

**Basin Management Objective  
Butte County  
Sub-Inventory Unit – CHICO URBAN AREA**

**Butte County Water Advisory Committee Member – Nora Todenhagen**

**Contact Information**

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**Description of the Chico Urban Area Sub-Inventory Unit –**

The Chico Sub-Inventory Unit (SIU) covers an area of about 15,400 acres in the Greater Chico urban area and is split between the Vina and West Butte inventory units. The SIU boundary corresponds roughly to the municipal water service area for the City of Chico, which is operated by the California Water Service Company. The company supplies groundwater to the Chico area through the operation of about 66 groundwater wells.

**Management Objective –**

Basin Management Objectives for the Chico Urban Area shall maintain groundwater levels adequate to sustain municipal, agricultural and domestic use and the quality of streams and groundwater dependent vegetation. These groundwater levels shall reflect the natural seasonality of the groundwater systems. This purpose shall be met in each of the Chico Urban Area's three aquifers, generally described as alluvial, Upper Tuscan Formation, and Lower Tuscan Formation.

Basin Management Objectives for the Chico Urban Area shall maintain water levels adequate to assure good water quality.

Basin Management Objectives for the Chico Urban Area shall maintain water levels sufficient to prevent inelastic land subsidence.

**Geologic Formations Identified In Sub-Inventory Unit –**

Geologic formations in the Chico Urban Area SIU, from youngest (shallowest) to oldest (deepest), include:

- Basin Deposits
- Modesto Formation
- Tuscan Unit C (Upper Tuscan)
- Tuscan Unit B (Lower Tuscan)

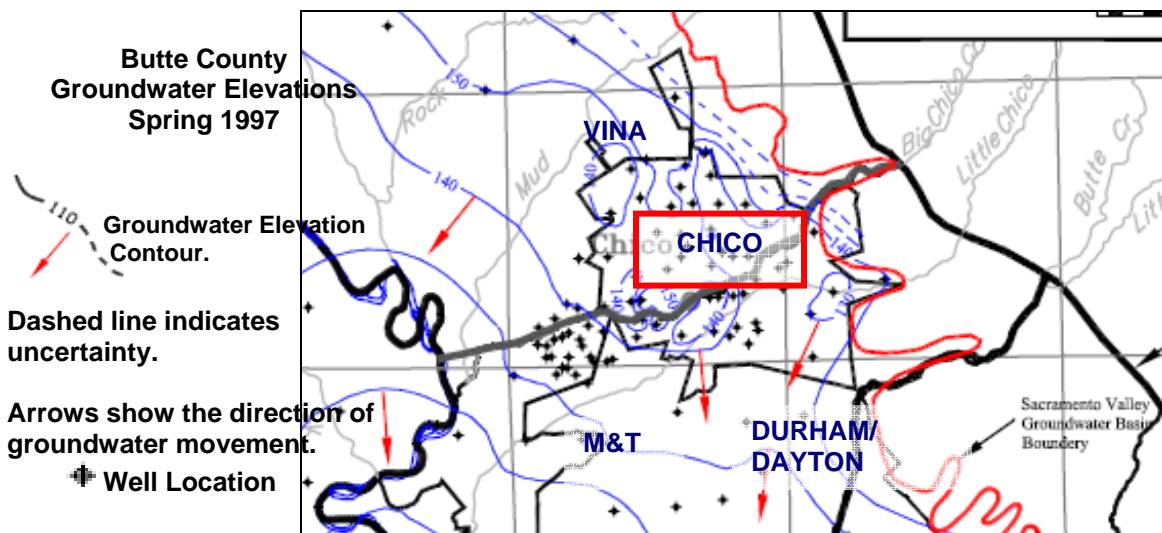
**Fresh Water-bearing Units.** In the Sacramento Valley Region of Butte County, fresh groundwater-bearing units include, from youngest (shallowest) to oldest

(deepest), the Modesto, Riverbank, Laguna, Tehama and Tuscan Formations. Those included in the Chico Urban Area SIU are:

- Modesto Formation
- Tuscan Unit C (Upper Tuscan)
- Tuscan Unit B (Lower Tuscan)

### Groundwater Flow in the Chico Urban Area Sub-Inventory Unit –

The below figure is a cropped segment of a map prepared by DWR Northern District. It shows the groundwater elevation contours in the sub-inventory unit with arrows indicating the direction of groundwater movement. This graphic indicates that the regional pattern of spring groundwater movement in the Chico Urban Area SIU is in a southwesterly direction toward the Sacramento River. Locally, the movement of groundwater varies in the municipal area surrounding Chico. Year-round extraction of groundwater for municipal use in the Chico area causes several small groundwater depressions that tend to alter the natural southwestward movement of groundwater in this area.



1997 DWR groundwater contour map

### BMO Key Wells Selected for Groundwater Level Monitoring –

The Chico Urban Area SIU will use two approaches in monitoring groundwater levels. Two of the three monitoring wells in a triple-completion Bureau of Reclamation monitoring well will be used to monitor water levels in the Upper Tuscan and the Lower Tuscan. The e-log for this well shows it to be screened in these aquifers. There are currently no monitoring wells identified to monitor water levels in the alluvial aquifer. The stakeholder group will work with Butte County staff and DWR to identify an appropriate well to monitor that aquifer.

In addition to monitoring specific aquifers, the Chico Urban Area group has identified six California Water Service production wells to monitor for the continued health of the municipal and industrial (M & I) water supply. While these

wells will not provide information about the specific aquifers underlying the Chico Urban Area since they are not screened in a single aquifer, the information will help track whether municipal supply is being sustained, as called for in the BMO objectives.

The group is provisionally selecting the wells and adopting alert levels. Data for each well still needs to be reviewed and verified, in order to understand which aquifer the well is drawing from, including the possibility that it is drawing from multiple aquifers. For example, most California Water Service production wells are screened in multiple aquifers.

Butte County Environmental Health is working with Water and Resource Conservation staff to supply the necessary construction and geologic information for some of the dedicated monitoring wells included in the Nitrate Compliance monitoring program. The Chico Urban Area group would like to utilize wells drilled to an appropriate depth and screened only in the alluvial aquifer system in order to better monitor potential groundwater fluctuations in the alluvial aquifer system at the depth(s) where domestic users are drawing water. Summary results of the groundwater elevations measurements taken by the consultant working on the Nitrate Compliance program are included as tables at the end of this document. Please note that these wells were installed for different monitoring purposes, and not all of these wells are drilled to a depth sufficient to monitor fluctuations in the alluvial aquifer system at the depth(s) where domestic users are drawing water.

**SPRING**

| Well ID       | Well Type      | Aquifer   | Stage 1 & 2 Alerts** |            | Stage 3 Alerts** |            |
|---------------|----------------|-----------|----------------------|------------|------------------|------------|
|               |                |           | Elev. (ft)           | Depth (ft) | Elev. (ft)       | Depth (ft) |
| CWSCH01       | M&I Production | Composite | 131.57               | 72.43      | 126.39           | 77.61      |
| CWSCH02       | M&I Production | Composite | 134.07               | 48.93      | 127.03           | 55.97      |
| CWSCH03       | M&I Production | Composite | 123.16               | 134.84     | 111.38           | 146.62     |
| CWSCH04       | M&I Production | Composite | 128.33               | 83.67      | 120.47           | 91.03      |
| CWSCH05       | M&I Production | Composite | 124.95               | 90.05      | 119.43           | 95.57      |
| CWSCH06       | M&I Production | Composite | 124.20               | 56.80      | 118.78           | 62.22      |
| CWSCH07       | M&I Production | Composite | 121.26               | 148.74     | 116.28           | 153.72     |
| 22N01E28J003M | Monitoring     | Tuscan C  | 142.44               | 35.06      | 136.32           | 41.18      |
| 22N01E28J005M | Monitoring     | Tuscan B  | 137.47               | 39.43      | 131.52           | 45.38      |

Stage 3 will also be reached at three consecutive years of Stage 1/Stage 2 levels.

**FALL**

| Well ID       | Well Type      | Aquifer   | Stage 1 & 2 Alerts** |            | Stage 3 Alerts** |            |
|---------------|----------------|-----------|----------------------|------------|------------------|------------|
|               |                |           | Elev. (ft)           | Depth (ft) | Elev. (ft)       | Depth (ft) |
| CWSCH01       | M&I Production | Composite | 120.24               | 83.76      | 115.22           | 88.78      |
| CWSCH02       | M&I Production | Composite | 120.44               | 62.56      | 110.73           | 72.27      |
| CWSCH03       | M&I Production | Composite | 119.47               | 138.53     | 114.76           | 143.24     |
| CWSCH04       | M&I Production | Composite | 111.69               | 100.31     | 102.59           | 109.41     |
| CWSCH05       | M&I Production | Composite | 113.76               | 101.24     | 105.94           | 109.06     |
| CWSCH06       | M&I Production | Composite | 110.88               | 70.12      | 96.40            | 94.60      |
| CWSCH07       | M&I Production | Composite | 112.17               | 157.83     | 105.89           | 164.11     |
| 22N01E28J003M | Monitoring     | Tuscan C  | 132.84               | 44.66      | 127.12           | 50.38      |
| 22N01E28J005M | Monitoring     | Tuscan B  | 124.43               | 52.47      | 116.79           | 60.11      |

Stage 3 will also be reached at three consecutive years of Stage 1/Stage 2 levels.

**BMO Key Wells Selected for Groundwater Quality Monitoring– Chico Urban Area SIU stakeholder Criteria used for selecting monitoring wells:**

- Wells Screening depth in single aquifer
- Has well log, including soil logging, mud logging, gamma, resistivity, screen levels, spontaneous potential, total depth, width and type of casing, purpose of water use
- Long-term monitoring
- Has water quality data
- Within Chico Urban Area sub unit with distribution across area
- Representative of three aquifers
- Location and elevation previously surveyed
- Accessible

The DWR well selected for monitoring, SWN 22N01E28J01M, will be sampled again in August 2008. This initial data will be compared with subsequent future samples, and once enough data is available for review, the methodology will be established.

**Groundwater Temperature in °Celsius - 2003 through 2007**

| Well Number  | 2005 Temp °C |
|--------------|--------------|
| 22N01E28J01M | 22.78        |

**Groundwater pH - 2003 through 2007**

| Well Number  | 2005 pH |
|--------------|---------|
| 22N01E28J01M | 8.23    |



### Groundwater EC - 2003 through 2006

| Well Number  | 2005<br>EC |
|--------------|------------|
| 22N01E28J01M | 422        |

The California Water Service Chico well selected for monitoring is CWSCH04.

### Groundwater Temperature in °Celsius - 2003 through 2007

| Well Number | 2003<br>Temp<br>°C | 2006<br>Temp<br>°C | 2007<br>Temp<br>°C |
|-------------|--------------------|--------------------|--------------------|
| CWSCH04     | 17                 | 18                 | 18                 |

### Groundwater pH - 2003 through 2007

| Well Number | 2003<br>pH | 2006<br>pH | 2007<br>pH |
|-------------|------------|------------|------------|
| CWSCH04     | 7.0        | 7.9        | 7.9        |

### Groundwater EC - 2003 through 2006

| Well Number | 2003<br>EC | 2006<br>EC |
|-------------|------------|------------|
| CWSCH04     | 330        | 460        |

Significant groundwater quality monitoring by multiple agencies is ongoing within the Chico Urban Area to track nitrate contamination and toxic plumes, including the Butte County Nitrate Compliance Program and the Department of Toxic Substances Control program for monitoring toxic plumes. California Water Service monitors water quality constituents important for drinking water supply.

For this year, the Chico Urban Area sub-inventory unit will focus on three groundwater quality components as a framework for determining criteria. First, a DWR multi-completion monitoring well with one casing screened in the Lower Tuscan has been selected to include in the water quality monitoring network. This well will be tested for the three physical parameters (temperature, pH, and Electrical Conductivity) beginning this year. This first year of data collection will be the baseline for analysis in the Lower Tuscan Aquifer System.

The second component is data gathered by California Water Service for a deep well screened only in the Lower Tuscan Aquifer System that is also currently being used for BMO level measurements. By reviewing both the level measurements and water quality data for the same well, the analysis will prove more comprehensive.

The Chico Urban Area has worked with the Butte County Department of Environmental Health to get a summary status of the Nitrate Compliance

Program. A representative from the Regional Water Quality Control Board (Redding) has also been involved with providing summary data on the project. The goal of the analysis is to provide a summary “big picture” understanding of the current status of groundwater quality in the Chico Urban Area.

### **Nitrate Compliance Monitoring**

Butte County has contracted with Broadbent & Associates to perform groundwater monitoring for the Chico Urban Area Nitrate Compliance Program, for calendar years 2007-2009. Two rounds of sampling events have been completed, in the third and fourth quarters of 2007. The Third Quarter 2007 Monitoring Report has been completed and is available for public review at the Chico Branch of the Butte County Public Library. Additional monitoring events are anticipated during late winters of 2008 and 2009

### **Volatile Organic Chemical Monitoring**

The California Environmental Protection Agency, Department of Toxic Substances Control (DTSC) is continuing its efforts to protect public health and oversee characterization and remediation of volatile organic chemical (VOC) contamination in Chico Groundwater. The Chico Branch of the Butte County Library is the local information repository for investigation reports, monitoring reports and related documents.

#### **Skyway Subdivision Groundwater Plume**

VOC contamination of groundwater in the Skyway Homes Subdivision area of south Chico was discovered in November 2003. DTSC has determined that the most likely source of the contamination was the former CE Building Products operation on Speedway Avenue. ABB Inc., which purchased the parent company of CE Building Products in 1990, has been identified as a Responsible Party for investigating and cleaning up the Skyway Plume. ABB is cooperating fully with DTSC in investigating the contamination, and has agreed to fund connection of homes and other buildings within the affected area to the California Water Service public Water system. It is anticipated that connection will be completed within approximately twelve months. The December 2007 Fact Sheet and other documents for the Skyway Subdivision Groundwater Plume is available at [http://www.envirostor.dtsc.ca.gov/public/profile\\_report.asp?global\\_id=04880002](http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=04880002)

#### **Central Plume**

Remediation of contamination in intermediate and deep zone aquifers in the Central Plume has been underway since July 1995, and has removed more than 1300 pounds of VOCs from the aquifers. A Remedial Action Plan (RAP) for the Central Plume was finalized in June 2007, to address a “hot spot” of contamination discovered in early 2005. The RAP provides for installation of three additional shallow zone aquifer (SZA) extraction wells and one monitoring well

The April 2007 Fact Sheet for the Chico Groundwater Central Plume is available at

[http://www.envirostor.dtsc.ca.gov/public/profile\\_report.asp?global\\_id=04990003&cmd=community\\_involvement](http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=04990003&cmd=community_involvement)

Additional documents related to the Central Plume are available at [http://www.envirostor.dtsc.ca.gov/public/profile\\_report.asp?global\\_id=04990003](http://www.envirostor.dtsc.ca.gov/public/profile_report.asp?global_id=04990003)

Various documents and maps relating to the Nitrate Compliance Study are included as an appendix to this document.

**BMO Key Well(s) Selected for Land Subsidence Monitoring–**  
State Well Number 22N01E35E01M

**BMO Alert Stage Definitions and Compliance Methodologies–**

The Chico Urban Area Sub-Inventory Unit will use the following guidelines in the management of the groundwater resources. The groundwater level and land subsidence management objectives are intended to trigger predetermined voluntary Ground Water Management Actions, as defined in the accompanying cover report, to remedy declining ground water levels that are not recovering to compliance levels for the index well.

**Groundwater Level – Standard Deviation and Two Standard Deviations**

The BMOs for groundwater levels in 2008 are set using average spring and fall groundwater levels for the two levels of the Bureau of Reclamation Monitoring and spring groundwater levels for the six Cal Water Production wells. The group will continue work in 2008 to develop further groundwater level BMOs based on average fall readings.

Stage 1: The first year that spring or fall groundwater levels fall below one standard deviation below the mean spring or fall groundwater level established for the well but still above two standard deviations below the mean spring or fall level for the well.

Stage 2: Stage 2 is reached if spring or fall groundwater levels, for a second consecutive year, remain below one standard deviation below the mean spring or fall groundwater level of the well but still above two standard deviations below the mean spring or fall level for the well.

Stage 3: Stage 3 is reached if the spring groundwater levels fall two standard deviations below the mean spring or fall level for the well or if mean spring or fall groundwater levels for the well remain one standard deviation below the mean for three or more consecutive years.

**Groundwater Quality –**

In 2008, all water analysis done on California Water Service wells will be conducted in compliance with United States Environmental Protection Agency and California Department of Health Services regulations. Within the California Water Service-Chico water system, there were no water quality issues or violations in 2006. All active groundwater wells will continue to be tested quarterly in 2008 for pH, temperature, coliform and e-coli bacteria.

**Land Subsidence –**

Stage 1: is reached when the annual elastic subsidence exceeds the average annual elastic subsidence measured over the period of record of the extensometer.

Stage 2: is reached when the annual elastic subsidence exceeds the maximum recorded elastic subsidence over the period of record for the extensometer.

Stage 3: is when inelastic subsidence is detected. Inelastic subsidence shall be detected by comparing reading from the extensometer taken on March 1 of each year against previous March 1 measurements.

**Future Monitoring Recommendations –**

Efforts will be made to identify several domestic wells that could be added to the existing monitoring well network within the sub-inventory unit to allow development of management objectives for the alluvial aquifer system. Efforts will also be made to identify more wells in all aquifers which meet the criteria developed by the stakeholders.

Without the water quality component this document is not complete. The Chico Urban Area Sub-inventory Unit team needs the support of State and County water monitoring agencies to collect and evaluate the extensive information that exists about water quality in the Chico Urban Area. Without an understanding of the nature of these data, alert stages cannot be set.

Future monitoring recommendations may be modified once well data have been verified and groundwater quality monitoring data have been compiled.

