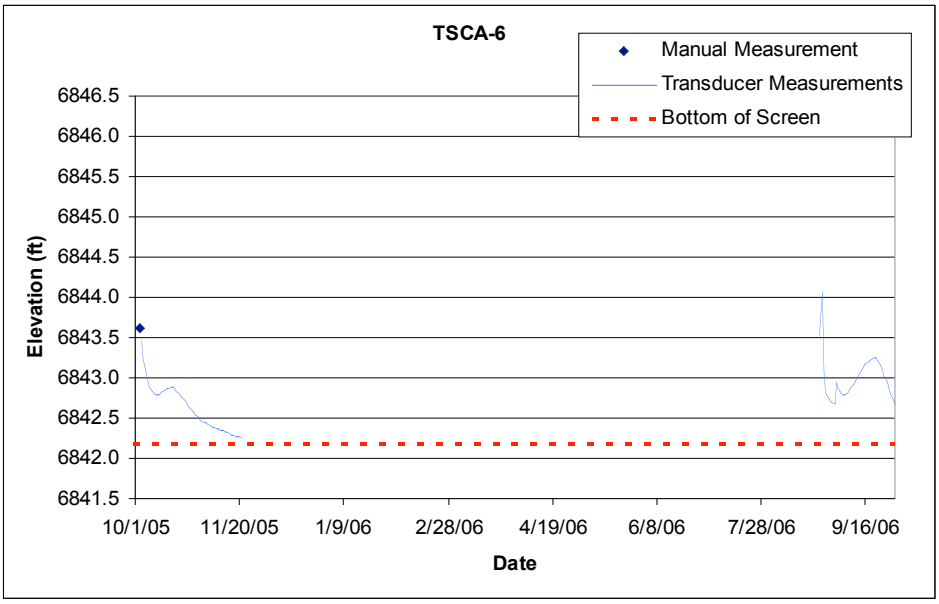
Location: Sandia Canyon, approximately 300 ft west of R-12.
Period of Record: June 9, 1997, through September 7, 2006.
Remarks: No valid data, well has been dry during every measurement event.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| SCO-2 | 8/16/1989 12:00:00 PM | | Dry |
| SCO-2 | 6/9/1997 12:00:00 PM | | Dry |
| SCO-2 | 10/13/1997 12:00:00 PM | | Dry |
| SCO-2 | 3/25/1998 12:00:00 PM | | Dry |
| SCO-2 | 5/29/1998 12:00:00 PM | | Dry |
| SCO-2 | 7/28/1998 12:00:00 PM | | Dry |
| SCO-2 | 3/3/1999 12:00:00 PM | | Dry |
| SCO-2 | 6/23/1999 12:00:00 PM | | Dry |
| SCO-2 | 8/30/1999 12:00:00 PM | | Dry |
| SCO-2 | 11/15/1999 12:00:00 PM | | Dry |
| SCO-2 | 3/26/2000 12:00:00 PM | | Dry |
| SCO-2 | 5/16/2000 12:00:00 PM | | Dry |
| SCO-2 | 8/30/2000 12:00:00 PM | | Dry |
| SCO-2 | 10/8/2000 12:00:00 PM | | Dry |
| SCO-2 | 7/2/2001 12:00:00 PM | | Dry |
| SCO-2 | 8/22/2001 12:00:00 PM | | Dry |
| SCO-2 | 10/18/2001 12:00:00 PM | | Dry |
| SCO-2 | 4/19/2002 12:00:00 PM | | Dry |
| SCO-2 | 8/27/2002 12:00:00 PM | | Dry |
| SCO-2 | 10/27/2002 12:00:00 PM | | Dry |
| SCO-2 | 2/19/2003 12:00:00 PM | | Dry |
| SCO-2 | 5/18/2003 12:00:00 PM | | Dry |
| SCO-2 | 6/7/2005 12:00:00 PM | | Dry |
| SCO-2 | 6/14/2005 1:30:00 PM | | Dry |
| SCO-2 | 12/8/2005 10:00:00 AM | | Dry |
| SCO-2 | 10/18/2005 7:40:00 AM | | Dry |
| SCO-2 | 3/7/2006 9:55:00 AM | | Dry |
| SCO-2 | 6/13/2006 8:14:00 AM | | Dry, TD = 19.16 ft |
| SCO-2 | 8/28/2006 3:00:00 PM | | Dry |
| SCO-2 | 9/7/2006 8:48:00 AM | | Dry |

