
DRAFT ENVIRONMENTAL ASSESSMENT (12-023)

ANNUAL EXCHANGE AT THE MENDOTA POOL BETWEEN THE BUREAU OF RECLAMATION AND DONALD J. PERACCHI AND AFFILIATES FOR UP TO 3,600 ACRE-FEET OF FARMERS WATER DISTRICT'S GROUNDWATER FOR CENTRAL VALLEY PROJECT WATER THROUGH FEBRUARY 2015

Appendix D

**Mendota Pool Group Pumping and Monitoring Program: 2010
Annual Report**

June 2012



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Prepared for

San Joaquin River Exchange Contractors Water Authority,
Paramount Farming Company, and
Mendota Pool Group

Prepared by

Luhdorff and Scalmanini, Consulting Engineers
Woodland, CA

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Fresno, CA

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List of Abbreviations

af	acre-feet
Agreement	Settlement Agreement for Mendota Pool Transfer Pumping Project
Bank	Meyers Farm Water Bank
CCC	Columbia Canal Company
CCID	Central California Irrigation District
CDFG	California Department of Fish and Game
cfs	cubic feet per second
CGH	Coelho/Gardner/Hansen
CVP	Central Valley Project
CVRWQCB	Central Valley Regional Water Quality Control Board
DMC	Delta-Mendota Canal
DWR	California Department of Water Resources
EC	electrical conductivity
EIS	Environmental Impact Statement
FCWD	Firebaugh Canal Water District
FWD	Farmers Water District
JID	James Irrigation District
KDSA	Kenneth D. Schmidt and Associates
LSCE	Luhdorff and Scalmanini, Consulting Engineers
µg/L	micrograms per liter
µmhos/cm	micromhos per centimeter at 25 °C
MDL	method detection limit
mg/L	milligrams per liter
MPG	Mendota Pool Group
MRL	method reporting limit
MWA	Mendota Wildlife Area
NLF	Newhall Land and Farming
PFC	Paramount Farming Corporation
ROD	Record of Decision
SLCC	San Luis Canal Company
SLDMWA	San Luis and Delta-Mendota Water Authority
SLWD	San Luis Water District
SJR	San Joaquin River
SJREC	San Joaquin River Exchange Contractors Water Authority
SJRRP	San Joaquin River Restoration Program
TDS	total dissolved solids
TOC	total organic carbon
USBR	U.S. Bureau of Reclamation
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQO	Water Quality Objective
WWD	Westlands Water District

I. Introduction

This annual report was prepared on behalf of the Mendota Pool Group (MPG) in compliance with the *Agreement for Mendota Pool Transfer Pumping Project* (Agreement) and the Environmental Impact Statement (EIS) entitled *Mendota Pool 10-Year Exchange Agreements*. (U.S. Bureau of Reclamation [USBR], 2005a). The purpose of the report is to identify effects of transfer pumping on non-MPG wells and natural resources in the general area around the City of Mendota in Fresno and Madera counties, California (**Figure 1-1**). Data collected as part of the 2010 MPG monitoring program are presented in this report and discussed in the context of the historical data record. The original study area was established in 1999 and encompassed the vicinity around the Mendota Pool south of Avenue 5 and west of the Chowchilla Bypass (**Figure 1-2**). All wells owned by the MPG are located within the original study area along (and mostly west of) the Fresno Slough branch of the Mendota Pool, between the Firebaugh Intake Canal and Whitesbridge Road, and south of the San Joaquin River (SJR) branch of the Pool in Farmers Water District (FWD).

Some of the water pumped by the MPG wells is used to irrigate “adjacent” lands (overlying lands and lands near the Mendota Pool that are irrigated with water diverted directly from the Pool). During some years, the MPG also pumps water for transfer, and the majority of this water is exchanged with USBR and used to irrigate lands owned by MPG members in Westlands Water District (WWD) and San Luis Water District (SLWD).

Background

MPG transfer pumping began in 1989 to make up for some of the cutbacks in deliveries of Central Valley Project (CVP) and State Water Project surface water during the drought. The period of greatest MPG transfer pumping was 1991-1992. There was very little MPG transfer pumping between 1995 and 1999, except for a four-month period in 1997.

A pilot pumping and monitoring program was undertaken in 1999 to determine the impacts of MPG transfer pumping on water users within the San Joaquin River Exchange Contractors Water Authority (SJREC) and Newhall Land and Farming Company (NLF) service areas. NLF's New Columbia Ranch was purchased by Paramount Farming Company (PFC) of Bakersfield on December 1, 2005. The 1999 program was developed and jointly evaluated by Luhdorff and Scalmanini, Consulting Engineers (LSCE) of Woodland, consultants to the MPG, and Kenneth D. Schmidt and Associates (KDSA) of Fresno, consultants to the SJREC and NLF. Extensive monitoring of pumpage, water levels, water quality, and compaction was initiated in 1999 and continues to the present. The impacts observed during the 1999 program were presented in the Phase I report entitled *Results of 1999 Test Pumping Program for Mendota Pool Group Wells* (KDSA and LSCE, 2000a).

A similar transfer-pumping program was conducted in 2000, and the results were summarized in *Mendota Pool Group Pumping and Monitoring Program: 2000 Annual Report* (LSCE and KDSA, 2001). The data collected during the 1999 and 2000 pumping programs were used to

evaluate the long-term impacts of MPG transfer pumping on the SJREC and NLF service areas and to develop mitigation measures to address potentially significant impacts. The impacts and recommended mitigation measures were documented in the Phase II report entitled *Long-Term Impacts of Transfer Pumping by the Mendota Pool Group* (KDSA and LSCE, 2000b). This report also included criteria for an agreement between the MPG, the SJREC, and NLF on a 10-year MPG pumping program. This agreement, entitled *Agreement for Mendota Pool Transfer Pumping Project* (Agreement), was signed by all parties in May 2001, with an effective date of January 1, 2001. Annual MPG transfer pumping of up to 31,600 acre-feet (af) in six “normal” years and up to 40,000 af in two “dry” years is permitted under the terms of this agreement. Two out of the 10 years must be classified as “wet” years in which no transfer pumping would occur. The Agreement includes requirements for a detailed monitoring program and other provisions to ensure that MPG transfer pumping will not cause significant increases in surface-water salinity, groundwater basin overdraft, or land subsidence.

The 2001 transfer-pumping program was the first conducted under the provisions of the Agreement. The most significant change to the pumping program for 2001 was that deep-zone transfer pumping was minimized between July 1 and September 15. The 2001 MPG transfer pumpage was approximately 27,400 af, and an additional 13,300 af were pumped by the MPG to irrigate adjacent lands. Annual reports are required under the terms of the Agreement, and the 2001 annual report was entitled *Mendota Pool Group Pumping and Monitoring Program: 2001 Annual Report* (LSCE and KDSA, 2002).

The 2002 transfer-pumping program was the second conducted under the provisions of the Agreement. The most significant change to the pumping program for 2002 was that both shallow and deep transfer pumping were reduced from the 2001 levels, due primarily to residual drawdowns that were observed in many shallow and deep wells in 2001. Transfer pumping was conducted between May 1 and September 30. The total volume of MPG transfer pumpage in 2002 was about 12,500 af, and MPG pumpage for adjacent use was about 15,900 af. The 2002 annual report was entitled *Mendota Pool Group Pumping and Monitoring Program: 2002 Annual Report* (LSCE and KDSA, 2003).

The MPG classified 2003 as a “wet” year, and no transfer pumping was conducted. MPG pumping in 2003 was limited to approximately 14,200 af for adjacent use. The results of the 2003 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2003 Annual Report* (LSCE and KDSA, 2004). In addition to conducting monitoring activities in 2003, consultants to the MPG prepared an Environmental Impact Statement (EIS) to allow the MPG to obtain exchange agreements with USBR for the 10-year transfer pumping program. The Draft EIS was released in May 2003, and the Final EIS was approved in March 2005 (USBR, 2005a). The Record of Decision (ROD) for the project was signed on March 30, 2005 (USBR, 2005b).

The MPG also classified 2004 and 2005 as “wet” years, and no transfer pumping was conducted. MPG pumping in 2004 was limited to about 12,900 af for adjacent use. The results of the 2004 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2004 Annual Report* (LSCE and KDSA, 2005). MPG pumping in 2005 was limited to about 10,000 af for adjacent use. The results of the 2005

monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2005 Annual Report* (LSCE and KDSA, 2006). NLF's New Columbia Ranch was purchased by PFC on December 1, 2005.

The MPG classified 2006 as a "normal" year and planned to pump about 23,000 af for transfer, along with about 14,000 af for adjacent use. However, due to the extended period of San Joaquin and Kings River flood releases, which continued until mid-July, the planned transfer pumping program did not occur, and pumpage for adjacent use was limited to about 6,400 af. The results of the 2006 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2006 Annual Report* (LSCE and KDSA, 2007).

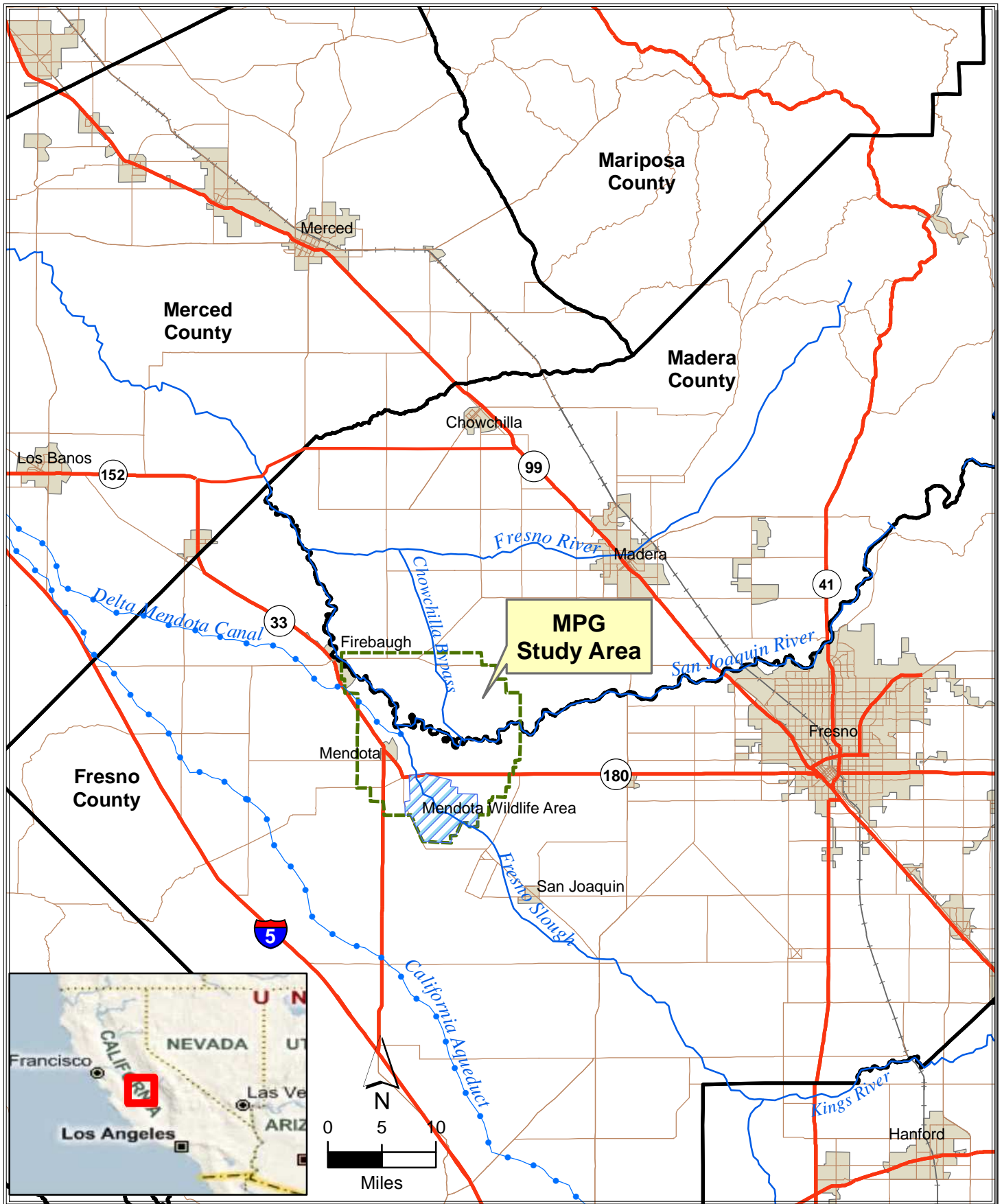
The 2007 transfer pumping program was the third conducted under the provisions of the Agreement. Transfer pumping was conducted between April 1 and November 30. The total volume of MPG transfer pumpage in 2007 was 22,556 af, and MPG pumpage for adjacent use was 15,463 af. The results of the 2007 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2007 Annual Report* (LSCE and KDSA, 2008).

The 2008 transfer pumping program was the fourth conducted under the provisions of the Agreement. As in 2007, transfer pumping was conducted between April 1 and November 30. The total volume of MPG transfer pumpage in 2008 was 24,017 af, and MPG pumpage for adjacent use was 11,792 af. The results of the 2008 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2008 Annual Report* (LSCE and KDSA, 2009).

The 2009 transfer pumping program was the fifth conducted under the provisions of the Agreement. Transfer pumping was conducted between March 9 and November 24. The total volume of MPG transfer pumpage in 2009 was 26,792 af, and MPG pumpage for adjacent use was 10,087 af. The results of the 2009 monitoring program are summarized in an annual report entitled *Mendota Pool Group Pumping and Monitoring Program: 2009 Annual Report* (LSCE and KDSA, 2010).

The 2010 transfer pumping program was the sixth and final to be conducted under the provisions of the Agreement. Transfer pumping was conducted between March 15 and November 30. The MPG planned to pump 26,890 af for transfer and 10,131 af for adjacent use in 2010. The actual pumping program was greatly reduced due to wet conditions and the availability of CVP and other surface water in 2010. The total volume of MPG transfer pumpage in 2010 was 11,865 af, and MPG pumpage for adjacent use was 8,071 af. The results of the 2010 pumping and monitoring program are summarized in this report.

Over the ten-year period of the Agreement, the MPG pumped a total of 125,142 af for transfer. This represents an average of 20,857 afy over the six years that transfer pumping was conducted. MPG pumpage for adjacent use totaled 118,221 af and averaged 11,822 afy during this period.



FILE: C:\Documents and Settings\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\Figure 1-1 Location Map.mxd Date: 6/3/2010

Mendota Pool Group Wells:

- Shallow Well
- Unused Shallow Well
- Deep Well
- Unused Deep Well
- Composite Well

Other Production Wells:

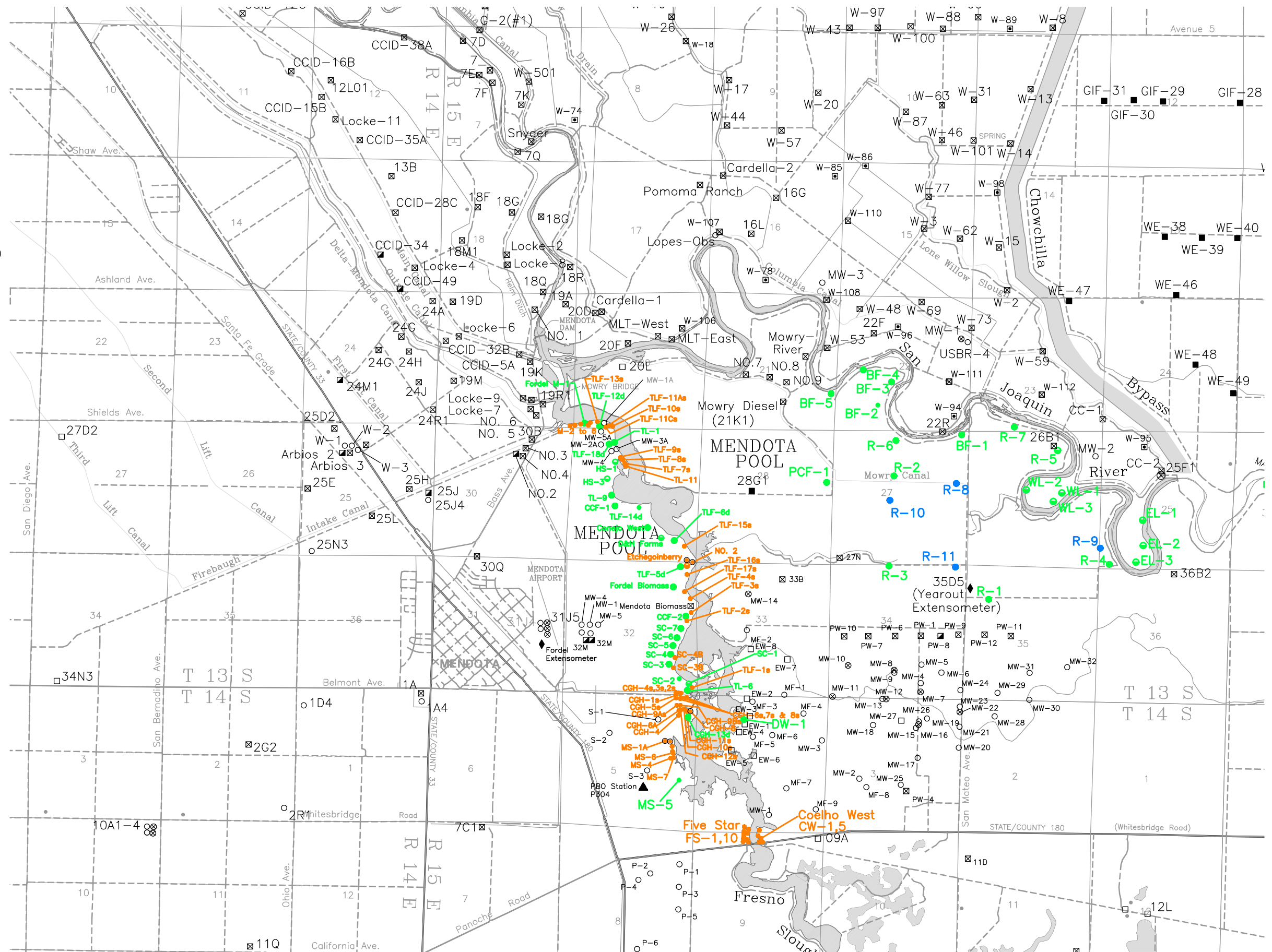
- ☐ Shallow Well
- ☒ Deep Well (Above Corcoran Clay)
- ☒ Composite Well (Above and Below Corcoran Clay)
- ☐ Perforated Interval Unknown
- ☒ Unused Well

Monitoring Wells:

- Shallow Monitoring Well
- ⊗ Deep Monitoring Well
- ◆ Extensometer
- ▲ GPS Station

NOTES:

- 1.) "Shallow" wells are completed above the A-clay (maximum depth = 130'). "Deep" wells are completed below the A-clay.



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II. Monitoring Program

The monitoring program implemented in 2010 (**Table 2-1**) followed the monitoring program set forth in the EIS and is comparable in its scope to the monitoring program conducted in 2009. The monitoring program specifies data collection for the following seven types of data:

- 1) Pumpage
- 2) Groundwater Levels
- 3) Groundwater Quality
- 4) Surface-Water Flow
- 5) Surface-Water Quality
- 6) Sediment Quality
- 7) Compaction

The original study area was expanded in 2001 to include a radius of at least six miles from the approximate center of the MPG wells in FWD. The evaluation of water-level impacts was extended to the northern and eastern portions of the expanded study area, and the evaluation of surface-water quality impacts was extended to the southern portion of the expanded study area, which includes all of the Mendota Wildlife Area (MWA). Other analyses of pumping impacts, such as groundwater quality and subsidence, remained focused on the original study area.

The monitoring program includes wells owned and/or operated by many entities, including the MPG. Thus, although the MPG collects a large amount of the necessary data, it relies on the cooperation of numerous participants in order to fully accomplish the program objectives. Recognizing that there are different participants in the program, four levels of participation were defined in the EIS to characterize the roles and responsibilities of the various entities:

Level I This level is comprised of the MPG members and encompasses the monitoring activities where the MPG has control over (1) the data being collected, (2) the data quality objectives, and (3) the monitoring frequency. This includes groundwater level and quality monitoring in wells owned by the MPG and the collection of surface-water and sediment samples from the Mendota Pool. The monitoring of the USGS monitoring wells west of the Mendota Airport and the Fordel extensometer are also considered Level I activities because these are located on property owned by one of the MPG members. Level I activities do not include monitoring conducted by the Meyers Farm Water Bank (Bank) and pumpage data collected by the San Luis and Delta-Mendota Water Authority (SLDMWA). Monitoring efforts of the Level I participants are coordinated through the MPG agent and consultants to the MPG.

Level II This level originally consisted of the SJREC and NLF, which were the signatories of the Agreement along with the MPG. PFC has now replaced NLF as one of the signatories of the Agreement. These entities participate in the monitoring program under the terms of the Agreement. The SJREC consists of four entities: Central California Irrigation District (CCID), Columbia Canal Company (CCC), Firebaugh Canal Water District (FCWD), and San Luis

Canal Company (SLCC). These entities are responsible for collection and analysis of groundwater quality samples from wells in their respective service areas and surface-water quality samples from their canal intakes. The SJREC maintains continuous recorders to monitor electrical conductivity (EC) at its canal intakes, and CCID monitors compaction and water levels at the Yearout Ranch extensometer. CCID, CCC, and PFC also provide monthly pumpage data for their wells. These entities grant the MPG access to specific wells, primarily for water-level monitoring purposes. CCID and PFC also conduct water-level monitoring in a number of their own wells. The data quality objectives and monitoring frequency can be coordinated between the MPG and these entities.

Level III This level of participation applies to the various public agencies, including the SLDMWA, USBR, the City of Mendota, the U.S. Geological Survey (USGS), and the Department of Water Resources (DWR), that conduct monitoring programs as part of their regular duties. These agencies generally provide data to the MPG upon request. The data collected, data quality objectives, and monitoring frequencies are set by the respective agencies relative to their requirements. The MPG has no control over monitoring conducted or overseen by these agencies.

Level IV This level includes all other entities in the area not included in the preceding three levels. This includes water districts such as WWD, James Irrigation District (JID), Tranquillity Irrigation District, and Aliso Water District, and private entities such as Spreckels Sugar Co., Covanta Mendota (formerly Mendota Biomass), and Locke Ranch. Participation by these entities in the MPG monitoring program is voluntary. The MPG has regularly requested data from these entities with varying success. In recent years, both Covanta Mendota and Spreckels Sugar Co. have provided all requested data. In certain cases, the MPG has been granted access to non-MPG properties to measure water levels in or collect water-quality samples from specific wells. When samples are collected by the MPG, the MPG would specify the data to be collected and the data quality objectives. The monitoring frequency at these properties depends in part on when access is granted. Otherwise, the MPG has no control over the data collected, data quality objectives, or monitoring frequencies.

Pumpage

Pumpage from the MPG wells along the Fresno Slough branch of the Mendota Pool is metered at the introduction points where water from the MPG wells enters the Pool. The majority of these wells are metered individually, but a number of shallow wells are manifolded together and metered in groups (e.g., the Five Star and Coelho West wells). The SLDMWA typically reads the meters on a weekly basis during the irrigation season and less frequently during the rest of the year. The metered wells include six wells (M-1 through M-6) operated by the City of Mendota (formerly operated by Fordel, Inc.). Wells in FWD are metered individually, and pumpage is monitored on a monthly frequency by FWD. The MPG maintains records to determine whether water from its wells is being pumped for transfer or adjacent use.

Level II participants (the SJREC and PFC) provided monthly data for wells within their service areas. CCID and CCC provided metered pumpage data. SLCC has no wells within the study area, and FCWD has not operated wells within the study area since the early 1990s. Monthly pumpage for most of the PFC wells is now based on flow meter readings. Pumpage for 14 PFC

wells without flow meters was estimated based on monthly power records in conjunction with pump efficiency estimates from 2010 pump tests.

The City of Mendota is the only Level III entity that operates water supply wells within the study area, and metered pumpage data for its municipal water supply wells (well Nos. 7, 8, and 9) were supplied on a monthly basis.

Spreckels Sugar Co. and Covanta Mendota were the only Level IV participants west of the Bypass to provide pumpage data for their production wells. As in previous years, 2010 pumpage for Locke Ranch was assumed equal to 2000 pumpage estimates. Pumpage east of the Bypass was assumed equal to 2001 estimates¹.

Groundwater Levels

The primary purpose of the groundwater level monitoring program is to generate the data necessary to evaluate the effects of MPG transfer pumping on groundwater levels. Water-level measurements have been made in a large network of wells in the Mendota area since 1999 in order to determine the water-level impacts caused by MPG transfer pumping. The wells in the monitoring network include water supply wells and monitoring wells that are classified as either shallow (completed above the A-clay or its equivalent depth, i.e., less than 130 feet in depth) or deep (completed below the A-clay but above the Corcoran Clay, i.e., generally in the 200 to 450 foot depth range). Some wells in FWD and PFC that have been classified as deep wells are actually composite wells (completed both above and below the Corcoran Clay). Most of the wells monitored by USBR in the eastern portion of the study area are composite wells. Two of the USGS monitoring wells west of the Fresno Slough (31J6 and 10A3) are completed in the lower aquifer below the Corcoran Clay.

Wells included in the water-level monitoring network are listed in **Table 2-2**, along with the entity responsible for monitoring each well, the participation level, and the monitoring frequency. In 2010, the MPG conducted six rounds of water-level measurements in 66 wells, and compiled groundwater level measurements provided by entities such as PFC, CCID, WWD, and Meyers Farm. Well locations are shown on **Figure 2-1**. In addition to the collection of manual water-level measurements, the MPG operates electronic equipment collecting daily water-level information in USGS monitoring well 31J3 (near the Fordel extensometer). CCID installed electronic water-level recording equipment in the Yearout Ranch extensometer, but this equipment failed in 2004 and has not been replaced.

Groundwater Quality

The purpose of the groundwater quality monitoring program is to generate the data necessary to evaluate changes in groundwater quality that may be caused by MPG transfer pumping and to forecast potential surface-water quality impacts in the Mendota Pool. For these purposes, the MPG collects annual samples from its operational production wells along the Fresno Slough branch of the Pool and in FWD (**Table 2-3**). In 2010, the MPG collected groundwater samples

¹ These pumpage estimates were made based on crop and land use maps and crop demands. A detailed discussion of the estimates is provided in the 2001 Annual Report (LSCE and KDSA, 2002).

in May, and wells with 2010 groundwater quality data are shown on **Figure 2-2**. Most of the well samples retrieved by the MPG are analyzed for EC and total dissolved solids (TDS) on an annual basis, and more comprehensive analyses are conducted every other year.