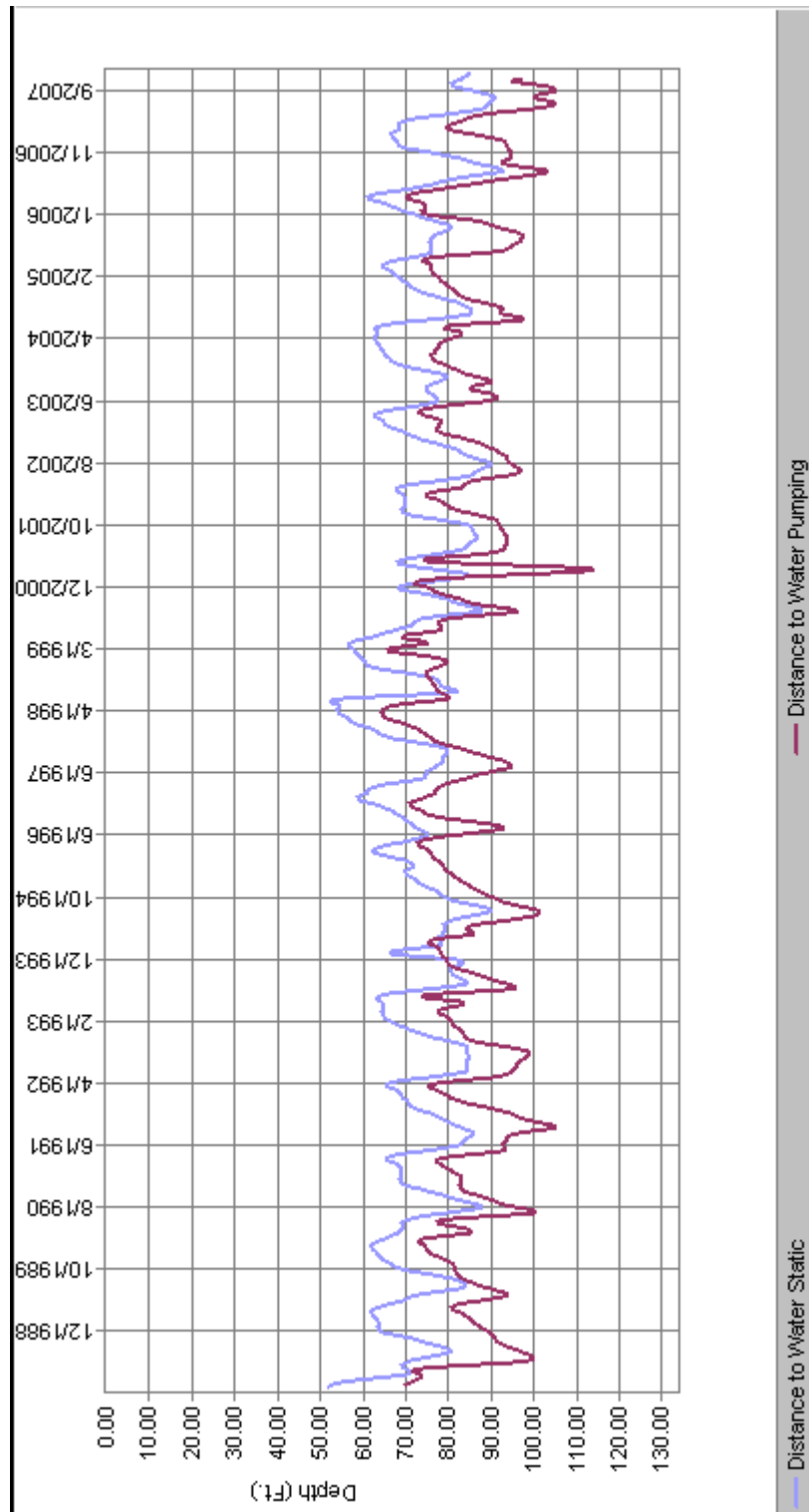
**Supporting Data –**

Hydrographs depicting yearly spring and fall level measurements, including 2007 data, with established alert levels.

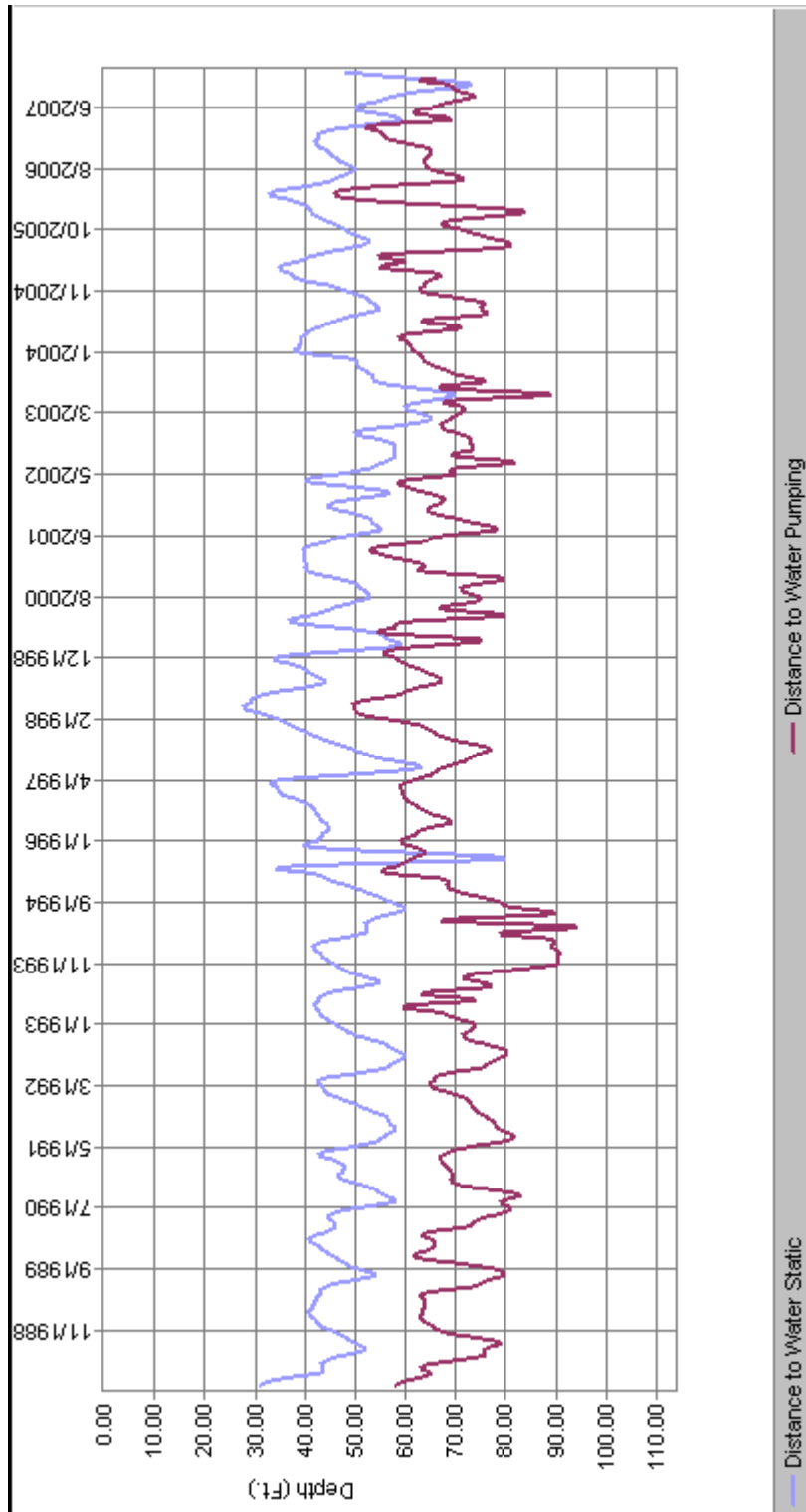
Excerpted data, charts and contour maps from the Chico Urban Area Nitrate Compliance Program published by Broadbent & Associates for the County of Butte, Department of Public Health.