### 5.88 TSCA-6

Location: Ten Site Canyon, approximately 600 ft west of Mortandad Canyon confluence.
Period of Record: April 18, 2005, through September 30, 2006.
Remarks: TSCA-6 was dry from November 22, 2005, through August 25, 2006.



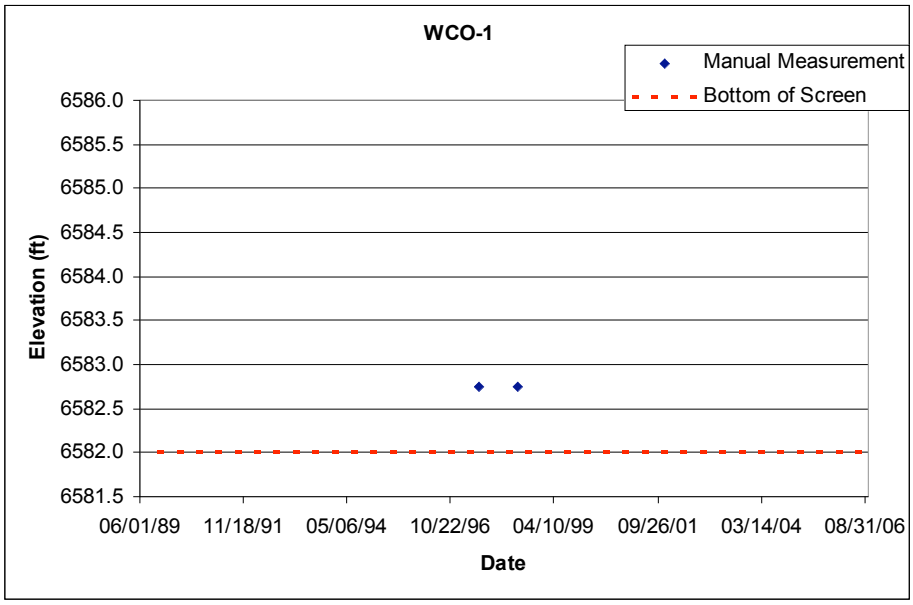
### 5.89 TSWB-6

Location: Ten Site Canyon, approximately 300 ft west of Mortandad Canyon confluence.
Period of Record: January 9, 1995, through September 30, 2006.
Remarks: No valid groundwater level data exist for TSWB-6. Well has been dry during every measurement event. A transducer has been installed since July 5, 2006.