Water quality data from signatories to the Agreement were supplied as available. Water quality data were also obtained from the City of Mendota, Covanta Mendota, Spreckels Sugar Co., and the Bank.

Surface-Water Flow (Water Budget)

The SLDMWA assumed operation of the Mendota Pool from USBR in October 1996. Since then, the SLDMWA responds to delivery requests, monitors inflows, diversions (outflows), and the stage height in the Pool. Some inflows are monitored on a daily basis (e.g., inflow from the DMC, the SJR just west of the Chowchilla Bypass, and the Kings River via the James Bypass). Inflow to the Pool from the SJR is estimated daily by the SLDMWA based on data from the Chowchilla Bypass gage. Pumpage to the Pool is monitored on a weekly basis during the irrigation season and less frequently during the rest of the year. Based on the inflow and outflow components, including delivery requests, the SLDMWA monitors and forecasts the direction of flow in the Fresno Slough branch of the Mendota Pool. This information is needed to prevent water quality degradation at the SJREC's canal intakes caused by MPG transfer pumping. The SLDMWA has agreed to notify the MPG whenever a north flow event is expected to occur.

During most of the year, the flow direction in the Fresno Slough branch of the Mendota Pool is to the south. Northerly flow is typically observed as a result of major upstream flood releases to the Kings River and the Fresno Slough and when the Pool is being drained in preparation for winter maintenance work on Mendota Dam. During such times, the MPG does not pump well water for transfer.

Data provided by the SLDMWA are used by the MPG to prepare a monthly water budget for the Fresno Slough Branch of the Pool south of the Firebaugh Intake Canal. Water delivery demands by entities located along this portion of the Mendota Pool account for approximately 10 to 15 percent of the total DMC deliveries (most of the DMC deliveries are diverted into the SJREC's canal intakes in the northern portion of the Pool). The MPG's water budget accounts for all inflows from and diversions to these entities, evaporation and seepage losses, and the change in storage (as calculated from SLDMWA's stage height measurements). The water budget is used to calculate the monthly amount of inflow from the DMC that reaches the southern portion of the Pool. This quantity is used in combination with water quality information for the DMC and MPG wells to devise MPG pumping programs to meet strict water quality constraints.

Surface-Water Quality

The primary purpose of the surface-water quality monitoring is to allow the MPG to detect any potential exceedances of water quality objectives at key locations in the Pool and adjust the pumping program accordingly. The MPG collected water samples at 12 locations included in the monitoring network (**Table 2-4**) in 2010 (the Mowry Bridge sampling location was

discontinued in 2007 due to access problems). Samples were collected in the Mendota Pool, the DMC, and at the intakes of canals that divert water from the Pool in 2010 (**Figure 2-3**).

In June and September, water samples were retrieved from the 12 sampling stations and analyzed for irrigation suitability. This suite of analyses includes TDS, EC, pH, sodium adsorption ratio (SAR), major cations (calcium, magnesium, potassium, and sodium), major anions (carbonate, bicarbonate, sulfate, chloride, and nitrate), and other constituents (boron, copper, iron, manganese, and zinc). In addition, these samples were also analyzed for molybdenum and selenium.

In May, July, August, and October, the MPG retrieved additional water samples at the DMC terminus (at Bass Avenue) and at three locations in the southern portion of the Slough: the MWA, the JID Booster Plant, and the intake shared by Laterals 6 and 7, and these samples were analyzed for irrigation suitability only (not for molybdenum and selenium). All surface-water grab sample analyses are performed on unfiltered samples, so that the results reflect total concentrations rather than dissolved concentrations. The MPG also measures EC in the Pool on an hourly basis with electronic recording equipment at the MWA bridge located one mile south of Whites Bridge Road.

The monitoring program is supplemented by data obtained from the SJREC and USBR. The SJREC operates continuous EC recorders at its four canal intakes that divert water from the Pool, i.e., the Columbia Canal, CCID Main Canal, CCID Outside Canal, and Firebaugh Intake Canal, and typically retrieves several rounds of grab samples from these location during the irrigation season. These samples are analyzed for EC, boron, and selenium. Data obtained from USBR include daily high, low, and average EC values measured and recorded with electronic equipment in the DMC at Bass Avenue (Check 21), and daily selenium concentrations from grab samples retrieved via auto-sampling equipment at Check 21.

Sediment Quality

A sediment quality monitoring program was initiated in 2001 at the request of the California Department of Fish and Game (CDFG). Its objectives are to provide baseline characterization of metal concentrations in Pool sediments and to allow identification of temporal and spatial trends in sediment quality. Sediment sampling was not conducted during years when the MPG did not pump for transfer (2003-2006) or in 2008. Sediment samples were collected in 2001, 2002, 2007, 2009, and 2010.

Compaction and Land Subsidence

Continuous compaction data are collected from two extensometers in the Mendota area to evaluate compliance with the subsidence criterion specified in the Agreement. The MPG installed the Fordel extensometer west of the Fresno Slough in 1999. The Yearout Ranch extensometer, located east of the Slough, was installed by DWR in 1965 and has been monitored by CCID since 1999. The 2010 data from these extensometers are evaluated in this report in the context of the period of record. Both extensometers monitor compaction above the Corcoran Clay, the top of which was encountered at depths of 418 and 428 feet at the Fordel and Yearout Ranch sites, respectively.

Since 2004, total compaction (including compaction occurring in and below the Corcoran Clay) has been measured at a Global Positioning System (GPS) monitoring station located on land owned by Meyers Farming southeast of Mendota and west of the Fresno Slough (see **Figure 1-2**). This GPS station is part of a network of similar stations that have been installed throughout the western United States in recent years by the Plate Boundary Observatory (PBO), which is a division of UNAVCO. The Mendota PBO station (No. P304) began collecting data on April 28, 2004, and the data are uploaded daily to the UNAVCO website.

Table 2-1
Summary of 2010 Monitoring Program

Item	Description	No. of Locations	Frequency
Pumpage	MPG meter readings (Fresno Slough wells) ¹	All	Weekly
	MPG meter readings (FWD wells)	All	Monthly
	SJREC (CCID and CCC) and PFC	All	Monthly
	Pumpage by others (measured or estimated)	All	Varies
Groundwater Levels	Wells monitored by MPG	66	Bimonthly ²
	Wells monitored by others	Varies	Varies
Groundwater Quality	Wells monitored by MPG	41	Annual
	Wells monitored by others	Varies	Annual ³
Surface-Water Flow	Inflow and outflow measurements ¹	All	Daily
	Stage measurements ¹	1	Daily
Surface-Water Quality	MPG grab sample locations	4	Monthly (May-Oct.)
	MPG grab sample locations	8	Semiannual (June & Oct.)
	MPG EC recorder at MWA	1	Continuous
	SJREC grab sample locations	6	Varies
	SJREC EC recorders at canal intakes	4	Continuous
	USBR grab sample locations	3	Monthly
	USBR automated composite sampling at DMC	1	Daily
	USBR EC recorder at DMC	1	Continuous
Sediment Quality	MPG sample locations	8	Annual
Compaction	Fordel extensometer monitored by MPG	1	Continuous
	Yearout Ranch extensometer monitored by CCID	1	Monthly

1. Monitored by the San Luis & Delta-Mendota Water Authority.

2. Water level measurements made in Jan, Feb, May, Jul, Sep, and Dec 2010. Includes one well (USGS well No. T13S/R15E-31J3) equipped with electronic logging equipment.

3. Some wells sampled more frequently.

Table 2-2
Groundwater Level Monitoring Network

Owner	Well ID	State Well Number	Depth Zone ¹	WL Monitoring			Participation Level ³
				Frequency	Entity ²	2010 Data	
MPG Wells							
Terra Linda Farms	TLF-9s (10A)	T13S/R15E-29C	S	Bimonthly	MPG	Y	I
	HS-3	13S/15E-29F2	D	Bimonthly	MPG	Y	I
	D&H	T13S/R15E-29K	D	Bimonthly	MPG	Y	I
Etchegoinberry	No. 2	T13S/R15E-29R3	S	Bimonthly	MPG	Y	I
Coelho/Coelho/Fordel	CCF-2	T13S/R15E-32	D	Bimonthly	MPG	Y	I
Meyers Farming	MS-4	T14S/R15E-5	S	Bimonthly	MPG	Y	I
	MS-5	T14S/R15E-5	D	Bimonthly	MPG	Y	I
Five Star	FS-5	T14S/R15E-9C6	S	Bimonthly	MPG	Y	I
Farmers Water District	R-5	T13S/R15E-26B1	D	Continuous	MPG	Y	I
	R-7	T13S/R15E-23P1	D	Bimonthly	MPG	Y	I
	R-8	T13S/R15E-27H1	D	Bimonthly	MPG	Y	I
	WL-2	T13S/R15E-26K1	D	Bimonthly	MPG	Y	I
	EL-1	T13S/R15E-25L1	D	Bimonthly	MPG	Y	I
Baker Farming Co.	BF-2	T13S/R15E-22	D	Bimonthly	MPG	Y	I
Panoche Creek Farms	PCF-1	T13S/R15E-27	D	Bimonthly	MPG	Y	I
Non-MPG Wells (West of Chowchilla Bypass)							
Central California ID	5A	T13S/R15E-19G1	D	Bimonthly	MPG	Y	II
	15B	T13S/R14E-12E1	D	Bimonthly	MPG	Y	II
	28C		D	Bimonthly	MPG	N	II
	32B	T13S/R15E-19	D	Bimonthly	MPG	Y	II
	35A	T13S/R14E-12L1	D	Bimonthly	MPG	Y	II
	38A	T13S/R14E-12B3	D	Bimonthly	MPG	Y	II
	Yearout Extensometer	T13S/R15E-35D5	D	Continuous	CCID	Y	II
Firebaugh Canal WD	25D2	T13S/R14E-25D2	D	Bimonthly	MPG	Y	II
Columbia Canal Co.	CC-1	T13S/R15E-25F1	D	Bimonthly	MPG	Y	II
	Cardella-2 (Lopes-1)	T13S/R15E-16D	D	Bimonthly	MPG	Y	II
	MLT-West	T13S/R15E-20G2	D	Bimonthly	MPG	Y	IV
	Lopes-Obs.	T13S/R15E-17	S	Bimonthly	MPG	Y	II
	USBR-4	T13S/R15E-22	S	Bimonthly	MPG	Y	II
USBR	19R1	T13S/R15E-19R1	D	Bimonthly	MPG	Y	III
Paramount Farming Co.	W-7	T12S/R15E-34R1	D	Semi-annual	USBR	N	III
	W-8	T13S/R15E-11B1	D	Bimonthly	MPG	Y	II
	W-11	T12S/R15E-34K1	D	Bimonthly	MPG	Y	II
	W-12	T13S/R15E-2G1	D	Semi-annual	USBR	N	III
	W-15	T13S/R15E-14M1	D	Bimonthly	MPG	Y	II
	W-32	T12S/R15E-33P	D	Bimonthly	MPG	Y	II
	W-42	T13S/R15E-4	D	Bimonthly	MPG	Y	II
	W-53	T13S/R15E-21	D	Bimonthly	MPG	Y	II
	W-74	T13S/R15E-7	D	Bimonthly	MPG	Y	II
W-77	T13S/R15E-15	D	Bimonthly	MPG	Y	II	

Table 2-2 (continued)
Groundwater Level Monitoring Network

Owner	Well ID	State Well Number	Depth Zone ¹	WL Monitoring			Participation Level ³
				Frequency	Entity ²	2010 Data	
Paramount Farming Co.	W-78	T13S/R15E-16	D	Bimonthly	MPG	Y	II
	W-89	T13S/R15E-2	D	Bimonthly	MPG	Y	II
	W-91	T12S/R15E-33	D	Bimonthly	MPG	Y	II
	W-94	T13S/R15E-22	D	Bimonthly	MPG	Y	II
	W-95	T13S/R15E-25	D	Bimonthly	MPG	Y	II
	W-106		D	Bimonthly	PFC	Y	II
	W-107		D	Bimonthly	PFC	Y	II
	W-108		D	Bimonthly	PFC	Y	II
	W-110		D	Bimonthly	PFC	Y	II
	W-111		D	Bimonthly	PFC	Y	II
	W-112		D	Bimonthly	PFC	Y	II
	MW-1	T13S/R15A-22	D	Bimonthly	MPG	Y	II
	MW-2	T13S/R15A-25	S	Bimonthly	MPG	Y	II
	MW-3	T13S/R15E-16	S	Bimonthly	MPG	Y	II
	MW-4	T13S/R15E-3	S	Bimonthly	MPG	Y	II
	MW-5	T12S/R15E-33	S	Bimonthly	MPG	Y	II
Spreckels Sugar Co.	MW-1	T14S/R15E-4Q	S	Bimonthly	MF	Y	IV
	MW-3	T14S/R15E-4H	S	Bimonthly	MF	Y	IV
	MW-6	T13S/R15E-34	S	Bimonthly	MPG	Y	IV
	MW-10	T13S/R15E-34	D	Bimonthly	MF	Y	IV
	MW-11	T13S/R15E-34N	D	Bimonthly	MPG	Y	IV
	MW-14	T13S/R15E-33F	D	Bimonthly	MPG	Y	IV
	MW-32	T13S/R15E-35	S	Bimonthly	MPG	Y	IV
City of Mendota	18Q North	T13S/R15E-19	D	Bimonthly	MPG	Y	IV
	Fordel M-1	T13S/R15E-20N1	D	Bimonthly	MPG	Y	IV
	Fordel M-2	T13S/R15E-20N2	S	Bimonthly	MPG	Y	IV
USGS	31J3	T13S/R15E-31J3	D	Continuous	MPG	Y	I
	31J4	T13S/R15E-31J4	S	Bimonthly	MPG	Y	I
	31J5	T13S/R15E-31J5	D	Bimonthly	MPG	Y	I
	31J6	T13S/R15E-31J6	D	Bimonthly	MPG	Y	I
	10A1	T14S/R14E-10A1	S	Semi-annual	WWD	N	IV
	10A2	T14S/R14E-10A2	S	Semi-annual	WWD	Y	IV
	10A3	T14S/R14E-10A3	D	Semi-annual	WWD	Y	IV
	10A4	T14S/R14E-10A4	D	Semi-annual	WWD	Y	IV
Hansen Farms	7C1	T14S/R15E-7C1	D	Bimonthly	MPG	Y	IV
Meyers Farming	S-2		S	Bimonthly	MPG	Y	I
	P-6	T14S/R15E-8Q	S	Bimonthly	MPG	Y	I
	MF-1	T13S/R15E-33Q	S	Monthly	MF	Y	IV
	MF-2	T13S/R15E-33L	S	Monthly	MF	Y	IV
	MF-3	T14S/R15E-4C	S	Monthly	MF	Y	IV
	MF-4	T14S/R15E-4A	S	Monthly	MF	Y	IV
	MF-5	T14S/R15E-4F	S	Monthly	MF	Y	IV
	MF-6	T14S/R15E-4G	S	Monthly	MF	Y	IV
	MF-7	T14S/R15E-4K	S	Monthly	MF	Y	IV
	MF-8	T14S/R15E-3L	S	Monthly	MF	Y	IV
	MF-9	T14S/R15E-4H	S	Monthly	MF	Y	IV

Table 2-2 (continued)
Groundwater Level Monitoring Network

Owner	Well ID	State Well Number	Depth Zone ¹	WL Monitoring			Participation Level ³
				Frequency	Entity ²	2010 Data	
Non-MPG Wells (East of Chowchilla Bypass)							
North of study area El Pico Ranch	No. 54	T12S/R16E-16R1	D	Semi-annual	USBR	N	III
Aliso Water District							
Woolf Enterprises	WE-51	T13S/R16E-19K1	D	Bimonthly	MPG	Y	IV
Woolf Enterprises	WE-75	T13S/R16E-18H1	D	Bimonthly	MPG	Y	IV
Denis Prosperi	DP-2	T12S/R16E-31G1	D	Bimonthly	MPG	Y	IV
Denis Prosperi	DP-4	T12S/R16E-31A	D	Bimonthly	MPG	Y	IV
Lyon Packing	LP-11		D	Semi-annual	USBR	N	III
Giffen Ranch	GIF-23		D	Semi-annual	USBR	N	III
Groefsema Ranches	GR-28	T13S/R16E-14H2	D	Semi-annual	USBR	N	III
Golden State Vinters	GSV-H	T13S/R16E-16D2	D	Semi-annual	USBR	N	III
Woolf Enterprises	WE-53	T13S/R16E-30A1	D	Semi-annual	USBR	N	III
Golden State Vinters	GSV-646		D	Semi-annual	USBR	N	III
Gravelly Ford WD							
John Simpson	25A1	T12S/R16E-25A1	D	Bimonthly	MPG	Y	IV
John Simpson	26H1	T12S/R16E-26H1	D	Bimonthly	MPG	Y	IV
Undistricted (Fresno County)							
Schaad	22J1		D	Semi-annual	USBR	N	III
Schaad	22J2	T13S/R16E-22J2	D	Semi-annual	USBR	N	III
Schaad	27A2		D	Semi-annual	USBR	N	III
Schaad	No. 3	T13S/R16E-27F1	D	Semi-annual	USBR	N	III
NA	29F1		D	Semi-annual	USBR	N	III
Larry Shehadey Farms	30L3	T13S/R16E-30L3	D	Semi-annual	USBR	N	III
Larry Shehadey Farms	30Q1	T13S/R16E-30Q1	D	Semi-annual	USBR	N	III
Larry Shehadey Farms	32F1	T13S/R16E-32F1	D	Semi-annual	USBR	N	III
Larry Shehadey Farms	33B2	T13S/R16E-33B2	D	Semi-annual	USBR	N	III
Larry Shehadey Farms	33F1	T13S/R16E-33F1	D	Semi-annual	USBR	N	III
Larry Shehadey Farms	33L1	T13S/R16E-33L1	D	Semi-annual	USBR	N	III
Donald Horner	34C1	T13S/R16E-34C1	D	Bimonthly	MPG	Y	IV
Agape Farms	34C2		D	Semi-annual	USBR	N	III
Agape Farms	34D1		D	Semi-annual	USBR	N	III
Agape Farms	34P2	T13S/R16E-34P2	D	Semi-annual	USBR	N	III
Connolly	3F1	T14S/R16E-3F1	D	Semi-annual	USBR	N	III
Duran	3P1		D	Semi-annual	USBR	N	III
Larry Shehadey Farms	4L1		D	Semi-annual	USBR	N	III
Bar 20 Partners Ltd.	5J1	T13S/R15E-21	D	Semi-annual	USBR	N	III
Bar 20 Partners Ltd.	5L2		D	Semi-annual	USBR	N	III
Bar 20 Partners Ltd.	6B1	T13S/R15E-20G2	D	Semi-annual	USBR	N	III

1. S = Shallow wells are completed above the A-clay (maximum depth = 130 feet); D = Deep wells are completed below the A-clay the Corcoran clay)
2. Monitoring activities conducted by MPG = Mendota Pool Group, CCID = Central California Irrigation District, PFC = Paramount I WWD = Westlands Water District, MF = Meyers Farm Water Bank, USBR = U.S. Bureau of Reclamation
3. Level I: Mendotal Pool Group and its agents.
Level II: SJREC and Paramount Farming Co.
Level III: Public Agencies, e.g., USBR.
Level IV: Other entities, e.g., WWD, Spreckels Sugar Co.
For more detail, see explanation in *Section II - Monitoring Program*.

Table 2-3
Groundwater Quality Monitoring Network

Owner	Well ID (Original)	Depth Zone	Sampling Schedule ¹			Responsible Entity ²
			Annual	Biennial	2010 Data	
MPG Wells						
Terra Linda Farms ³	TL-1	D	EC/TDS	Gen. Min./TE	N	MPG
	TLF-18d (TL-2)	D	EC/TDS	Gen. Min./TE	N	MPG
	TLF-12d (TL-3)	D	EC/TDS	Gen. Min./TE	N	MPG
	TLF-11As (TL-4A)	S	EC/TDS	Gen. Min./TE	N	MPG
	TLF-11Cs (TL-4C)	S	Gen. Min./TE	-	N	MPG
	TLF-5d (TL-5)	D	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-6d (TL-7)	D	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-14d (TL-8)	D	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-9s (TL-10A)	S	Gen. Min./TE	-	Y	MPG
	TLF-8s (TL-10B)	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-7s (TL-10C)	S	EC/TDS	Gen. Min./TE	Y	MPG
	TL-11	S	EC/TDS	Gen. Min./TE	N	MPG
	TLF-1s (TL-12)	S	EC/TDS	Gen. Min./TE	N	MPG
	TLF-2s (TL-13)	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-3s (TL-14)	S	Gen. Min./TE	-	Y	MPG
	TLF-4s (TL-15)	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-10s (TL-16)	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-13s (TL-17)	S	Gen. Min./TE	-	Y	MPG
	TLF-15s	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-16s	S	EC/TDS	Gen. Min./TE	Y	MPG
	TLF-17s	S	EC/TDS	Gen. Min./TE	Y	MPG
Silver Creek Packing	SC-3B	S	EC/TDS	Gen. Min./TE	N	MPG
	SC-4B	S	EC/TDS	Gen. Min./TE	N	MPG
Coelho/Gardner/Hanson ³	CGH-4s (CGH-1A)	S	EC/TDS	Gen. Min./TE	N	MPG
	CGH-3s (CGH-1B)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-2s (CGH-1C)	S	EC/TDS	Gen. Min./TE	N	MPG
	CGH-1s (CGH-2)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-6A	S	Gen. Min./TE	-	N	MPG
	CGH-12s (CGH-6B)	S	Gen. Min./TE	-	Y	MPG
	CGH-10s (CGH-6C)	S	EC/TDS	Gen. Min./TE	N	MPG
	CGH-11s (CGH-6D)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-13d (CGH-7)	D	EC/TDS	Gen. Min./TE	N	MPG
	CGH-7s (CGH-9)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-8s (CGH-10)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-5s (CGH-3)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-6s (CGH-11)	S	EC/TDS	Gen. Min./TE	Y	MPG
	CGH-9As (CGH-5)	S	EC/TDS	Gen. Min./TE	N	MPG
	CGH-9Bs (unknown)	S	EC/TDS	Gen. Min./TE	N	MPG
Meyers Farming	MS-6	S	EC/TDS	Gen. Min./TE	N	MPG
	MS-7	S	EC/TDS	Gen. Min./TE	N	MPG

Table 2-3 (continued)
Groundwater Quality Monitoring Network

Owner	Well ID (Original)	Depth Zone	Sampling Schedule ¹			Responsible Entity ²
			Annual	Biennial	2010 Data	
Five Star/Conejo Farms	FS-1	S	EC/TDS	Gen. Min./TE	N	MPG
	FS-2	S	EC/TDS	Gen. Min./TE	Y	MPG
	FS-3	S	EC/TDS	Gen. Min./TE	Y	MPG
	FS-4	S	EC/TDS	Gen. Min./TE	N	MPG
	FS-5	S	Gen. Min./TE	-	Y	MPG
	FS-6	S	EC/TDS	Gen. Min./TE	Y	MPG
	FS-7	S	EC/TDS	Gen. Min./TE	Y	MPG
	FS-8	S	EC/TDS	Gen. Min./TE	Y	MPG
	FS-9	S	EC/TDS	Gen. Min./TE	N	MPG
	FS-10	S	Gen. Min./TE	-	N	MPG
Coelho West	CW-1	S	Gen. Min./TE	-	N	MPG
	CW-2	S	Gen. Min./TE	-	N	MPG
	CW-3	S	Gen. Min./TE	-	N	MPG
	CW-4	S	Gen. Min./TE	-	N	MPG
	CW-5	S	Gen. Min./TE	-	N	MPG
Farmers Water District	R-1	D	Gen. Min./TE	-	Y	MPG
	R-2	D	EC/TDS	Gen. Min./TE	N	MPG
	R-3	D	Gen. Min./TE	-	Y	MPG
	R-4	D	EC/TDS	Gen. Min./TE	Y	MPG
	R-6	D	EC/TDS	Gen. Min./TE	N	MPG
	R-7	D	EC/TDS	Gen. Min./TE	Y	MPG
	R-8	D	EC/TDS	Gen. Min./TE	Y	MPG
	R-9	D	EC/TDS	Gen. Min./TE	Y	MPG
	R-10	D	EC/TDS	Gen. Min./TE	Y	MPG
	R-11	D	Gen. Min./TE	-	Y	MPG
Baker Farming Co.	BF-1	D	EC/TDS	Gen. Min./TE	Y	MPG
	BF-2	D	EC/TDS	Gen. Min./TE	Y	MPG
	BF-3	D	EC/TDS	Gen. Min./TE	N	MPG
	BF-4	D	EC/TDS	Gen. Min./TE	Y	MPG
	BF-5	D	EC/TDS	Gen. Min./TE	Y	MPG
Panoche Creek Farms	PCF-1	D	EC/TDS	Gen. Min./TE	Y	MPG
Non-MPG Wells						
Central California ID	5A	D	Gen. Min.	-	Y	CCID
	12C	D	Gen. Min.	-	Y	CCID
	15B	D	Gen. Min.	-	Y	CCID
	16C	D	Gen. Min.	-	Y	CCID
	23B	D	Gen. Min.	-	Y	CCID
	28C	D	Gen. Min.	-	Y	CCID
	32C	D	Gen. Min.	-	N	CCID
	35A	D	Gen. Min.	-	Y	CCID
	38A	D	Gen. Min.	-	N	CCID