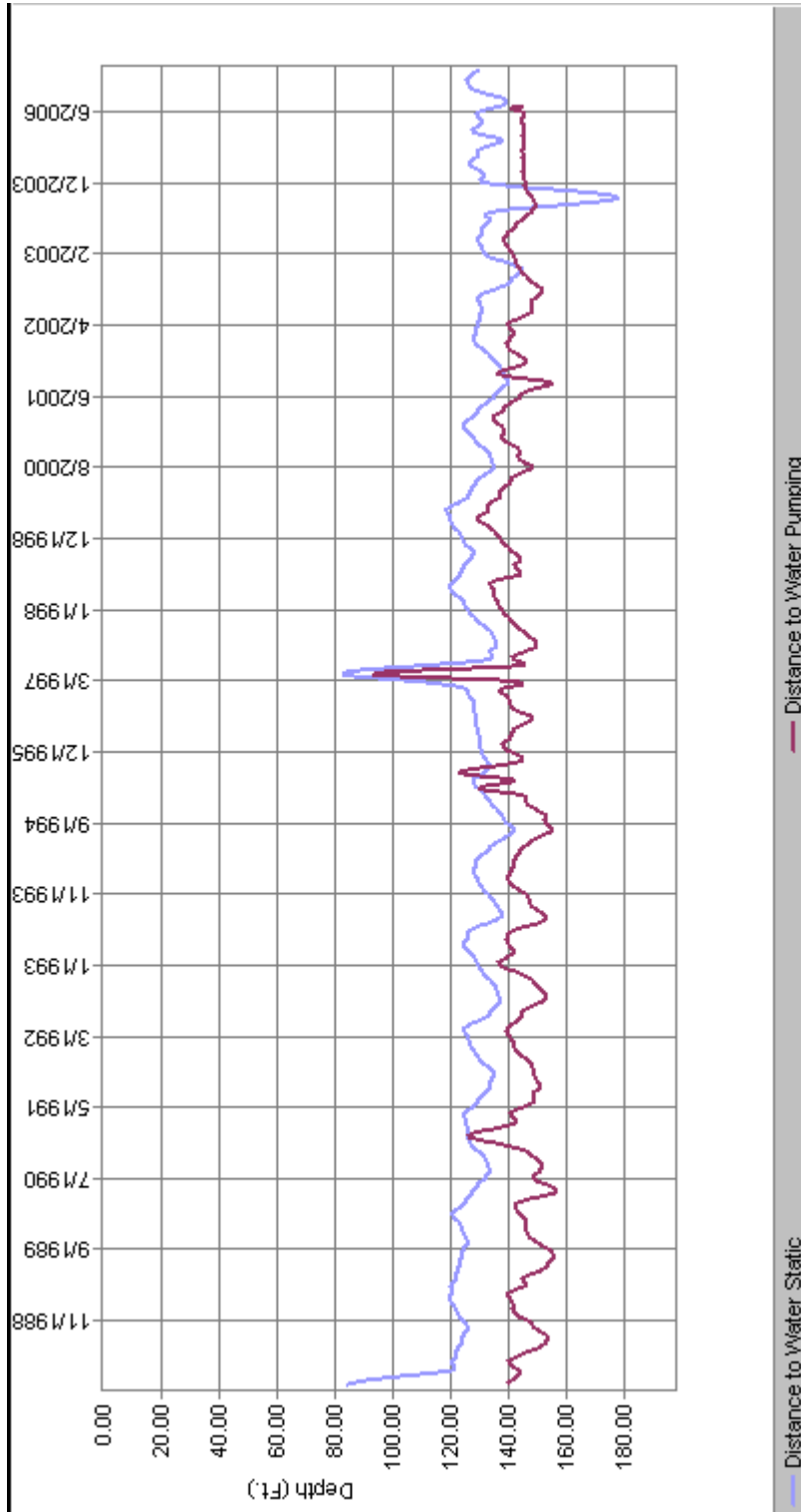
# CWSCH01



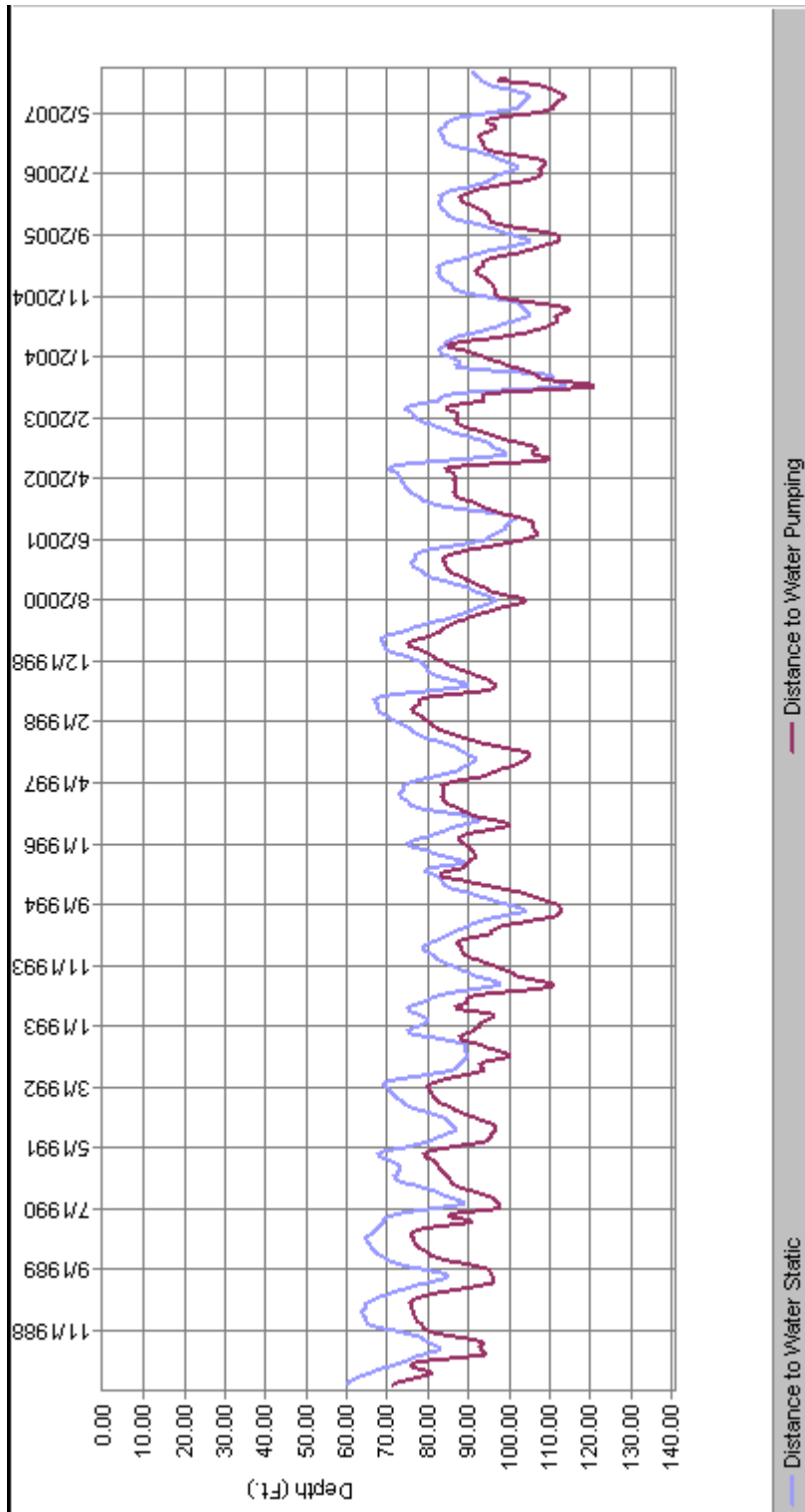
# CWSCH02



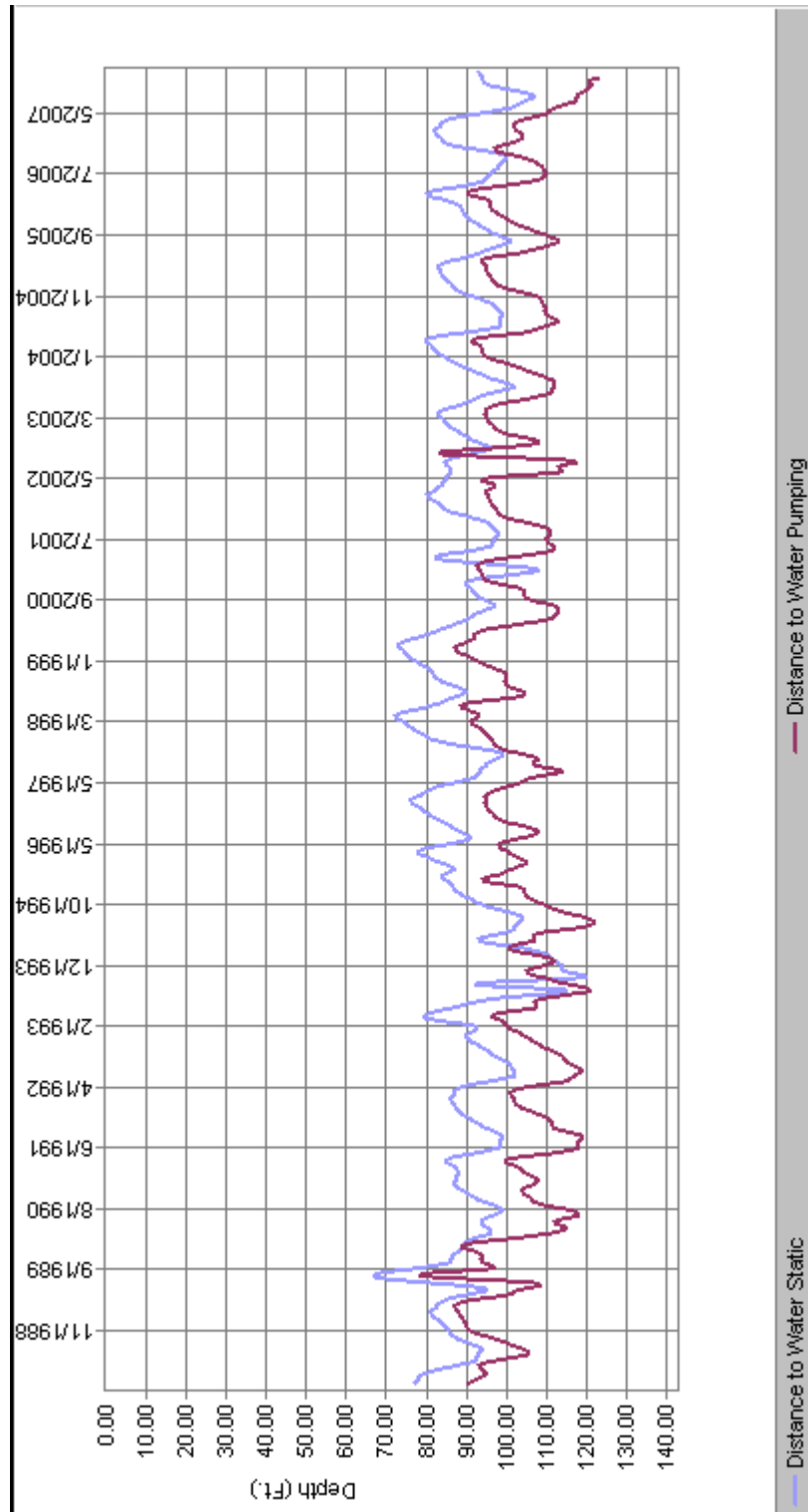
# CWSCH03



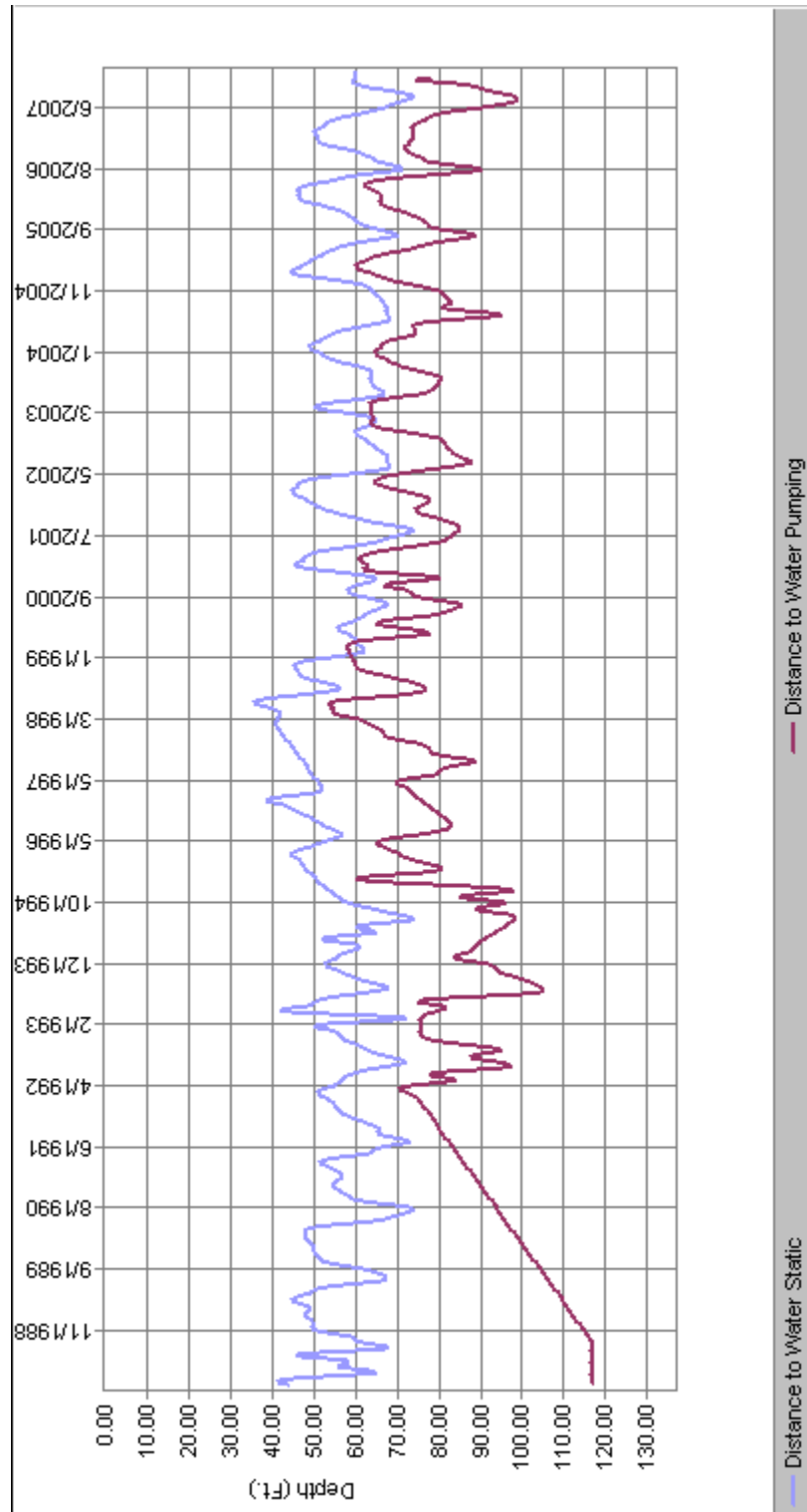
# CWSCH04



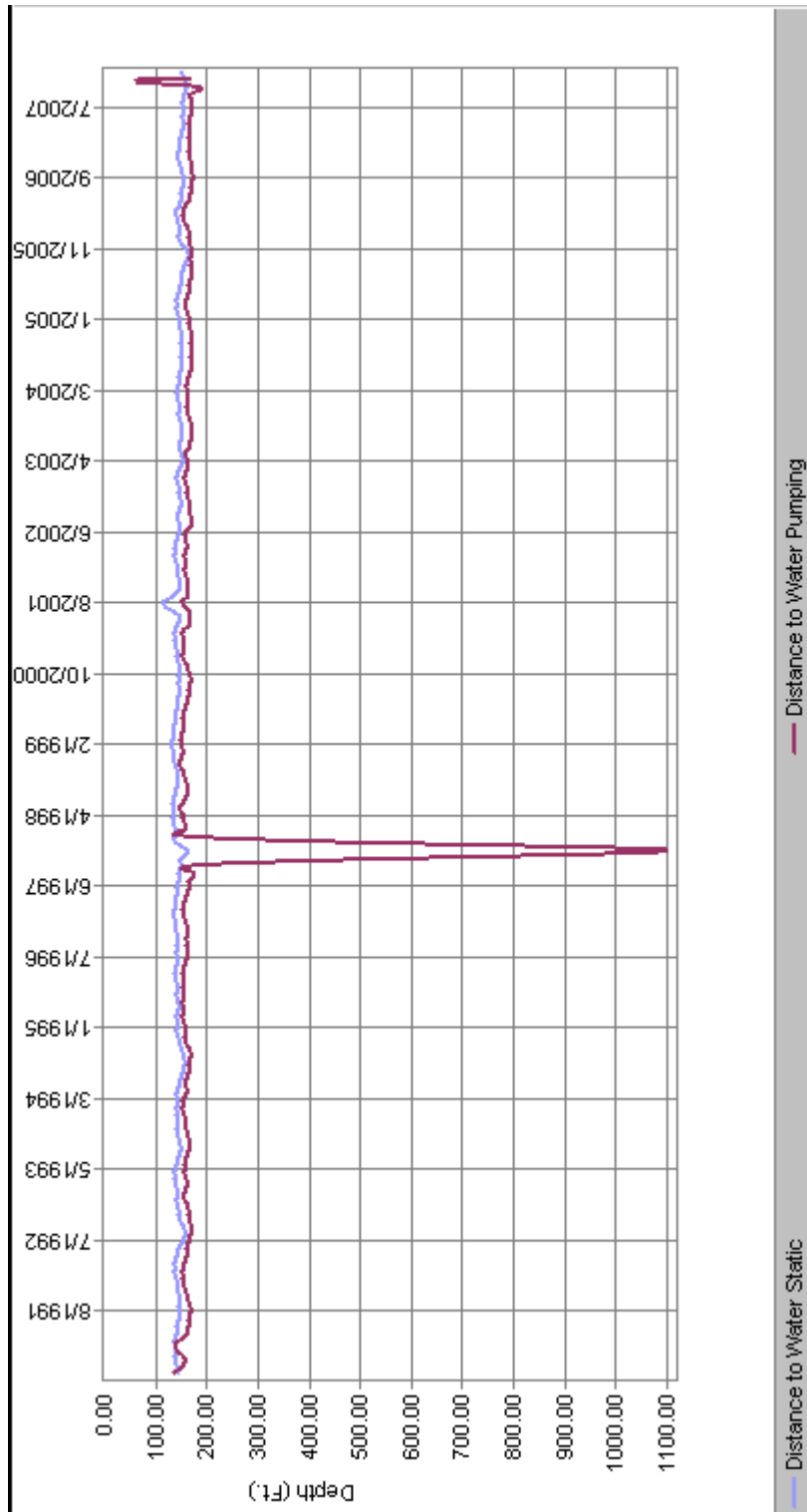
# CWSCH05



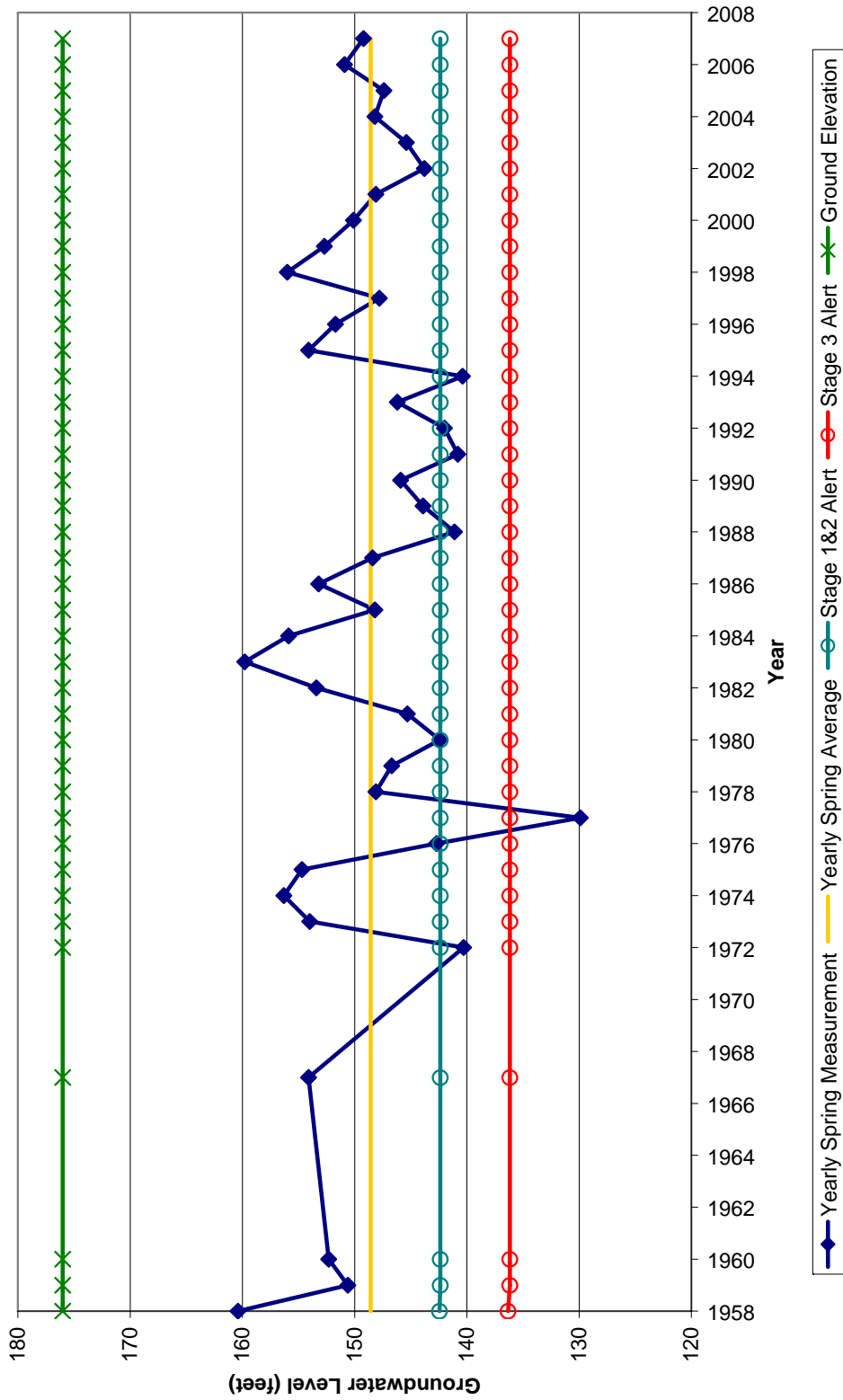
CWSCH06



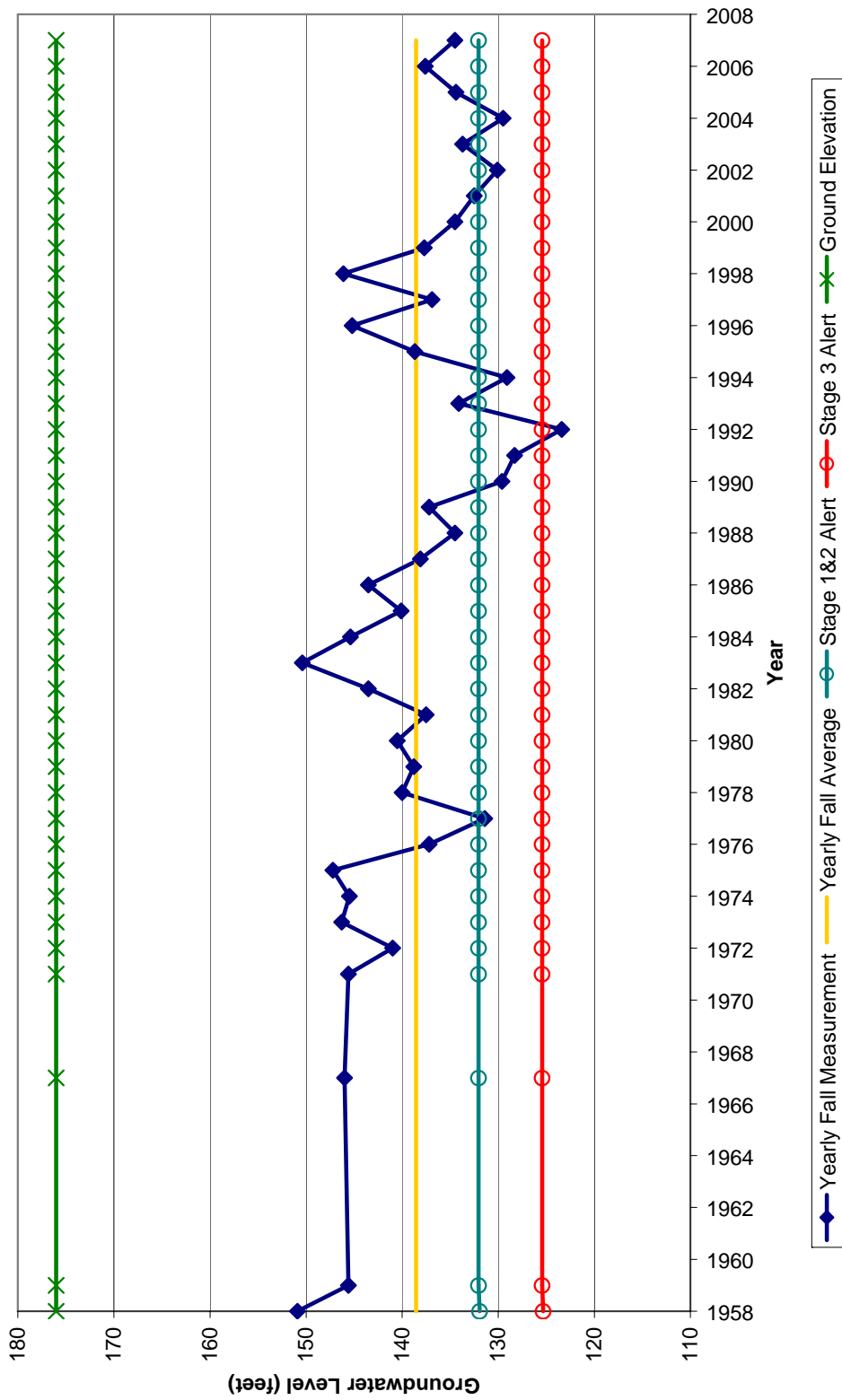
# CWSCH07



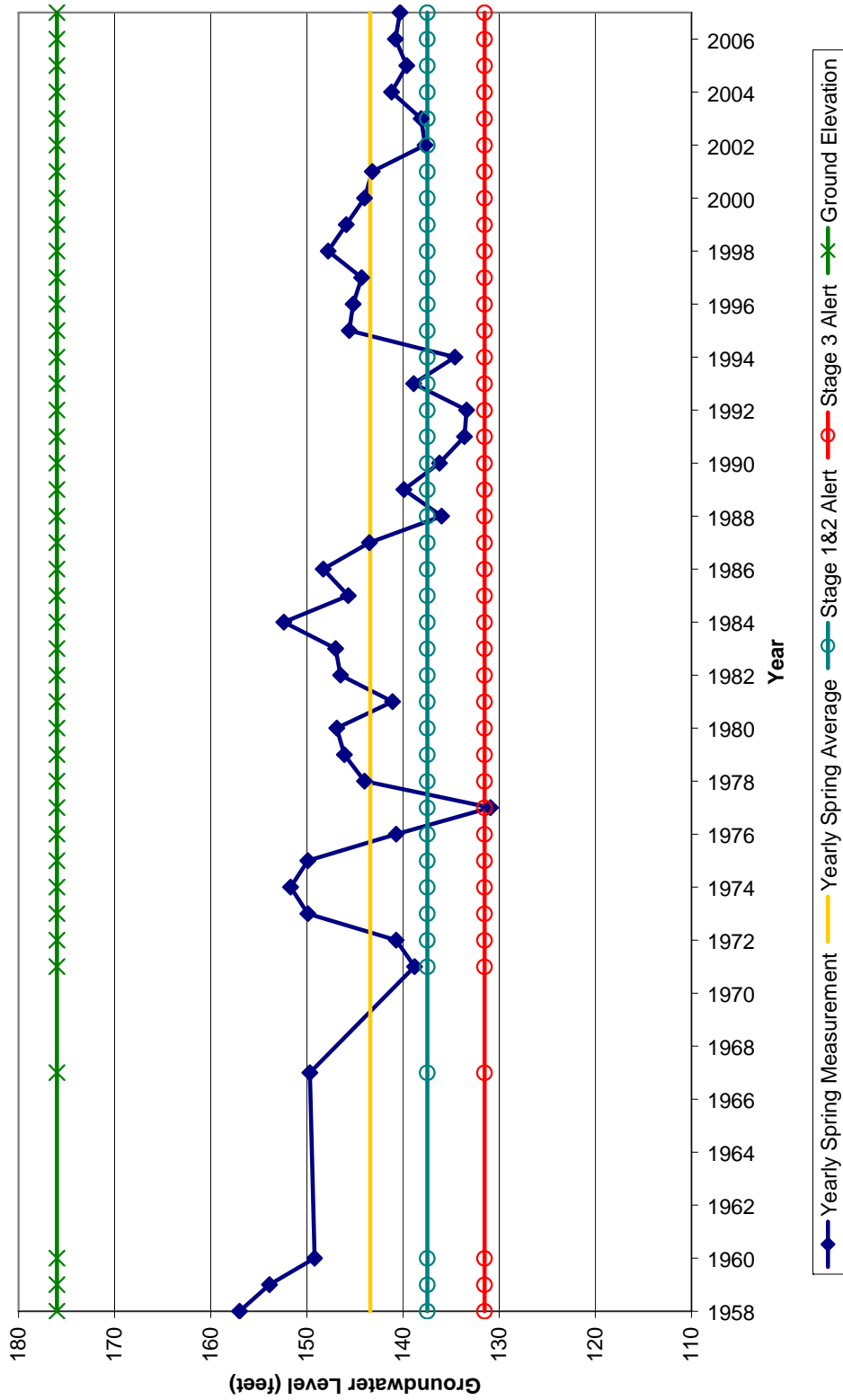
Spring Groundwater Levels  
Chico Urban Area - 22N01E28J003