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| TSWB-6 | 1/9/1995 | | Dry |
| TSWB-6 | 9/18/1995 | | Dry |
| TSWB-6 | 11/13/1996 | | Dry |
| TSWB-6 | 6/25/1997 12:00:00 PM | | Dry |
| TSWB-6 | 7/7/1997 12:00:00 PM | | Dry |
| TSWB-6 | 2/9/2000 2:07:00 PM | | Dry |
| TSWB-6 | 3/27/2000 12:00:00 PM | | Dry |
| TSWB-6 | 6/23/2000 12:00:00 PM | | Dry |
| TSWB-6 | 9/28/2000 12:00:00 PM | | Dry |
| TSWB-6 | 11/15/2000 12:00:00 PM | | Dry |
| TSWB-6 | 12/11/2000 12:00:00 PM | | Dry |
| TSWB-6 | 6/11/2001 11:32:00 AM | | Dry |
| TSWB-6 | 7/2/2001 12:00:00 PM | | Dry |
| TSWB-6 | 8/22/2001 12:00:00 PM | | Dry |
| TSWB-6 | 10/18/2001 12:00:00 PM | | Dry |
| TSWB-6 | 4/17/2002 12:00:00 PM | | Dry |
| TSWB-6 | 7/2/2002 9:58:00 AM | | Dry |
| TSWB-6 | 8/19/2002 12:00:00 PM | | Dry |
| TSWB-6 | 11/14/2002 12:00:00 PM | | Dry |
| TSWB-6 | 2/21/2003 12:00:00 PM | | Dry |
| TSWB-6 | 6/11/2003 12:00:00 PM | | Dry |
| TSWB-6 | 12/14/2005 2:49:00 PM | | Dry |
| TSWB-6 | 7/5/2006 8:30:00 AM | | Dry |
| TSWB-6 | 7/10/2006 10:15:00 AM | | Dry |
| TSWB-6 | 9/26/2006 12:50:00 PM | | Dry |

### 5.90 WCO-1

Location: Water Canyon, near western border of TA-68.
Period of Record: October 31, 1989, through September 13, 2006.
Remarks: Intermittently dry, there are only two records indicating water in well.