Table 2-3 (continued)
Groundwater Quality Monitoring Network

Owner	Well ID (Original)	Depth Zone	Sampling Schedule ¹			Responsible Entity ²
			Annual	Biennial	2010 Data	
Columbia Canal Co.	CC-1	D	EC/TDS	Irr. Suitability	N	CCC
	CC-2	D	EC/TDS	Irr. Suitability	N	CCC
	Cardella-1	D	EC/TDS	Irr. Suitability	N	CCC
	Cardella-2 (Lopes-1)	D	EC/TDS	Irr. Suitability	Y	CCC
	Elrod-1	D	EC/TDS	Irr. Suitability	Y	CCC
	Elrod-2	D	EC/TDS	Irr. Suitability	Y	CCC
	Burkhart-Heirs	D	EC/TDS	Irr. Suitability	Y	CCC
	DMA	D	EC/TDS	Irr. Suitability	Y	CCC
	Davis	D	EC/TDS	Irr. Suitability	Y	CCC
	Garcia-1	D	EC/TDS	Irr. Suitability	Y	CCC
	Garcia-2	D	EC/TDS	Irr. Suitability	Y	CCC
	Garcia-3	D	EC/TDS	Irr. Suitability	N	CCC
	Garcia-4	D	EC/TDS	Irr. Suitability	Y	CCC
	Garcia-5	D	EC/TDS	Irr. Suitability	Y	CCC
	Snyder	D	EC/TDS	Irr. Suitability	Y	CCC
Paramount Farming Co. ⁴	W-8	D	Irr. Suitability/Se	-	Y	PFC
	W-11	D	Irr. Suitability/Se	-	Y	PFC
	W-15	D	Irr. Suitability/Se	-	Y	PFC
	W-32	D	Irr. Suitability/Se	-	Y	PFC
	W-42	D	Irr. Suitability/Se	-	Y	PFC
	W-53	D	Irr. Suitability/Se	-	Y	PFC
	W-74	D	Irr. Suitability/Se	-	Y	PFC
	W-77	D	Irr. Suitability/Se	-	Y	PFC
	W-78	D	Irr. Suitability/Se	-	Y	PFC
	W-89	D	Irr. Suitability/Se	-	Y	PFC
	W-91	D	Irr. Suitability/Se	-	Y	PFC
	W-94	D	Irr. Suitability/Se	-	Y	PFC
	W-95	D	Irr. Suitability/Se	-	Y	PFC
	W-106	D	Irr. Suitability/Se	-	Y	PFC
	W-107	D	Irr. Suitability/Se	-	Y	PFC
	W-108	D	Irr. Suitability/Se	-	Y	PFC
	W-110	D	Irr. Suitability/Se	-	Y	PFC
	W-111	D	Irr. Suitability/Se	-	Y	PFC
	W-112	D	Irr. Suitability/Se	-	Y	PFC
	MW-1	D	Irr. Suitability/Se	-	Y	PFC
	MW-2	S	Irr. Suitability/Se	-	Y	PFC
	MW-3	S	Irr. Suitability/Se	-	Y	PFC
	MW-4	S	Irr. Suitability/Se	-	Y	PFC
	MW-5	S	Irr. Suitability/Se	-	Y	PFC
Covanta Mendota	Covanta Mendota 6A	D	EC/TDS	-	Y	Covanta
Spreckels Sugar Co.	MW-1	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-2	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-3	S	Gen. Min./TE/Ba	-	Y	SSC

Table 2-3 (continued)
Groundwater Quality Monitoring Network

Owner	Well ID (Original)	Depth Zone	Sampling Schedule ¹			Responsible Entity ²
			Annual	Biennial	2010 Data	
Spreckels Sugar Co.	MW-4	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-5	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-6	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-7	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-8	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-9	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-10	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-11	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-12	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-13	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-14	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-15	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-16	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-17	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-18	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-19	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-20	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-21	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-22	D	Gen. Min./TE/Ba	-	Y	SSC
	MW-23	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-24	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-25	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-26	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-27	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-28	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-29	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-30	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-31	S	Gen. Min./TE/Ba	-	Y	SSC
	MW-32	S	Gen. Min./TE/Ba	-	Y	SSC
	PW-1	D	Gen. Min./TE/Ba	-	N	SSC
	PW-4	D	Gen. Min./TE/Ba	-	N	SSC
	PW-6	D	Gen. Min./TE/Ba	-	Y	SSC
	PW-7	D	Gen. Min./TE/Ba	-	Y	SSC
	PW-8	D	Gen. Min./TE/Ba	-	N	SSC
	PW-9	D	Gen. Min./TE/Ba	-	Y	SSC
	PW-10	D	Gen. Min./TE/Ba	-	Y	SSC
	PW-11	D	Gen. Min./TE/Ba	-	Y	SSC
	PW-12	D	Gen. Min./TE/Ba	-	Y	SSC
City of Mendota	No. 7	D	Gen. Min./TE	-	N	City
	No. 8	D	Gen. Min./TE	-	N	City
	No. 9	D	Gen. Min./TE	-	N	City
	Fordel M-1	D	Gen. Min./TE	-	N	City
	Fordel M-2	S	Gen. Min./TE	-	N	City

Table 2-3 (continued)
Groundwater Quality Monitoring Network

Owner	Well ID (Original)	Depth Zone	Sampling Schedule ¹			Responsible Entity ²
			Annual	Biennial	2010 Data	
City of Mendota	Fordel M-3	S	Gen. Min./TE	-	N	City
	Fordel M-4	S	Gen. Min./TE	-	N	City
	Fordel M-5	S	EC/TDS	Gen. Min./TE	N	City
	Fordel M-6	S	Gen. Min./TE	-	N	City
USGS	31J4	S	Gen. Min./TE	-	Y	MPG
	31J5	D	Gen. Min./TE	-	Y	MPG
Meyers Farming	S-1	S	Gen. Min./TE	-	N	MPG
	S-2	S	Gen. Min./TE	-	N	MPG
	S-3	S	Gen. Min./TE	-	N	MPG
	P-1	S	Gen. Min./TE	-	N	MPG
	P-4	S	Gen. Min./TE	-	N	MPG
Meyers Farm Water Bank	MF-1	S	Gen. Min./TE	-	Y	MF
	MF-2	S	Gen. Min./TE	-	Y	MF
	MF-3	S	Gen. Min./TE	-	Y	MF
	MF-4	S	Gen. Min./TE	-	Y	MF
	MF-5	S	Gen. Min./TE	-	Y	MF
	MF-6	S	Gen. Min./TE	-	Y	MF
	MF-7	S	Gen. Min./TE	-	Y	MF
	MF-8	S	Gen. Min./TE	-	Y	MF
	MF-9	S	Gen. Min./TE	-	Y	MF
	DW-1	D	Gen. Min./TE	-	N	MF
	EW-1	S	Gen. Min./TE	-	N	MF
	EW-2	S	Gen. Min./TE	-	N	MF
	EW-3	S	Gen. Min./TE	-	N	MF
	EW-4	S	Gen. Min./TE	-	N	MF
	EW-5	S	Gen. Min./TE	-	N	MF
	EW-6	S	Gen. Min./TE	-	N	MF
	EW-7	S	Gen. Min./TE	-	N	MF
	EW-8	S	Gen. Min./TE	-	N	MF

1. Gen. Min. = general minerals; typically consists of anions (sulfate, chloride, bicarbonate, alkalinity, nitrate, and fluoride) and cations (calcium, magnesium, sodium, potassium, boron, copper, iron, manganese, and zinc), EC/TDS, and pH.

EC/TDS = electrical conductivity, total dissolved solids; Irr. Suitability = Irrigation Suitability; typically includes cations, anions, EC/TDS, pH, and sodium adsorption ratio; TE = trace elements; typically includes arsenic, molybdenum, selenium, and barium for some samples.

2. MPG = Mendota Pool Group, CCID = Central California Irrigation District, PFC = Paramount Farming Co. (formerly NLF)

CCC = Columbia Canal Company, SSC = Spreckels Sugar Co., City = City of Mendota, MF = Meyers Farm Water Bank

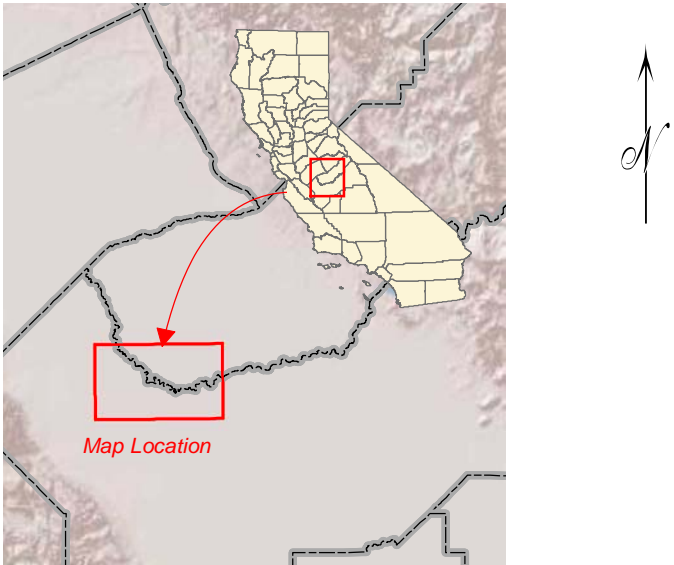
3. Most of Terra Linda Farms wells and Coelho/Gardner/Hanson wells were renamed in spring 2007. Old names shown in parentheses.

4. The PFC wells were renamed in 2008. The old well names are still used on this table. Both new and old names are shown on water quality table (Table D-2) in Appendix D.

Table 2-4
Surface-Water Quality Monitoring Network

Sample Location	Grab Sampling ¹				Automated Logging Analysis and Entity ³
	Semi-Annual	Entity ²	Monthly	Entity ²	
Columbia Canal	Irr. Suit., As, Mo, Se	MPG	EC, B, Se	SJREC	EC (SJREC)
Mendota Dam	Irr. Suit., As, Mo, Se	MPG	-	-	-
CCID Main Canal	Irr. Suit., As, Mo, Se	MPG	EC, B, Se	SJREC	EC (SJREC) & Se (USBR)
			EC, Se	USBR	
Delta-Mendota Canal (at Bass Avenue, Check 21)	Irr. Suit., As, Mo, Se	MPG	Irr. Suit.	MPG	EC, Se (USBR)
			EC, Se	USBR	
CCID Outside Canal	Irr. Suit., As, Mo, Se	MPG	EC, B, Se	SJREC	EC (SJREC)
			EC, Se	USBR	
Firebaugh Intake Canal	Irr. Suit., As, Mo, Se	MPG	EC, B, Se	SJREC	EC (SJREC)
West of Fordel	Irr. Suit., As, Mo, Se	MPG	-	-	-
Etchegoinberry	Irr. Suit., As, Mo, Se	MPG	-	-	-
Mendota Wildlife Area ⁴	Irr. Suit., As, Mo, Se	MPG	Irr. Suit.	MPG	EC (MPG)
James ID Booster Plant	Irr. Suit., As, Mo, Se	MPG	Irr. Suit.	MPG	EC (JID)
Tranquillity ID Intake	Irr. Suit., As, Mo, Se	MPG	-	-	-
Lateral 6&7	Irr. Suit., As, Mo, Se	MPG	Irr. Suit.	MPG	-

1. Irr. Suit. = Irrigation Suitability; typically includes general minerals and sodium adsorption ratio.
EC = electrical conductivity, As = arsenic, B = boron, Mo = molybdenum, Se = selenium
2. MPG = Mendota Pool Group, USBR = U.S. Bureau of Reclamation, SJREC = San Joaquin River Exchange Contractors Water Authority
3. USBR collects daily composite samples for Se with automated equipment. Samples are picked up once a week. USBR discontinued its boron monitoring program in January 2004. JID = James Irrigation District
4. Approximately one mile south of Whites Bridge.



Pool Group Wells:

- Shallow Well
- Production Well
- Unused Well

Other Production Wells:

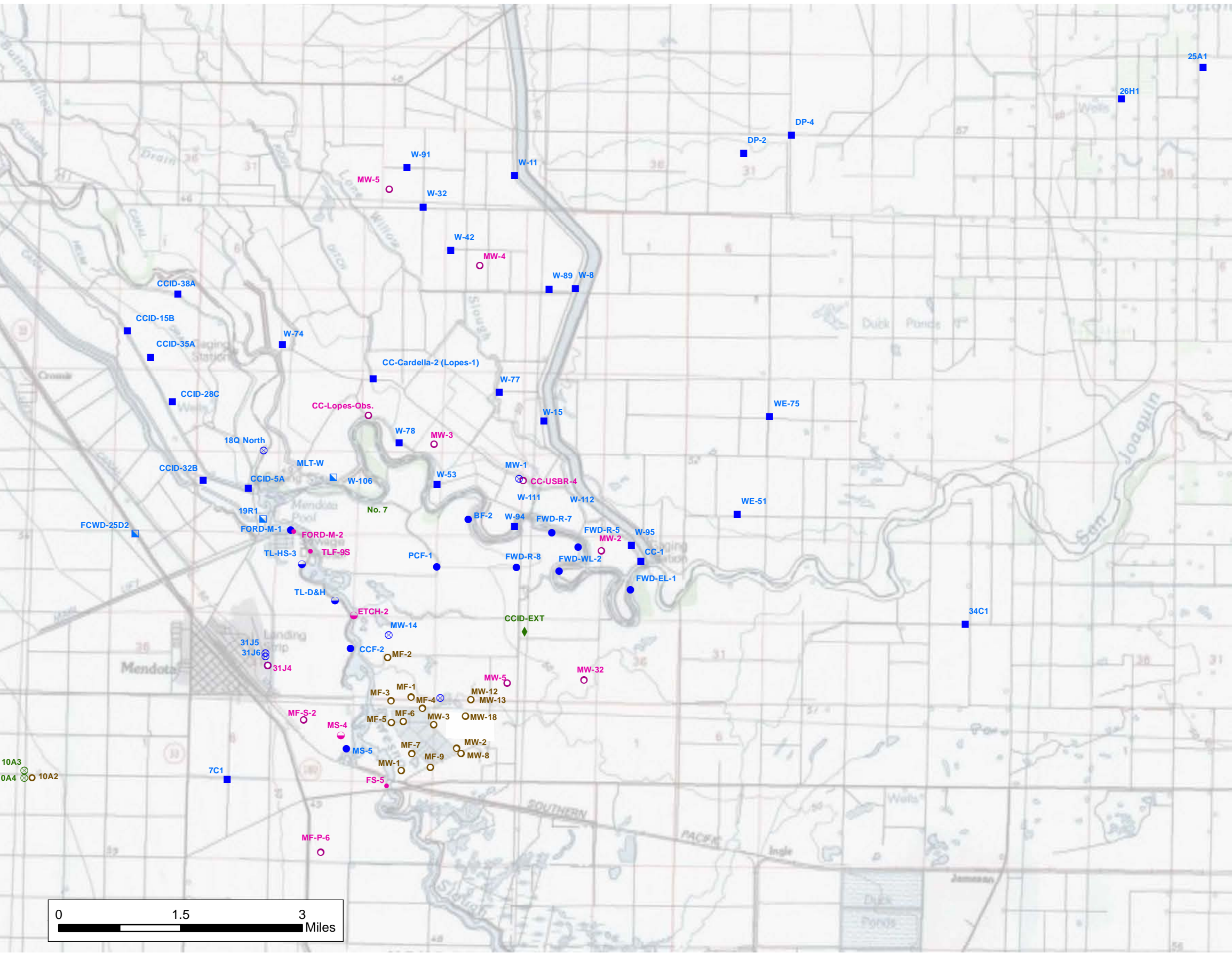
- Shallow Well
- Deep Well (Above Corcoran Clay)
- Unused Well

Monitoring Wells:

- Shallow Monitoring Well
- ⊗ Deep Monitoring Well
- ◆ Extensometer

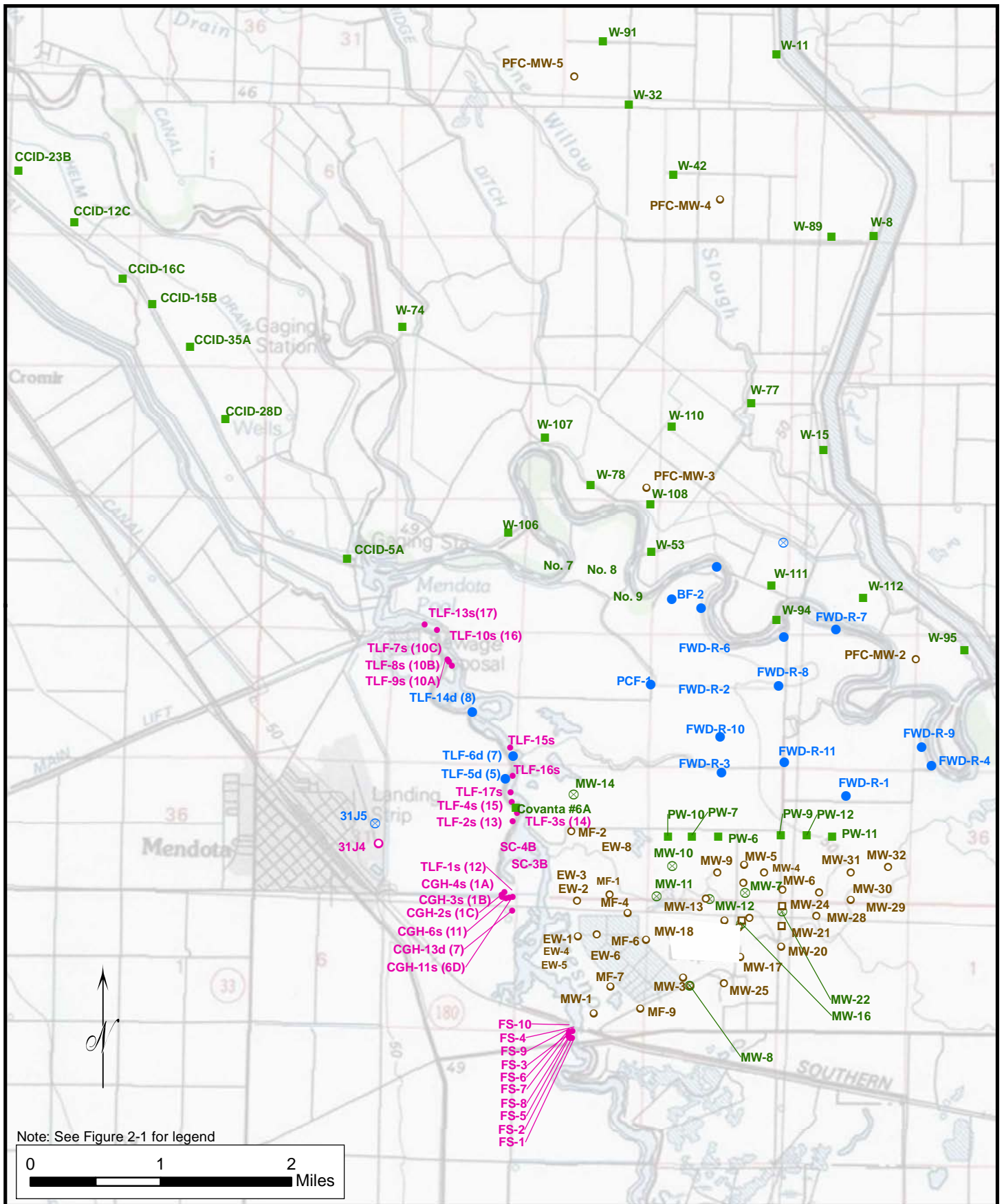
- MAGENTA** Shallow Well Monitored by MPG
BLUE Deep Well Monitored by MPG
BROWN Shallow Well Monitored by other Entity
GREEN Deep Well Monitored by other Entity

Note:
"Shallow" wells are completed above the A-Clay (maximum depth = 130'). "Deep" wells are completed below the A-clay and above the Corcoran Clay.

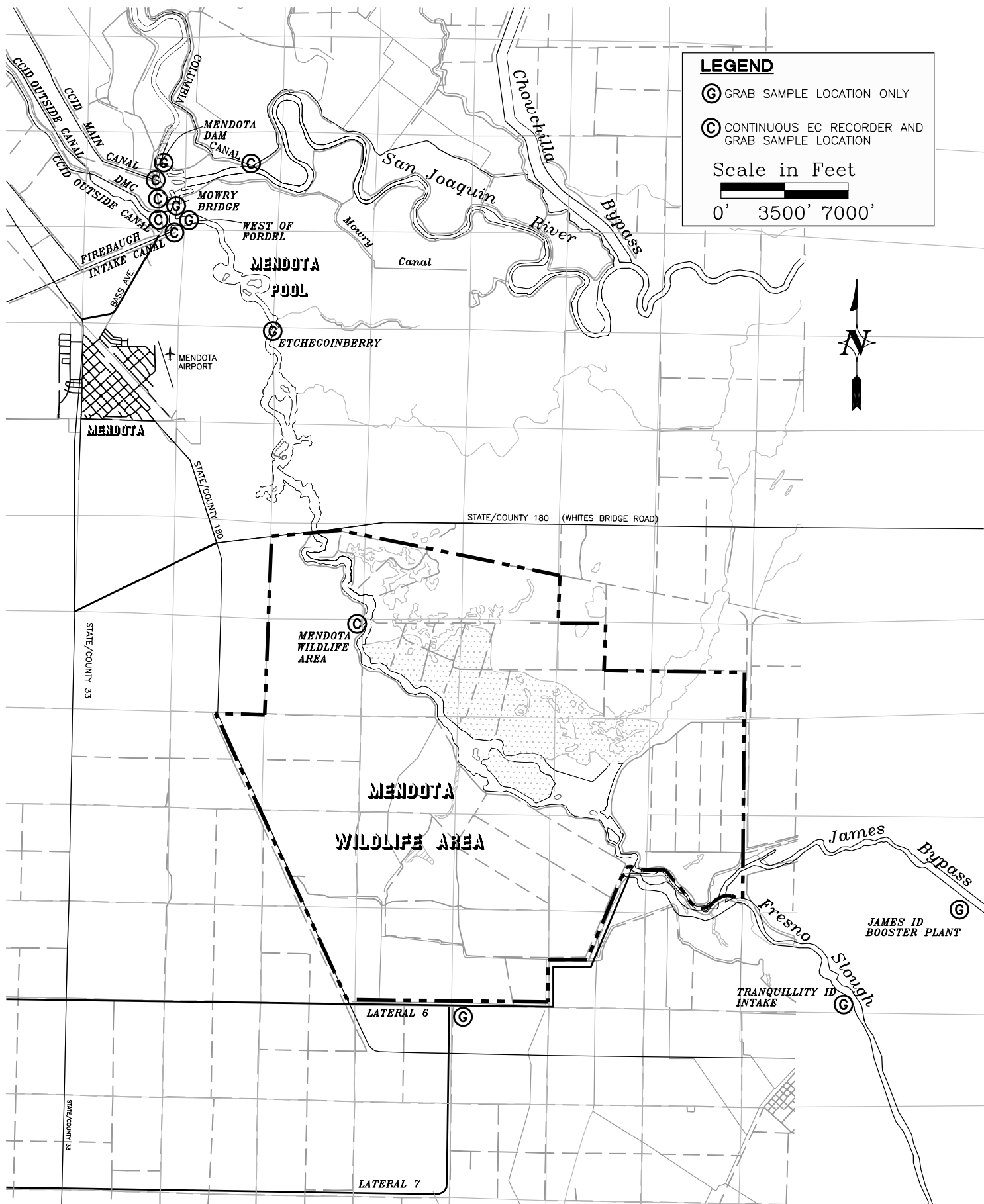


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Figure 2-1
2010 Groundwater Level Monitoring Network



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III. Pumpage

This section includes a summary of the 2010 pumpage from agricultural, municipal, and industrial wells in the study area compiled from various sources as described in Chapter II. In general, pumpage records based on flow meter readings are deemed most accurate, i.e., records from MPG members, City of Mendota, CCID, CCC, PFC, Covanta Mendota, and Spreckels Sugar Co. Some PFC pumpage is estimated based on power use records and pump efficiency tests, but comparisons conducted in 2002 showed that these estimates were relatively accurate. The 2010 pumpage data are the main inputs to the analytical groundwater flow model used to quantify MPG transfer pumping impacts on groundwater levels in non-MPG wells in the study area. Such quantification is necessary for the calculation of pumping costs reimbursements in Chapter VIII. As in previous years, 2010 pumpage for Locke Ranch was assumed equal to 2000 pumpage estimates, and pumpage east of the Chowchilla Bypass was assumed equal to 2001 estimates¹. Pumpage from private domestic wells was not included because it is considered negligible compared to agricultural and municipal pumping.

Mendota Pool Group Pumping

The MPG classified 2010 as a normal year and engaged in transfer pumping for the sixth time since the Agreement went into effect in 2001. The approved 2010 MPG transfer pumping program included 14,285 af of shallow-zone pumping and 12,605 af of deep-zone pumping, for a total of 26,890 af. This included 3,543 af of non-MPG transfer pumping by Don Peracchi. The approved pumping program for 2010 also included 10,131 af of pumpage to irrigate overlying and adjacent lands (including 1,500 af for Peracchi). Transfer pumping occurred between March 15 and November 30, and totaled 11,865 af (**Table 3-1**), which is 15,025 af less than the planned pumpage. Pumping for irrigation of overlying and adjacent lands occurred from January through December and totaled 8,071 af (2,060 af less than planned). The sum of MPG transfer and adjacent pumping in 2010 was 19,936 af.

As shown in **Table 3-2**, MPG wells located along the Fresno Slough branch of the Mendota Pool contributed slightly more than half of the total transfer pumpage in 2010 (5,971 af) and the majority of the pumpage for adjacent use (6,116 af). Wells in FWD (including Baker Farming, Panoche Creek Farms, and the FWD R-wells) contributed 5,894 af for transfer (including 2,152 af of non-MPG transfer pumping by Peracchi). Wells in FWD also pumped 1,824 af for adjacent use (including 1,184 af by Peracchi). The total pumpage in FWD was 7,849 af, which is 6,294 af less than the approved 2010 pumping program.

Table 3-3 shows MPG pumpage by aquifer (shallow versus deep) beginning in 1997; this breakdown was not available in years prior to 1997. Deep wells are generally completed below the A-clay and above the Corcoran Clay, i.e., primarily in the 200 to 450 foot depth range. However, four FWD wells (R-8 through R-11) are composite wells completed partially below

¹ These pumpage estimates were made based on crop and land use maps and crop demands. A detailed discussion of the estimates is provided in the 2001 Annual Report (LSCE and KDSA, 2002).

the Corcoran Clay. Estimates of the amount of pumpage coming from the lower aquifer in these composite wells are not currently available but will be developed for the next annual report. Deep MPG wells pumped 7,134 af for transfer in 2010, which was 5,471 af less than the approved program (**Table 3-3**). The total deep zone pumpage in 2010 was 13,005 af, which is less than any transfer pumping year during the period of the Agreement. Shallow wells in the Mendota area are defined as those completed above the A-clay or its equivalent depth, i.e., less than 130 feet deep. The total MPG shallow-zone pumpage in 2010 (6,931 af) was much less than other transfer pumping years during the period of the Agreement. Well-by-well MPG pumpage in 2010 is presented in **Appendix A**.

Non-MPG Pumping

Non-MPG pumpage in the MPG study area west of the Chowchilla Bypass was estimated to be about 32,000 af in 2010 (**Table 3-4**). As usual, pumping was greatest in the PFC service area (14,900 af), followed by CCID (6,700 af), and CCC (3,500 af). Non-MPG pumpage in the study area north of the SJR and west of the Chowchilla Bypass has been highly variable, ranging from 51,700 to 58,500 af during 2001-2003, increasing to 69,600 af in 2004, and decreasing to a low of 23,900 af in 2008 (**Table 3-5**). PFC's pumpage has been lower in recent years due to planting of new orchards in lieu of the annual crops that had previously been produced. Otherwise, year-to-year variability has largely been due to the availability of surface-water supplies to the PFC and CCC service areas.