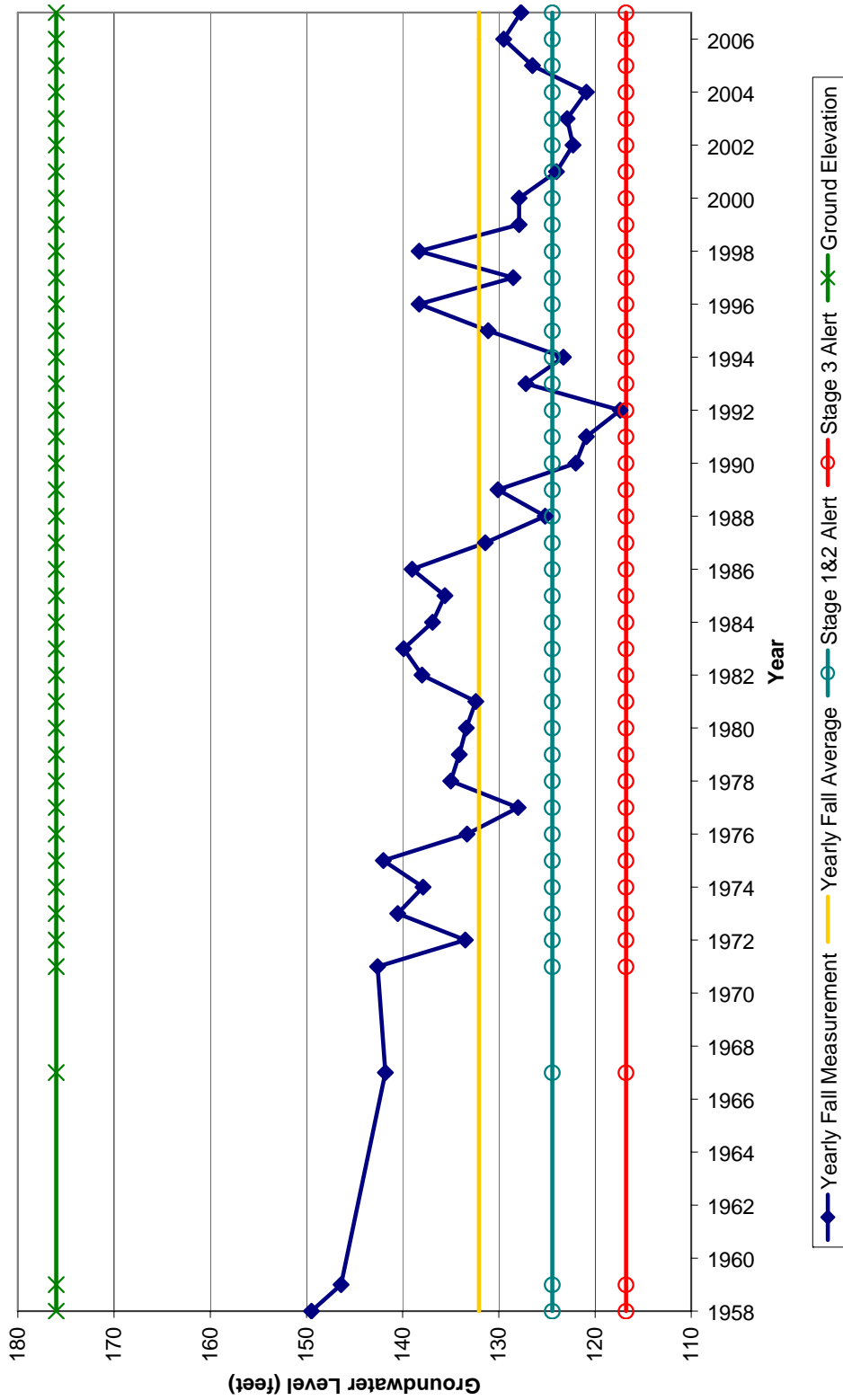
Fall Groundwater Levels  
Chico Urban Area - 20N01E28J003



Spring Groundwater Levels  
Chico Urban Area - 22N01E28J005



Fall Groundwater Levels  
Chico Urban Area - 22N01E28J005



## **APPENDED DOCUMENTS FOR THE CHICO URBAN AREA BMO**

### **Some Key Dates in the Butte County Nitrate Compliance Plan:**

1979 - High groundwater nitrate concentrations discovered in area wells in the Chico Urban Area (see Chapter 1 & Chapter 2, Nitrate Compliance Plan)

1985/86 - Original scoping of nitrate problems by DWR and development of initial monitoring report

1988 - County Service Area 114 (CSA 114) formed by the Butte County Board of Supervisors to fund technical studies and groundwater evaluations

1990 - Prohibition Order No. 90-126 adopted by the Regional Water Quality Control Board (Redding)

1992 - Initial characterization of 119 wells

1993 - Nitrate study team assembled, representatives from: Butte County Admin Office (BCAO), Butte County Environmental Health, RWQCB, independent hydro-geologists, Dames & Moore (BCAO's consultant), and professors from UC Davis and CSU-Chico for peer review

1994 - Groundwater Nitrate Study - Chico Urban Area Final Report (Dames & Moore)

1996 - Technical Memorandum - Hydrologic and Soils Conditions (Dames & Moore)

1997/2000 - Preparation of Chico Urban Area Nitrate Compliance Plan by Butte County and the Citizens Nitrate Advisory Committee

2000 - Chico Urban Area Nitrate Compliance Plan adopted by the Butte County Board of Supervisors. Presented to the City of Chico, to the RWQCB-Redding, and the Central Valley RWQCB (Sacramento) as the County's official response to Prohibition Order 90-126. Butte County continues to be on the list for State Revolving Fund (SRF) Loan application funding through the State Water Resources Control Board

2001 - East Lassen Avenue sewer installed. Casa de Flores Mobile Home Park (300 units) and other high-density developments started connecting to sewer.

2001 - Draft and Final EIR for the Chico Urban Area Nitrate Compliance Plan

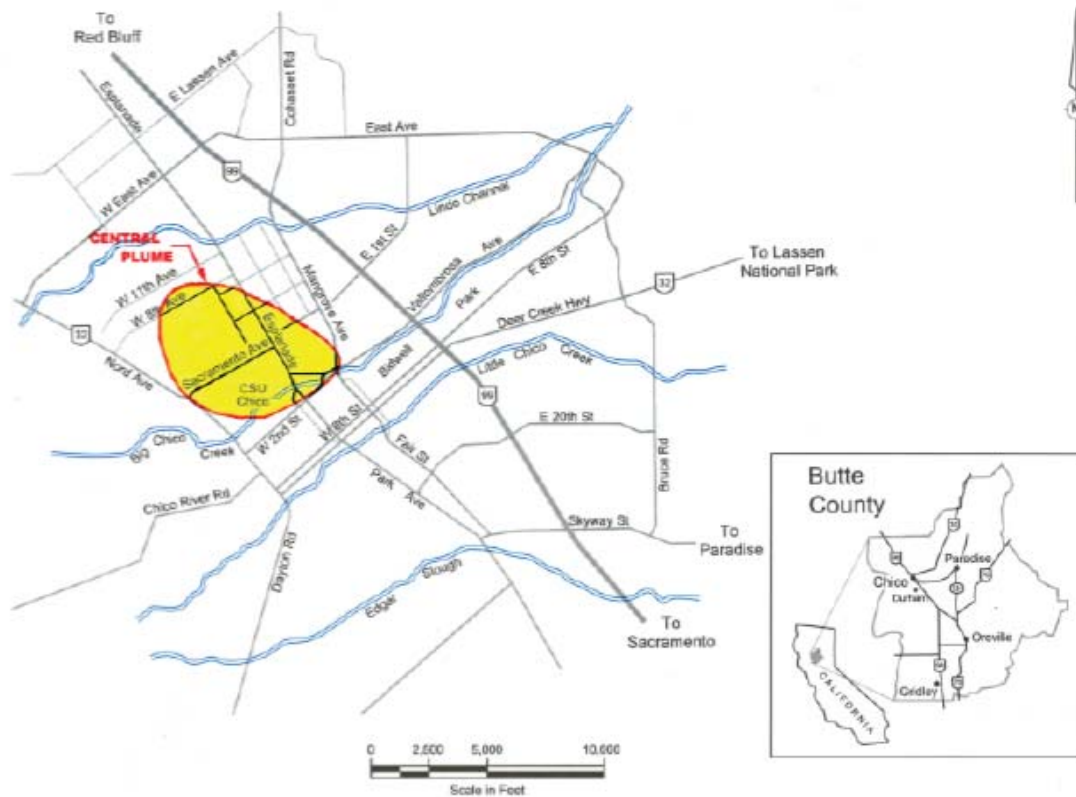
2001 - Butte County receives Small Communities Grant from the SWRCB to do initial sewer feasibility study for connecting low income mobile home parks (located north of Eaton Rd) to sewer

2004/05 - Oversight monitoring program initiated by Butte County Environmental Health for units within CSA 114 that are proposed to remain on septic systems. New groundwater nitrate monitoring wells installed to replace lost/destroyed monitoring sites. Most recent sampling event conducted by Hanover Environmental.

2005 - Butte County and City of Chico Redevelopment Agency execute the Chico Urban Area Joint Powers Financing Authority (JPFA) to facilitate the financing for sewer construction

2006/07 - JPFA develops financial loan application for sewer construction. Presently under review.

Note: Several of the reports mentioned above are located in the public reserve section of the Chico Public Library, or the Meriam Library, Special Collections Section at CSU-Chico. Also, view the Chico Urban Area Nitrate Compliance Plan at [www.buttecounty.net](http://www.buttecounty.net). Click on "Departments", then "Clerk of the Board", then "Nitrate Plan".



## History and Background

In 1988, groundwater monitoring wells were installed and after sampling showed that both of the major drinking water aquifers were contaminated with Perchloroethylene (PCE), a common dry cleaning agent. The Intermediate Zone Aquifer (IZA) is approximately 100 to 140 feet below ground, and the Deep Zone Aquifer (DZA) is approximately 250 to 300 feet below ground. In July of 1995, DTSC completed an Interim Remedial Measure (IRM), which included two groundwater extraction wells with a carbon filtration system to stabilize and reduce the PCE contamination. Since September 1997, the IRM has been in almost continuous operation and has removed more than 1300 pounds of PCE from the aquifers. In 1999, the groundwater sampling was reinstated using 22 monitoring wells in the IZA and 23 monitoring wells in the DZA. At this point, DTSC was able to complete a Remedial Investigation/Feasibility Study and the draft RAP, which describes the plume, the extent of the contamination, and the proposed remedy for cleanup.

In early 2005, a “hot spot” of contamination was discovered through additional groundwater sampling in the Shallow Zone Aquifer (SZA) found in the front parking lot of Flair Custom Cleaners. The SZA is approximately 13 to 50 feet below ground and is not used for public drinking water. A Removal Action Workplan was prepared that proposes to clean the hot spot through injecting a chemical agent (Permanganate) in the contaminated area. The chemical agent reacts with the PCE and removes it by turning it into carbon dioxide, manganese oxide, salt, and hydrochloric acid.

## System Monitoring and Maintenance

Following the design and installation of the three groundwater extraction wells and one monitoring well, the system will be tested. After ensuring that the system works properly, groundwater clean up operations will be started and system progress will be monitored. The equipment used in the groundwater treatment system will be evaluated and maintained during the clean up to ensure that the treatment is working properly. Operations monitoring and maintenance will be conducted by The California Water Service.

Broadbent & Associates, Inc.  
1324 Mangrove Ave., Suite 212  
Chico, CA 95926  
Voice (530) 566-1400  
Fax (530) 566-1401



14 November 2007

Project No. 07-08-112

County of Butte  
Public Health Department  
Environmental Health Division  
202 Mira Loma Drive  
Oroville, California 95965

Attn: Mr. Vance Severin, Deputy Director

RE: THIRD QUARTER 2007 GROUND-WATER MONITORING REPORT  
CHICO URBAN AREA NITRATE COMPLIANCE PROGRAM

Dear Mr. Severin:

Broadbent & Associates, Inc. (BAI) is pleased to submit this *Third Quarter 2007 Ground-Water Monitoring Report* for the Chico Urban Area Nitrate Compliance Program. This report includes a description of field activities and analytical results associated with ground-water monitoring conducted to support Butte County's Chico Urban Area Nitrate Compliance Program during the Third Quarter of 2007.

Should you have questions or require additional information, please do not hesitate to contact us at (530) 566-1400.

Sincerely,  
BROADBENT & ASSOCIATES, INC.

Tom Venus, PE  
Senior Engineer



Attachment

ARIZONA

CALIFORNIA

NEVADA

TEXAS

## Ground-Water Elevations and Gradients

Where possible, measurements of depth-to-ground water were made immediately prior to sampling of the 31 accessible wells. Measurements of depth-to-ground water were recorded on the Ground-Water Sampling Data Sheets provided in Appendix D. Table 2 presents a summary of depth-to-ground-water measurements, and where known, corresponding ground-water elevations in feet above mean sea level (ft AMSL). Ground-water elevations were more often than not between historic minimum and maximum ranges for each well, as summarized in Table 2.

Depth to ground-water measurements and resulting water level elevations were used to create a map of potentiometric ground-water elevation contours. The map of potentiometric ground-water elevation contours of the data collected from the third quarter 2007 monitoring event is presented as Figure 3. Ground-water flow directions and gradients vary throughout the CUA, but generally flow to the northwest or southwest at between 0.03 ft/ft to 0.08 ft/ft.

| Ground-Water Elevations                     |            |                |                         |                        |
|---|------------|----------------|-------------------------|------------------------|
| Chico Urban Area Nitrate Compliance Program |            |                |                         |                        |
| Sample Location                             | Date       | Depth to Water | Top of Casing Elevation | Ground-Water Elevation |
| 102A  | 12/10/93   | NS             | NS                      | NS                     |
|   | 9/17/1999  | 38.71          | NS                      | NS                     |
|   | 11/19/2001 | 34.95          | NS                      | NS                     |
|   | 11/7/2002  | 39.37          | NS                      | NS                     |
|   | 6/21/2004  | 13.24          | NS                      | NS                     |
|   | 9/13/2004  | 14.51          | NS                      | NS                     |
|   | 12/17/2004 | 12.67          | NS                      | NS                     |
|   | 3/16/2005  | 11.58          | NS                      | NS                     |
|   | 9/11/2007  | 14.81          | NS                      | NS                     |
|   | 12/5/2007  | 14.40          | NS                      | NS                     |
| 2-S1  | 12/10/93   | .              | 196.82                  | NS                     |
|   | 9/22/1999  | 37.94          | 196.82                  | 158.88                 |
|   | 11/19/2001 | 13.00          | 196.82                  | 183.82                 |
|   | 3/14/2002  | 10.92          | 196.82                  | 185.90                 |
|   | 11/7/2002  | 14.20          | 196.82                  | 182.62                 |
|   | 6/21/2004  | 12.91          | 196.82                  | 183.91                 |
|   | 9/13/2004  | 14.24          | 196.82                  | 182.58                 |
|   | 12/17/2004 | 12.47          | 196.82                  | 184.35                 |
|   | 3/16/2005  | 10.86          | 196.82                  | 185.96                 |
|   | 9/11/2007  | 15.06          | 196.82                  | 181.76                 |
|   | 12/5/2007  | 14.43          | 196.82                  | 182.39                 |
| 3H-5  | 9/21/1999  | 24.47          | NS                      | NS                     |
|   | 11/29/2001 | NS             | NS                      | NS                     |
|   | 11/26/2002 | NS             | NS                      | NS                     |
|   | 6/21/2004  | NS             | NS                      | NS                     |
|   | 9/13/2004  | NS             | NS                      | NS                     |
|   | 12/17/2004 | NS             | NS                      | NS                     |
| 20D1  | 12/13/93   | NS             | NS                      | NS                     |
|   | 10/28/1994 | NS             | NS                      | NS                     |
|   | 7/26/1995  | NS             | NS                      | NS                     |