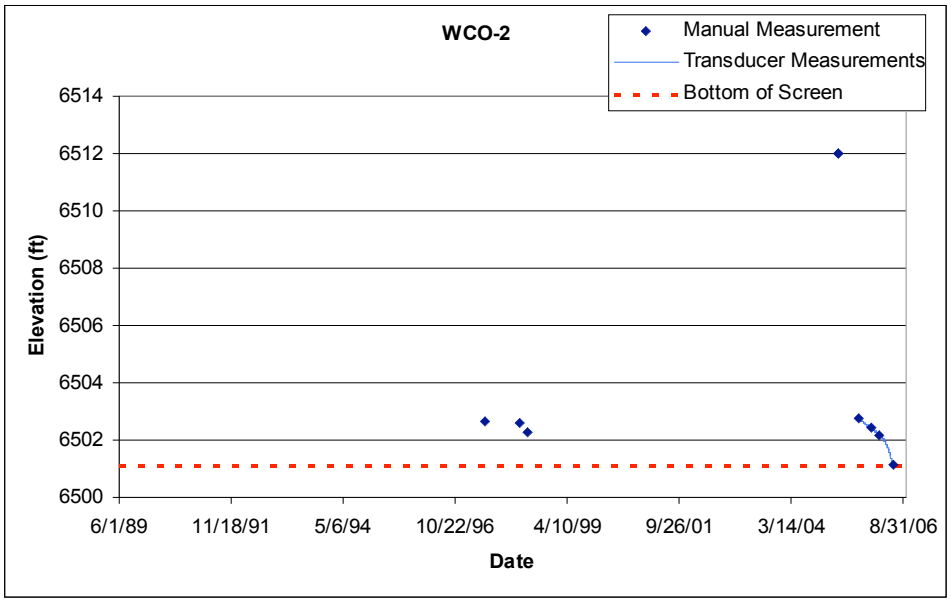


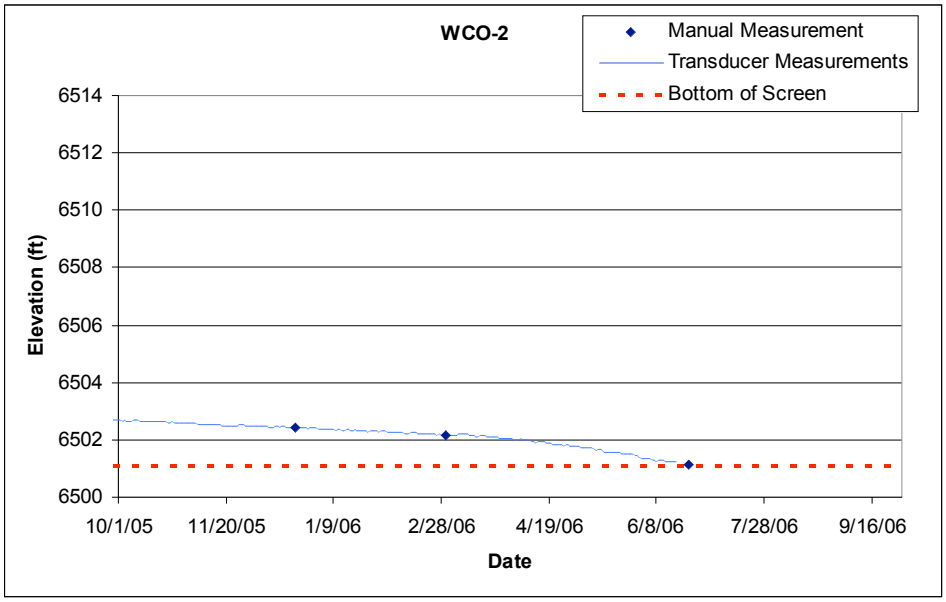

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| WCO-1 | 10/31/1989 12:00:00 PM | | Dry |
| WCO-1 | 11/1/1989 12:00:00 PM | | Dry |
| WCO-1 | 8/24/1990 12:00:00 PM | | Dry |
| WCO-1 | 6/23/1997 12:00:00 PM | 6582.75 | |
| WCO-1 | 10/13/1997 12:00:00 PM | | Dry |
| WCO-1 | 3/25/1998 12:00:00 PM | | Dry |
| WCO-1 | 5/29/1998 12:00:00 PM | 6582.75 | |
| WCO-1 | 7/28/1998 12:00:00 PM | | Dry |
| WCO-1 | 3/3/1999 12:00:00 PM | | Dry |
| WCO-1 | 6/23/1999 12:00:00 PM | | Dry |
| WCO-1 | 8/30/1999 12:00:00 PM | | Dry |
| WCO-1 | 11/15/1999 12:00:00 PM | | Dry |
| WCO-1 | 3/26/2000 12:00:00 PM | | Dry |
| WCO-1 | 5/16/2000 12:00:00 PM | | Dry |
| WCO-1 | 8/30/2000 12:00:00 PM | | Dry |
| WCO-1 | 10/8/2000 12:00:00 PM | | Dry |
| WCO-1 | 7/2/2001 12:00:00 PM | | Dry |
| WCO-1 | 8/22/2001 12:00:00 PM | | Dry |

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| WCO-1 | 10/18/2001 12:00:00 PM | | Dry |
| WCO-1 | 4/19/2002 12:00:00 PM | | Dry |
| WCO-1 | 8/19/2002 12:00:00 PM | | Dry |
| WCO-1 | 11/13/2002 12:00:00 PM | | Dry |
| WCO-1 | 2/18/2003 12:00:00 PM | | Dry |
| WCO-1 | 6/19/2003 12:00:00 PM | | Dry |
| WCO-1 | 9/14/2005 12:30:00 PM | | Dry |
| WCO-1 | 12/22/2005 2:30:00 PM | | Dry |
| WCO-1 | 3/13/2006 11:11:00 AM | | Dry |
| WCO-1 | 6/23/2006 12:10:00 PM | | Dry, TD = 35.74 ft |
| WCO-1 | 9/13/2006 12:12:00 PM | | Dry |