All of PFC's pumpage has been classified as occurring above the Corcoran Clay because no estimates are available of the contribution from the lower aquifer in composite wells. Logs are not available for all PFC wells, but 12 wells have been identified as composite wells as shown on **Figure 1-2**. The number of composite wells is expected to increase to the northeast as the Corcoran Clay becomes shallower. Estimates of PFC's pumpage from the lower aquifer will be included in the next annual report.

2010 deep zone pumping by Spreckels Sugar Co. was less than previous years due to the termination of sugar processing at the end of 2008, but some water is still pumped for irrigation purposes. **Tables 3-4** and **3-5** do not show extraction from the Bank, which totaled only 13 af in 2010. As of the end of 2010, the Bank had recharged about 36,400 af of water to the shallow aquifer and extracted about 8,500 af, resulting in a surplus of about 27,900 af.

Pumpage data are not available for wells east of the Chowchilla Bypass, and the estimates originally made for the 2001 Annual Report (LSCE and KDSA, 2002) were also used for 2010. The total pumpage above the Corcoran Clay east of the Bypass was estimated to be 68,600 af, which includes about 36,600 af in Aliso Water District and undistricted portions of Madera County and 32,000 af in the undistricted portion of Fresno County east of FWD and Spreckels Sugar Co. The total non-MPG pumpage above the Corcoran Clay in the study area was estimated to be about 101,600 af in 2010 (**Table 3-6**).

Table 3-1
Mendota Pool Group Pumpage (2010)
(including non-MPG pumpage by Don Peracchi)

Total Pumpage (acre-feet)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Terra Linda	0	581	868	361	1,185	675	1,263	1,061	625	822	842	0	8,283
Conejo	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho/Coelho/Fordel	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Creek	0	0	80	18	0	90	77	0	0	0	0	0	265
Coelho/Gardner/Hansen	0	0	135	167	548	307	133	341	85	0	0	0	1,716
Meyers Farming	0	0	257	125	131	0	0	0	0	0	0	0	513
Casaca Vineyards	0	0	127	74	273	56	0	0	0	0	0	0	530
Daddy's Pride Farming	0	0	23	9	37	114	137	40	0	0	0	0	360
Solo Mio Farms	0	0	43	13	103	4	0	0	0	0	0	0	163
Coelho West	0	0	120	54	83	0	0	0	0	0	0	0	257
Baker Farming	0	0	517	1,018	940	0	0	0	0	0	0	0	2,475
Panoche Creek Farms	0	0	0	173	150	0	0	0	0	0	0	0	323
Farmers Water District ¹	0	0	617	980	736	0	157	263	112	34	0	0	2,899
Peracchi (Non-MPG)	0	0	263	491	364	500	363	145	26	0	0	0	2,152
Total	0	581	3,050	3,483	4,550	1,746	2,130	1,850	848	856	842	0	19,936

Pumpage for Irrigation of Adjacent Lands (acre-feet)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Terra Linda	0	581	605	255	659	675	1,122	770	0	315	133	0	5,115
Conejo	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho/Coelho/Fordel	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Creek	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho/Gardner/Hansen	0	0	135	85	233	114	133	216	85	0	0	0	1,001
Meyers Farming	0	0	0	0	0	0	0	0	0	0	0	0	0
Casaca Vineyards	0	0	0	0	0	0	0	0	0	0	0	0	0
Daddy's Pride Farming	0	0	0	0	0	0	0	0	0	0	0	0	0
Solo Mio Farms	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho West	0	0	0	0	0	0	0	0	0	0	0	0	0
Baker Farming	0	0	0	0	0	0	0	0	0	0	0	0	0
Panoche Creek Farms	0	0	0	0	0	0	0	0	0	0	0	0	0
Farmers Water District ¹	0	0	0	0	0	0	157	263	112	34	0	0	566
Peracchi (Non-MPG)	0	0	0	100	255	500	363	145	26	0	0	0	1,389
Total	0	581	740	441	1,147	1,289	1,775	1,394	223	349	133	0	8,071

Transfer Pumpage (acre-feet)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Terra Linda	0	0	263	106	526	0	141	291	625	507	709	0	3,168
Conejo	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho/Coelho/Fordel	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Creek	0	0	80	18	0	90	77	0	0	0	0	0	265
Coelho/Gardner/Hansen	0	0	0	82	315	193	0	125	0	0	0	0	715
Meyers Farming	0	0	257	125	131	0	0	0	0	0	0	0	513
Casaca Vineyards	0	0	127	74	273	56	0	0	0	0	0	0	530
Daddy's Pride Farming	0	0	23	9	37	114	137	40	0	0	0	0	360
Solo Mio Farms	0	0	43	13	103	4	0	0	0	0	0	0	163
Coelho West	0	0	120	54	83	0	0	0	0	0	0	0	257
Baker Farming	0	0	517	1,018	940	0	0	0	0	0	0	0	2,475
Panoche Creek Farms	0	0	0	173	150	0	0	0	0	0	0	0	323
Farmers Water District ¹	0	0	617	980	736	0	0	0	0	0	0	0	2,333
Peracchi (Non-MPG)	0	0	263	391	109	0	0	0	0	0	0	0	763
Total	0	0	2,310	3,042	3,403	457	355	456	625	507	709	0	11,865

1. Excluding non-MPG pumpage by Don Peracchi. Non-MPG Peracchi transfer pumpage is based on a percentage of MPG transfer pumpage in FWD (including the R and BF wells, but is extracted from R-wells, only). Peracchi's actual monthly percentage varies. While the shown values and the proportional relationship between FWD and Peracchi pumpage are approximations, the monthly sums (and annual totals) are accurate.

Table 3-2
Annual Mendota Pool Group Pumpage by Location
(Including Non-MPG Pumpage by Don Peracchi)

Year	Pumpage by Wells Along Fresno Slough			Pumpage by Wells South of San Joaquin River ¹			Total Pumpage			Net Exchanged with USBR (af)
	Transfer (af)	Adjacent (af)	Total (af)	Transfer (af)	Adjacent (af)	Total (af)	Transfer (af)	Adjacent (af)	Total (af)	
1989	11,193	N/A	N/A	0	6,418	6,418	11,193	N/A	N/A	N/A
1990	17,810	N/A	N/A	0	6,077	6,077	17,810	N/A	N/A	N/A
1991	40,691	N/A	N/A	9,334	4,409	13,743	50,025	N/A	N/A	N/A
1992	40,571	N/A	N/A	11,850	3,851	15,701	52,421	N/A	N/A	N/A
1993	15,988	N/A	N/A	2,583	6,322	8,905	18,571	N/A	N/A	N/A
1994	31,189	N/A	N/A	9,000	4,624	13,624	40,189	N/A	N/A	N/A
1995	0	N/A	N/A	0	5,973	5,973	0	N/A	N/A	N/A
1996	0	N/A	N/A	0	N/A	0	0	N/A	N/A	N/A
1997	19,977	3,323	23,300	6,604	6,301	12,905	26,581	9,624	36,205	N/A
1998	1,000	1,268	2,268	0	5,593	5,593	1,000	6,861	7,861	0
1999	14,871	5,701	20,572	4,850	7,946	12,796	19,721	13,647	33,368	5,797
2000	14,974	9,104	24,078	4,021	7,061	11,082	18,995	16,165	35,160	7,162
2001	18,510	9,530	28,039	8,906	3,816	12,722	27,415	13,346	40,761	16,416
2002	10,963	10,117	21,080	1,534	5,806	7,340	12,497	15,923	28,420	7,325
2003	0	11,185	11,185	0	3,054	3,054	0	14,239	14,239	0
2004	0	9,573	9,573	0	3,354	3,354	0	12,927	12,927	0
2005	0	6,596	6,596	0	3,413	3,413	0	10,009	10,009	0
2006	0	1,678	1,678	0	4,686	4,686	0	6,364	6,364	0
2007	14,884	9,246	24,130	7,671	6,218	13,889	22,556	15,463	38,019	21,427
2008	14,962	8,469	23,431	9,055	3,323	12,378	24,017	11,792	35,809	22,814
2009	14,527	8,263	22,790	12,265	1,824	14,089	26,792	10,087	36,879	25,453
2010 ²	5,971	6,116	12,087	5,894	1,955	7,849	11,865	8,071	19,936	11,271
2010 Planned	14,577	8,301	22,878	12,313	1,830	14,143	26,890	10,131	37,021	25,546
2010 Actual Minus Planned	-8,606	-2,185	-10,791	-6,419	125	-6,294	-15,025	-2,060	-17,085	-14,274

1. Includes R, BF, and PCF wells. Currently limited to Fresno County wells but Included East and West Loop wells until 2001.

2. 5,894 af transfer pumpage by wells south of SJR in 2010 includes 2,152 af of non-MPG Peracchi transfer pumpage.

1,955 af adjacent pumpage by wells south of SJR in 2010 includes 1,389 af of non-MPG Peracchi adjacent pumpage.

Table 3-3
Annual Mendota Pool Group Pumpage by Aquifer
(Including Non-MPG Pumpage by Don Peracchi)

Year	Deep Wells		Shallow Wells		Total Pumpage		
	Transfer (af)	Adjacent (af)	Transfer (af)	Adjacent (af)	Deep (af)	Shallow (af)	Total (af)
1997	16,847	7,831	9,734	1,793	24,678	11,527	36,205
1998	500	5,093	500	1,768	5,593	2,268	7,861
1999	9,765	11,288	9,956	2,359	21,053	12,315	33,368
2000	8,921	10,889	10,074	5,276	19,810	15,350	35,160
2001	15,587	8,770	11,828	4,576	24,357	16,404	40,761
2002	3,668	9,807	8,836	6,109	13,475	14,945	28,420
2003	0	6,797	0	7,442	6,797	7,442	14,239
2004	0	4,941	0	7,986	4,941	7,986	12,927
2005	0	4,664	0	5,345	4,664	5,345	10,009
2006	0	4,791	0	1,573	4,791	1,573	6,364
2007	11,168	6,218	11,387	6,286	20,346	17,673	38,019
2008	13,122	7,138	10,895	4,654	20,260	15,549	35,809
2009	14,476	7,921	12,316	2,166	22,397	14,482	36,879
2010¹	7,134	5,871	4,731	2,200	13,005	6,931	19,936
2010 Planned	12,605	3,612	14,285	6,519	16,217	20,804	37,021
2010 Actual Minus Planned	-5,471	2,259	-9,554	-4,319	-3,212	-13,873	-17,085

1. 7134 af of deep-zone transfer pumpage in 2010 includes 2,152 af of non-MPG Peracchi transfer pumpage.
5,871 af deep-zone adjacent pumpage in 2010 includes 1,389 af of non-MPG Peracchi adjacent pumpage.

Table 3-4
Monthly Non-MPG Pumpage West of Chowchilla Bypass (2010)

Well Owner or District	Well ID	Jan (af)	Feb (af)	Mar (af)	Apr (af)	May (af)	Jun (af)	Jul (af)	Aug (af)	Sep (af)	Oct (af)	Nov (af)	Dec (af)	Total (af)	Notes
Paramount	2480-61 (W-43)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
Farming Co. ¹	2480-62 (W-97)	0	0	0	0	0	0	142	0	0	0	0	0	142	
	2480-63 (W-100)	0	0	0	0	0	2	10	0	0	0	0	0	12	(2)
	2480-64 (W-88)	0	0	0	0	0	0	8	0	0	0	0	0	8	(2)
	2480-65 (W-33)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2480-66 (W-42)	0	0	0	0	0	0	8	8	0	0	0	0	16	(2)
	2480-67 (W-84)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2480-68 (W-41)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2480-69 (W-30)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	2480-70 (W-81)	0	0	0	0	0	3	10	0	0	0	0	0	13	
	2480-71 (W-5)	0	0	0	0	0	0	7	0	0	0	0	0	7	(2)
	2480-72 (W-35)	0	0	0	0	0	6	6	0	0	0	0	0	12	
	2480-73 (W-56)	0	0	0	0	0	0	4	0	0	0	0	0	4	(2)
	2480-74 (W-55)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2480-75 (W-50)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2560-61 (W-82)	0	0	0	0	0	0	9	0	0	0	1	0	10	
	2560-62 (W-25)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	2570-61 (W-51)	0	0	0	0	0	7	11	1	0	0	0	0	18	
	2570-62 (W-68)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3191-61 (W-85)	0	0	0	0	2	2	5	0	4	0	0	0	14	
	3191-62 (W-86)	0	0	0	0	2	5	9	0	7	0	7	0	30	
	3191-63 (W-44)	0	0	4	0	2	5	5	0	0	0	3	0	19	
	3191-64 (W-57)	0	0	0	0	3	9	15	0	11	0	0	0	38	
	3191-65 (W-87)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	3191-66 (W-20)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	3191-67 (W-17)	0	0	4	0	2	4	6	0	0	0	4	0	21	
	3191-68 (W-76)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3191-69 (W-52)	0	0	0	0	0	17	9	0	0	0	0	0	26	
	3211-61 (W-73)	0	0	15	4	100	103	98	96	76	51	39	0	582	
	3211-62 (W-69)	0	0	16	4	108	118	113	106	80	39	24	0	608	
	3211-63 (W-2)	0	0	0	0	0	4	22	21	14	9	5	0	76	
	3211-65 (W-62)	0	0	0	0	12	20	21	20	15	9	4	0	101	
	3211-66 (W-15)	0	0	0	0	1	2	23	27	12	5	6	0	78	
	3211-67 (W-3)	0	0	0	1	17	19	17	15	12	5	0	0	86	
	3211-68 (W-110)	0	0	25	9	112	138	127	127	78	23	46	0	685	
	3211-69 (W-77)	0	0	0	6	39	23	0	9	0	0	0	0	76	
	3211-70 (W-98)	4	0	0	4	31	81	104	53	24	15	13	0	328	
	3211-71 (W-46)	0	0	0	2	44	66	57	48	27	4	3	0	252	
	3211-72 (W-101)	0	0	0	4	77	141	116	96	55	10	3	0	501	
	3211-73 (W-14)	0	0	0	2	33	60	50	39	19	4	2	0	209	
	3211-74 (W-31)	0	0	0	0	11	3	10	2	0	0	0	0	26	
	3211-75 (W-63)	0	0	0	0	25	12	16	3	2	0	0	0	58	
	3211-76 (W-13)	0	0	0	2	20	55	50	30	12	11	5	0	185	
	3311-61 (W-89)	0	0	0	0	0	0	5	5	0	0	0	0	10	(2)

Table 3-4 (continued)
Monthly Non-MPG Pumpage West of Chowchilla Bypass (2010)

Well Owner or District	Well ID	Jan (af)	Feb (af)	Mar (af)	Apr (af)	May (af)	Jun (af)	Jul (af)	Aug (af)	Sep (af)	Oct (af)	Nov (af)	Dec (af)	Total (af)	Notes
Paramount	3311-62 (W-8)	0	0	0	1	70	67	77	51	4	18	0	0	288	
Farming Co.	3311-63 (W-12)	0	0	8	3	42	49	49	33	16	15	13	0	227	
(continued)	3311-64 (W-90)	0	0	18	6	93	96	91	65	65	36	29	0	499	
	3421-61 (Card-1)	0	0	3	0	1	2	9	0	0	0	0	0	15	
	3421-62 (W-74)	0	0	0	0	0	0	9	7	0	0	0	0	15	
	3421-64 (W-18)	0	0	5	0	2	6	7	0	0	0	4	0	24	
	3421-66 (W-19)	0	0	4	0	1	7	7	0	0	0	0	0	19	
	3421-68 (W-24)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3431-61 (W-32)	0	0	0	0	0	0	7	5	0	0	0	0	12	(2)
	3431-62 (W-91)	0	0	0	0	1	0	7	5	0	0	0	0	13	(2)
	3431-63 (W-36)	0	0	0	0	9	1	3	2	0	0	0	0	14	
	3561-61 (W-27)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3561-62 (W-28)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3561-63 (W-83)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3561-64 (W-80)	0	0	0	0	0	0	0	0	0	0	0	0	0	
	3591-61 (W-34)	0	0	0	0	0	0	10	0	0	0	0	0	10	(2)
	3591-62 (W-29)	0	0	0	0	0	0	5	0	0	0	0	0	5	(2)
	3591-63 (W-7)	0	0	5	1	32	57	62	46	7	3	0	0	213	
	3591-64 (W-92)	0	0	3	0	16	48	41	13	2	0	0	0	124	
	3591-65 (W-75)	0	0	8	0	52	79	105	75	19	0	0	0	338	
	3591-66 (W-11)	0	0	6	1	39	64	74	52	9	0	0	0	244	
	3591-67 (W-10)	0	0	0	0	5	7	16	2	0	0	0	0	29	
	3591-68 (W-93)	0	0	11	1	49	86	69	39	19	11	2	0	287	
	3591-69 (W-39)	0	0	4	0	12	7	10	0	1	0	0	0	35	
	3591-70 (W-72)	0	0	10	0	11	5	28	5	4	5	0	0	68	
	3591-71 (W-71)	0	0	8	0	8	4	8	0	0	1	0	0	30	
	3591-72 (W-60)	0	0	6	1	27	45	37	21	11	6	1	0	153	
	3730-61 (W-95)	0	0	17	10	64	104	140	146	147	56	13	0	697	
	3730-62 (W-94)	0	0	14	5	48	75	116	90	89	35	0	0	473	
	3730-63 (W-112)	0	0	32	21	213	247	275	250	264	104	80	0	1,486	
	3730-64 (W-111)	0	0	30	19	179	220	232	215	195	61	0	0	1,152	
	3730-65 (W-53)	0	0	11	6	65	81	87	74	54	16	4	0	398	
	3730-66 (W-59)	0	0	17	10	97	114	122	111	80	51	32	0	634	
	3730-67 (W-96)	0	0	17	9	77	100	116	99	84	38	9	0	549	
	3730-68 (W-48)	1	0	14	4	61	74	0	1	0	0	0	0	155	
	3730-70 (W-108)	0	0	72	28	206	209	223	215	114	67	63	0	1,198	
	3730-71	0	0	3	0	0	0	4	0	0	0	0	0	8	
	3730-72 (W-107)	0	0	0	0	50	73	70	62	63	31	10	14	373	
	3921-61 (W-106)	16	0	8	4	39	29	48	31	36	27	15	5	257	
	3921-62 (W-78)	5	0	31	6	100	72	116	94	56	32	28	3	542	
	7101-61 (W-61)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
	7102-61 (W-99)	0	0	0	0	0	0	11	0	0	0	0	0	11	(2)
	7102-62 (W-66)	0	0	0	0	0	0	0	6	0	0	0	0	6	(2)
	7102-63 (W-65)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)

Table 3-4 (continued)
Monthly Non-MPG Pumpage West of Chowchilla Bypass (2010)

Well Owner or District	Well ID	Jan (af)	Feb (af)	Mar (af)	Apr (af)	May (af)	Jun (af)	Jul (af)	Aug (af)	Sep (af)	Oct (af)	Nov (af)	Dec (af)	Total (af)	Notes
Paramount	7102-64 (W-64)	0	0	0	0	0	0	4	0	0	0	0	0	4	(2)
Farming Co.	7102-65 (W-70)	0	0	0	0	0	0	0	0	0	0	0	0	0	(2)
(continued)	7102-66 (W-67)	0	0	0	0	0	0	5	0	0	0	0	0	5	(2)
	Total	25	0	431	173	2,312	2,936	3,393	2,522	1,785	797	468	22	14,865	
Columbia Canal	CC-1	0	0	0	0	0	0	0	0	0	0	0	0	0	
Company ¹	CC-2	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Snyder	0	0	0	0	0	0	10	0	0	0	0	0	10	
	Burkhart-Heirs	0	0	0	0	0	24	30	15	0	0	0	0	69	
	Cardella-2	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Diepersloot #1	0	0	0	0	0	96	96	96	0	0	0	0	289	
	Diepersloot #2	0	0	0	0	0	127	127	127	0	0	0	0	382	
	Elrod #1	0	0	0	0	0	0	3	0	0	0	0	0	3	
	Elrod #2	0	0	0	0	0	0	1	0	0	0	0	0	1	
	Elrod #3	0	0	0	0	0	141	141	141	0	0	0	0	423	
	MLT-West	0	0	0	0	0	0	7	0	0	0	0	0	7	
	N.F. Davis #1	0	0	0	0	0	0	5	0	0	0	0	0	5	
	N.F. Davis #2	0	0	0	0	0	62	62	0	0	0	0	0	124	
	G-2 Farms #1	0	0	0	0	0	0	16	0	0	0	0	0	16	
	G-2 Farms #2	0	0	0	0	378	378	378	378	378	0	0	0	1,891	
	G-2 Farms #3	0	0	0	0	0	73	73	0	0	0	0	0	147	
	G-2 Farms #4	0	0	0	0	0	0	40	41	0	0	0	0	81	
	G-2 Farms #5	0	0	0	0	0	0	30	33	0	0	0	0	63	
	Total	0	0	0	0	378	902	1,019	832	378	0	0	0	3,510	
CCID	5A	0	56	148	107	47	6	115	139	59	154	38	0	869	
	12C	0	19	0	124	48	6	94	151	163	109	29	0	743	
	15B	0	41	105	68	30	4	64	91	38	90	22	0	554	
	16C	0	66	146	125	2	0	85	129	60	135	37	0	785	
	23B	0	61	161	117	46	6	85	139	151	99	26	0	889	
	28D	0	39	149	105	57	6	71	114	60	126	37	0	763	
	32B	0	44	160	109	55	6	62	130	163	123	31	0	883	
	35A	0	84	210	142	58	8	145	150	75	169	40	0	1,079	
	38A	0	0	20	0	56	21	20	9	0	0	0	0	126	
	Total	0	408	1,099	897	399	62	741	1,052	769	1,004	260	0	6,692	
City of Mendota	Well #3	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Well #5	0	0	0	0	0	0	0	0	0	0	0	0	0	
	Well #7	53	50	71	74	91	115	5	128	114	87	0	58	845	
	Well #8	2	0	1	1	2	20	7	5	1	1	1	0	41	
	Well #9	109	109	68	42	60	106	113	110	79	53	36	29	913	
	Fordel M-1	0	0	121	0	81	167	0	91	8	0	0	0	468	
	Fordel M-2 & 3	0	0	59	0	40	82	0	44	4	0	0	0	229	
	Fordel M-4,5,6	0	0	89	0	59	122	0	67	6	0	0	0	343	
	Total	165	159	409	117	332	611	126	445	212	140	37	86	2,839	

Table 3-4 (continued)
Monthly Non-MPG Pumpage West of Chowchilla Bypass (2010)

Well Owner or District	Well ID	Jan (af)	Feb (af)	Mar (af)	Apr (af)	May (af)	Jun (af)	Jul (af)	Aug (af)	Sep (af)	Oct (af)	Nov (af)	Dec (af)	Total (af)	Notes
Covanta Mendota	Biomass	56	49	57	61	28	51	58	48	51	40	52	58	609	
	Total	56	49	57	61	28	51	58	48	51	40	52	58	609	
Locke Ranch	No.4	0	0	0	0	0	215	430	215	0	0	0	0	860	(3)
	No.6	0	0	0	0	0	215	430	215	0	0	0	0	860	(3)
	No.7	0	0	0	0	0	64	128	64	0	0	0	0	255	(3)
	No.8	0	0	0	0	0	109	218	109	0	0	0	0	435	(3)
	Total	0	0	0	0	0	603	1,205	603	0	0	0	0	2,410	
Spreckels Sugar Company	PW-6	3	3	1	12	9	0	0	0	0	0	0	0	28	
	PW-7	0	0	1	3	36	63	72	46	37	2	3	7	270	
	PW-9	18	21	4	1	38	55	71	24	1	11	0	0	245	
	PW-10	0	0	0	0	20	14	12	26	38	115	34	0	260	
	PW-11	0	0	4	7	14	33	52	46	40	79	10	0	284	
	PW-12	0	0	0	0	1	0	0	0	0	0	0	0	2	
	Total	21	24	10	23	118	166	207	142	116	207	47	7	1,089	
Total Pumpage		267	640	2,006	1,270	3,567	5,330	6,749	5,645	3,311	2,190	863	173	32,012	

Notes:

1. Only includes PFC and CCC wells located within the MPG study area.
2. PFC pumpage for these wells based on power use records. Pumpage for other PFC wells is based on meter readings.
3. Locke Ranch pumpage is based on 2001 estimates.

Table 3-5
Summary of Non-MPG Pumpage West of Chowchilla Bypass: 2001-2010 (acre-feet)

Year	PFC ¹	CCID	Locke Ranch ²	City of Mendota			Spreckels Sugar Co. ²	Columbia Canal Co. ¹	Covanta Mendota ³	Total
				W of Fresno Slough		E of Fresno Slough at B&B Ranch				
				City Wells	Fordel Wells					
2001	37,400	6,900	2,400	1,400	-	-	1,900	7,700	700	58,500
2002	32,700	7,200	"	1,500	-	-	"	6,600	700	53,000
2003	33,400	7,300	"	1,600	-	-	"	4,300	600	51,700
2004	45,200	9,700	"	-	1,900	1,700	"	4,500	600	67,900
2005	19,600	3,300	"	-	2,100	1,600	"	1,400	500	32,800
2006	22,700	100	"	-	1,300	1,600	"	1,200	600	31,800
2007	13,200	10,400	"	-	1,900	1,800	"	3,900	600	36,100
2008	4,900	6,700	"	-	2,600	1,800	"	800	600	21,700
2009	12,500	9,400	"	-	2,100	1,800	1,000	2,400	700	32,300
2010	14,900	6,700	"	-	1,000	1,800	1,100	3,500	600	32,000

Notes:

Values are rounded to the nearest 100 acre-feet. Totals are based on monthly pumpage records, not on rounded annual values.

1. Paramount Farming Company and Columbia Canal Company totals only include wells within the MPG study area.

2. 2001-2008 pumpage assumed equal to 2000 pumpage. 2009-2010 Spreckels Sugar Co. pumpage based on meter readings.

3. Formerly AES Mendota and Mendota Biomass. 2001 pumpage estimated; 2002-2005 based on power records. 2006 - 2010 pumpage based on meter readings.