|       |            |       |        |        |
|-------|------------|-------|--------|--------|
|       | 10/16/1995 | NS    | NS     | NS     |
|       | 9/13/1999  | NS    | NS     | NS     |
|       | 6/21/2004  | NS    | NS     | NS     |
|       | 9/13/2004  | NS    | NS     | NS     |
|       | 12/17/2004 | NS    | NS     | NS     |
|       | 3/18/2005  | NS    | NS     | NS     |
|       | 9/11/2007  | NS    | NS     | NS     |
|       | 12/4/2007  | NS    | NS     | NS     |
| 27Q1  | 12/15/93   | NS    | NS     | NS     |
|       | 9/20/1999  | 12.54 | NS     | NS     |
|       | 11/26/2001 | 11.12 | NS     | NS     |
|       | 3/14/2002  | 10.28 | NS     | NS     |
|       | 11/12/2002 | 12.15 | NS     | NS     |
|       | 6/21/2004  | NS    | NS     | NS     |
|       | 9/13/2004  | NS    | NS     | NS     |
|       | 12/17/2004 | NS    | NS     | NS     |
|       | 3/18/2005  | NS    | NS     | NS     |
|       | 9/14/2007  | 12.90 | NS     | NS     |
|       | 12/5/2007  | 12.27 | NS     | NS     |
| 34A   | 11/18/93   | NS    | 100.43 | NS     |
|       | 7/25/1995  | NS    | 100.43 | NS     |
|       | 10/16/1995 | NS    | 100.43 | NS     |
|       | 6/21/2004  | NS    | 100.43 | NS     |
|       | 9/13/2004  | NS    | NS     | NS     |
|       | 12/17/2004 | NS    | NS     | NS     |
|       | 3/18/2005  | NS    | NS     | NS     |
| 35M   | 11/17/93   | NS    | NS     | NS     |
|       | 10/28/1994 | NS    | NS     | NS     |
|       | 7/25/1995  | NS    | NS     | NS     |
|       | 10/16/1995 | NS    | NS     | NS     |
|       | 6/21/2004  | NS    | NS     | NS     |
|       | 9/13/2004  | NS    | NS     | NS     |
|       | 12/17/2004 | NS    | NS     | NS     |
|       | 3/18/2005  | NS    | NS     | NS     |
| 46-S1 | 12/10/93   | NS    | 178.86 | NS     |
|       | 7/26/1995  | NS    | 178.86 | NS     |
|       | 10/16/1995 | NS    | 178.86 | NS     |
|       | 9/20/1999  | 15.57 | 178.86 | 163.29 |
|       | 11/20/2001 | 17.58 | 178.86 | 161.28 |
|       | 11/7/2002  | 18.44 | 178.86 | 160.42 |
|       | 6/21/2004  | 13.19 | 178.86 | 165.67 |
|       | 9/13/2004  | 16.38 | 178.86 | 162.48 |
|       | 12/17/2004 | 13.73 | 178.86 | 165.13 |
|       | 3/14/2005  | 10.05 | 178.86 | 168.81 |
|       | 9/6/2007   | 17.21 | 178.86 | 161.65 |
|       | 12/5/2007  | 18.15 | 178.86 | 160.71 |
| 8AMW  | 11/21/93   | NS    | NS     | NS     |
|       | 6/21/2004  | NS    | NS     | NS     |
|       | 9/13/2004  | NS    | NS     | NS     |
|       | 12/17/2004 | NS    | NS     | NS     |

|           |            |            |            |        |
|-----------|------------|------------|------------|--------|
|           | 3/18/2005  | NS         | NS         | NS     |
| DMW-1     | 11/18/93   | 37.69      | 175.46     | 137.77 |
|           | 7/20/1995  | 29.19      | 175.46     | 146.27 |
|           | 10/17/1995 | 32.28      | 175.46     | 143.18 |
|           | 6/21/2004  | NS         | 175.46     | NS     |
|           | 9/13/2004  | NS         | 175.46     | NS     |
|           | 12/17/2004 | NS         | 175.46     | NS     |
|           | 3/18/2005  | NS         | 175.46     | NS     |
|           | 9/6/2007   | BURIED     | BURIED     | BURIED |
| DMW-2     | 11/21/93   | 18.88      | 179.81     | 160.93 |
|           | 10/28/1994 | 22.92      | 179.81     | 156.89 |
|           | 7/20/1995  | 11.56      | 179.81     | 168.25 |
|           | 10/17/1995 | 16.22      | 179.81     | 163.59 |
|           | 9/10/1999  | 17.64      | 179.81     | 162.17 |
|           | 11/27/2001 | 17.18      | 179.81     | 162.63 |
|           | 3/12/2002  | 12.83      | 179.81     | 166.98 |
|           | 11/5/2002  | 13.20      | 179.81     | 166.61 |
|           | 6/22/2004  | 14.12      | 179.81     | 165.69 |
|           | 9/13/2004  | 16.89      | 179.81     | 162.92 |
|           | 12/17/2004 | 15.38      | 179.81     | 164.43 |
|           | 3/15/2005  | 11.99      | 179.81     | 167.82 |
| 8/29/2007 | PAVED OVER | PAVED OVER | PAVED OVER |        |
| DMW-3     | 11/17/93   | 36.46      | 175.75     | 139.29 |
|           | 10/28/1994 | 46.84      | 175.75     | 128.91 |
|           | 7/19/1995  | 28.58      | 175.75     | 147.17 |
|           | 10/17/1995 | 32.98      | 175.75     | 142.77 |
|           | 9/13/1999  | 18.52      | 175.75     | 157.23 |
|           | 11/20/2001 | 39.98      | 175.75     | 135.77 |
|           | 3/12/2002  | 28.39      | 175.75     | 147.36 |
|           | 11/5/2002  | 43.61      | 175.75     | 132.14 |
|           | 6/22/2004  | 34.17      | 175.75     | 141.58 |
|           | 9/13/2004  | 40.95      | 175.75     | 134.80 |
|           | 12/17/2004 | 33.99      | 175.75     | 141.76 |
|           | 3/15/2005  | 27.31      | 175.75     | 148.44 |
|           | 9/5/2007   | 44.82      | 175.75     | 130.93 |
| 12/4/2007 | 41.55      | 175.75     | 134.20     |        |
| DMW-4     | 10/17/1995 | 97.82      | 230.43     | 132.61 |
|           | 6/21/2004  | NS         | 230.43     | NS     |
|           | 9/13/2004  | NS         | 230.43     | NS     |
|           | 12/17/2004 | NS         | 230.43     | NS     |
|           | 3/18/2005  | NS         | 230.43     | NS     |
| DMW-5     | 11/21/93   | 46.09      | 200.68     | 154.59 |
|           | 10/28/1994 | 51.40      | 200.68     | 149.28 |
|           | 7/20/1995  | 34.40      | 200.68     | 166.28 |
|           | 10/17/1995 | 41.60      | 200.68     | 159.08 |
|           | 9/16/1999  | 40.87      | 200.68     | 159.81 |
|           | 11/29/2001 | 46.78      | 200.68     | 153.90 |
|           | 3/12/2002  | 37.69      | 200.68     | 162.99 |
|           | 11/6/2002  | 48.81      | 200.68     | 151.87 |
|           | 6/22/2004  | 40.04      | 200.68     | 160.64 |
|           | 9/13/2004  | 45.88      | 200.68     | 154.80 |

|        |            |       |        |        |
|--------|------------|-------|--------|--------|
|        | 12/17/2004 | 44.75 | 200.68 | 155.93 |
|        | 3/15/2005  | 36.16 | 200.68 | 164.52 |
|        | 8/29/2007  | 47.87 | 200.68 | 152.81 |
|        | 12/4/2007  | 49.64 | 200.68 | 151.04 |
| DMW-6  | 11/22/93   | 35.67 | 190.47 | 154.80 |
|        | 10/28/1994 | 42.08 | 190.47 | 148.39 |
|        | 7/20/1995  | 22.10 | 190.47 | 168.37 |
|        | 10/17/1995 | 28.43 | 190.47 | 162.04 |
|        | 9/16/1999  | 29.59 | 190.47 | 160.88 |
|        | 11/27/2001 | 36.42 | 190.47 | 154.05 |
|        | 3/12/2002  | 24.85 | 190.47 | 165.62 |
|        | 11/6/2002  | 22.00 | 190.47 | 168.47 |
|        | 6/22/2004  | 27.88 | 190.47 | 162.59 |
|        | 9/13/2004  | 34.74 | 190.47 | 155.73 |
|        | 12/17/2004 | 32.49 | 190.47 | 157.98 |
|        | 3/18/2005  | 23.40 | 190.47 | 167.07 |
|        | 8/29/2007  | 37.99 | 190.47 | 152.48 |
|        | 12/4/2007  | 38.53 | 190.47 | 151.94 |
| DMW-7  | 11/21/93   | 34.32 | 180.78 | 146.46 |
|        | 7/20/1995  | 22.00 | 180.78 | 158.78 |
|        | 10/17/1995 | 30.68 | 180.78 | 150.10 |
|        | 9/10/1999  | 34.32 | 180.78 | 146.46 |
|        | 11/20/2001 | 38.98 | 180.78 | 141.80 |
|        | 11/5/2002  | 42.74 | 180.78 | 138.04 |
|        | 6/22/2004  | 31.12 | 180.78 | 149.66 |
|        | 9/13/2004  | 39.49 | 180.78 | 141.29 |
|        | 12/17/2004 | 33.49 | 180.78 | 147.29 |
|        | 3/16/2005  | 25.39 | 180.78 | 155.39 |
|        | 9/5/2007   | 44.53 | 180.78 | 136.25 |
|        | 12/4/2007  | 42.37 | 180.78 | 138.41 |
| DMW-8  | 11/15/93   | 28.23 | 162.36 | 134.13 |
|        | 10/28/1994 | 37.83 | 162.36 | 124.53 |
|        | 7/20/1995  | 19.70 | 162.36 | 142.66 |
|        | 10/17/1995 | 23.76 | 162.36 | 138.60 |
|        | 9/22/1999  | 25.84 | 162.36 | 136.52 |
|        | 11/29/2001 | 30.05 | 162.36 | 132.31 |
|        | 11/5/2002  | 33.75 | 162.36 | 128.61 |
|        | 6/23/2004  | 22.78 | 162.36 | 139.58 |
|        | 9/13/2004  | 28.68 | 162.36 | 133.68 |
|        | 12/17/2004 | 26.29 | 162.36 | 136.07 |
|        | 3/15/2005  | 20.23 | 162.36 | 142.13 |
|        | 9/6/2007   | 32.61 | 162.36 | 129.75 |
|        | 12/4/2007  | 32.45 | 162.36 | 129.91 |
| DMW-10 | 11/21/93   | 29.82 | 190.95 | 161.13 |
|        | 10/28/1994 | 28.90 | 190.95 | 162.05 |
|        | 7/21/1995  | 17.70 | 190.95 | 173.25 |
|        | 10/17/1995 | 19.90 | 190.95 | 171.05 |
|        | 9/15/1999  | 29.61 | 190.95 | 161.34 |
|        | 11/20/2001 | 35.81 | 190.95 | 155.14 |

|          |            |            |            |         |
|----------|------------|------------|------------|---------|
|          | 3/12/2002  | 35.81      | 190.95     | 155.14  |
|          | 11/6/2002  | 34.74      | 190.95     | 156.21  |
|          | 6/22/2004  | 22.10      | 190.95     | 168.85  |
|          | 9/13/2004  | 34.75      | 190.95     | 156.20  |
|          | 12/17/2004 | 34.64      | 190.95     | 156.31  |
|          | 3/16/2005  | 20.56      | 190.95     | 170.39  |
|          | 8/30/2007  | 35.25      | 190.95     | 155.70  |
|          | 12/4/2007  | 36.66      | 190.95     | 154.29  |
| DMW-11   | 11/18/93   | 39.18      | 189.87     | 150.69  |
|          | 10/28/1994 | 40.92      | 189.87     | 148.95  |
|          | 7/21/1995  | 28.84      | 189.87     | 161.03  |
|          | 10/18/1995 | 29.66      | 189.87     | 160.21  |
|          | 9/15/1999  | 36.07      | 189.87     | 153.80  |
|          | 11/20/2001 | 40.18      | 189.87     | 149.69  |
|          | 11/11/2002 | 41.04      | 189.87     | 148.83  |
|          | 6/23/2004  | 35.06      | 189.87     | 154.81  |
|          | 9/13/2004  | 39.46      | 189.87     | 150.41  |
|          | 12/17/2004 | 38.78      | 189.87     | 151.09  |
|          | 3/16/2005  | 29.37      | 189.87     | 160.50  |
|          | 9/5/2007   | 40.59      | 189.87     | 149.28  |
|          | 12/4/2007  | 41.18      | 189.87     | 148.69  |
| DMW-12   | 11/22/93   | 36.65      | 179.34     | 142.69  |
|          | 10/28/1994 | 45.98      | 179.34     | 133.36  |
|          | 7/21/1995  | 30.18      | 179.34     | 149.16  |
|          | 10/18/1995 | 32.10      | 179.34     | 147.24  |
|          | 9/15/1999  | 37.31      | 179.34     | 142.03  |
|          | 11/29/2001 | 39.85      | 179.34     | 139.49  |
|          | 3/13/2002  | 28.38      | 179.34     | 150.96  |
|          | 11/26/2002 | 41.62      | 179.34     | 137.72  |
|          | 6/23/2004  | 37.04      | 179.34     | 142.30  |
|          | 9/13/2004  | 43.28      | 179.34     | 136.06  |
|          | 12/17/2004 | NS         | 179.34     | NS      |
|          | 3/18/2005  | DAMAGED    | DAMAGED    | DAMAGED |
| 9/6/2007 | PAVED OVER | PAVED OVER | PAVED OVER |         |
| DMW-13   | 11/23/93   | 29.80      | 169.41     | 139.61  |
|          | 7/21/1995  | 20.04      | 169.41     | 149.37  |
|          | 10/18/1995 | 24.92      | 169.41     | 144.49  |
|          | 9/14/1999  | 30.21      | 169.41     | 139.20  |
|          | 11/28/2001 | 33.77      | 169.41     | 135.64  |
|          | 11/11/2002 | -1.00      | 169.41     | 170.41  |
|          | 6/28/2004  | 28.72      | 169.41     | 140.69  |
|          | 9/13/2004  | 36.02      | 169.41     | 133.39  |
|          | 12/17/2004 | 29.72      | 169.41     | 139.69  |
|          | 3/14/2005  | 20.70      | 169.41     | 148.71  |
|          | 9/7/2007   | BURIED     | BURIED     | BURIED  |
| DMW-14   | 11/17/93   | 27.68      | 156.76     | 129.08  |
|          | 10/28/1994 | 38.10      | 156.76     | 118.66  |
|          | 7/21/1995  | 18.85      | 156.76     | 137.91  |
|          | 10/18/1995 | 24.65      | 156.76     | 132.11  |
|          | 9/13/1999  | 28.56      | 156.76     | 128.20  |

|          |            |        |        |        |
|----------|------------|--------|--------|--------|
|          | 11/28/2001 | 31.02  | 156.76 | 125.74 |
|          | 3/12/2002  | 21.82  | 156.76 | 134.94 |
|          | 11/6/2002  | 35.99  | 156.76 | 120.77 |
|          | 6/21/2004  | 26.29  | 156.76 | 130.47 |
|          | 9/13/2004  | 34.16  | 156.76 | 122.60 |
|          | 12/17/2004 | 28.59  | 156.76 | 128.17 |
|          | 3/14/2005  | 20.67  | 156.76 | 136.09 |
|          | 9/6/2007   | 38.48  | 156.76 | 118.28 |
|          | 12/4/2007  | 34.77  | 156.76 | 121.99 |
| DMW-15   | 11/17/93   | 16.01  | 168.35 | 152.34 |
|          | 7/21/1995  | 13.40  | 168.35 | 154.95 |
|          | 10/18/1995 | 15.64  | 168.35 | 152.71 |
|          | 9/14/1999  | 15.94  | 168.35 | 152.41 |
|          | 11/28/2001 | 15.85  | 168.35 | 152.50 |
|          | 3/13/2002  | 13.01  | 168.35 | 155.34 |
|          | 11/6/2002  | 18.85  | 168.35 | 149.50 |
|          | 6/21/2004  | 15.24  | 168.35 | 153.11 |
|          | 9/13/2004  | 17.28  | 168.35 | 151.07 |
|          | 12/17/2004 | 14.59  | 168.35 | 153.76 |
|          | 3/14/2005  | 12.61  | 168.35 | 155.74 |
|          | 9/6/2007   | 19.42  | 168.35 | 148.93 |
|          | 12/4/2007  | 17.80  | 168.35 | 150.55 |
| DMW-16   | 11/23/93   | 31.49  | 177.32 | 145.83 |
|          | 10/28/1994 | 38.98  | 177.32 | 138.34 |
|          | 7/25/1995  | 19.74  | 177.32 | 157.58 |
|          | 10/18/1995 | 21.94  | 177.32 | 155.38 |
|          | 9/21/1999  | 24.47  | 177.32 | 152.85 |
|          | 11/28/2001 | 34.85  | 177.32 | 142.47 |
|          | 3/13/2002  | 24.21  | 177.32 | 153.11 |
|          | 11/12/2002 | 36.51  | 177.32 | 140.81 |
|          | 6/21/2004  | 24.88  | 177.32 | 152.44 |
|          | 9/13/2004  | 31.65  | 177.32 | 145.67 |
|          | 12/17/2004 | 31.63  | 177.32 | 145.69 |
|          | 3/14/2005  | 23.97  | 177.32 | 153.35 |
| 9/6/2007 | 37.04      | 177.32 | 140.28 |        |
|          | 12/4/2007  | 38.12  | 177.32 | 139.20 |
| DMW-17   | 11/22/93   | 46.31  | 204.77 | 158.46 |
|          | 10/28/1994 | 51.40  | 204.77 | 153.37 |
|          | 7/21/1995  | 34.50  | 204.77 | 170.27 |
|          | 10/17/1995 | 38.62  | 204.77 | 166.15 |
|          | 9/16/1999  | 41.16  | 204.77 | 163.61 |
|          | 11/27/2001 | 47.59  | 204.77 | 157.18 |
|          | 11/6/2002  | 49.05  | 204.77 | 155.72 |
|          | 6/22/2004  | 40.03  | 204.77 | 164.74 |
|          | 9/13/2004  | 45.39  | 204.77 | 159.38 |
|          | 12/17/2004 | 44.89  | 204.77 | 159.88 |
|          | 3/15/2005  | 38.36  | 204.77 | 166.41 |
|          | 8/30/2007  | 48.85  | 204.77 | 155.92 |
|          | 12/4/2007  | 50.20  | 204.77 | 154.57 |
| DMW-18   | 11/17/93   | 31.89  | 163.58 | 131.69 |
|          | 10/28/1994 | 41.76  | 163.58 | 121.82 |