### 5.91 WCO-2

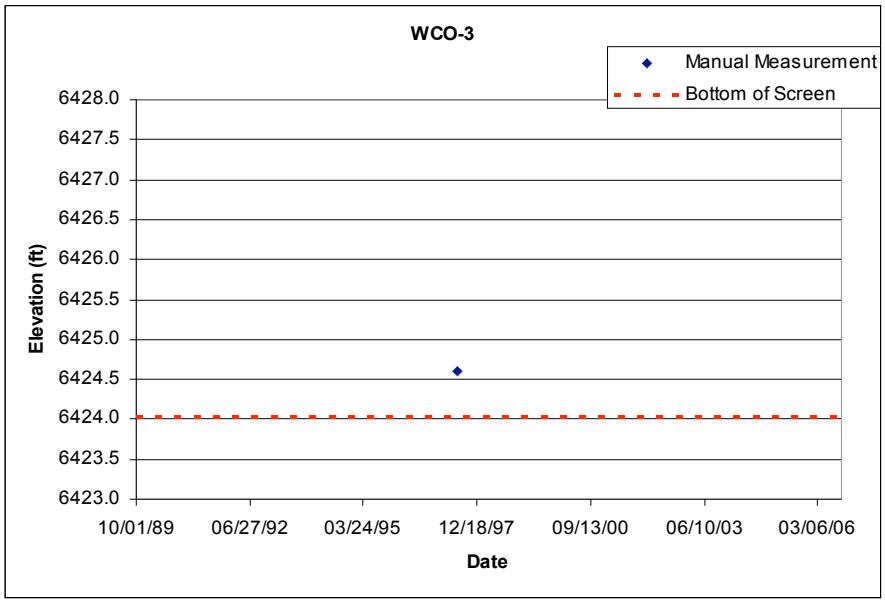
Location: Water Canyon, about 0.9 mile west of gate 9 on SR-4.
Period of Record: October 26, 1989, through September 30, 2006.
Remarks: Intermittently dry, a pressure transducer was installed on September 14, 2005.



### 5.92 WCO-3

Location: Water Canyon, approximately 0.1 mile west of gate 9 on SR-4.
Period of Record: October 25, 1989, through September 13, 2006.
Remarks: Intermittently dry, only one record indicating water in well.




| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| WCO-3 | 10/25/1989 12:00:00 PM | | Dry |
| WCO-3 | 8/24/1990 12:00:00 PM | | Dry |
| WCO-3 | 6/23/1997 12:00:00 PM | 6424.6 | |
| WCO-3 | 10/13/1997 12:00:00 PM | 6423.87 | Water is in the sump. |
| WCO-3 | 3/25/1998 12:00:00 PM | | Dry |
| WCO-3 | 5/29/1998 12:00:00 PM | | Dry |
| WCO-3 | 7/28/1998 12:00:00 PM | | Dry |
| WCO-3 | 3/3/1999 12:00:00 PM | | Dry |
| WCO-3 | 6/23/1999 12:00:00 PM | | Dry |
| WCO-3 | 8/30/1999 12:00:00 PM | | Dry |
| WCO-3 | 11/15/1999 12:00:00 PM | | Dry |
| WCO-3 | 3/26/2000 12:00:00 PM | | Dry |
| WCO-3 | 5/16/2000 12:00:00 PM | | Dry |
| WCO-3 | 8/30/2000 12:00:00 PM | | Dry |
| WCO-3 | 10/8/2000 12:00:00 PM | | Dry |
| WCO-3 | 7/2/2001 12:00:00 PM | | Dry |
| WCO-3 | 8/22/2001 12:00:00 PM | | Dry |
| WCO-3 | 10/18/2001 12:00:00 PM | | Dry |
| WCO-3 | 4/19/2002 12:00:00 PM | | Dry |

| Well Name | Date Time | Water Level (ft) | Comments |
|---|---|---|---|
| WCO-3 | 8/19/2002 12:00:00 PM | | Dry |
| WCO-3 | 11/13/2002 12:00:00 PM | | Dry |
| WCO-3 | 2/18/2003 12:00:00 PM | | Dry |
| WCO-3 | 6/19/2003 12:00:00 PM | | Dry |
| WCO-3 | 9/14/2004 1:35:00 PM | | Dry |
| WCO-3 | 12/22/2005 3:00:00 PM | | Dry |
| WCO-3 | 3/13/2006 10:51:00 AM | | Dry |
| WCO-3 | 6/23/2006 12:39:00 PM | | Dry, TD = 13.63 ft |
| WCO-3 | 9/13/2006 11:33:00 AM | | Dry |