Table 3-6
Summary of Non-MPG Pumpage Above Corcoran Clay in 2010 (acre-feet)

West of Chowchilla Bypass										East of Chowchilla Bypass ⁴				Grand Total
Month	PFC ¹	CCID	Locke Ranch ²	City of Mendota ²		Spreckels Sugar Co.	Columbia Canal Co. ¹	Covanta Mendota ³	Total	Aliso WD	Madera County (undistricted)	Fresno County	Total	
				Wells on B&B Ranch	Fordel Wells									
Jan	25	0	0	165	0	21	0	56	300	128	37	51	200	500
Feb	0	408	0	159	0	24	0	49	600	398	68	130	600	1,200
Mar	431	1,099	0	140	269	10	0	57	2,000	1,704	180	1,410	3,300	5,300
Apr	173	897	0	117	0	23	0	61	1,300	3,224	382	2,637	6,200	7,500
May	2,312	399	0	152	180	118	378	28	3,600	4,939	729	3,913	9,600	13,100
Jun	2,936	62	603	240	371	166	902	51	5,300	6,140	871	5,923	12,900	18,300
Jul	3,393	741	1,205	126	0	207	1,019	58	6,700	6,779	888	7,425	15,100	21,800
Aug	2,522	1,052	603	243	202	142	832	48	5,600	5,058	571	5,791	11,400	17,100
Sep	1,785	769	0	194	18	116	378	51	3,300	2,669	260	2,989	5,900	9,200
Oct	797	1,004	0	140	0	207	0	40	2,200	1,103	126	1,616	2,800	5,000
Nov	468	260	0	37	0	47	0	52	900	141	43	115	300	1,200
Dec	22	0	0	86	0	7	0	58	200	58	30	35	100	300
Total	14,900	6,700	2,400	1,800	1,000	1,100	3,500	600	32,000	32,300	4,200	32,000	68,600	100,600

Notes:

Values are rounded to the nearest 100 acre-feet. Totals are based on monthly pumpage records, not on rounded annual values.

1. Paramount Farming Company and Columbia Canal Company totals only include wells within the MPG study area.

2. Based on 2000 estimates.

3. Formerly AES Mendota and Mendota Biomass; based on meter readings.

4. Based on 2001 estimates for geographic areas, not entities.

IV. Groundwater Levels

Water-Level Hydrographs

Short-term water-level hydrographs (2000-2011) for all wells in the MPG monitoring program are included in **Appendix B**, and long-term hydrographs are included in **Appendix C**. Water levels measured in shallow and deep wells are summarized below. Groundwater level changes in 2010 are shown in **Table 4-1** (shallow zone) and **Table 4-2** (deep zone).

Shallow Zone

Water levels in the shallow zone west of the Fresno Slough showed full recovery in 2010 after declining during 2007-2009. Water levels at USGS monitoring well T13S/R15E-31J4 west of the Mendota Airport had risen about 17 feet during 2003-2006 when the MPG did not pump for transfer, and there was a similar amount of water-level decline during 2007-2009. Due primarily to reduced MPG transfer pumping in 2010, there were only about two feet of drawdown during the irrigation season and seven feet of recovery at the end of the irrigation season. As shown on the long-term hydrograph in **Appendix C**, water levels in this well are still considerably above the low levels observed during the 1987-1992 drought.

Water levels in the shallow zone in the northern half of the MPG well field west of the Fresno Slough also declined during 2007-2009, but rose in 2010. The hydrograph of Terra Linda Farms well No. 9s (formerly TL-10A) shows about five feet of water-level rise between January 2010 and March 2011. The long-term hydrograph of this well shows that water levels in March 2011 were about 13 feet higher than when measurements began in 1993.

In the southern portion of the MPG well field west of the Fresno Slough, water-level measurements in Five Star FS-5 showed about 12 feet of drawdown in 2010 and 26 feet of recovery by March 2011. This meant that water levels were about 14 feet higher at the end of the 2010 irrigation season. Water levels in this well declined by about 25 feet during 2007-2009 but have now recovered to 2000 levels. Some of the recovery is due to recharge by the Bank, as discussed below. The long-term hydrograph shows that water levels in this area are about 28 feet higher than when measurements began in 1993.

East of the Fresno Slough, water levels at shallow monitoring wells in the western portion of Spreckels Sugar Co. declined significantly between 1986 and 1993 due to MPG pumping and drought conditions. Water levels recovered between 1993 and 2007, with the greatest rise occurring between 2003 and 2007. Rising water levels during this period were due primarily to reduced MPG pumping west of the Fresno Slough and recharge by the Bank, which is located east of the Slough in the western portion of the Spreckels Sugar Co. property. By January 2007, water levels had recovered to the mid-1980s levels. During 2007-2009, water levels declined due to MPG pumping and extraction from the Bank. Water levels rose significantly in 2010 due to reduced pumping and Bank recharge.

At Spreckels' MW-1, water levels rose throughout 2010 and were about 19 feet higher by March 2011. Water levels at that time were about 13 feet higher than prior to the start of the Bank in 2002. However, the March 2011 water levels in MW-1 were still about nine feet lower than the highest water levels measured in 1984-1986 and 2006-2007.

Water levels in the Spreckels Sugar Co. monitoring wells east of San Mateo Avenue are primarily influenced by recharge from the SJR. The water level in Spreckels' MW-32 had declined about eight feet during 2002-2005. Water levels rose about five feet during 2006-2008 and have declined by a similar amount since 2008. The water level in this well declined by less than one foot between January 2010 and March 2011.

North of the SJR, the easternmost shallow PFC monitoring well (MW-2) shows the most response to recharge from the River during periods of flow. MW-2 is located near the River and the Chowchilla Bypass and is too far east to be influenced by seepage from the Pool. There was little flow in the SJR in the reach east of the Pool in 2001, and no flow during 2002-2005. Water levels at PFC MW-2 declined about 30 feet during this period. There were relatively large SJR flows during 2005 and 2006, and water levels in MW-2 rose about 27 feet during those years. During 2007-2009, SJR flows were very small (there was no flow in 2008), and water levels in MW-2 declined by about 26 feet. In 2010, interim releases from Friant Dam for the San Joaquin River Restoration Program (SJRRP) began in February and continued until December. Due to the SJRRP releases, the River flowed to the Pool from February 28 to December 8, 2010, and water levels in MW-2 rose throughout the year as a result. The total water-level rise between January 2010 and March 2011 was about 16 feet. Water levels are still well below the highs reached in 2000 and 2006, but are expected to continue to rise in 2011.

Water levels in PFC wells MW-4 and MW-5, in the northern portion of the study area, are influenced by pumping from deeper zones and declined from 2000 to 2005. Water levels in MW-4 are also strongly influenced by flows in the Bypass and rose in 2005 and 2006 due to recharge from the Bypass and a pilot water banking project conducted by PFC. Water levels declined by an average of eight feet per year during 2007-2009. Water levels in MW-4 rose by about 17 feet between January and March 2011 due to flow in the Bypass. However, water levels in March 2011 were still lower than in January 2007. Compared to MW-4, water levels in MW-5 rose by a smaller amount during 2005-2007 and declined by a larger amount (about 18 feet) since January 2007. The water-level decline at MW-5 was about four feet between January 2010 and March 2011.

Water levels in shallow monitoring wells near the SJR branch of the Pool, including PFC well MW-3 and the CCC Lopes-Observation well, are influenced by year-round recharge from the Pool and, as a result, show much smaller seasonal and year-to-year fluctuations. There was a smaller water-level decline at MW-3 between 2000 and 2005 (about seven feet) than at other shallow wells north of the River, and there was less water-level recovery (about five feet) during 2005-2006. Water levels in this well have declined by about six feet since 2007.

Deep Zone

There was water-level recovery in almost all deep-zone wells in 2005 and 2006, due primarily to reduced deep-zone pumping in the study area and recharge from flood releases to the SJR and the Chowchilla Bypass. Water levels in all wells declined during 2007-2009, but there was full recovery in most wells after the 2010 irrigation season.

North of the City of Mendota, hydrographs of the CCID wells showed rising water levels during 2005-2006 and declining water levels during 2007-2009. Year-to-year water-level declines (the difference between the annual drawdown and recovery) are referred to as “residual drawdowns”. There were large residual drawdowns at the end of 2007 and smaller residual drawdowns in 2008 and 2009. Seasonal drawdowns were smaller in 2010, and water levels were generally higher in March 2011 as compared to January 2010.

Water levels have been measured since 1985 at the USGS monitoring wells west of the Mendota Airport. Water levels in the deep wells rose during 2003-2006 and declined during 2007-2009. Monitoring well T13S/R15E-31J5 experienced about 12 feet of drawdown in 2010 followed by 17 feet of recovery, resulting in a net water-level rise of about five feet between January 2010 and January 2011.

Water levels in the deepest USGS monitoring well (T13S/R15E-31J6), which is completed in the lower aquifer (below the Corcoran Clay), had declined by approximately 35 feet between 1999 and 2003, due primarily to pumping below the Corcoran Clay occurring both northeast and west of the Mendota area. Reduced lower aquifer pumping in subsequent years resulted in about 25 feet of water-level rise during 2004-2006. Water levels declined during 2007-2009, and there were residual drawdowns of approximately 20 feet at the end of each year. The depth to water reached a new historical low of about 160 feet in September 2009. Water-level declines in the lower aquifer result in increased leakage through the Corcoran Clay and lower water levels in the deep zone above the Corcoran Clay. These declines have caused subsidence, as discussed in Chapter VII. In 2010, there was very little drawdown in monitoring well 31J6, and the water level rose about 25 feet between January 2010 and April 2011. In August 2010, the USGS installed a pressure transducer to collect daily water level data from 31J6.

East of the Fresno Slough, water levels rose in the deep Spreckels Sugar Co. monitoring wells from 1994 through 2006, with the largest rise occurring in wells near the Bank during 2003-2006. Water levels at Spreckels’ MW-11 rose by about 14 feet from 1994 to 2003 and by an additional 20 feet from 2003 to January 2007. Water levels at MW-11 declined by about 20 feet during 2007-2009 due primarily to MPG pumping and Bank extraction. The seasonal drawdown was relatively large in 2009, which was the year of greatest extraction from the Bank. The seasonal drawdown was much smaller in 2010, and water levels rose about 13 feet between February 2010 and February 2011. The long-term hydrograph for MW-11 shows that water levels in February 2011 were almost as high as when measurements began in 1984.

North of Spreckels Sugar Co., the FWD wells also experienced declining water levels during 1998-2004, rising water levels during 2005-2006, and declining water levels during 2007-2009. In 2010, the seasonal drawdowns were similar to previous years, but there was full recovery at

the end of the irrigation season. Overall, water levels rose by two to 11 feet between February 2010 and January 2011. Water levels in the FWD wells are influenced primarily by MPG pumping and recharge from the SJR during periods of flow.

North of the SJR, hydrographs of PFC and CCC wells also showed water-level declines from the late 1990s through 2004, followed by rising water levels during 2005-2006 and declining water levels during 2007-2009. In 2010, the seasonal drawdowns were similar to previous years, and there was full recovery in wells near the SJR at the end of the irrigation season. Four wells in the northern and eastern portion of PFC experienced water level declines of one to four feet between February 2010 and March 2011. Water level rose slightly (less than one foot) at the other three wells in this area.

Water levels are measured in four wells in Aliso Water District located in the historically overdrafted area of Madera County east of the Chowchilla Bypass. Two wells owned by Woolf Enterprises have a longer period of record than other wells in the area and experienced water-level declines of 25-30 feet between February 2001 and January 2005. Due to reduced pumping in the area and the SJR flood releases in 2005 and 2006, water levels in these wells rose 13 to 15 feet between January 2005 and January 2007. Drawdowns in 2010 were similar to previous years, but there was full recovery at the end of the year.

Groundwater Elevation Contour Maps

Three groundwater elevation contour maps were prepared for both the shallow and deep zones. Contour maps for both zones were based on water levels measured in January-February 2010, Summer 2010, and December 2010-January 2011. For the shallow-zone contour maps, data were only available for the original study area. The deep-zone contour maps extend farther to the north and much farther to the east due to the greater availability of data from deep wells. The shallow-zone contour maps (**Figures 4-1 to 4-3**) and the deep-zone contour maps (**Figures 4-4 to 4-6**) are discussed below. The groundwater elevations are shown as feet above mean sea level (ft msl) based on the National Geodetic Vertical Datum of 1929 (NGVD 29).

Shallow Zone

Groundwater elevation contours above the A-Clay in January-February 2010 are shown on **Figure 4-1**. Groundwater elevations ranged from about 185 ft msl in the southwest corner of the study area to about 96 ft msl in the northeast. Southwest of the City of Mendota, the direction of groundwater flow was to the northeast toward the Fresno Slough. There was a cone of depression beneath the MPG well field west of the Fresno Slough, due in part to pumping by MPG wells in this area in late 2009. Water levels were lowest at the Meyers Farm and Five Star wells in the southern portion of the MPG well field. East of the Pool, there was a small groundwater mound beneath the Bank, and the direction of flow was away from the Bank in all directions. There was a groundwater ridge beneath the SJR north of FWD, and groundwater flowed away from the River to both the north and south. Groundwater elevations shown on the contour map were lowest at PFC wells MW-4 and MW-5 in the northern portion of PFC. The contour map does not show March 2011 data, but the water level in MW-4 rose about 17 feet between the January and March measurement.

Groundwater elevation contours above the A-Clay in the summer of 2010 are shown on **Figure 4-2**. Most of the data shown on this contour map are for the month of July, but data for three wells are from October. Compared to January-February 2010, groundwater elevations were similar in the southwestern portion of the study area and about five feet lower in the northeastern portion. The cone of depression beneath the central portion of the MPG well field west of the Fresno Slough was larger and slightly deeper than in January-February 2010. The July 2010 groundwater levels were similar to those in January-February 2010 in the southern portion of the MPG well field due to recharge from the Bank. The groundwater mound beneath the Bank was much more apparent in July 2010, with a gradient for flow away from the Bank in all directions. Groundwater levels remained high beneath the SJR, with a gradient for flow away from the River to the north and south. Groundwater levels near the SJR in July 2010 were similar at PFC well MW-3 but about six feet higher at PFC well MW-2 northeast of the West Loop.

Groundwater elevation contours above the A-Clay in December 2010-January 2011 are shown on **Figure 4-3**. The shape of the groundwater elevation contours shown on this map is similar to the July 2010 contour map (**Figure 4-2**), but the cone of depression beneath the central portion of the MPG well field west of the Pool was smaller and not as deep. Water levels in the southern portion of the MPG well field were much higher due to recharge from the Bank. The groundwater mound beneath the Bank was larger than in July 2010, and water levels in the center of the mound were about four feet higher. Groundwater levels in December 2010-January 2011 were also higher beneath the SJR. Compared with January-February 2010, groundwater levels were about 14 feet higher at PFC MW-2 due to recharge from the River.

Deep Zone

Groundwater elevation contours below the A-Clay and above the Corcoran Clay in January-February 2010 are shown on **Figure 4-4**. Groundwater elevations ranged from about 163 ft msl near the southwest corner of the study area to 61 ft msl in the cone of depression east of the Chowchilla Bypass. Water levels were also low at well No. 3431-62 (W-91) in the northern portion of PFC. Low water levels in these wells are due in part to the fact these are composite wells. Water-level data from wells completed only in the deep zone above the Corcoran Clay are not available in this area. A relatively shallow cone of depression was present beneath the central portion of the MPG well field west of the Fresno Slough. This extended into the vicinity of the Bank due to extraction occurring in 2009.

Groundwater elevation contours below the A-Clay in the summer of 2010 are shown on **Figure 4-5**. This contour map is based primarily on July and August water-level measurements. Compared to January-February 2010, groundwater elevations in the summer were about 32 feet lower beneath the central portion of the MPG well field west of the Fresno Slough, 65 to 70 feet lower in the southern portion of PFC, and 24 to 34 feet lower in the northeastern portion of Aliso WD. Although the overall direction of groundwater flow was still to the northeast, there was an elongated cone of depression that extended to the west from Aliso WD into the southern portion of PFC. There was also a small cone of depression in FWD due to pumping for adjacent use.

Groundwater elevation contours below the A-Clay in December 2010-January 2011 are shown on **Figure 4-6**. Compared to January-February 2010, groundwater elevations were about five feet higher beneath the MPG well field west of the Fresno Slough. The cone of depression west of the Fresno Slough was no longer present, and there was a northeasterly gradient for groundwater flow except near the Bank. Water levels were up to 15 feet higher beneath the Bank, and there was groundwater flow away from the Bank to the north and west. Groundwater levels in the PFC wells were much higher than in summer 2010 and up to five feet higher than in January-February 2010.

Table 4-1
Change in Groundwater Levels in Shallow Wells:
Winter 2009-2010 to Winter 2010-2011 (feet)

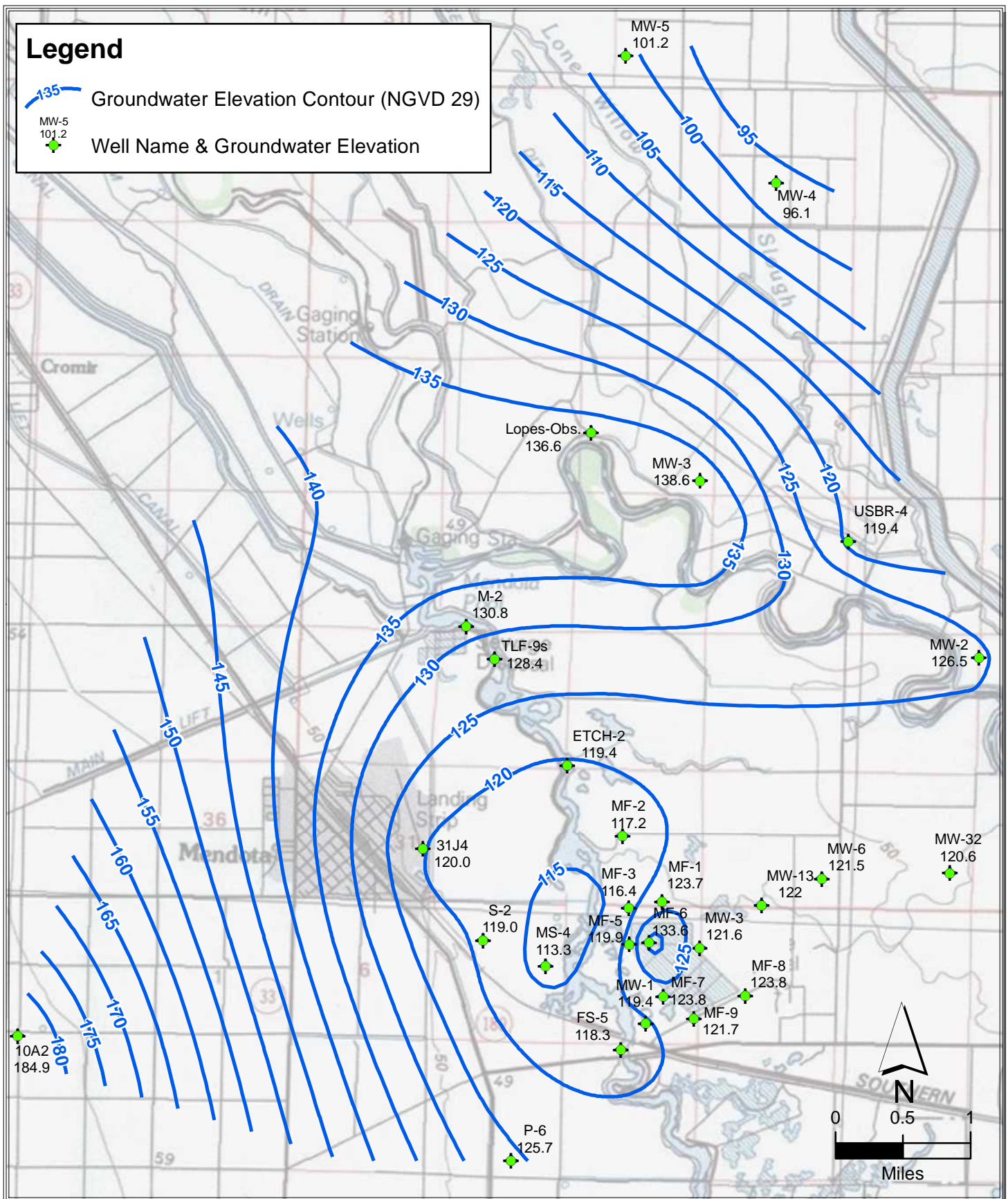
Well Owner	Well ID	Maximum Drawdown¹	Recovery²	Residual Drawdown³
USGS	31J4	2.3	6.6	-4.3
City of Mendota	Fordel M-2	6.7	10.2	-3.5
Terra Linda	TL-9S (10A)	3.9	8.5	-4.5
Etchegoinberry	No. 2	3.1	9.5	-6.4
Meyers Farming	MS-4	0.0	23.1	-23.1
	S-2	0.0	12.0	-12.0
	P-6	1.2	5.3	-4.2
Five Star	FS-5	12.2	25.7	-13.5
Spreckels Sugar Company	MW-1	0.0	19.3	-19.3
	MW-3	0.0	28.8	-28.8
	MW-6	1.6	4.1	-2.5
	MW-32	1.8	1.3	0.5
Columbia Canal Company	Lopes-Obs	11.0	11.6	-0.6
	USBR-4	0.0	5.8	-5.8
Paramount Farming Company	MW-2	0.0	16.2	-16.2
	MW-3	1.5	1.4	0.1
	MW-4	8.1	17.9	-9.9
	MW-5	4.6	0.8	3.9

1. Difference between the highest water level measured during winter 2009-2010 and the lowest non-pumping water level measured during the irrigation season.
2. Recovery as of winter 2010-2011 (December-January).
3. Difference between seasonal drawdown and recovery. Negative values indicate rising water levels.

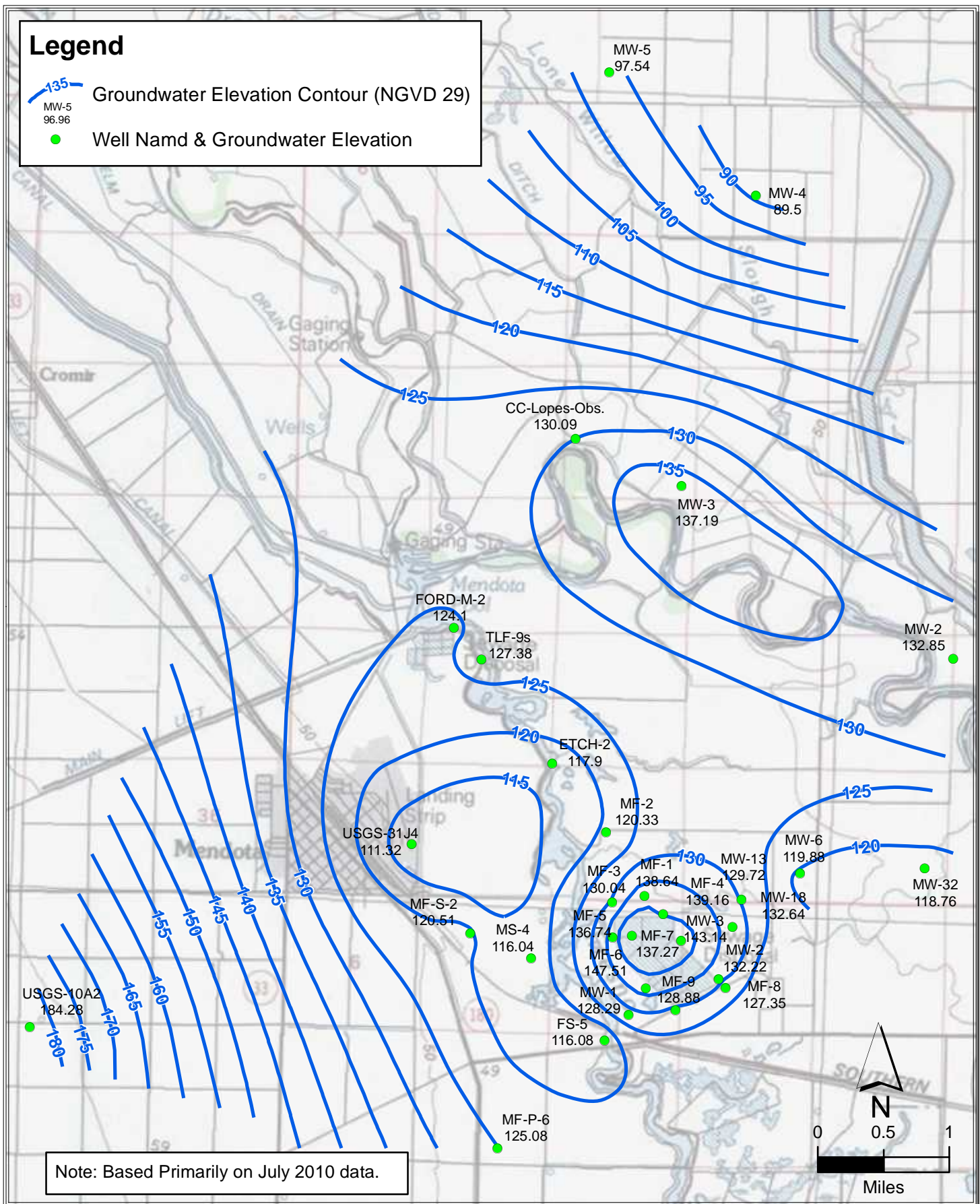
Table 4-2
Change in Groundwater Levels in Deep Wells:
Winter 2009-2010 to Winter 2010-2011 (feet)

Well Owner	Well ID	Maximum Drawdown¹	Recovery²	Residual Drawdown³
Central California ID	38A	3.0	6.6	-3.7
	5A	7.1	10.6	-3.4
	15B	0.7	3.9	-3.2
	32B	3.2	5.8	-2.6
	35A	0.7	4.2	-3.5
Firebaugh Canal WD	25D2	3.1	6.9	-3.8
USBR	19R1	34.0	27.7	6.2
USGS	31J3	25.9	30.8	-4.9
	31J5	12.2	17.0	-4.8
Terra Linda Farms	HS-3	32.5	34.2	-1.8
Coelho/Coelho/Fordel	CCF-2	44.9	49.7	-4.8
Meyers Farming	MS-5	6.3	14.8	-8.5
Spreckels Sugar Company	MW-10	9.3	20.4	-11.1
	MW-11	9.0	22.0	-13.0
	MW-14	24.9	25.9	-1.0
City of Mendota	18Q North	19.5	22.4	-2.9
Panoche Creek Farms	PCF-1	50.9	54.8	-3.8
Baker Farming	BF-2	26.6	35.6	-9.0
Farmers Water District	R-5	66.5	69.9	-3.4
	R-7	36.5	40.7	-4.2
	R-8	56.2	60.7	-4.5
	WL-2	27.6	38.2	-10.6
	EL-1	40.1	42.5	-2.4
Columbia Canal Company	CC-1	40.5	44.1	-3.6
	Lopes-1	25.4	23.9	1.6
	MLT-W	31.1	40.1	-9.0
Paramount Farming Company	W-8	25.0	22.0	3.1
	W-11	18.0	18.7	-0.7
	W-15	NA	28.5	NA
	W-32	11.0	7.3	3.7
	W-42	12.0	10.1	1.8
	W-53	60.6	62.0	-1.4
	W-74	18.0	17.8	0.2
	W-77	52.6	52.1	0.5
	W-78	NA	50.8	NA
	W-89	22.0	22.3	-0.3
	W-91	18.1	18.2	-0.1
	W-94	80.0	93.3	-13.3
	W-95	69.2	67.7	1.4

1. Difference between the highest water level measured during winter 2009-2010 and the lowest non-pumping water level measured during the irrigation season.
2. Maximum recovery as of December 2010 to March 2011.
3. Difference between seasonal drawdown and recovery. Negative values indicate rising water levels.