|         |            |         |         |         |
|---------|------------|---------|---------|---------|
|         | 7/24/1995  | 24.20   | 163.58  | 139.38  |
|         | 10/16/1995 | 27.58   | 163.58  | 136.00  |
|         | 9/13/1999  | 29.88   | 163.58  | 133.70  |
|         | 11/27/2001 | 34.75   | 163.58  | 128.83  |
|         | 11/6/2002  | 38.02   | 163.58  | 125.56  |
|         | 6/22/2004  | 27.79   | 163.58  | 135.79  |
|         | 9/13/2004  | 33.65   | 163.58  | 129.93  |
|         | 12/17/2004 | 31.35   | 163.58  | 132.23  |
|         | 3/14/2005  | 25.69   | 163.58  | 137.89  |
|         | 9/5/2007   | 38.27   | 163.58  | 125.31  |
|         | 12/4/2007  | 37.35   | 163.58  | 126.23  |
| DMW-19  | 11/17/93   | 25.81   | 152.84  | 127.03  |
|         | 10/28/1994 | 34.30   | 152.84  | 118.54  |
|         | 7/24/1995  | 20.36   | 152.84  | 132.48  |
|         | 10/18/1995 | 23.47   | 152.84  | 129.37  |
|         | 11/26/2002 | 30.55   | 152.84  | 122.29  |
|         | 6/21/2004  | NS      | 152.84  | NS      |
|         | 9/13/2004  | 32.42   | 152.84  | 120.42  |
|         | 12/17/2004 | 26.30   | 152.84  | 126.54  |
|         | 3/14/2005  | 18.46   | 152.84  | 134.38  |
|         | 9/5/2007   | 35.52   | 152.84  | 117.32  |
|         | 12/4/2007  | 30.81   | 152.84  | 122.03  |
| DMW-20  | 12/14/93   | 39.15   | 165.31  | 126.16  |
|         | 7/25/1995  | 32.66   | 165.31  | 132.65  |
|         | 10/18/1995 | 32.40   | 165.31  | 132.91  |
|         | 9/14/1999  | 42.60   | 165.31  | 122.71  |
|         | 11/29/2001 | 46.53   | 165.31  | 118.78  |
|         | 3/14/2002  | dry     | 165.31  | dry     |
|         | 6/21/2004  | 44.28   | 165.31  | 121.03  |
|         | 9/13/2004  | DAMAGED | DAMAGED | DAMAGED |
|         | 12/17/2004 | DAMAGED | DAMAGED | DAMAGED |
|         | 3/18/2005  | DAMAGED | DAMAGED | DAMAGED |
| EC-MW-1 | 12/11/93   | NS      | 195.89  | NS      |
|         | 7/26/1995  | NS      | 195.89  | NS      |
|         | 10/16/1995 | NS      | 195.89  | NS      |
|         | 9/15/1999  | 24.41   | 195.89  | 171.48  |
|         | 11/26/2001 | 30.43   | 195.89  | 165.46  |
|         | 11/7/2002  | 31.99   | 195.89  | 163.90  |
|         | 9/13/2004  | NS      | NS      | NS      |
|         | 12/17/2004 | NS      | NS      | NS      |
|         | 3/18/2005  | NS      | NS      | NS      |
|         | 9/6/2007   | 30.36   | 195.89  | 165.53  |
|         | 12/5/2007  | 33.09   | 195.89  | 162.80  |
| EW-03   | 9/17/1999  | NS      | NS      | NS      |
|         | 11/29/2001 | NS      | NS      | NS      |
|         | 11/8/2002  | NS      | NS      | NS      |
|         | 9/13/2004  | NS      | NS      | NS      |
|         | 12/17/2004 | NS      | NS      | NS      |
|         | 3/16/2005  | NS      | NS      | NS      |
|         | 9/11/2007  | NS      | NS      | NS      |

|         |            |           |        |        |
|---------|------------|-----------|--------|--------|
|         | 12/4/2007  | NS        | NS     | NS     |
| EW-05   | 9/17/1999  | NS        | NS     | NS     |
|         | 6/21/2004  | NS        | NS     | NS     |
|         | 9/13/2004  | NS        | NS     | NS     |
|         | 12/17/2004 | NS        | NS     | NS     |
|         | 3/18/2005  | NS        | NS     | NS     |
|         | 9/11/2007  | NS        | NS     | NS     |
|         | 12/4/2007  | NS        | NS     | NS     |
| FA-MW-2 | 12/11/93   | NS        | 212.31 | NS     |
|         | 7/26/1995  | NS        | 212.31 | NS     |
|         | 10/16/1995 | NS        | 212.31 | NS     |
|         | 9/16/1999  | 27.30     | 212.31 | 185.01 |
|         | 11/19/2001 | 34.45     | 212.31 | 177.86 |
|         | 3/13/2002  | 20.61     | 212.31 | 191.70 |
|         | 11/7/2002  | 35.81     | 212.31 | 176.50 |
|         | 6/23/2004  | 22.06     | 212.31 | 190.25 |
|         | 9/13/2004  | 28.72     | 212.31 | 183.59 |
|         | 12/17/2004 | 28.03     | 212.31 | 184.28 |
|         | 3/16/2005  | 20.24     | 212.31 | 192.07 |
|         | 9/11/2007  | 37.26     | 212.31 | 175.05 |
|         | 12/5/2007  | DRY       | 212.31 | NS     |
| FC-MW-2 | 9/20/1999  | 11.37     | 203.66 | 192.29 |
|         | 11/20/2001 | 11.03     | 203.66 | 192.63 |
|         | 3/13/2002  | 6.47      | 203.66 | 197.19 |
|         | 11/12/2002 | 11.13     | 203.66 | 192.53 |
|         | 9/13/2004  | NS        | NS     | NS     |
|         | 12/17/2004 | NS        | NS     | NS     |
|         | 3/18/2005  | NS        | NS     | NS     |
|         | 9/11/2007  | 11.95     | 203.66 | 191.71 |
|         |            | 12/5/2007 | 11.55  | 203.66 |
| MC-MW   | 10/16/1995 | NS        | 218.90 | NS     |
|         | 9/20/1999  | 9.64      | 218.90 | 209.26 |
|         | 9/13/2004  | NS        | NS     | NS     |
|         | 12/17/2004 | NS        | NS     | NS     |
|         | 3/18/2005  | NS        | NS     | NS     |
| MC-MW-1 | 12/11/93   | NS        | 218.90 | NS     |
|         | 7/26/1995  | NS        | 218.90 | NS     |
|         | 11/28/2001 | 8.31      | 218.90 | 210.59 |
|         | 3/14/2002  | 8.19      | 218.90 | 210.71 |
|         | 11/11/2002 | 9.42      | 218.90 | 209.48 |
|         | 9/13/2004  | NS        | NS     | NS     |
|         | 12/17/2004 | NS        | NS     | NS     |
|         | 3/18/2005  | NS        | NS     | NS     |
| MS-MW-1 | 11/21/93   | NS        | 212.02 | NS     |
|         | 10/28/1994 | NS        | 212.02 | NS     |
|         | 7/25/1995  | NS        | 212.02 | NS     |
|         | 10/16/1995 | NS        | 212.02 | NS     |
|         | 9/14/1999  | 8.32      | 212.02 | 203.70 |
|         | 11/26/2001 | 6.78      | 212.02 | 205.24 |
|         | 3/13/2002  | 6.51      | 212.02 | 205.51 |

|         |            |                     |        |        |
|---------|------------|---------------------|--------|--------|
|         | 11/11/2002 | 8.00                | 212.02 | 204.02 |
|         | 9/13/2004  | NS                  | NS     | NS     |
|         | 12/17/2004 | NS                  | NS     | NS     |
|         | 3/18/2005  | NS                  | NS     | NS     |
|         | 9/14/2007  | 8.57                | 212.02 | 203.45 |
|         | 12/5/2007  | 7.96                | 212.02 | 204.06 |
| NG-S1   | 12/14/93   | NS                  | NS     | NS     |
|         | 9/13/2004  | NS                  | NS     | NS     |
|         | 3/18/2005  | NS                  | NS     | NS     |
|         | 9/6/2007   | 30.38               | NS     | NS     |
|         | 12/5/2007  | 31.03               | NS     | NS     |
| NV-MW-1 | 12/15/93   | NS                  | 199.52 | NS     |
|         | 7/26/1995  | NS                  | 199.52 | NS     |
|         | 10/16/1995 | NS                  | 199.52 | NS     |
|         | 9/20/1999  | 9.65                | 199.52 | 189.87 |
|         | 11/28/2001 | 9.15                | 199.52 | 190.37 |
|         | 3/13/2002  | 8.05                | 199.52 | 191.47 |
|         | 11/7/2002  | 9.76                | 199.52 | 189.76 |
|         | 6/23/2004  | 9.77                | 199.52 | 189.75 |
|         | 9/13/2004  | 9.92                | 199.52 | 189.60 |
|         | 12/17/2004 | 9.27                | 199.52 | 190.25 |
|         | 3/17/2005  | 9.06                | 199.52 | 190.46 |
|         | 9/11/2007  | UNABLE TO OPEN WELL |        |        |
|         | 12/5/2007  | UNABLE TO OPEN WELL |        |        |
| ST-MW-1 | 11/17/93   | NS                  | NS     | NS     |
|         | 10/28/1994 | NS                  | NS     | NS     |
|         | 7/26/1995  | NS                  | NS     | NS     |
|         | 9/13/2004  | NS                  | NS     | NS     |
|         | 3/18/2005  | NS                  | NS     | NS     |
| MW-21   | 6/28/2004  | 12.66               | 205.08 | 192.42 |
|         | 9/13/2004  | 14.51               | 205.08 | 190.57 |
|         | 12/17/2004 | 12.61               | 205.08 | 192.47 |
|         | 3/16/2005  | 10.83               | 205.08 | 194.25 |
|         | 9/6/2007   | 15.08               | 205.08 | 190.00 |
|         | 12/4/2007  | 14.37               | 205.08 | 190.71 |
| MW-22   | 6/28/2004  | 39.28               | 186.74 | 147.46 |
|         | 9/13/2004  | 45.53               | 186.74 | 141.21 |
|         | 12/17/2004 | 37.75               | 186.74 | 148.99 |
|         | 3/15/2005  | 30.02               | 186.74 | 156.72 |
|         | 9/5/2007   | 49.04               | 186.74 | 137.70 |
|         | 12/4/2007  | 45.36               | 186.74 | 141.38 |
| MW-23   | 6/28/2004  | 32.89               | 172.98 | 140.09 |
|         | 9/13/2004  | DRY                 | 172.98 | DRY    |
|         | 12/17/2004 | 33.17               | 172.98 | 139.81 |
|         | 3/15/2005  | 25.80               | 172.98 | 147.18 |
|         | 9/11/2007  | DRY                 | 172.98 | NS     |
|         | 12/4/2007  | DRY                 | 172.98 | NS     |
| MW-24   | 6/28/2004  | 28.00               | 173.40 | 145.40 |
|         | 9/13/2004  | DRY                 | 173.40 | DRY    |
|         | 12/17/2004 | 33.01               | 173.40 | 140.39 |
|         | 3/15/2005  | 27.49               | 173.40 | 145.91 |

|          |            |       |        |        |
|----------|------------|-------|--------|--------|
|          | 9/5/2007   | 34.56 | 173.40 | 138.84 |
|          | 12/4/2007  | DRY   | 173.40 | NS     |
| MW-25    | 6/28/2004  | 24.88 | 164.51 | 139.63 |
|          | 9/13/2004  | 30.54 | 164.51 | 133.97 |
|          | 12/17/2004 | 29.04 | 164.51 | 135.47 |
|          | 3/14/2005  | 23.90 | 164.51 | 140.61 |
|          | 9/11/2007  | DRY   | 164.51 | NS     |
|          | 12/4/2007  | 34.42 | 164.51 | 130.09 |
| MW-26    | 6/28/2004  | 26.46 | 170.35 | 143.89 |
|          | 9/13/2004  | DRY   | 170.35 | DRY    |
|          | 12/17/2004 | 32.94 | 170.35 | 137.41 |
|          | 3/15/2005  | 27.49 | 170.35 | 142.86 |
|          | 9/5/2007   | DRY   | 170.35 | NS     |
|          | 12/4/2007  | DRY   | 170.35 | NS     |
| MW-27    | 6/28/2004  | 32.23 | 165.50 | 133.27 |
|          | 9/13/2004  | DRY   | 165.50 | DRY    |
|          | 12/17/2004 | 32.17 | 165.50 | 133.33 |
|          | 3/14/2005  | 23.68 | 165.50 | 141.82 |
|          | 3/14/2005  | 23.68 | 165.50 | 141.82 |
|          | 9/5/2007   | 34.62 | 165.50 | 130.88 |
|          | 12/4/2007  | DRY   | 165.50 | NS     |
| MW-28    | 6/28/2004  | 19.68 | 157.17 | 137.49 |
|          | 9/13/2004  | 24.98 | 157.17 | 132.19 |
|          | 12/17/2004 | 23.54 | 157.17 | 133.63 |
|          | 3/14/2005  | 17.56 | 157.17 | 139.61 |
|          | 9/5/2007   | 29.33 | 157.17 | 127.84 |
|          | 12/4/2007  | 28.93 | 157.17 | 128.24 |
| ERI-MW-8 | 12/17/2004 | 41.96 | 205.06 | 163.10 |
|          | 3/17/2005  | 31.69 | 205.06 | 173.37 |
|          | 9/14/2007  | 45.91 | 205.06 | 159.15 |
|          | 12/5/2007  | DRY   | 205.06 | NS     |
| ESP-MW-4 | 12/17/2004 | 21.82 | 181.51 | 159.69 |
|          | 3/17/2005  | 19.17 | 181.51 | 162.34 |
|          | 9/14/2007  | 24.53 | 181.51 | 156.98 |
|          | 12/5/2007  | 32.21 | 181.51 | 149.30 |
| LOG-MW-2 | 12/17/2004 | 26.75 | 151.33 | 124.58 |
|          | 3/18/2005  | NS    | NS     | NS     |
| VAN-MW-3 | 12/17/2004 | 19.45 | 203.44 | 183.99 |
|          | 3/17/2005  | 14.92 | 203.44 | 188.52 |
|          | 9/14/2007  | 22.41 | 203.44 | 181.03 |
|          | 12/5/2007  | 24.25 | 203.44 | 179.19 |

NS - no data available

## Ground-Water Sampling Field Parameters

The field parameters of pH, temperature, and specific conductance were monitored during well purging in accordance with the Standard Operating Procedures. Periodic measurements of these stabilization parameters were recorded on the Ground-Water Field Data Sheets presented in Appendix D. The final, stabilized parameters measured immediately prior to sample collection are summarized in Table 4.