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**Appendix:**
**Mean Annual Water Level at the Surface of the Regional Aquifer in LANL Monitoring Wells for 2006**

| Well Name | Top of Regional Aquifer (ft) | No. of Data Values | Std. Dev. (ft) | Last Data Date |
|---|---|---|---|---|
| CDV-R-15-3 | 6019.8 | 8553 | 0.03 | 12/31/06 |
| CDV-R-37-2 | 6137.3 | 7837 | 0.04 | 12/07/06 |
| G-3 | 5740.7 | 7601 | 17.31 | 11/13/06 |
| R-1 | 5878.8 | 6946 | 0.33 | 10/17/06 |
| R-10a | 5741.2 | 5111 | 0.45 | 11/02/06 |
| R-11 | 5838.4 | 6969 | 0.26 | 10/18/06 |
| R-12 | 5695.2 | 6117 | 0.06 | 09/23/06 |
| R-13 | 5836.5 | 6610 | 0.28 | 10/30/06 |
| R-14 | 5883.3 | 5746 | 0.29 | 10/31/06 |
| R-15 | 5850.4 | 7184 | 0.68 | 10/27/06 |
| R-16r | 5693.3 | 6073 | 0.24 | 11/01/06 |
| R-17 | 5885.0 | 1144 | 0.43 | 12/14/06 |
| R-18 | 6117.3 | 8758 | 0.26 | 12/31/06 |
| R-19 | 5887.6 | 7982 | 0.06 | 12/08/06 |
| R-2 | 5871.7 | 7766 | 0.30 | 11/20/06 |
| R-20 | 5866.0 | 2917 | 0.30 | 06/30/06 |
| R-21 | 5854.3 | 7451 | 0.34 | 11/07/06 |
| R-22 | 5762.4 | 7225 | 0.12 | 12/06/06 |
| R-23 | 5697.8 | 8759 | 0.17 | 12/31/06 |
| R-24 | 5831.3 | 6195 | 1.89 | 11/14/06 |
| R-25 | 6235.4 | 8174 | 0.13 | 12/07/06 |
| R-26 | 6539.1 | 8084 | 0.65 | 12/06/06 |
| R-27 | 5899.0 | 1 | | 09/29/06 |
| R-28 | 5838.9 | 7283 | 0.28 | 10/31/06 |
| R-31 | 5827.9 | 6425 | 0.12 | 11/27/06 |
| R-32 | 5859.2 | 7465 | 0.15 | 12/11/06 |
| R-33 | 5864.9 | 19966 | 1.16 | 12/31/06 |
| R-34 | 5835.4 | 7454 | 0.29 | 11/07/06 |
| R-4 | 5832.6 | 8759 | 0.92 | 12/31/06 |
| R-5 | 5768.0 | 10660 | 0.19 | 11/14/06 |
| R-6 | 5839.4 | 7671 | 0.49 | 11/17/06 |
| R-7 | 5878.4 | 7625 | 0.15 | 11/15/06 |
| R-8 | 5854.5 | 7307 | 0.91 | 11/14/06 |
| R-9 | 5692.0 | 11566 | 0.17 | 11/14/06 |
| Test Well 1 | 5855.9 | 4838 | 0.54 | 02/06/06 |
| Test Well 3 | 5840.0 | 947 | 0.47 | 02/09/06 |
| Test Well 4 | 6071.5 | 928 | 0.18 | 02/08/06 |
| Test Well 8 | 5874.9 | 6947 | 0.30 | 10/17/06 |
| Test Well DT-10 | 5919.5 | 3734 | 0.14 | 12/31/06 |
| Test Well DT-5A | 5958.6 | 7872 | 0.20 | 12/06/06 |
| Test Well DT-9 | 5915.6 | 7916 | 0.11 | 12/06/06 |

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