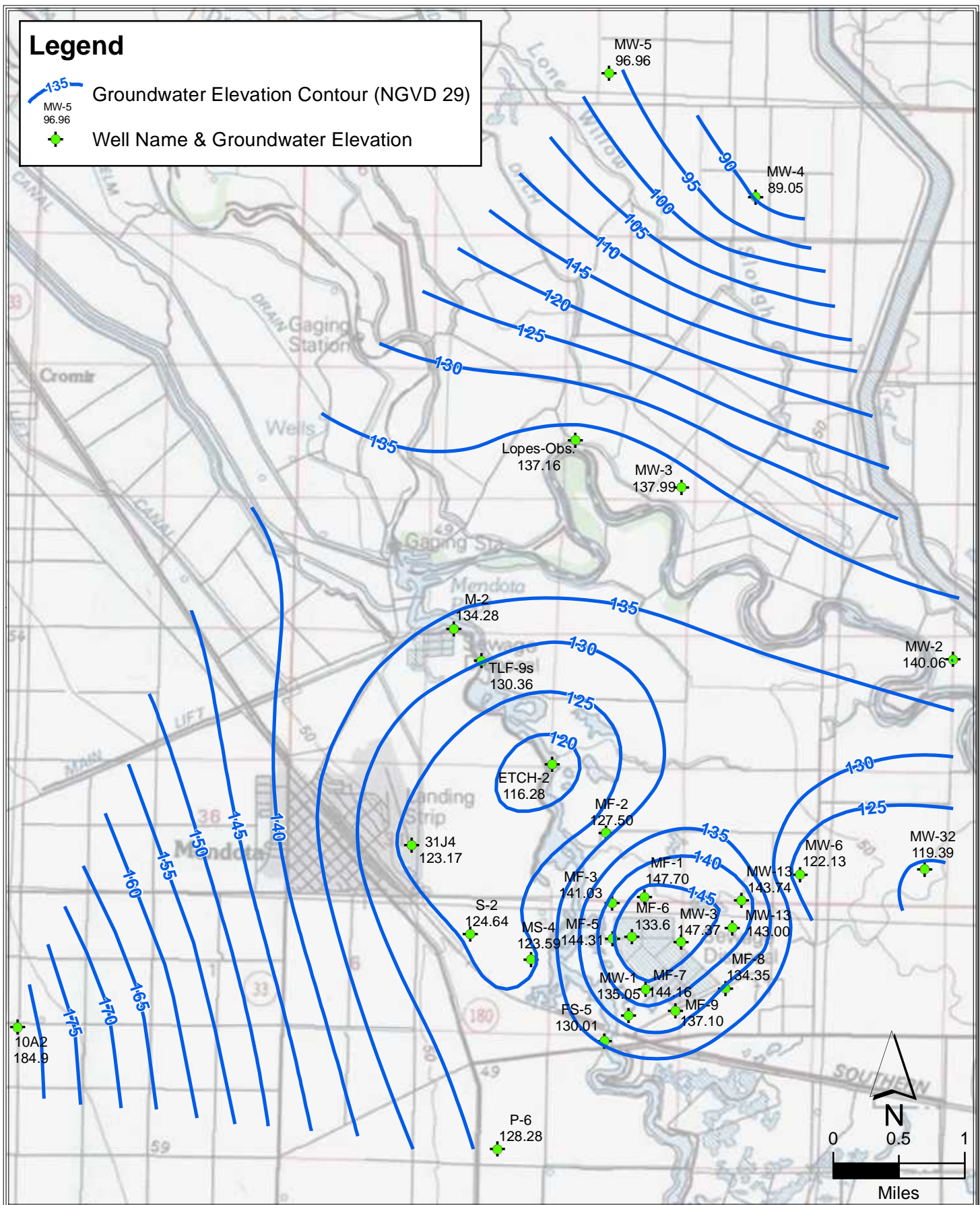


FILE: C:\Documents and Settings\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\Figure 4-3 Jan-Feb 2010.mxd Date: 6/2/2010

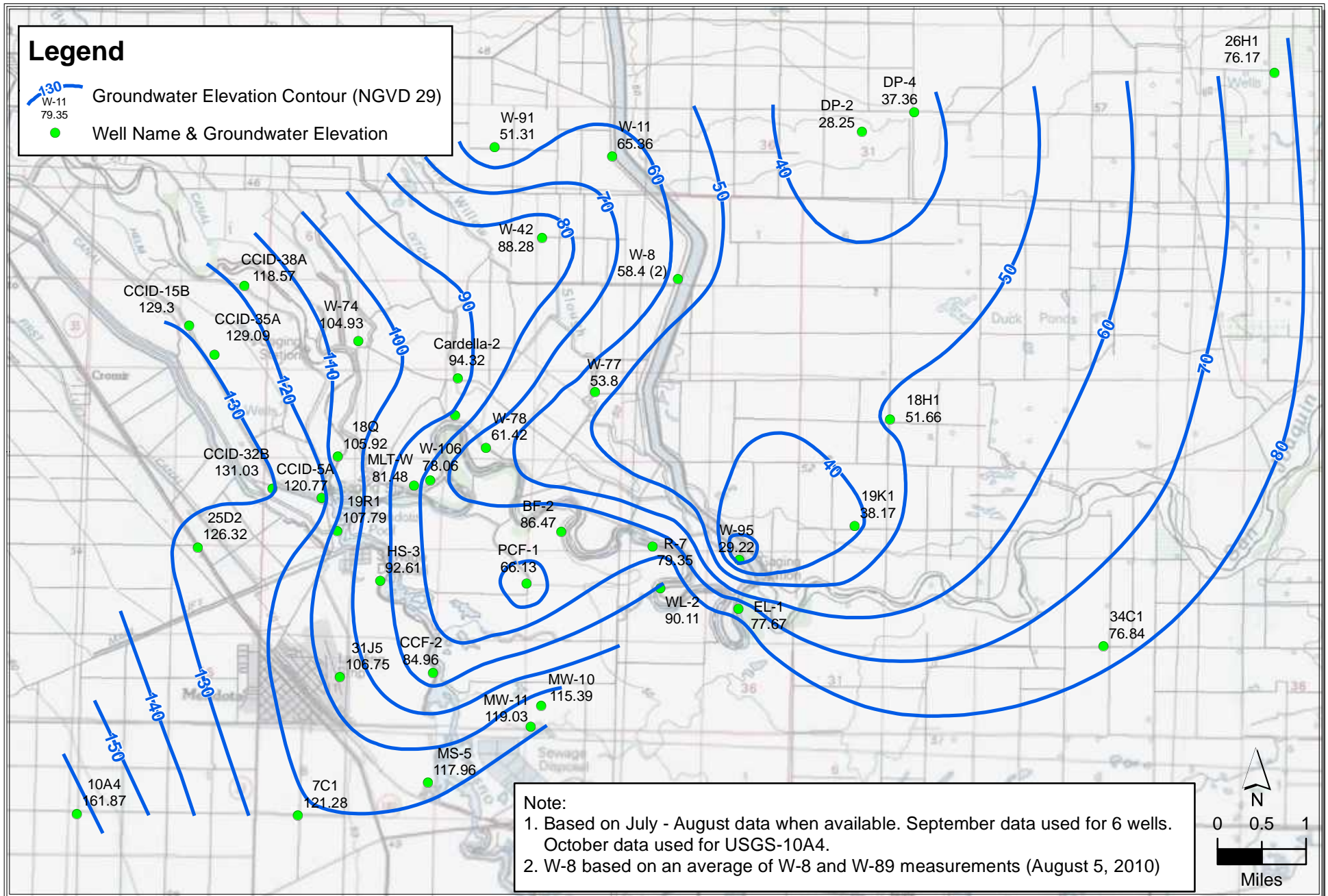


Path: C:\Users\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\map files\010311\Figure 4-2 GWE Contour Shallow Summer 2010.mxd

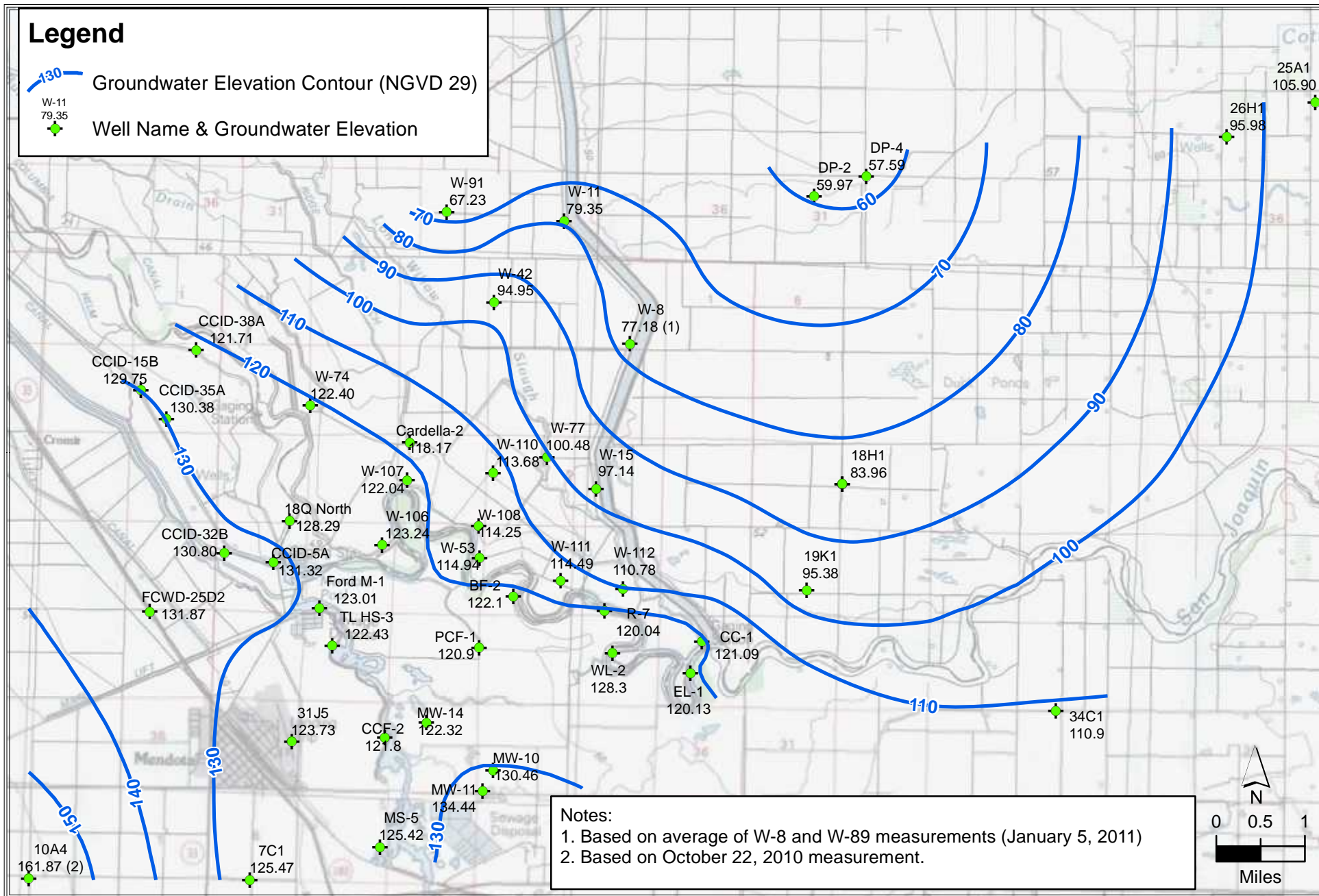
Figure 4-2
Groundwater Elevation Above
A-Clay: Summer 2010



Path: C:\Users\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\map files\010311\Figure 4-3 GWE Contour Dec 2010 - Jan 2011.mxd



Path: C:\Users\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\map files\010311\Figure 4-5 GWE Contour Deep Summer 2010.mxd



Path: C:\Users\nguyen.LSCEDOMAIN\Desktop\Job files\Mendota\gis\map files\010311\Figure 4-6 GWE Below Contour Dec 2010-Jan 2011.mxd

V. Groundwater Quality

Groundwater quality in the Mendota area is highly variable, with the poorest water quality generally occurring in the western portion of the study area and the best water quality in the eastern area near the SJR. The primary water quality concern is high salinity, which is partly due to natural factors but has been exacerbated by deep percolation of applied irrigation water and concentration by evaporation in areas where groundwater is very shallow. Localized degradation due to percolated wastewater has also occurred in certain areas. Except for areas that benefit from recharge from the River or the Pool, shallow groundwater generally has higher salinity than deep groundwater above the Corcoran Clay. The best water quality in the study area typically occurs in shallow and deep wells located east of Mendota Dam near the Mendota Pool and the SJR, including the FWD, CCC, and PFC wells, due to recharge from the Pool and the River.

Groundwater quality degradation has occurred for decades in the western portion of the study area due to the northeasterly movement of a “front” of saline groundwater, which is present west of the Fresno Slough and the SJR. This poor quality groundwater flows into the Mendota area due to a northeasterly regional hydraulic gradient above the Corcoran Clay toward a pumping depression east of the Chowchilla Bypass in western Madera County. Groundwater pumping near the saline front steepens the gradient and accelerates the movement of this water toward the pumping wells.

Historical and recent groundwater quality data are shown in **Tables D-1 to D-3** in **Appendix D**. **Table D-1** contains data for shallow-zone wells, **Table D-2** contains data for deep-zone wells, and **Table D-3** contains data for the Spreckels Sugar Co. and Meyers Farm Water Bank shallow and deep wells. Hydrographs of EC data from individual wells are compiled in **Appendix E**.

Salinity in the Shallow Zone

Recent EC and TDS data (2008-2010) for shallow wells in the monitoring program are summarized in **Table 5-1**. These parameters (especially TDS concentrations) are highlighted in the following discussion because they represent the best measures of groundwater salinity. Concentrations of other constituents (general minerals and trace elements) shown in tables in **Appendix D** were reviewed for this report and are generally consistent with the TDS and EC data.

West of Fresno Slough

The water quality data for shallow MPG wells located west of the Fresno Slough have different trends, with some wells showing degradation, some showing stable water quality, and some showing water quality improvements. The shallow Terra Linda wells located at the northern end of the MPG well field along the Fresno Slough had relatively good water quality in 2010, with TDS concentrations ranging from 420 to 530 mg/L. Of the four wells that were sampled in 2009 or 2010, all show generally stable TDS concentrations.

In the central portion of the MPG's Fresno Slough well field, TDS concentrations in the shallow zone generally increase from north to south. Wells that are located farther west (closer to the saline front) also have higher salinities than more easterly wells. The Terra Linda wells in this area have the lowest TDS concentrations, ranging from 500 to 770 mg/L in 2009 or 2010. Seven of these wells were sampled in 2009 or 2010; three show degradation and four show generally stable water quality. The Silver Creek wells had higher TDS concentrations than the Terra Linda wells (870 to 1,020 mg/L in 2009) because they are located farther west. Degradation has occurred at both of the Silver Creek wells since 2002.

TDS concentrations in shallow MPG wells were highest at the CGH wells in the south-central portion of the MPG well field along the Fresno Slough. TDS concentrations at the CGH wells ranged from 910 to 4,080 mg/L in 2009 and 2010. Ten CGH wells were sampled in 2009 or 2010, and significant degradation has occurred at almost all of these wells since the initial samples were collected in 2001 or 2002. Several of the CGH wells have been dropped from the MPG pumping program because the TDS concentrations exceeded 2,000 mg/L, and three wells that pumped a small amount of water in 2010 will be dropped in 2011.

In the southern portion of the MPG well field along the Fresno Slough, TDS concentrations at Meyers Farming wells MS-6 and MS-7 were 960 and 920 mg/L, respectively in 2007; these wells have not been sampled since that time. Salinity had decreased considerably in these wells since 2004 due to westerly migration of low salinity water recharged by the Bank. Six of the Five Star wells, located near Whites Bridge, were sampled in 2010, and all ten wells were sampled in 2009. The most recent TDS concentrations ranged from 620 to 1,490 mg/L. The initial samples from these wells were collected in 1993 (two wells), 1999 (one well), and 2001 (seven wells). Since that time, three wells show degradation, two show generally stable TDS concentrations, and five show TDS decreases. However, it is difficult to identify salinity trends for some of these wells because the data are highly variable.

East of Fresno Slough

East of the Fresno Slough, groundwater quality in and near the western portion of Spreckels Sugar Co. is also highly variable due to the combined effects of degradation caused by Spreckels' historical wastewater disposal practices and recent water quality improvements caused by surface water recharged by the Bank.

Like the Five Star wells, water quality at the shallow MPG wells near Jack's Resort (the Coelho West wells) has been highly variable. Most of these wells have experienced degradation due to Spreckels' wastewater, and some wells appear to show water quality improvements in recent years due to Bank recharge. These wells were not sampled in 2010, but the 2008 or 2009 TDS concentrations ranged from 570 mg/L at CW-1 to 1,410 mg/L at CW-4. The northernmost wells (CW-4 and CW-5) have experienced the most degradation due to Spreckels' wastewater, which moves toward these wells due to the cone of depression created by MPG pumping.

Many of the Spreckels Sugar Co. monitoring wells have experienced long-term groundwater quality degradation due to Spreckels' wastewater disposal practices and recent improvements due to recharge from the Bank. MW-3 is the best example of this variability due to its central

location between the former Spreckels' wastewater ponds and the Bank's recharge ponds. TDS concentrations at this well increased from 735 mg/L in 1988 to 1,800 mg/L in 2003 and have generally declined since 2003. The TDS concentration of samples collected in 2010 ranged from 530 to 1,300 mg/L.

Spreckels' MW-1 is located between the Coelho West wells and Spreckels' pasture that, until recently, had been irrigated with factory wastewater. The TDS concentration was relatively stable at about 900 to 1,000 mg/L from 1982 until the MPG wells near Whites Bridge started pumping in 1990; this created a southwesterly direction of groundwater flow during pumping periods. TDS concentrations at MW-1 rose sharply to about 2,600 mg/L in 1994 and more gradually to over 3,000 mg/L in 2006. Water recharged by the Bank reached this area in 2007, and TDS concentrations decreased to about 900-1,400 mg/L in 2010.

The nine Meyers Farm monitoring wells east of the Fresno Slough have a shorter period of record but show substantial water quality improvement due to their proximity to the Bank. Since Bank recharge began in 2002, TDS concentrations have decreased in all but two of these wells. TDS concentrations in all Bank monitoring wells have decreased from the maximum reported levels, and TDS concentrations at seven wells have declined by more than 500 mg/L. The largest decrease (2,100 mg/L) occurred at MF-7. MF-9 is the only Bank monitoring well that has not experienced some water quality improvement.

2010 water quality data for monitoring wells in the central and eastern portions of the Spreckels property show that TDS concentrations continue to be highest in the central area due to the ongoing effects of previous percolation of Steffens' wastewater, which was a byproduct of the process used to produce molasses at the Spreckels' plant until 1994. TDS concentrations near the center of the Steffens' plume have decreased in recent years. In 2010, TDS concentrations were highest at Spreckels' MW-15 (4,000 mg/L), MW-17 (3,200 mg/L), MW-19 (4,200 mg/L), MW-26 (3,900 mg/L), and MW-27 (3,700 mg/L). TDS concentrations have decreased considerably west of the former Steffens' ponds due to good quality recharge from the Bank. In 2010, the TDS concentration decreased to 260-490 mg/L at MW-13 and 1,300-1,500 mg/L at MW-18. The Steffens' plume appears to be migrating to the north and northeast, and TDS concentrations have been increasing at MW-4, MW-5, MW-6, MW-9, and MW-24. TDS concentrations are also increasing at MW-17 and MW-25 in the area south of the former Steffens' ponds.

Groundwater quality is much better in monitoring wells in the eastern portion of the Spreckels' property (east of San Mateo Avenue) due in part to recharge from the SJR. TDS concentrations in areas too far east to be affected by the Steffens' plume were as low as 220 mg/L at MW-32 in 2010. The maximum TDS concentration east of San Mateo Avenue in the area impacted by Spreckels' wastewater was 1,200 mg/L at MW-29.

North of San Joaquin River

There are four shallow PFC monitoring wells north of the SJR included in the monitoring program. Monitoring wells MW-2 and MW-3 are located just north of the River, and MW-4 and MW-5 are located two to three miles north of MW-3. Water quality at these monitoring wells has been highly variable, but some of the large year-to-year changes may be due to the

duration of purging prior to sample collection and may not reflect actual changes in groundwater quality. Most of the samples collected from these wells were not analyzed for TDS; therefore, the salinity is discussed in terms of EC.

The salinity has decreased considerably at MW-2 due to recharge from the SJR. The EC at this location decreased from 1,090 $\mu\text{mhos/cm}$ in 2002 to 290 $\mu\text{mhos/cm}$ in 2010. At PFC MW-3, the 2010 EC value (410 $\mu\text{mhos/cm}$) was lower than the high values reported in 2004 and spring 2006 (640 $\mu\text{mhos/cm}$) and slightly higher than the early measurements in 2002 and 2003 (320 to 350 $\mu\text{mhos/cm}$).

The salinity is significantly greater and more variable away from the River and the Pool at MW-4 and MW-5. At MW-4, the 2010 EC measurement (1,750 $\mu\text{mhos/cm}$) was lower than the high values reported in 2005 and spring 2006 (2,170 to 2,650 $\mu\text{mhos/cm}$, respectively). Similarly, the 2008 EC measurement for MW-5 (1,220 $\mu\text{mhos/cm}$) was lower than high values reported in spring 2005 and spring 2006 (1,970 and 1,950 $\mu\text{mhos/cm}$, respectively). However, degradation appears to be occurring over the long term in this area as indicated by higher EC measurements at both wells in 2010 compared to the initial sample collected in 2002.

Salinity in the Deep Zone

Recent EC and TDS data (2006-2009) for all deep wells are summarized in **Table 5-2**. All water quality data for the deep wells are shown in tables in **Appendix D**, and plots of EC measurements at individual wells are compiled in **Appendix E**.

Northwestern Area

The CCID wells in the northwestern portion of the study area have some of the longest periods of record showing water quality changes in the Mendota area, with salinity data going back to the 1960s at several wells. Salinity increases were observed at wells Nos. 32B, 34, 35A, and 49 during or before 1970. Wells Nos. 34 and 49, located northwest of well No. 32B along the Outside Canal, experienced sharp salinity increases in the 1960s and 1970s due to easterly movement of the saline front and have since been abandoned. Salinity increase in these wells has primarily been in response to horizontal migration of the saline front due to regional groundwater flow conditions (especially pumping occurring in western Madera County). Nine CCID wells were sampled in 2009 or 2010, and all have experienced some historical salinity increases. Based on EC data, salinity increases have ranged from very small (80 $\mu\text{mhos/cm}$) at CCID-38A over a 12-year period to more than 1,000 $\mu\text{mhos/cm}$ at CCID wells Nos. 32 and 35 (and their replacements) over a period of more than 40 years. However, there were water quality improvements at most of the CCID wells in 2010. The greatest improvement occurred at CCID-5A, where the TDS concentration decreased from 700 to 390 mg/L. This may be the result of reduced pumpage in 2010. The only well showing significant degradation in 2010 was CCID-28C, where the TDS concentration increased from 860 to 1,100 mg/L. TDS concentrations at the other CCID wells ranged from 360 to 1,700 mg/L in 2009 or 2010.

West of Fresno Slough

The City of Mendota's older municipal wells located along Bass Avenue have been replaced by wells on the B&B Ranch east of the Fresno Slough, and salinity analyses (TDS or EC) for the

old wells were discontinued in 2003. The City has operated the former Fordel wells south of Bass Avenue since 2004, but has not provided sampling results for those wells since that time.

The USGS monitoring wells west of the Mendota Airport were sampled in 2010. One of the deep wells in this cluster (31J5) had the highest salinity (TDS concentration of about 6,780 mg/L) of any deep well in the study area for which data are available. Groundwater quality at this location has been relatively stable since 2000.

The MPG operated six deep wells west of the Fresno Slough in 2010, and four of these were sampled in 2009 or 2010. This includes three Terra Linda wells and one CGH well. TDS concentrations in the Terra Linda wells ranged from 1,030 mg/L at TLF-14d to 1,330 mg/L at TLF-5d. Since the initial samples collected in 1999 or 2000, TDS concentrations have decreased at TLF-18d and increased at the other three Terra Linda wells (TLF-5d, 6d, and 14d). These wells have experienced significant salinity increases since 1999, but the highest degradation rate has occurred further south at CGH-13d. Since 1997, the TDS concentration at this well has increased from 680 to 1,640 mg/L.

East of Fresno Slough

TDS concentrations at the City of Mendota municipal wells on the B&B Ranch ranged from about 250 to 490 mg/L in the fall of 2009 and have remained relatively stable since these wells were first sampled in 2001. The 2010 data have not been provided for these wells. Water from the Baker Farming wells and most FWD wells continues to have relatively low salinity. TDS concentrations in Baker Farming wells BF-1 through BF-5, located along the SJR between the B&B Ranch and San Mateo Avenue, ranged from 340 to 390 mg/L in 2009 and 2010. Most of these wells were not sampled in 2009, and there were salinity increases between 2008 and 2010. The largest increase in TDS concentrations was about 100 mg/L at BF-2 and BF-5.

TDS concentrations in the FWD wells ranged from 290 mg/L at R-7 to 600 mg/L at R-11 in 2009 or 2010. TDS concentrations have been stable at most of the FWD wells, but the three southernmost wells (R-1, R-3, and R-11) appear to be affected by percolated Steffens' wastewater moving north from Spreckels Sugar Co. FWD well R-4 has also shown salinity increases, although the TDS concentration is still very low at this well (360 mg/L).