| Table 4<br>Stabilized Field Parameters<br>Chico Urban Area Nitrate Compliance Program |            |            |           |        |                |        |         |         |            |
|---|------------|------------|-----------|--------|----------------|--------|---------|---------|------------|
| Sample Location   | Date       | pH         | EC mho/cm | EC S/m | Turbidity NTUs | ORP mV | DO mg/l | TDS g/l | TEMP. (F°) |
| 102A  | 12/10/1993 | 7.3        | 333       | -      | -              | -      | -       | -       | 65.1       |
|   | 9/17/1999  | 7.2        | 267       | -      | -              | -      | -       | -       | 63.5       |
|   | 11/19/2001 | 7.0        | 300       | 30     | -5             | 131    | 2.4     | 0.20    | 63.7       |
|   | 11/7/2002  | 6.4        | 470       | 47     | -10            | 107    | -       | -       | 63.7       |
|   | 6/21/2004  | 6.7        | 320       | -      | -              | -      | -       | 155.00  | 69.3       |
|   | 9/8/2004   | 6.9        | 340       | -      | -              | -      | -       | -       | 68.9       |
|   | 12/15/2004 | 7.1        | 341       | -      | -              | -      | -       | 172     | 61.0       |
|   | 9/11/2007  | 6.8        | 280       | -      | -              | -      | -       | -       | 65.1       |
| 2-S1  | 12/10/1993 | 7.0        | 341       | -      | -              | -      | -       | -       | 64.4       |
|   | 9/22/1999  | 7.1        | 365       | -      | -              | -      | -       | -       | 65.8       |
|   | 11/19/2001 | 6.1        | 390       | 39     | 11             | 167    | 3.6     | 0.25    | 66.4       |
|   | 3/14/2002  | 6.5        | 370       | 37     | -10            | 233    | -       | -       | 63.3       |
|   | 11/7/2002  | 5.8        | 630       | 63     | -10            | 133    | -       | -       | 66.0       |
|   | 6/21/2004  | 6.9        | 280       | -      | -              | -      | -       | 134.00  | 65.8       |
|   | 9/10/2004  | 6.9        | 340       | -      | -              | -      | -       | 166.00  | 66.7       |
|   | 12/15/2004 | 7.1        | 347       | -      | -              | -      | -       | 188.00  | 60.1       |
|   | 9/11/2007  | 6.7        | 290       | -      | -              | -      | -       | -       | 63.9       |
| 3H-5  | 9/21/1999  | 7.5        | 345       | -      | -              | -      | -       | -       | 78.1       |
|   | 11/29/2001 | -          | -         | -      | -              | -      | -       | -       | -          |
|   | 11/26/2002 | -          | -         | -      | -              | -      | -       | -       | -          |
| 20D1  | 12/13/1993 | 8.4        | 178       | -      | -              | -      | -       | -       | 69.2       |
|   | 10/28/1994 | 7.5        | 197       | -      | -              | -      | -       | -       | 64.7       |
|   | 7/26/1995  | 7.2        | 270       | -      | -              | -      | -       | -       | 68.9       |
|   | 10/16/1995 | 7.1        | 294       | -      | -              | -      | -       | -       | 66.8       |
|   | 9/13/1999  | 7.7        | 358       | -      | -              | -      | -       | -       | 72.9       |
|   | 9/11/2007  | 7.7        | 260       | -      | -              | -      | -       | -       | 61.0       |
|   | 27Q1       | 12/15/1993 | 7.2       | 384    | -              | -      | -       | -       | -          |
| 9/20/1999   |            | 7.2        | 203       | -      | -              | -      | -       | -       | 64.4       |
| 11/26/2001  |            | 6.3        | 300       | 30     | 620            | 1      | 5.4     | 0.19    | 64.6       |
| 3/14/2002   |            | 6.3        | 300       | 30     | 330            | 39     | -       | -       | 61.9       |
| 11/12/2002  |            | 5.9        | 240       | 24     | 200            | 95     | -       | -       | 66.0       |
| 9/14/2007   |            | 6.5        | 160       | -      | -              | -      | -       | -       | 3/2/1900   |
| 34A   | 11/18/1993 | 6.7        | 658       | -      | -              | -      | -       | -       | 94.8       |
|   | 7/25/1995  | 6.7        | 541       | -      | -              | -      | -       | -       | 69.3       |
|   | 10/16/1995 | 6.7        | 591       | -      | -              | -      | -       | -       | 68.5       |
|   | 11/17/1993 | 7.8        | 340       | -      | -              | -      | -       | -       | 73.2       |
| 35M   | 10/28/1994 | 7.1        | 250       | -      | -              | -      | -       | -       | 69.9       |
|   | 7/25/1995  | 6.9        | 254       | -      | -              | -      | -       | -       | 72.0       |
|   | 10/16/1995 | 7.3        | 313       | -      | -              | -      | -       | -       | 71.3       |
|   | 12/10/1993 | 7.5        | 427       | -      | -              | -      | -       | -       | 67.5       |
| 46-S1   | 7/26/1995  | 6.8        | 483       | -      | -              | -      | -       | -       | 68.7       |
|   | 10/16/1995 | 6.8        | 634       | -      | -              | -      | -       | -       | 68.0       |
|   | 9/20/1999  | 6.7        | 476       | -      | -              | -      | -       | -       | 69.1       |
|   | 11/20/2001 | 6.2        | 520       | 52     | -3             | 174    | 6.3     | 0.33    | 70.9       |
|   | 11/7/2002  | 5.8        | 840       | 84     | -10            | 122    | -       | -       | 70.5       |
|   | 6/21/2004  | 6.8        | 540       | -      | -              | -      | -       | 265.00  | 68.5       |
|   | 9/7/2004   | 6.9        | 510       | -      | -              | -      | -       | 278.00  | 72.9       |
|   | 12/13/2004 | 6.9        | 487       | -      | -              | -      | -       | 244     | 62.4       |
|   | 9/6/2007   | 6.9        | 320       | -      | -              | -      | -       | -       | 69.1       |
|   | 9/17/2007  | 6.5        | 428       | -      | -              | -      | -       | -       | 70.7       |
| 8AMW  | 11/21/1993 | 7.3        | 222       | -      | -              | -      | -       | -       | 61.9       |
| DMW-1   | 11/18/1993 | 7.2        | 999       | -      | -              | -      | -       | -       | 70.2       |
|   | 7/20/1995  | 6.9        | 110       | -      | -              | -      | -       | -       | 65.7       |
|   | 10/17/1995 | 6.9        | 1041      | -      | -              | -      | -       | -       | 65.7       |
| DMW-2   | 11/21/1993 | 7.8        | 562       | -      | -              | -      | -       | -       | 57.4       |
|   | 10/28/1994 | 8.0        | 584       | -      | -              | -      | -       | -       | 62.8       |
|   | 7/20/1995  | 7.1        | 94        | -      | -              | -      | -       | -       | 66.9       |
|   | 10/17/1995 | 7.0        | 738       | -      | -              | -      | -       | -       | 66.1       |
|   | 9/10/1999  | 7.2        | 600       | -      | -              | -      | -       | -       | 74.1       |
|   | 11/27/2001 | 7.1        | 770       | 77     | 990            | 144    | 6.9     | 0.49    | 65.5       |
|   | 3/12/2002  | 6.8        | 820       | 82     | 990+           | 238    | -       | -       | 64.6       |
|   | 11/5/2002  | 6.8        | 642       | -      | 360            | -      | -       | -       | 64.0       |
|   | 6/22/2004  | 7.2        | 690       | -      | -              | -      | -       | 318.00  | 66.0       |
|   | 9/8/2004   | 7.3        | 750       | -      | -              | -      | -       | 358.00  | 67.5       |
|   | 12/15/2004 | 7.2        | 800       | -      | -              | -      | -       | 301.00  | 61.3       |
|   | DMW-3      | 11/17/1993 | 7.1       | 1313   | -              | -      | -       | -       | -          |
| 10/28/1994  |            | 6.8        | 1189      | -      | -              | -      | -       | -       | 63.0       |
| 7/19/1995   |            | 7.0        | 874       | -      | -              | -      | -       | -       | 67.0       |
| 10/17/1995  |            | 7.2        | 790       | -      | -              | -      | -       | -       | 64.5       |
| 9/13/1999   |            | 7.0        | 120       | -      | -              | -      | -       | -       | 65.7       |
| 11/20/2001  |            | 7.3        | 1200      | 12     | 990            | 196    | 8.9     | 0.80    | 63.1       |
| 3/12/2002   |            | 7.0        | 1100      | 110    | 600            | 2      | -       | -       | 63.3       |
| 11/5/2002   |            | 6.7        | 640       | 64     | 650            | -      | -       | -       | 67.6       |
| 6/23/2004   |            | 7.0        | 950       | -      | -              | -      | -       | 621.00  | 70.5       |
| 9/9/2004  |            | 7.0        | 1200      | -      | -              | -      | -       | 527.00  | 69.4       |
| 12/14/2004  |            | 6.8        | 1112      | -      | -              | -      | -       | 557     | 60.3       |
| 9/5/2007  | 6.5        | 1015       | -         | -      | -              | -      | -       | 65.3    |            |
| DMW-4   | 10/17/1995 | 6.8        | 176       | -      | -              | -      | -       | -       | 66.3       |

| Table 4<br>Stabilized Field Parameters<br>Chico Urban Area Nitrate Compliance Program |            |            |           |        |                |        |         |         |            |
|---|------------|------------|-----------|--------|----------------|--------|---------|---------|------------|
| Sample Location   | Date       | pH         | EC mho/cm | EC S/m | Turbidity NTUs | ORP mV | DO mg/l | TDS g/l | TEMP. (F°) |
| DMW-5   | 11/21/1993 | 7.7        | 559       | -      | -              | -      | -       | -       | 57.0       |
|   | 10/28/1994 | 8.3        | 651       | -      | -              | -      | -       | -       | 62.4       |
|   | 7/20/1995  | 7.5        | 91        | -      | -              | -      | -       | -       | 68.8       |
|   | 10/17/1995 | 7.4        | 639       | -      | -              | -      | -       | -       | 66.1       |
|   | 9/16/1999  | 6.8        | 607       | -      | -              | -      | -       | -       | 67.8       |
|   | 11/29/2001 | 7.4        | 700       | 70     | 990            | 184    | 9.2     | 0.45    | 65.1       |
|   | 3/12/2002  | 7.0        | 620       | 62     | 280            | NA     | -       | -       | 61.0       |
|   | 11/6/2002  | 7.0        | 432       | -      | 310            | -      | -       | -       | 66.2       |
|   | 6/22/2004  | 7.2        | 540       | -      | -              | -      | -       | 245     | 66.7       |
|   | 9/8/2004   | 7.3        | 510       | -      | -              | -      | -       | 238     | 69.1       |
| 12/14/2004  | 7.1        | 477        | -         | -      | -              | -      | 236     | 61.5    |            |
| 8/29/2007   | 7.0        | 547        | -         | -      | -              | -      | -       | 70.2    |            |
| DMW-6   | 11/22/1993 | 7.4        | 588       | -      | -              | -      | -       | -       | 63.7       |
|   | 10/28/1994 | 7.4        | 536       | -      | -              | -      | -       | -       | 69.1       |
|   | 7/20/1995  | 6.9        | 78        | -      | -              | -      | -       | -       | 69.8       |
|   | 10/17/1995 | 6.9        | 599       | -      | -              | -      | -       | -       | 57.0       |
|   | 9/16/1999  | 6.7        | 600       | -      | -              | -      | -       | -       | 67.1       |
|   | 11/27/2001 | 6.8        | 720       | 72     | 860            | 172    | 7.1     | 0.46    | 64.6       |
|   | 3/12/2002  | 7.0        | 710       | 71     | 65             | 230    | -       | -       | 64.6       |
|   | 11/6/2002  | 6.9        | 485       | -      | 460            | -      | -       | -       | 66.2       |
|   | 6/22/2004  | 7.1        | 480       | -      | -              | -      | -       | 239.00  | 67.5       |
|   | 9/8/2004   | 7.3        | 520       | -      | -              | -      | -       | 242.00  | 67.5       |
| 12/14/2004  | 6.9        | 466        | -         | -      | -              | -      | 256     | 61.2    |            |
| 8/29/2007   | 6.8        | 490        | -         | -      | -              | -      | -       | 69.1    |            |
| DMW-7   | 11/21/1993 | 7.2        | 614       | -      | -              | -      | -       | -       | 62.8       |
|   | 7/20/1995  | 6.9        | 66        | -      | -              | -      | -       | -       | 71.6       |
|   | 10/17/1995 | 7.0        | 546       | -      | -              | -      | -       | -       | 69.1       |
|   | 9/10/1999  | 7.3        | 605       | -      | -              | -      | -       | -       | 68.7       |
|   | 11/20/2001 | 6.9        | 610       | 61     | 640            | 171    | 7.6     | 0.39    | 65.3       |
|   | 11/5/2002  | 6.7        | 419       | 42     | >range         | -      | -       | -       | 71.2       |
|   | 6/22/2004  | 7.1        | 570       | -      | -              | -      | -       | 271.00  | 69.8       |
|   | 9/8/2004   | 7.1        | 520       | -      | -              | -      | -       | 235.00  | 67.3       |
|   | 12/15/2004 | 7.2        | 495       | -      | -              | -      | -       | 247     | 61.7       |
|   | DMW-8      | 11/15/1993 | 7.2       | 370    | -              | -      | -       | -       | -          |
| 10/28/1994  |            | 7.3        | 284       | -      | -              | -      | -       | -       | 68.2       |
| 7/20/1995   |            | 6.9        | 131       | -      | -              | -      | -       | -       | 62.8       |
| 10/17/1995  |            | 7.1        | 215       | -      | -              | -      | -       | -       | 62.2       |
| 9/22/1999   |            | 6.7        | 187       | -      | -              | -      | -       | -       | 61.9       |
| 11/29/2001  |            | 7.0        | 190       | 19     | 420            | 190    | 9.8     | 0.13    | 59.0       |
| 11/5/2002   |            | 6.1        | 133       | -      | 320            | -      | -       | -       | 65.7       |
| 6/23/2004   |            | 7.5        | 130       | -      | -              | -      | -       | 63.00   | 60.4       |
| 9/10/2004   |            | 7.5        | 140       | -      | -              | -      | -       | 67.00   | 60.6       |
| 12/14/2004  |            | 7.6        | 124       | -      | -              | -      | -       | 65      | 54.5       |
| 9/6/2007  | 6.9        | 98         | -         | -      | -              | -      | -       | 59.2    |            |
| DMW-10  | 11/21/1993 | 7.3        | 466       | -      | -              | -      | -       | -       | 60.3       |
|   | 10/28/1994 | 7.3        | 399       | -      | -              | -      | -       | -       | 61.6       |
|   | 7/21/1995  | 6.7        | 42        | -      | -              | -      | -       | -       | 67.0       |
|   | 10/17/1995 | 6.7        | 400       | -      | -              | -      | -       | -       | 69.1       |
|   | 9/15/1999  | 6.6        | 380       | -      | -              | -      | -       | -       | 74.3       |
|   | 11/20/2001 | 6.9        | 430       | 43     | 990            | 193    | 8.0     | 0.28    | 65.8       |
|   | 3/12/2002  | 6.8        | 431       | 43     | 71.2           | NA     | -       | -       | 63.1       |
|   | 11/6/2002  | 6.5        | 299       | -      | 430.0          | -      | -       | -       | 63.1       |
|   | 6/22/2004  | 7.0        | 450       | -      | -              | -      | -       | 208.00  | 70.3       |
|   | 9/10/2004  | 7.0        | 390       | -      | -              | -      | -       | 205.00  | 75.2       |
| 12/15/2004  | 7.3        | 368        | -         | -      | -              | -      | 196     | 62.1    |            |
| 8/30/2007   | 6.4        | 379        | -         | -      | -              | -      | -       | 72.9    |            |
| DMW-11  | 11/18/1993 | 7.5        | 797       | -      | -              | -      | -       | -       | 90.0       |
|   | 10/28/1994 | 7.0        | 600       | -      | -              | -      | -       | -       | 64.9       |
|   | 7/21/1995  | 6.6        | 79        | -      | -              | -      | -       | -       | 65.9       |
|   | 10/18/1995 | 6.7        | 442       | -      | -              | -      | -       | -       | 64.2       |
|   | 9/15/1999  | 6.2        | 518       | -      | -              | -      | -       | -       | 66.7       |
|   | 11/20/2001 | 6.7        | 660       | 66     | 990            | 208    | 8.2     | 0.42    | 64.4       |
|   | 11/11/2002 | 6.1        | 570       | 57     | 150            | 159    | -       | -       | 65.1       |
|   | 6/23/2004  | 6.8        | 500       | -      | -              | -      | -       | 250.00  | 68.0       |
|   | 9/8/2004   | 7.6        | 610       | -      | -              | -      | -       | 278.00  | 68.7       |
|   | 12/15/2004 | 7.2        | 548       | -      | -              | -      | -       | 274     | 60.6       |
| 9/5/2007  | 6.4        | 629        | -         | -      | -              | -      | -       | 66.6    |            |
| DMW-12  | 11/22/1993 | 7.2        | 618       | -      | -              | -      | -       | -       | 56.3       |
|   | 10/28/1994 | 7.2        | 428       | -      | -              | -      | -       | -       | 62.5       |
|   | 7/21/1995  | 7.0        | 98        | -      | -              | -      | -       | -       | 64.8       |
|   | 10/18/1995 | 7.0        | 667       | -      | -              | -      | -       | -       | 62.3       |
|   | 9/15/1999  | 6.3        | 840       | -      | -              | -      | -       | -       | 64.8       |
|   | 11/29/2001 | 6.9        | 100       | 10     | 800            | 206    | 7.7     | 0.70    | 62.6       |
|   | 3/13/2002  | 7.0        | 807       | 81     | 12.2           | NA     | -       | -       | 58.6       |
|   | 11/26/2002 | 6.2        | -         | 73     | 250.0          | 131    | 2.50    | -       | -          |
|   | 6/23/2004  | 7.1        | 810       | -      | -              | -      | -       | 389     | 66         |
|   | 9/10/2004  | 7.1        | 840       | -      | -              | -      | -       | 379     | 65         |
| 12/13/2004  | -          | -          | -         | -      | -              | -      | -       | -       |            |
| DMW-13  | 11/23/1993 | 7.1        | 1278      | -      | -              | -      | -       | -       | 57.0       |
|   | 7/21/1995  | 7.2        | 181       | -      | -              | -      | -       | -       | 64.6       |
|   | 10/18/1995 | 7.2        | 1085      | -      | -              | -      | -       | -       | 64.2       |
|   | 9/14/1999  | 7.3        | 1413      | -      | -              | -      | -       | -       | 68.0       |
|   | 11/28/2001 | 7.3        | 180       | 18     | 910            | 211    | 9.0     | 1.2     | 64.0       |
|   | 11/11/2002 | 6.7        | -         | 0.14   | 160            | 140    | -       | -       | 65.3       |
|   | 6/28/2004  | 7.3        | 1330      | -      | -              | -      | -       | 652.00  | 68.7       |
|   | 9/7/2004   | 7.4        | 1340      | -      | -              | -      | -       | 602.00  | 69.6       |
| 12/13/2004  | 7.0        | 1245       | -         | -      | -              | -      | 637     | 60.6    |            |