Water quality degradation has occurred at most of the Spreckels' production wells located in the northern, central, and southern portions of the property, and the wells with the poorest water quality (PW-1, PW-2, PW-3, PW-5, and PW-8) have been abandoned. In the north central portion of the Spreckels' site, the degradation is believed to be due to the downward and northerly movement of percolated Steffens' wastewater. PW-9, located just west of San Mateo Avenue, has experienced the greatest salinity increase of the production wells that are still in service. The TDS concentration at PW-9 increased from about 400 mg/L in 1988 to 2,000 mg/L in September 2010. Other wells show historical degradation followed by water quality improvement in recent years. For example, the TDS concentration at PW-6 increased from 300 mg/L in 1983 to 1,200 mg/L in 2005 but had decreased to 630 mg/L by 2010. TDS concentrations in PW-12, located east of PW-9 and San Mateo Avenue, have increased from the initial measurement of 320 mg/L in 2004 to 570 mg/L in 2009. This suggests that the Steffens' plume is also spreading to the east in this area. PW-11 is located farther east, and still

has the best water quality of any deep well at Spreckels Sugar Co. (TDS concentration of 320 mg/L in 2010). Although the Spreckels' factory closed at the end of 2008, some of the production wells continue to be pumped for irrigation purposes.

North of San Joaquin River

North of the SJR, water quality data for the PFC and CCC wells show considerable variability. Some of the large year-to-year changes appear to be due to sampling procedures rather than actual changes in groundwater quality. Samples from the PFC and CCC wells are not analyzed for TDS concentrations so the salinity is discussed in terms of EC.

TDS concentrations at most PFC wells have generally been stable since the mid-1990s, but gradual salinity increases have occurred at some of the northern wells (e.g., No. 3311-61 [W-89]). The salinity is lowest in wells near the SJR in the southeastern portion of PFC and highest in the northern area. In 2010, the EC ranged from 340 $\mu\text{mhos/cm}$ at well No. 3730-61 (W-95) to 1,310 $\mu\text{mhos/cm}$ at well No. 3311-61 (W-89).

The wells in the CCC service area were sampled in 2010, and there were water quality improvements at all wells since the previous sample collected in 2008. Many of these wells are located near the SJR north of Mendota Dam and have experienced slight TDS increases due to the easterly movement of higher salinity groundwater beneath the River. Groundwater quality is still acceptable for irrigation in this area, with ECs ranging from 640 to 980 $\mu\text{mhos/cm}$ in 2010. There is an area of elevated salinity approximately two miles east of the River in the northern portion of CCC. The Diepersloot-1 (formerly DMA) and Elrod-1 wells in this area had ECs of about 1,500 to 1,700 $\mu\text{mhos/cm}$ in 2010. The easternmost CCC wells (CC-1 and CC-2) had the best water quality of any CCC wells when they were last sampled in 2007 (ECs of 290 and 400 $\mu\text{mhos/cm}$, respectively).

Trace Elements

Except for manganese, concentrations of trace elements are generally low in both shallow and deep production wells in the Mendota area. However, samples from many irrigation wells have not been analyzed for trace elements, except for boron and selenium. Samples collected from all MPG wells are analyzed for a number of trace elements. Arsenic and selenium concentrations in groundwater discharged to the Pool from MPG wells along the Fresno Slough have typically been below the reporting limits of 2 and 0.4 $\mu\text{g/L}$, respectively. Likewise, boron concentrations in these wells are low (typically below 0.5 mg/L).

Molybdenum concentrations in groundwater are much more variable, and concentrations in MPG wells tend to be higher in the southern portion of the well field along the Fresno Slough. Molybdenum concentrations measured between 2007 and 2009 averaged about 7 $\mu\text{g/L}$ in the Terra Linda wells, 12 $\mu\text{g/L}$ in the CGH wells, 15 $\mu\text{g/L}$ in the Five Star wells, and 21 $\mu\text{g/L}$ in the Coelho West wells.

Summary

Shallow Wells

TDS concentrations in shallow wells in the Mendota area vary widely, from less than 500 mg/L near the SJR east of San Mateo Avenue to over 3,000 mg/L west of the Fresno Slough. Many wells show large salinity fluctuations from year to year, and salinity is sometimes higher in the summer and fall than in the spring. Groundwater quality appears to generally have been stable or improved in the northern and southern portion of the MPG well field west of the Fresno Slough, but salinity increases have continued at a number of the MPG wells in the central portion of the well field. A number of Terra Linda, Silver Creek, and CGH wells in this area have experienced increasing salinity over time due to easterly movement of the saline front, which has increased due to MPG pumping.

The operation of the Bank east of the Fresno Slough, in the western portion of the Spreckels Sugar Co. property, has resulted in substantial water quality improvements due to recharge of low salinity surface water. In the central portion of the Spreckels' property, however, shallow groundwater remains degraded due to historical wastewater disposal practices. This groundwater has generally moved in a northeasterly direction.

In the PFC service area, shallow monitoring wells in the vicinity of the SJR continue to have better water quality than shallow wells located farther north, due to recharge of high quality surface water from the River. Some salinity increases appear to occurring at the two northern PFC monitoring wells.

Deep Wells

The CCID wells have some of the longest periods of record showing water quality changes in the Mendota area, with salinity data going back to the 1960s at several wells. Eight CCID wells are still operating in the study area, and all but one have experienced long-term historical water quality degradation. Seven wells were sampled in 2010, and all but one (CCID-28C) showed short-term water quality improvements. This was likely associated with reduced pumpage in 2010.

Deep MPG wells west of the Fresno Slough continued to experience salinity increases due to easterly movement of the saline front, which has increased due to MPG pumping. The MPG operated six deep wells west of the Fresno Slough in 2010, and five of these were sampled during 2008-2010. This includes four Terra Linda wells and one CGH well. Since the initial samples collected in 1999 or 2000, TDS concentrations have decreased at TLF-18d and increased at three Terra Linda wells. These three wells have experienced significant salinity increases since 1999, but the greatest increases have occurred further south at CGH-13d.

East of the Fresno Slough, most wells in or near FWD exhibit low salinity and stable groundwater quality due to recharge from the River. In the central portion of the Spreckels Sugar Co. property, degraded shallow groundwater has moved downward to the deep zone and has moved north toward the southernmost FWD wells. Three FWD wells (R-1, R-3, and R-11) appear to be affected by the northerly movement of the Steffens' plume.

North of the SJR, most wells in the PFC and the CCC service areas also have acceptable quality, although some salinity increases have occurred at wells in the northern portion of PFC. The salinity at CCC wells and the other PFC wells does not show an increasing trend, but most wells have experienced large year-to-year fluctuations.

Table 5-1
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
U.S. Geological Survey					
	31J4	09/17/08	FGL	8060	5230
	31J4	05/12/10	FGL	8310	5370
Terra Linda Farms					
	TLF-11As (4A)	09/17/08	FGL	766	430
	TLF-11Cs (4C)	09/17/08	FGL	1170	680
	TLF-9s (10A)	09/16/08	FGL	827	460
	TLF-9s (10A)	05/12/10	FGL	913	530
	TLF-8s (10B)	09/16/08	FGL	825	480
	TLF-8s (10B)	05/12/10	FGL	938	520
	TLF-7s (10C)	09/16/08	FGL	668	380
	TLF-7s (10C)	05/12/10	FGL	790	430
	TLF-1s (12)	09/17/08	FGL	1160	690
	TLF-1s (12)	05/26/09	FGL	1080	650
	TLF-2s (13)	09/16/08	FGL	965	540
	TLF-2s (13)	05/26/09	FGL	952	560
	TLF-2s (13)	05/11/10	FGL	945	560
	TLF-3s (14)	09/16/08	FGL	1320	790
	TLF-3s (14)	05/26/09	FGL	1300	770
	TLF-3s (14)	05/11/10	FGL	1340	770
	TLF-4s (15)	09/16/08	FGL	1310	760
	TLF-4s (15)	05/26/09	FGL	1260	750
	TLF-4s (15)	05/11/10	FGL	1210	720
	TLF-10s (16)	09/17/08	FGL	972	520
	TLF-10s (16)	05/26/09	FGL	875	540
	TLF-10s (16)	05/13/10	FGL	900	530
	TLF-13s (17)	09/17/08	FGL	630	340
	TLF-13s (17)	05/26/09	FGL	715	410
	TLF-13s (17)	05/13/10	FGL	697	420
	TLF-15s	05/26/09	FGL	808	500
	TLF-15s	05/11/10	FGL	817	500
	TLF-16s	09/16/08	FGL	762	450
	TLF-16s	05/26/09	FGL	749	460
	TLF-16s	05/11/10	FGL	903	560
	TLF-17s	09/16/08	FGL	1070	620
	TLF-17s	05/26/09	FGL	1050	630
	TLF-17s	05/11/10	FGL	1010	600
Silver Creek Packing Co.					
	SC-3B	09/16/08	FGL	1580	890
	SC-3B	05/26/09	FGL	1440	870
	SC-4B	09/16/08	FGL	1790	1030
	SC-4B	05/26/09	FGL	1760	1020
Coelho/Gardner/Hansen					
	CGH-4s (1A)	09/17/08	FGL	3960	2480
	CGH-4s (1A)	05/26/09	FGL	4010	2900
	CGH-3s (1B)	05/26/09	FGL	2850	1780

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	CGH-3s (1B)	05/11/10	FGL	1540	910
	CGH-2s (1C)	09/17/08	FGL	1700	1010
	CGH-2s (1C)	05/26/09	FGL	2350	1450
	CGH-1s (2)	05/11/10	FGL	4620	3030
	CGH-5s (3)	05/10/10	FGL	5880	4080
	CGH-9As (5)	09/17/08	FGL	5310	3120
	CGH-12s (6B)	05/10/10	FGL	3710	2360
	CGH-11s (6D)	09/17/08	FGL	4750	3110
	CGH-11s (6D)	05/26/09	FGL	2480	1520
	CGH-11s (6D)	05/10/10	FGL	1590	920
	CGH-7s (9)	05/11/10	FGL	1670	990
	CGH-8s (10)	09/17/08	FGL	1440	860
	CGH-8s (10)	05/11/10	FGL	1730	1090
	CGH-6s (11)	09/17/08	FGL	2580	1510
	CGH-6s (11)	05/26/09	FGL	4910	3720
	CGH-6s (11)	05/11/10	FGL	4690	3070
Five Star					
	FS-1	09/15/08	FGL	1020	560
	FS-1	05/27/09	FGL	1060	620
	FS-2	09/15/08	FGL	1050	560
	FS-2	05/27/09	FGL	1270	730
	FS-2	05/13/10	FGL	1350	750
	FS-3	09/16/08	FGL	1380	810
	FS-3	05/27/09	FGL	1740	1070
	FS-3	05/13/10	FGL	1250	760
	FS-4	09/16/08	FGL	1340	760
	FS-4	05/27/09	FGL	1280	740
	FS-5	05/27/09	FGL	1270	750
	FS-5	05/13/10	FGL	1210	720
	FS-6	07/13/09	FGL	1960	1150
	FS-6	05/13/10	FGL	1970	1180
	FS-7	09/16/08	FGL	2190	1330
	FS-7	07/13/09	FGL	2330	1450
	FS-7	05/13/10	FGL	2350	1490
	FS-8	09/16/08	FGL	1800	1000
	FS-8	05/27/09	FGL	2140	1250
	FS-8	05/13/10	FGL	2040	1190
	FS-9	09/16/08	FGL	1890	1130
	FS-9	05/27/09	FGL	2130	1340
	FS-10	09/16/08	FGL	2480	1550
	FS-10	07/13/09	FGL	2360	1420
Coelho West					
	CW-1	09/16/08	FGL	1150	710
	CW-1	05/27/09	FGL	947	570
	CW-2	09/16/08	FGL	1510	870
	CW-3	09/16/08	FGL	1970	1170
	CW-3	05/27/09	FGL	1780	1040

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	CW-4	09/16/08	FGL	2410	1410
	CW-5	09/16/08	FGL	2120	1260
	CW-5	05/27/09	FGL	2020	1250
Meyers Farm Water Bank					
	MF-1	04/06/08	BCL	937	550
	MF-1	09/03/08	BCL	1260	740
	MF-1	04/02/09	BCL	1200	840
	MF-1	10/20/09	BCL	1250	780
	MF-1	05/12/10	BCL	1290	840
	MF-1	09/14/10	BCL	492	310
	MF-2	07/10/08	BCL	977	550
	MF-2	09/03/08	BCL	864	510
	MF-2	04/02/09	BCL	1090	730
	MF-2	10/20/09	BCL	1560	960
	MF-2	05/20/10	BCL	1560	1000
	MF-2	09/14/10	BCL	1400	920
	MF-3	04/06/08	BCL	1960	1200
	MF-3	09/03/08	BCL	924	570
	MF-3	04/02/09	BCL	1370	1000
	MF-3	10/21/09	BCL	872	540
	MF-3	05/12/10	BCL	1130	720
	MF-3	09/14/10	BCL	1420	900
	MF-4	04/06/08	BCL	1380	880
	MF-4	09/03/08	BCL	2110	1200
	MF-4	04/02/09	BCL	2000	1300
	MF-4	10/21/09	BCL	1830	990
	MF-4	05/12/10	BCL	1750	980
	MF-4	09/14/10	BCL	1290	780
	MF-5	04/06/08	BCL	638	490
	MF-5	09/03/08	BCL	1100	680
	MF-5	04/02/09	BCL	947	730
	MF-5	10/21/09	BCL	1300	780
	MF-5	05/12/10	BCL	1200	740
	MF-5	09/14/10	BCL	483	310
	MF-6	04/06/08	BCL	1460	830
	MF-6	09/03/08	BCL	2150	1300
	MF-6	04/02/09	BCL	1850	1400
	MF-6	10/21/09	BCL	1520	1100
	MF-6	05/12/10	BCL	1820	1100
	MF-6	09/14/10	BCL	444	280
	MF-7	04/06/08	BCL	770	430
	MF-7	09/03/08	BCL	837	480
	MF-7	04/02/09	BCL	794	510
	MF-7	10/21/09	BCL	946	580
	MF-7	05/12/10	BCL	841	510
	MF-7	09/14/10	BCL	652	420
	MF-8	04/06/08	BCL	2760	1600
	MF-8	09/03/08	BCL	2800	1700
	MF-8	04/02/09	BCL	2820	1600

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	MF-8	10/21/09	BCL	3560	2200
	MF-8	05/12/10	BCL	3480	2100
	MF-8	09/14/10	BCL	2930	2000
	MF-9	04/06/08	BCL	1540	1000
	MF-9	09/03/08	BCL	2000	1200
	MF-9	04/02/09	BCL	2200	1400
	MF-9	10/21/09	BCL	3010	2000
	MF-9	05/12/10	BCL	2960	1900
	MF-9	09/14/10	BCL	3120	2100
	EW-1	05/09/08	BCL	660	440
	EW-1	11/25/08	BCL	807	480
	EW-1	03/11/09	BCL	1090	800
	EW-1	08/14/09	BCL	1100	720
	EW-2	06/02/08	BCL	1530	980
	EW-2	11/25/08	BCL	956	580
	EW-2	08/14/09	BCL	1390	920
	EW-3	05/09/08	BCL	960	640
	EW-3	11/25/08	BCL	796	450
	EW-3	08/14/09	BCL	1350	980
	EW-4	06/02/08	BCL	635	440
	EW-4	11/25/08	BCL	738	430
	EW-4	03/11/09	BCL	883	580
	EW-5	06/02/08	BCL	954	620
	EW-5	11/25/08	BCL	746	450
	EW-5	03/11/09	BCL	1220	880
	EW-5	08/14/09	BCL	1640	1100
	EW-6	06/02/08	BCL	682	440
	EW-6	11/25/08	BCL	802	470
	EW-6	03/11/09	BCL	1070	660
	EW-6	08/14/09	BCL	1180	740
	EW-7	11/12/08	BCL	1330	800
	EW-7	03/11/09	BCL	1550	860
	EW-7	08/14/09	BCL	1410	900
	EW-8	11/08/08	BCL	1130	680
	EW-8	03/11/09	BCL	1090	720
	EW-8	08/14/09	BCL	1030	670
Spreckels Sugar Co.					
	MW-1	04/06/08	BCL	1520	980
	MW-1	09/03/08	BCL	1720	1100
	MW-1	04/02/09	UNK	1820	1300
	MW-1	04/02/09	BCL	1820	1200
	MW-1	10/02/09	BSK	1800	1000
	MW-1	10/20/09	BCL	1760	1200
	MW-1	05/20/10	BCL	2050	1400
	MW-1	09/15/10	BCL	1460	1100
	MW-1	09/15/10	SSC	1500	890
	MW-2	04/06/08	BCL	2720	1700
	MW-2	09/03/08	BCL	2650	1600
	MW-2	04/02/09	UNK	2590	1300

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	MW-2	04/02/09	BCL	2500	1700
	MW-2	10/02/09	BSK	2600	1500
	MW-2	10/20/09	BCL	2670	1500
	MW-2	05/20/10	BCL	2600	1400
	MW-2	09/15/10	BCL	2610	1500
	MW-2	09/15/10	SSC	2700	1600
	MW-3	04/06/08	BCL	1560	930
	MW-3	09/03/08	BCL	1640	940
	MW-3	04/02/09	BCL	1730	1100
	MW-3	04/02/09	UNK	1790	980
	MW-3	10/02/09	BSK	1200	690
	MW-3	10/20/09	BCL	1260	740
	MW-3	05/20/10	BCL	1950	1300
	MW-3	09/15/10	BCL	906	660
	MW-3	09/15/10	SSC	950	530
	MW-4	04/05/08	BCL	2270	1400
	MW-4	09/02/08	BCL	2160	1200
	MW-4	04/02/09	UNK	2100	1100
	MW-4	09/30/09	BSK	2300	1300
	MW-4	10/19/10	SSC	2300	1400
	MW-5	04/05/08	BCL	1490	960
	MW-5	09/02/08	BCL	1510	870
	MW-5	04/02/09	UNK	1510	890
	MW-5	09/30/09	BSK	1500	840
	MW-5	10/06/10	SSC	1600	920
	MW-6	09/04/08	BCL	2070	1300
	MW-6	04/03/09	UNK	2020	1300
	MW-6	09/30/09	BSK	2400	1400
	MW-6	10/06/10	SSC	2300	1300
	MW-9	04/05/08	BCL	2050	1300
	MW-9	09/02/08	BCL	1900	1000
	MW-9	04/02/09	UNK	1580	940
	MW-9	10/02/09	BSK	1500	950
	MW-9	10/06/10	SSC	1800	1000
	MW-13	04/05/08	BCL	515	320
	MW-13	09/03/08	BCL	633	380
	MW-13	04/02/09	BCL	931	610
	MW-13	10/01/09	BSK	760	420
	MW-13	10/20/09	BCL	700	470
	MW-13	05/20/10	BCL	786	490
	MW-13	09/15/10	BCL	459	330
	MW-13	09/15/10	SSC	460	260
	MW-15	04/05/08	BCL	8110	6300
	MW-15	09/02/08	BCL	8160	5600
	MW-15	04/03/09	BCL	7320	5700
	MW-15	10/01/09	BSK	7700	4400
	MW-15	09/23/10	SSC	6500	4000
	MW-17	04/05/08	BCL	4920	3100
	MW-17	09/02/08	BCL	5370	2700
	MW-17	04/03/09	BCL	5210	3300

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	MW-17	10/01/09	BSK	5100	4700
	MW-17	10/19/10	SSC	5200	3200
	MW-18	04/05/08	BCL	4010	2500
	MW-18	09/04/08	BCL	3500	2200
	MW-18	04/02/09	BCL	4440	3500
	MW-18	10/02/09	BSK	4300	2500
	MW-18	10/20/09	BCL	4320	2700
	MW-18	05/20/10	BCL	3670	2400
	MW-18	09/15/10	SSC	2100	1300
	MW-18	09/15/10	BCL	1990	1500
	MW-19	04/05/08	BCL	8590	5200
	MW-19	09/03/08	BCL	8700	5000
	MW-19	04/03/09	UNK	8620	5300
	MW-19	10/01/09	BSK	7600	3700
	MW-19	10/19/10	SSC	7100	4200
	MW-20	04/06/08	BCL	2930	1900
	MW-20	09/04/08	BCL	2940	1800
	MW-20	04/03/09	UNK	2760	1800
	MW-20	10/01/09	BSK	2600	1600
	MW-20	10/19/10	SSC	2800	1700
	MW-21	04/02/09	UNK	2840	1600
	MW-21	10/01/09	BSK	2800	1600
	MW-21	10/19/10	SSC	2900	1800
	MW-23	04/02/09	UNK	3800	2200
	MW-23	10/01/09	BSK	3200	1700
	MW-23	10/19/10	SSC	3300	1800
	MW-24	04/05/08	BCL	2150	1400
	MW-24	09/02/08	BCL	2320	1400
	MW-24	04/03/09	UNK	2740	1800
	MW-24	09/30/09	BSK	2600	1600
	MW-24	10/19/10	SSC	2900	1800
	MW-25	04/06/08	BCL	3520	2300
	MW-25	09/04/08	BCL	3470	2300
	MW-25	04/03/09	UNK	3470	2400
	MW-25	10/02/09	BSK	3400	2100
	MW-25	10/19/10	SSC	3600	2200
	MW-26	04/06/08	BCL	7290	4200
	MW-26	09/04/08	BCL	7000	4000
	MW-26	04/03/09	UNK	6730	4000
	MW-26	09/30/09	BSK	6400	3300
	MW-26	09/23/10	SSC	6700	3900
	MW-27	09/03/08	BCL	6290	3700
	MW-27	04/03/09	UNK	5990	3700
	MW-27	10/02/09	BSK	6000	2900
	MW-27	09/23/10	SSC	6100	3700
	MW-28	04/06/08	BCL	1830	1200
	MW-28	09/04/08	BCL	1740	1200
	MW-28	04/03/09	UNK	1730	1200
	MW-28	10/05/09	BSK	1800	1100
	MW-28	10/06/10	SSC	2200	1300

Table 5-1 (continued)
Recent EC and TDS Results for Shallow Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	MW-29	04/06/08	BCL	2180	1500
	MW-29	09/04/08	BCL	1800	1300
	MW-29	04/03/09	UNK	1930	1400
	MW-29	10/05/09	BSK	1800	1200
	MW-29	10/06/10	SSC	2000	1200
	MW-30	04/06/08	BCL	855	550
	MW-30	09/04/08	BCL	852	590
	MW-30	04/03/09	UNK	840	620
	MW-30	10/05/09	BSK	820	520
	MW-30	10/06/10	SSC	820	560
	MW-31	04/06/08	BCL	792	560
	MW-31	09/04/08	BCL	828	590
	MW-31	04/03/09	UNK	776	580
	MW-31	09/30/09	BSK	780	510
	MW-31	10/06/10	SSC	810	560
	MW-32	04/06/08	BCL	284	200
	MW-32	09/04/08	BCL	291	210
	MW-32	04/03/09	UNK	282	210
	MW-32	09/30/09	BSK	290	190
	MW-32	10/06/10	SSC	330	220
Paramount Farming Co.					
	MW-2	09/11/08	JML	540	
	MW-2	08/17/10	JML	290	
	MW-3	09/11/08	JML	370	
	MW-3	08/17/10	JML	410	
	MW-4	09/11/08	JML	1490	
	MW-4	08/17/10	JML	1750	
	MW-5	09/11/08	JML	1350	
	MW-5	08/17/10	JML	1220	

1. BD - Betz Dearborn; BSK - BSK Analytical Laboratories, Fresno; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord Inc., Fresno; SSC - Spreckels Sugar Company; TL - The Twining Laboratories, Inc.; NA - Not Available; UNK - Unknown

Table 5-2
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
Central California ID					
	5A	09/02/08	NA	1100	
	5A	07/16/09	BSK	1200	700
	5A	09/23/10	BSK	660	390
	12C	09/02/08	NA	2200	
	12C	07/16/09	BSK	2300	1500
	12C	09/23/10	BSK	2200	1600
	15B	09/02/08	NA	1100	
	15B	07/16/09	BSK	1200	680
	15B	09/23/10	BSK	940	600
	16C	07/16/09	BSK	1200	720
	16C	09/23/10	BSK	850	510
	23B	09/03/08	NA	2700	
	23B	07/16/09	BSK	2900	2000
	23B	09/23/10	BSK	2600	1700
	28C	09/02/08	NA	1400	
	28C	07/27/09	BSK	1400	860
	28C	09/23/10	BSK	1800	1100
	32B	08/27/08	NA	1300	
	32C	08/12/09	BSK	1600	1100
	35A	09/02/08	NA	1500	
	35A	07/16/09	BSK	1600	998
	35A	09/23/10	BSK	1200	700
	38A	10/17/08	NA	590	
	38A	07/16/09	BSK	620	360
U.S. Geological Survey					
	31J5	09/17/08	FGL	10300	6920
	31J5	05/12/10	FGL	10000	6780
Covanta Mendota					
	Well 6A	06/01/08	NA	2046	
	Well 6A	11/01/08	NA	2585	
	Well 6A	04/01/09	NA	2417	
	Well 6A	06/01/09	NA	2019	
	Well 6A	02/08/10	NA	3109	
Terra Linda Farms					
	TLF-18d (2)	09/16/08	FGL	1340	780
	TLF-5d (5)	05/26/09	FGL	2240	1280
	TLF-5d (5)	05/11/10	FGL	2370	1330
	TLF-6d (7)	09/16/08	FGL	1680	950
	TLF-6d (7)	05/26/09	FGL	1740	980
	TLF-6d (7)	05/11/10	FGL	1960	1120
	TLF-14d (8)	09/16/08	FGL	1650	950
	TLF-14d (8)	05/26/09	FGL	1680	1000
	TLF-14d (8)	05/12/10	FGL	1790	1030
Coelho/Gardner/Hansen					