| Table 4<br>Stabilized Field Parameters<br>Chico Urban Area Nitrate Compliance Program |            |            |           |        |                |        |         |         |            |      |
|---|------------|------------|-----------|--------|----------------|--------|---------|---------|------------|------|
| Sample Location   | Date       | pH         | EC mho/cm | EC S/m | Turbidity NTUs | ORP mV | DO mg/l | TDS g/l | TEMP. (F°) |      |
| DMW-14  | 11/17/1993 | 7.2        | 1108      | -      | -              | -      | -       | -       | 63.70      |      |
|   | 10/28/1994 | 7.0        | 70        | -      | -              | -      | -       | -       | -          |      |
|   | 7/21/1995  | 7.0        | 160       | -      | -              | -      | -       | -       | 64.6       |      |
|   | 10/18/1995 | 7.0        | 954       | -      | -              | -      | -       | -       | 63.5       |      |
|   | 9/13/1999  | 7.3        | 1137      | -      | -              | -      | -       | -       | 66.7       |      |
|   | 11/28/2001 | 7.2        | 150       | 15     | 490            | 219    | 8.5     | 1.00    | 61.3       |      |
|   | 3/12/2002  | 6.8        | 1500      | 150    | 69             | 230    | -       | -       | 61.2       |      |
|   | 11/6/2002  | 6.8        | 915       | -      | 640            | -      | -       | -       | 68.2       |      |
|   | 6/21/2004  | 7.1        | 1160      | -      | -              | -      | -       | 568.00  | 64.6       |      |
|   | 9/7/2004   | 7.2        | 1200      | -      | -              | -      | -       | 525.00  | 64.7       |      |
|   | 12/13/2004 | 7.0        | 1046      | -      | -              | -      | -       | 538     | 58.1       |      |
| 9/6/2007  | 6.6        | 1121       | -         | -      | -              | -      | -       | 66.6    |            |      |
| DMW-15  | 11/17/1993 | 7.4        | 702       | -      | -              | -      | -       | -       | 67.3       |      |
|   | 7/21/1995  | 7.2        | 86        | -      | -              | -      | -       | -       | 66.7       |      |
|   | 10/18/1995 | 7.2        | 663       | -      | -              | -      | -       | -       | 65.9       |      |
|   | 9/14/1999  | 7.4        | 622       | -      | -              | -      | -       | -       | 65.5       |      |
|   | 11/28/2001 | 6.7        | 630       | 63     | 240            | 220    | 7.3     | 0.41    | 64.2       |      |
|   | 3/13/2002  | 6.6        | 656       | 66     | 10.2           | NA     | -       | -       | 60.6       |      |
|   | 11/6/2002  | 6.5        | 425       | -      | 300.0          | -      | -       | -       | 66.9       |      |
|   | 6/21/2004  | 6.8        | 670       | -      | -              | -      | -       | 321.00  | 65.5       |      |
|   | 9/7/2004   | 6.8        | 620       | -      | -              | -      | -       | 275.00  | 66.3       |      |
|   | 12/13/2004 | 6.7        | 566       | -      | -              | -      | -       | 270     | 60.6       |      |
|   | 9/6/2007   | 6.2        | 563       | -      | -              | -      | -       | -       | 65.3       |      |
| DMW-16  | 11/23/1993 | 7.6        | 947       | -      | -              | -      | -       | -       | 56.1       |      |
|   | 10/28/1994 | 6.9        | 443       | -      | -              | -      | -       | -       | 68.3       |      |
|   | 7/25/1995  | 7.0        | 526       | -      | -              | -      | -       | -       | 65.7       |      |
|   | 10/18/1995 | 7.0        | 491       | -      | -              | -      | -       | -       | 65.0       |      |
|   | 9/21/1999  | 6.8        | 531       | -      | -              | -      | -       | -       | 66.9       |      |
|   | 11/28/2001 | 6.7        | 620       | 62     | 990            | 207    | 7.8     | 0.40    | 64.0       |      |
|   | 3/13/2002  | 6.7        | 553       | 55     | 16.2           | NA     | -       | -       | 72.3       |      |
|   | 11/12/2002 | 6.1        | -         | 59     | 400.0          | 150    | -       | -       | 64.0       |      |
|   | 6/21/2004  | 6.9        | 580       | -      | -              | -      | -       | 281     | 65.8       |      |
|   | 9/7/2004   | 7.0        | 610       | -      | -              | -      | -       | 280     | 66.7       |      |
|   | 12/13/2004 | 7.1        | 544       | -      | -              | -      | -       | 278     | 60.3       |      |
| 9/6/2007  | 6.4        | 578        | -         | -      | -              | -      | -       | 66.9    |            |      |
| DMW-17  | 11/22/1993 | 7.2        | 411       | -      | -              | -      | -       | -       | 60.3       |      |
|   | 10/28/1994 | 7.1        | 454       | -      | -              | -      | -       | -       | 69.4       |      |
|   | 7/21/1995  | 6.7        | 63        | -      | -              | -      | -       | -       | 66.5       |      |
|   | 10/17/1995 | 6.7        | 466       | -      | -              | -      | -       | -       | 66.5       |      |
|   | 9/16/1999  | 6.5        | 479       | -      | -              | -      | -       | -       | 69.6       |      |
|   | 11/27/2001 | 6.7        | 550       | 55     | 430            | 186    | 9.0     | 0.35    | 66.2       |      |
|   | 11/6/2002  | 6.9        | 470       | -      | 490            | -      | -       | -       | 66.4       |      |
|   | 6/22/2004  | 7.0        | 430       | -      | -              | -      | -       | 212.00  | 71.2       |      |
|   | 9/8/2004   | 7.2        | 440       | -      | -              | -      | -       | 212.00  | 69.2       |      |
|   | 12/14/2004 | 7.0        | 479       | -      | -              | -      | -       | 238     | 63.5       |      |
|   | 8/30/2007  | 6.5        | 517       | -      | -              | -      | -       | -       | 71.8       |      |
| DMW-18  | 11/17/1993 | 7.2        | 1339      | -      | -              | -      | -       | -       | 61.0       |      |
|   | 10/28/1994 | 7.2        | 1303      | -      | -              | -      | -       | -       | 69.8       |      |
|   | 7/24/1995  | 7.0        | 1043      | -      | -              | -      | -       | -       | 67.6       |      |
|   | 10/16/1995 | 7.0        | 1489      | -      | -              | -      | -       | -       | 65.0       |      |
|   | 9/13/1999  | 7.2        | 1132      | -      | -              | -      | -       | -       | 67.1       |      |
|   | 11/27/2001 | 7.2        | 140       | 14     | 990            | 193    | 9.7     | 0.9     | 63.3       |      |
|   | 11/6/2002  | 6.9        | 870       | -      | 620            | -      | -       | -       | 67.8       |      |
|   | 6/22/2004  | 7.5        | 1020      | -      | -              | -      | -       | 514.00  | 67.5       |      |
|   | 9/7/2004   | 7.0        | 1180      | -      | -              | -      | -       | 529     | 69.6       |      |
|   | 9/5/2007   | 7.2        | -         | -      | -              | -      | -       | -       | 64.8       |      |
|   | DMW-19     | 11/17/1993 | 7.2       | 805    | -              | -      | -       | -       | -          | 60.1 |
| 10/28/1994  |            | 6.7        | 21        | -      | -              | -      | -       | -       | 77.0       |      |
| 7/24/1995   |            | 6.8        | 693       | -      | -              | -      | -       | -       | 66.5       |      |
| 10/18/1995  |            | 6.9        | 772       | -      | -              | -      | -       | -       | 64.7       |      |
| 11/28/2002  |            | 6.1        | -         | 84     | 400.00         | 130.00 | -       | -       | 63.1       |      |
| 9/10/2004   |            | 6.9        | 1170      | -      | -              | -      | -       | 100     | 66.3       |      |
| 12/13/2004  |            | 6.9        | 999       | -      | -              | -      | -       | 501     | 59.9       |      |
| 9/5/2007  |            | 7.2        | -         | -      | -              | -      | -       | -       | 69.1       |      |
| DMW-20  |            | 12/14/1993 | -         | -      | -              | -      | -       | -       | -          | -    |
|   |            | 7/25/1995  | 6.9       | 211    | -              | -      | -       | -       | -          | 65.4 |
|   |            | 10/18/1995 | 7.0       | 264    | -              | -      | -       | -       | -          | 63.9 |
|   | 9/14/1999  | 7.4        | 426       | -      | -              | -      | -       | -       | 66.2       |      |
|   | 11/29/2001 | 7.3        | 600       | 60     | 990            | 194    | 8.6     | 0.39    | 62.4       |      |
|   | 3/14/2002  | 6.2        | 600       | 60     | 100            | 167    | -       | -       | 63.0       |      |
|   | 6/21/2004  | 7.5        | 445       | -      | -              | -      | -       | 218.00  | 65.1       |      |
|   | 9/7/2004   | DAMAGED    | DAMAGED   | -      | -              | -      | -       | DAMAGED | DAMAGED    |      |
|   | 12/13/2004 | DAMAGED    | DAMAGED   | -      | -              | -      | -       | DAMAGED | DAMAGED    |      |
|   | ECMW-1     | 12/11/1993 | 6.9       | 531    | -              | -      | -       | -       | -          | 65.1 |
|   |            | 7/26/1995  | 6.8       | 542    | -              | -      | -       | -       | -          | 67.0 |
| 10/16/1995  |            | 6.8        | 676       | -      | -              | -      | -       | -       | 64.8       |      |
| 9/15/1999   |            | 6.5        | 569       | -      | -              | -      | -       | -       | 66.2       |      |
| 11/26/2001  |            | 6.8        | 520       | 52     | 74             | 84     | 6.8     | 0.33    | 67.1       |      |
| 11/7/2002   |            | 5.7        | -         | 0.11   | -10            | 133    | -       | -       | 65.5       |      |
| 9/6/2007  |            | 7.1        | 270       | -      | -              | -      | -       | -       | 63.7       |      |
| EW-03   | 9/17/1999  | 7.0        | 287       | -      | -              | -      | -       | -       | 56.8       |      |
|   | 11/29/2001 | -          | -         | -      | -              | -      | -       | -       | -          |      |
|   | 11/8/2002  | -          | -         | -      | -              | -      | -       | -       | -          |      |
|   | 6/22/2004  | 7.2        | -         | -      | -              | -      | -       | -       | -          |      |
|   | 9/7/2004   | 7.1        | 280       | -      | -              | -      | -       | -       | -          |      |
|   | 12/15/2004 | -          | -         | -      | -              | -      | -       | -       | -          |      |
| 9/11/2007   | 7.2        | 270        | -         | -      | -              | -      | -       | 70.2    |            |      |

| Table 4<br>Stabilized Field Parameters<br>Chico Urban Area Nitrate Compliance Program |            |     |           |        |                |        |         |         |            |
|---|------------|-----|-----------|--------|----------------|--------|---------|---------|------------|
| Sample Location   | Date       | pH  | EC mho/cm | EC S/m | Turbidity NTUs | ORP mV | DO mg/l | TDS g/l | TEMP. (F°) |
| EW-05   | 9/17/1999  | 7.0 | 218       | -      | -              | -      | -       | -       | 71.6       |
|   | 9/11/2007  | 7.2 | 230       | -      | -              | -      | -       | -       | 64.2       |
| FAMW-2  | 12/11/1993 | -   | -         | -      | -              | -      | -       | -       | -          |
|   | 7/26/1995  | 6.8 | 512       | -      | -              | -      | -       | -       | 69.2       |
|   | 10/16/1995 | 6.7 | 641       | -      | -              | -      | -       | -       | 66.3       |
|   | 9/16/1999  | 6.8 | 441       | -      | -              | -      | -       | -       | 68.4       |
|   | 11/19/2001 | 6.4 | 500       | 50     | 0              | 136    | 7.6     | 0.32    | 68.2       |
|   | 3/13/2002  | 6.5 | 530       | 53     | 6.5            | 216    | -       | -       | 66.6       |
|   | 11/7/2002  | 5.8 | -         | 0.20   | -10.0          | 123.00 | -       | -       | 57.9       |
|   | 6/23/2004  | 6.8 | 420       | -      | -              | -      | -       | 207.00  | 68.0       |
|   | 9/8/2004   | 6.9 | 390       | -      | -              | -      | -       | 181.00  | 69.1       |
|   | 12/15/2004 | 7.1 | 367       | -      | -              | -      | -       | 187     | 62         |
| 9/11/2007   | 7.0        | 330 | -         | -      | -              | -      | -       | 66.6    |            |
| FCMW-2  | 9/20/1999  | 6.4 | 272       | -      | -              | -      | -       | -       | 72.0       |
|   | 11/20/2001 | 6.3 | 300       | 30     | 16             | 165    | 4.6     | 0.19    | 70.9       |
|   | 3/13/2002  | 6.3 | 340       | 34     | 96             | 256    | -       | -       | 65.3       |
|   | 11/12/2002 | 5.7 | -         | 31     | 250            | 220    | -       | -       | 87.8       |
|   | 9/11/2007  | 7.5 | 270       | -      | -              | -      | -       | -       | 69.1       |
| MCMW  | 10/16/1995 | 7.2 | 291       | -      | -              | -      | -       | -       | 67.6       |
|   | 9/20/1999  | 6.5 | 355       | -      | -              | -      | -       | -       | 71.6       |
| MCMW-1  | 12/11/1993 | 6.8 | 335       | -      | -              | -      | -       | -       | 64.9       |
|   | 7/26/1995  | 7.1 | 221       | -      | -              | -      | -       | -       | 68.8       |
|   | 11/28/2001 | 6.4 | 390       | 39     | 120            | 197    | 5.4     | 0.25    | 67.1       |
|   | 3/14/2002  | 6.2 | 460       | 48     | 330            | 218    | -       | -       | 61.9       |
|   | 11/11/2002 | 6.1 | -         | 33     | 150            | 141    | -       | -       | 68.4       |
| MSMW-1  | 11/21/1993 | 7.0 | 293       | -      | -              | -      | -       | -       | 63.9       |
|   | 10/28/1994 | 6.8 | 293       | -      | -              | -      | -       | -       | 72.2       |
|   | 7/25/1995  | 6.8 | 346       | -      | -              | -      | -       | -       | 68.5       |
|   | 10/16/1995 | 6.7 | 402       | -      | -              | -      | -       | -       | 68.9       |
|   | 9/14/1999  | 7.2 | 230       | -      | -              | -      | -       | -       | 73.6       |
|   | 11/26/2001 | 6.7 | 270       | 27     | 750            | 159    | 2.7     | 0.18    | 68.4       |
|   | 3/13/2002  | 6.6 | 360       | 38     | 120            | 213    | -       | -       | 61.3       |
|   | 11/11/2002 | 5.9 | -         | 26     | 200            | 151    | -       | -       | 70.5       |
| 9/14/2007   | 6.4        | 183 | -         | -      | -              | -      | -       | 72.0    |            |
| NG-S1   | 12/14/1993 | -   | -         | -      | -              | -      | -       | -       | -          |
|   | 9/6/2007   | 7.1 | 410       | -      | -              | -      | -       | -       | 62.4       |
| NVMW-1  | 12/15/1993 | 7.3 | 248       | -      | -              | -      | -       | -       | 60.1       |
|   | 7/26/1995  | 7.2 | 167       | -      | -              | -      | -       | -       | 61.8       |
|   | 10/16/1995 | 7.1 | 247       | -      | -              | -      | -       | -       | 65.8       |
|   | 9/20/1999  | 6.5 | 185       | -      | -              | -      | -       | -       | 68.7       |
|   | 11/28/2001 | 6.7 | 240       | 24     | 990            | 183    | 6.8     | 0.16    | 64.0       |
|   | 3/13/2002  | 6.2 | 220       | 22     | 26             | 283    | -       | -       | 56.1       |
|   | 11/7/2002  | 5.7 | -         | 39     | 90             | 140    | -       | -       | 66.2       |
|   | 6/23/2004  | 6.9 | 180       | -      | -              | -      | -       | 86.00   | 59.9       |
|   | 9/8/2004   | 6.9 | 200       | -      | -              | -      | -       | 96.00   | 73.9       |
|   | 12/16/2004 | 7.2 | 197       | -      | -              | -      | -       | 118     | 56.5       |
| STMW-1  | 11/17/1993 | 8.4 | 472       | -      | -              | -      | -       | -       | 80.4       |
|   | 10/28/1994 | 6.9 | 349       | -      | -              | -      | -       | -       | 70.5       |
|   | 7/26/1995  | 6.8 | 375       | -      | -              | -      | -       | -       | 70.0       |
| MW-21   | 6/28/2004  | 6.5 | 450       | -      | -              | -      | -       | 223     | 66.6       |
|   | 9/9/2004   | 6.7 | 460       | -      | -              | -      | -       | 210     | 68.5       |
|   | 9/6/2007   | 6.1 | 445       | -      | -              | -      | -       | -       | 66.0       |
|   | 9/17/2007  | 6.2 | 454       | -      | -              | -      | -       | -       | 65.8       |
| MW-22   | 6/28/2004  | 7.1 | 610       | -      | -              | -      | -       | 321     | 71.1       |
|   | 9/9/2004   | 8.0 | 650       | -      | -              | -      | -       | 298     | 70.7       |
|   | 12/15/2004 | 7.2 | 609       | -      | -              | -      | -       | 304     | 61.3       |
|   | 9/5/2007   | 6.6 | 567       | -      | -              | -      | -       | -       | 67.5       |
| MW-23   | 6/28/2004  | 7.1 | 1130      | -      | -              | -      | -       | 580     | 66.7       |
|   | 9/9/2004   | DRY | DRY       | -      | -              | -      | -       | DRY     | DRY        |
|   | 12/14/2004 | 7.0 | 1082      | -      | -              | -      | -       | 545     | 59.2       |
| MW-24   | 6/28/2004  | 7.0 | 630       | -      | -              | -      | -       | 300     | 67.8       |
|   | 9/7/2004   | DRY | DRY       | -      | -              | -      | -       | DRY     | DRY        |
| 12/14/2004  | 7.1        | 750 | -         | -      | -              | -      | 388     | 60.6    |            |
| MW-25   | 6/28/2004  | 6.7 | 900       | -      | -              | -      | -       | 410     | 65.1       |
|   | 9/7/2004   | 6.9 | 740       | -      | -              | -      | -       | 338     | 64.9       |
|   | 12/14/2004 | 6.7 | 813       | -      | -              | -      | -       | 422     | 57.9       |
| MW-26   | 6/28/2004  | 6.8 | 1130      | -      | -              | -      | -       | 548     | 65.5       |
|   | 9/9/2004   | 7.2 | 1240      | -      | -              | -      | -       | 550     | 64.4       |
|   | 12/13/2004 | 6.6 | 1169      | -      | -              | -      | -       | 602     | 57.6       |
| MW-27   | 6/28/2004  | 7.1 | 1380      | -      | -              | -      | -       | 658     | 67.3       |
|   | 9/8/2004   | DRY | DRY       | -      | -              | -      | -       | DRY     | DRY        |
|   | 12/13/2004 | 6.8 | 1292      | -      | -              | -      | -       | 649     | 59.4       |
|   | 9/5/2007   | -   | -         | -      | -              | -      | -       | -       | -          |
| MW-28   | 6/28/2004  | 7.0 | 690       | -      | -              | -      | -       | 297     | 65.3       |
|   | 9/7/2004   | 6.9 | 770       | -      | -              | -      | -       | 348     | 65.8       |
|   | 9/5/2007   | -   | -         | -      | -              | -      | -       | -       | -          |
| ERI-MW-8  | 12/16/2004 | -   | -         | -      | -              | -      | -       | -       | -          |
|   | 9/14/2007  | -   | -         | -      | -              | -      | -       | -       | -          |
| ESP-MW-4  | 12/16/2004 | 6.4 | 608       | -      | -              | -      | -       | 310     | 67.5       |
|   | 9/14/2007  | 6.4 | 601       | -      | -              | -      | -       | -       | 70.0       |
| LOG-MW-2  | 12/16/2004 | 6.7 | 902       | -      | -              | -      | -       | 450     | 60.08      |
| VAN-MW-3  | 12/16/2004 | 6.6 | 460       | -      | -              | -      | -       | 245     | 64.6       |
|   | 9/14/2007  | 6.6 | 460       | -      | -              | -      | -       | -       | 67.8       |

\* No water level information due to either dedicated pump or no well head survey information.

\*\* Water level recorded as depth to water from top of casing (not MSL data)

- Sample not analyzed for this parameter.

3.20/1.80 - (Primary Sample/Duplicate Sample)