Table 5-2 (continued)
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	CGH-13d (7)	09/17/08	FGL	2170	1270
	CGH-13d (7)	05/26/09	FGL	2770	1640
Meyers Farm Water Bank					
	DW-1	04/17/08	BCL	2000	1100
	DW-1	10/04/08	BCL	1970	1100
	DW-1	07/22/09	BCL	2940	1800
Spreckels Sugar Co.					
	MW-7	04/05/08	BCL	6920	4400
	MW-7	09/02/08	BCL	6800	4000
	MW-7	04/02/09	UNK	6600	3700
	MW-7	09/30/09	BSK	6200	3600
	MW-7	10/19/10	SSC	6400	3900
	MW-8	04/05/08	BCL	1670	1100
	MW-8	09/02/08	BCL	1640	1000
	MW-8	04/02/09	UNK	1500	960
	MW-8	10/02/09	BSK	1500	880
	MW-8	10/06/10	SSC	1600	940
	MW-10	04/06/08	BCL	1330	820
	MW-10	09/03/08	BCL	1330	880
	MW-10	04/02/09	BCL	1330	860
	MW-10	10/01/09	BSK	1400	830
	MW-10	10/20/09	BCL	1430	900
	MW-10	05/20/10	BCL	1370	860
	MW-10	09/15/10	BCL	1300	920
	MW-10	09/15/10	SSC	1300	770
	MW-11	04/06/08	BCL	2200	1400
	MW-11	09/03/08	BCL	2200	1400
	MW-11	04/02/09	BCL	2060	1300
	MW-11	10/01/09	BSK	2000	1200
	MW-11	10/20/09	BCL	2130	1300
	MW-11	05/20/10	BCL	2110	1300
	MW-11	09/15/10	SSC	2200	1300
	MW-11	09/15/10	BCL	2140	1400
	MW-12	04/05/08	BCL	3250	1900
	MW-12	09/03/08	BCL	3530	2100
	MW-12	04/02/09	BCL	3400	2100
	MW-12	10/01/09	BSK	3000	1700
	MW-12	09/23/10	SSC	5100	3100
	MW-14	04/06/08	BCL	1100	670
	MW-14	09/03/08	BCL	1100	640
	MW-14	10/02/09	BSK	1000	630
	MW-14	10/06/10	SSC	1200	720
	MW-16	04/05/08	BCL	6420	3400
	MW-16	09/02/08	BCL	6400	3300
	MW-16	04/02/09	BCL	5930	3200
	MW-16	10/01/09	BSK	5700	2700
	MW-16	09/23/10	SSC	5400	2800
	MW-22	04/05/08	BCL	2490	1500

Table 5-2 (continued)
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	MW-22	09/03/08	BCL	2710	1700
	MW-22	04/02/09	UNK	2800	1700
	MW-22	10/01/09	BSK	3000	1600
	MW-22	10/19/10	SSC	3100	1900
	PW-6	04/06/08	BCL	1840	1100
	PW-6	09/04/08	BCL	1650	1000
	PW-6	04/03/09	UNK	1320	810
	PW-6	10/05/09	BSK	1000	600
	PW-6	09/23/10	SSC	1100	630
	PW-7	04/06/08	BCL	1180	720
	PW-7	09/04/08	BCL	1860	1200
	PW-7	04/03/09	UNK	1080	690
	PW-7	10/05/09	BSK	1700	970
	PW-7	09/23/10	SSC	1300	810
	PW-9	04/06/08	BCL	2830	1800
	PW-9	09/04/08	BCL	3340	2200
	PW-9	04/03/09	UNK	3100	2000
	PW-9	05/27/09	FGL	2840	1710
	PW-9	10/15/09	BSK	3100	1700
	PW-9	09/23/10	SSC	3400	2000
	PW-10	04/06/08	BCL	1180	720
	PW-10	09/04/08	BCL	1120	690
	PW-10	04/03/09	UNK	960	650
	PW-10	10/05/09	BSK	1100	600
	PW-10	09/23/10	SSC	1200	700
	PW-11	04/06/08	BCL	444	300
	PW-11	09/04/08	BCL	514	330
	PW-11	10/05/09	BSK	470	270
	PW-11	09/23/10	SSC	520	320
	PW-12	04/06/08	BCL	825	510
	PW-12	09/04/08	BCL	843	530
	PW-12	10/05/09	BSK	900	520
	PW-12	09/23/10	SSC	940	570
City of Mendota					
	No. 7	04/02/08	NA	800	490
	No. 7	02/23/09	NA	500	420
	No. 7	04/14/09	NA	910	500
	No. 7	11/03/09	NA	719	490
	No. 8	04/02/08	NA	330	220
	No. 8	02/23/09	NA	500	430
	No. 8	04/14/09	NA	830	
	No. 8	11/03/09	NA	337	250
	No. 9	04/02/08	NA	750	460
	No. 9	02/23/09	NA	500	420
	No. 9	04/14/09	NA	820	460
	No. 9	11/03/09	NA	676	460
Panoche Creek Farms					
	PCF-1	09/18/08	FGL	633	410

Table 5-2 (continued)
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	PCF-1	05/27/09	FGL	676	430
	PCF-1	05/17/10	FGL	685	390
Baker Farming Co.					
	BF-1	09/19/08	FGL	474	290
	BF-1	05/17/10	FGL	563	350
	BF-2	09/19/08	FGL	486	290
	BF-2	05/27/09	FGL	520	310
	BF-2	05/18/10	FGL	603	380
	BF-3	09/19/08	FGL	521	310
	BF-4	09/19/08	FGL	515	310
	BF-4	05/18/10	FGL	548	340
	BF-5	09/19/08	FGL	467	290
	BF-5	05/18/10	FGL	662	390
Farmers Water District					
	R-1	05/27/09	FGL	571	350
	R-1	05/17/10	FGL	720	440
	R-2	09/18/08	FGL	631	380
	R-2	05/27/09	FGL	564	360
	R-3	09/18/08	FGL	934	580
	R-3	05/27/09	FGL	917	580
	R-3	05/17/10	FGL	952	570
	R-4	09/18/08	FGL	341	210
	R-4	05/27/09	FGL	305	220
	R-4	05/17/10	FGL	617	360
	R-6	05/27/09	FGL	498	300
	R-7	09/18/08	FGL	466	280
	R-7	05/27/09	FGL	452	270
	R-7	05/17/10	FGL	445	290
	R-8	09/18/08	FGL	623	380
	R-8	05/27/09	FGL	603	380
	R-8	05/17/10	FGL	595	380
	R-9	09/18/08	FGL	804	510
	R-9	05/27/09	FGL	766	450
	R-9	05/17/10	FGL	763	480
	R-10	09/18/08	FGL	846	520
	R-10	05/27/09	FGL	844	530
	R-10	05/17/10	FGL	859	520
	R-11	09/18/08	FGL	859	490
	R-11	05/27/09	FGL	870	490
	R-11	05/17/10	FGL	1000	600
Columbia Canal Co.					
	MLT-W	07/21/10	JML	540	
	Cardella-1	07/17/08	JML	700	
	Lopes-1	07/21/10	JML	650	
	Elrod-1	07/16/08	JML	2320	
	Elrod-1	07/21/10	JML	1540	
	Elrod-2	07/17/08	JML	810	

Table 5-2 (continued)
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	Elrod-2	07/21/10	JML	670	
	Elrod-3	07/21/10	JML	470	
	Burkhart-Heirs	07/16/08	JML	810	
	Burkhart-Heirs	07/21/10	JML	660	
	Diepersloot-1	07/17/08	JML	2320	
	Diepersloot-1	07/21/10	JML	1710	
	Diepersloot-2	07/22/10	JML	2110	
	Davis-1	07/16/08	JML	1010	
	Davis-1	07/21/10	JML	900	
	Davis-2	07/16/08	JML	1120	
	Davis-2	07/21/10	JML	760	
	Garcia-1	07/16/08	JML	940	
	Garcia-1	07/22/10	JML	660	
	Garcia-2	07/16/08	JML	1130	
	Garcia-2	07/22/10	JML	890	
	Garcia-3	07/17/08	JML	920	
	Garcia-4	07/17/08	JML	1140	
	Garcia-4	07/22/10	JML	980	
	Garcia-5	07/17/08	JML	820	
	Garcia-5	07/22/10	JML	640	
	Snyder	07/16/08	JML	890	
	Snyder	07/21/10	JML	750	
	Hunger	07/22/10	JML	820	
	Lorenzetti	07/21/10	JML	720	
	Texiera	07/21/10	JML	750	
	Harrison-1	07/21/10	JML	950	
	Harrison-2	07/21/10	JML	590	
	Harrison-3	07/21/10	JML	1530	
	Harrison-4	07/21/10	JML	1790	
Paramount Farming Co.					
	3311-62 (W-8)	09/10/09	JML	710	
	3311-62 (W-8)	08/17/10	JML	760	
	3591-66 (W-11)	09/18/08	JML	770	
	3591-66 (W-11)	09/10/09	JML	760	
	3591-66 (W-11)	08/17/10	JML	790	
	3211-66 (W-15)	09/18/08	JML	750	
	3211-66 (W-15)	09/10/09	JML	730	
	3211-66 (W-15)	08/17/10	JML	720	
	3431-61 (W-32)	09/11/08	JML	1140	
	3431-61 (W-32)	09/10/09	JML	1170	
	3431-61 (W-32)	08/17/10	JML	1190	
	2480-66 (W-42)	09/11/08	JML	1180	
	2480-66 (W-42)	09/10/09	JML	1190	
	2480-66 (W-42)	08/17/10	JML	1240	
	3730-65 (W-53)	09/11/08	JML	410	
	3730-65 (W-53)	09/10/09	JML	430	
	3730-65 (W-53)	08/09/10	JML	410	
	3421-62 (W-74)	09/18/08	JML	940	

Table 5-2 (continued)
Recent EC and TDS Results for Deep Wells (2008-2010)

Well Owner	Well ID	Date	Laboratory ¹	EC at 25°C (µmhos/cm)	TDS (mg/L)
	3421-62 (W-74)	09/10/09	JML	1060	
	3421-62 (W-74)	08/17/10	JML	940	
	3211-69 (W-77)	09/10/09	JML	890	
	3211-69 (W-77)	08/17/10	JML	820	
	2630-61 (W-78)	09/11/08	JML	420	
	2630-61 (W-78)	09/10/09	JML	420	
	2630-61 (W-78)	08/09/10	JML	430	
	3311-61 (W-89)	09/18/08	JML	1160	
	3311-61 (W-89)	09/10/09	JML	1230	
	3311-61 (W-89)	08/17/10	JML	1310	
	3431-62 (W-91)	09/11/08	JML	1010	
	3431-62 (W-91)	09/10/09	JML	990	
	3431-62 (W-91)	08/17/10	JML	830	
	3730-62 (W-94)	09/10/09	JML	450	
	3730-62 (W-94)	08/09/10	JML	480	
	3730-61 (W-95)	09/11/08	JML	290	
	3730-61 (W-95)	09/10/09	JML	290	
	3730-61 (W-95)	08/09/10	JML	340	
	3730-69 (W-106)	09/10/09	JML	580	
	3730-69 (W-106)	08/17/10	JML	520	
	3730-72 (W-107)	09/10/09	JML	520	
	3730-72 (W-107)	08/09/10	JML	510	
	3730-70 (W-108)	09/10/09	JML	530	
	3730-70 (W-108)	08/09/10	JML	550	
	3211-68 (W-110)	09/10/09	JML	630	
	3211-68 (W-110)	08/09/10	JML	660	
	3730-64 (W-111)	09/10/09	JML	540	
	3730-64 (W-111)	08/09/10	JML	570	
	3730-63 (W-112)	09/10/09	JML	570	
	3730-63 (W-112)	08/09/10	JML	500	
	MW-1	09/11/08	JML	610	
	MW-1	08/19/10	JML	640	

1. BD - Betz Dearborn; BSK - BSK Analytical Laboratories, Fresno; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord Inc., Fresno; SSC - Spreckels Sugar Company; TL - The Twining Laboratories, Inc., NA - Not Available; UNK - Unknown

VI. Surface-Water Flow Direction and Quality

Prior to the completion of Friant Dam in 1942, the flow direction in the SJR branch of the Mendota Pool was to the west. Since the construction of Friant Dam, however, flow in the River between Gravelly Ford and the Pool during the irrigation season has been minimal during most years, and the flow direction in this branch of the Pool has generally been to the east from the DMC to the Columbia Canal intake. Westerly flow occurred in some years as a result of upstream flood releases from Friant Dam and is expected to occur in the future due to the SJRRP. In 2010, water was released from Friant Dam on February 1 for the SJRRP. The releases reached the Pool on February 28, 2010, and the flow continued for the rest of the year.

The Fresno Slough is a tributary of the SJR, and the natural direction of flow in the Slough was to the north. Since the construction of the DMC, the Mendota Pool has become a regulated water conveyance facility, and the flow direction during most of the year is to the south. The amount of flow depends primarily on the inflow from the DMC and diversions to the SJREC in the northern portion of the Pool and to James and Tranquillity Irrigation Districts, the MWA, and WWD in the southern portion of the Pool (**Figure 6-1**). Northerly flow still occurs in some years as a result of upstream flood releases to the Kings River. Northerly flow also occurs during late November or early December if the Pool is being drained in preparation for maintenance work on the Mendota Dam. The MPG does not pump for transfer during these periods. It is also possible for a northerly flow to occur as a result of MPG pumping if diversions in the southern portion of the Pool are insufficient to offset the inflow from the MPG wells along the Slough.

Water Budget Analysis

The calculation of a water budget is an accounting process which evaluates the inflows, outflows, and change in storage during a given time period. Data provided by the SLDMWA (including inflows, diversions, and stage height measurements) have been used by the MPG since 1999 to prepare a monthly water budget for the southern portion of the Fresno Slough Branch of the Pool, i.e., south of transect A-A', which is located between the southernmost SJREC canal intake (the Firebaugh Intake Canal) and the Fordel wells (now operated by the City of Mendota) (see **Figure 6-1**). The water budget also accounts for additional outflow components, such as the net evaporation and seepage losses.

The net evaporation is calculated as the difference between evaporation and precipitation as obtained from a CIMIS weather station in Firebaugh, applied to the surface area of the southern portion of the Pool. This area was estimated at 1,087 acres based on aerial photographs taken for the Army Corps of Engineers in August 1998. The seepage loss from the Mendota Pool was estimated based on the decline in stage measured at Mendota Dam over a 44-hour period from November 25 to 27, 1999 after DMC inflows were suspended in preparation for draining the Pool. The total seepage loss for the southern portion of the Pool during this period was estimated to be 40 cubic feet per second (cfs) (KDSA and LSCE, 2000a). The seepage rate is assumed to be constant throughout the year except when the Pool is drained.

The water budget is used to calculate the monthly amount of inflow from the DMC that reaches the southern portion of the Pool, i.e., south of transect A-A'. The basic equation for a water budget is as follows:

$$\text{Inflow} - \text{Outflow} = \text{Change in Storage } (\Delta S) \quad (1)$$

To calculate the unknown inflow or outflow across the transect line, the equation is rewritten as

$$(\text{Inflow}_{\text{meas}} + \text{Inflow}_{\text{calc}}) - (\text{Outflow}_{\text{meas}} + \text{Outflow}_{\text{calc}}) = \Delta S \quad (2)$$

Rearranging terms yields

$$\text{Inflow}_{\text{meas}} - \text{Outflow}_{\text{meas}} - \Delta S = \text{Outflow}_{\text{calc}} - \text{Inflow}_{\text{calc}} \quad (3)$$

or

$$\text{Inflow}_{\text{meas}} - \text{Outflow}_{\text{meas}} - \Delta S = \text{Net Flow}_{\text{calc}} \quad (4)$$

Rearranging terms to accommodate the conceptual design of the water budget for the southern area yields

$$\text{Outflow}_{\text{meas}} - \text{Inflow}_{\text{meas}} + \Delta S = -(\text{Net Flow}_{\text{calc}}) \quad (5)$$

Finally, to be consistent with previous reports, the minus sign on the right side of the equation was dropped so that flow to the south would be indicated by positive values.

The Pool was not drained in 2010, and the results of the 2010 water budget indicate a southerly flow direction, on average, during each month of the year. The calculated DMC inflow across transect A-A' ranged from a low of 36 cfs in March to a high of 345 cfs in July (**Table 6-1**). The average flow to the south in 2010 was estimated to be 166 cfs.

Surface-Water Quality

The 1999-2010 analytical results from grab samples retrieved at twelve surface-water sampling locations along the Fresno Slough are compiled in their entirety in **Appendix F**. This includes samples collected by the MPG along with data obtained from the SJREC and USBR. Access to the Mowry Bridge sampling location is no longer available, and this site has been dropped from the monitoring program. As discussed in the next section, the Lateral 6 and 7 sampling location will also be dropped in 2011 because the flow in these laterals is too low to provide meaningful sample results during most of the year. **Appendix G** lists the daily average EC values for the DMC and the SJREC's canal intakes in 2010.

Salinity

The salinity of the water delivered to the Pool via the DMC is subject to large daily and seasonal fluctuations. Daily fluctuations are due to tidal effects in the Sacramento-San Joaquin Delta, and seasonal fluctuations are due to other factors such as discharge of drain water to the DMC in the spring. Historically, the highest EC values have occurred in the winter and spring, and the EC is generally lower during the summer months. These patterns were also observed in 2010 (**Figure 6-2**), with the highest ECs (a daily average of about 1,000 $\mu\text{mhos/cm}$) occurring in April and the lowest ECs (a daily average of about 260 $\mu\text{mhos/cm}$) occurring in July. The daily average EC at the DMC terminus is compiled from hourly measurements, and the EC

measured in grab samples collected in 2010 is generally between the daily maximum and minimum for most samples.

The daily average EC values at the SJREC's canal intakes in 2010 (compiled from measurements taken every two hours) was closely correlated with the DMC data during most of the year, but there were several exceptions. The EC at the Columbia Canal intake was lower than that of the DMC during most of the year due to inflow of low salinity water from the SJR. The EC at the CCID Outside Canal and the Firebaugh Intake Canal was elevated in March and April, as discussed below. The results of grab samples retrieved from the DMC and the SJREC canal intakes are shown on **Figures 6-3** and **6-4**.

As shown in **Table G-1** in **Appendix G**, the EC at the CCID Outside Canal and the Firebaugh Intake Canal exceeded the EC measured at the DMC by more than 90 $\mu\text{mhos/cm}$ on a number of occasions in March and April 2010. There were five exceedances at the CCID Outside Canal and eight at the Firebaugh Intake Canal, each lasting from one to three days. Most of the exceedances are difficult to see on **Figure 6-3** because they are of relatively short duration and occurred during a period of high and variable EC in the DMC. The net flow to the south averaged 36 cfs in March and 50 cfs in April (**Table 6-1**). These are relatively low flow rates, which would make it possible for brief north flow events to occur. The City of Mendota Fordel wells and the Terra Linda wells were pumping during this period. Previous reports have noted that an eddy along the western bank of the Fresno Slough in this area could allow water from the Fordel and Terra Linda wells to north flow to the Firebaugh Intake Canal during periods of low flow (KDSA and LSCE, 2000).

One design constraint applicable to MPG pumping programs requires the temporary cessation of MPG transfer pumping if the EC at any SJREC canal intake exceeds that of the DMC by 90 $\mu\text{mhos/cm}$ or more for at least three days. Since none of the exceedances lasted for more than three days, the SJREC did not notify the MPG or request that any wells be shut off during the March and April period.

The average EC measured at the MWA in the southern portion of the Pool was about 650 $\mu\text{mhos/cm}$ in 2010, but there were gaps in the data due to problems with the EC recorder. As shown on **Figure 6-5**, the lowest EC values were recorded during June, July, and August (mostly below 600 $\mu\text{mhos/cm}$). The highest EC values were recorded in early May (about 1,300 $\mu\text{mhos/cm}$). During most of the year, the salinity at the MWA was significantly higher than at the DMC due primarily to inflows from MPG wells along the Fresno Slough (pumping for both transfer and adjacent use), pumping of the Fordel wells by the City of Mendota, and extraction from the Bank. The EC of grab samples retrieved at the MWA was generally consistent with the average daily EC compiled from hourly measurements at that location.

The average EC measured in grab samples collected south of the MWA was about 650 $\mu\text{mhos/cm}$ at JID and about 720 $\mu\text{mhos/cm}$ at Tranquillity ID, which is higher than at the MWA (about 560 $\mu\text{mhos/cm}$). The causes of increased concentrations of salts south of the MWA are unrelated to MPG pumping. These increases are due in part to pumping of well water to the Pool by Tranquillity ID, Fresno Slough WD, and Reclamation District 1606, which occurred in every month of the year in 2010. The salinity was even higher at Lateral 6 and 7,

but several of the water quality samples from this location appear to be affected by stagnant water. The flow in these laterals has continued to decline over the last several years, and the Authority reported no flow in 2010 except for a three-month period (April-June). This sampling location will be removed from the surface-water monitoring program in 2011.

Trace Elements

The surface-water grab samples from the Mendota Pool were analyzed for eight trace elements as shown in **Table F-1** in **Appendix F**. The data for four key trace elements (arsenic, boron, molybdenum, and selenium) are summarized in **Table 6-2** and discussed below. Data from the Lateral 6 and 7 intake are not shown in **Table 6-2** due to the lack of flow discussed above. All grab sample results represent total (suspended and dissolved) rather than dissolved concentrations because the samples were unfiltered.

As in previous years, arsenic concentrations were low in 2010 with little variability throughout the Pool. The arsenic concentrations ranged from non-detect ($<2\text{ }\mu\text{g/L}$) to $3\text{ }\mu\text{g/L}$. Median arsenic concentrations in the northern portion of the Pool were $2\text{ }\mu\text{g/L}$ at the DMC terminus (Check 21), the SJREC canal intakes, Mendota Dam, and the sampling point West of Fordel. Median arsenic concentrations were 2 to $3\text{ }\mu\text{g/L}$ at the MWA, the JID Booster Plant, and Tranquillity ID in the southern portion of the Pool.

Boron concentrations at the DMC terminus ranged from 0.09 to 0.43 mg/L with a median of 0.20 mg/L in 2010. The median boron concentration at most of the other sampling locations was also about 0.20 mg/L . The median concentration was lower at the Columbia Canal (0.09 mg/L) and higher at Tranquillity ID (0.35 mg/L based on two samples).

Only one sample from each location (collected in September) was analyzed for molybdenum in 2011, and the results were non-detect ($<1.4\text{ }\mu\text{g/L}$) at the DMC terminus and most of the SJREC canal intakes. The only exception was the Columbia Canal where molybdenum was detected at a concentration of $3.1\text{ }\mu\text{g/L}$. In the southern portion of the Pool, molybdenum concentrations were non-detect at the MWA, but molybdenum was detected at concentrations of 4.1 mg/L at the JID Booster Plant and 2.9 mg/L at Tranquillity ID.

Selenium concentrations in grab samples retrieved from the DMC terminus in 2010 ranged from 0.45 to $1.7\text{ }\mu\text{g/L}$. These analytical results are plotted on **Figure 6-6** along with the daily average based on automated samples. An automated sampler retrieves samples from the DMC on an hourly basis, and daily composites of these samples are analyzed for selenium at USBR's laboratory. A total of 296 daily samples were analyzed for selenium in 2010, and 79 of these were non-detect ($<0.4\text{ }\mu\text{g/L}$). Concentrations in the other daily composite samples ranged from 0.4 to $4.9\text{ }\mu\text{g/L}$, with a median of about $1\text{ }\mu\text{g/L}$. Selenium concentrations were the highest in early February due to drainwater pumped to the DMC upstream of the Pool. Selenium concentrations were also above $2\text{ }\mu\text{g/L}$ for brief periods in April and December. At the SJREC canal intakes, selenium concentrations ranged from non-detect (<0.4 to $<1\text{ }\mu\text{g/L}$) to $1.2\text{ }\mu\text{g/L}$, and the median concentrations were all non-detect ($<1\text{ }\mu\text{g/L}$).

Selenium concentrations were also low in the southern portion of the Pool. A total of five samples were collected from three sampling locations, and four of these were non-detect (<0.4

µg/L). The single selenium detection was in a sample from JID at a concentration of 0.48 µg/L.

As discussed in Chapter V, arsenic and selenium concentrations in groundwater discharged to the Pool from MPG wells along the Fresno Slough have typically been below the reporting limits of 2 and 0.4 µg/L, respectively. Likewise, boron concentrations in these wells are low (typically below 0.5 mg/L). As discussed above, molybdenum concentrations in groundwater are more variable and tend to be higher in the southern portion of the MPG well field. Molybdenum concentrations at most MPG wells are higher than in DMC water, but the molybdenum concentration at the MWA was still non-detect in 2010.

Water quality objectives (WQOs) established by the CVRWQCB for inland surface waters are 10 µg/L for arsenic, 19 µg/L for molybdenum, 0.8 mg/L for boron, and 2 µg/L for selenium (**Table 6-3**). The WQOs were not exceeded in any of the surface-water samples in 2010.

CDFG has also developed specific target WQOs for the MWA. The WQO for selenium was unchanged at 2 µg/L, but the WQOs for the other constituents were lower than the CVRWQCB criteria: 5 µg/L for arsenic, 0.3 mg/L for boron, and 10 µg/L for molybdenum. These WQOs were also not exceeded in 2010.

Sediment Sampling Results

As described in Chapter II, a sediment-monitoring program in the Pool was initiated in 2001 at the request of CDFG. Most of the sediment sampling stations are co-located with surface-water sampling locations (**Figure 2-4**). These locations allow estimation of metal introduced by inflow from the SJR, the DMC, the James Bypass, and the MPG wells. Sediment sampling in 2010 was conducted during November 18-22. As in previous transfer-pumping years, samples were collected in triplicate from four general geographic area in the Mendota Pool (**Figure 2-5**):

1. San Joaquin River Branch – Columbia Canal intake
2. Northern Fresno Slough – Mendota Dam, DMC terminus, Firebaugh Intake Canal
3. Central Fresno Slough – Etchegoinberry introduction point
4. Southern Fresno Slough – MWA approximately one-quarter mile south of Whitesbridge Road, JID Booster Plant, and Lateral 6

The sediment samples were analyzed for total selenium, arsenic, boron, and molybdenum on a dry weight basis. Samples were also analyzed for EC, total organic carbon, pH, cation exchange capacity, moisture content, and grain size (percent sand, silt, and clay). Several of these parameters are included to allow evaluation of the ability of the sediment to bind metals. The results of the November 2009 sediment-sampling event are summarized in **Table 6-4**. Concentrations estimated above the sample-specific method detection limit (MDL) and below the method reporting limit (MRL) are flagged as “J” in this table. Non-quantifiable concentrations below the MDL are indicated with a “smaller than” symbol, e.g., <0.1.

The 2010 arsenic concentrations in the sediment samples were lowest at the JID Booster Plant (median of 1.8 mg/kg) and highest at the DMC terminus (median of 6.1 mg/kg). Median arsenic concentrations at the other sampling locations ranged from 2.8 to 5.8 mg/kg. The 2010 boron concentrations were also lowest at the JID Booster Plant (median of 7.0 mg/kg) and highest at Lateral 6 (median of 27.8 mg/kg). In the northern portion of the Pool, boron concentrations were highest at the DMC terminus (median of 23.0 mg/kg).

As in previous years, molybdenum concentrations were relatively low in the 2010 sediment samples, and some of the results from all but one sampling location were J-flagged. The median concentrations were lowest at the JID Booster Plant (0.2 mg/kg, J-flagged) and highest at Lateral 6 (0.9 mg/kg).

The median selenium concentrations were low at all sediment sampling locations in 2010. In the northern portion of the Pool, the median selenium concentrations were 1.1 to 1.2 mg/kg. The highest selenium concentration was 2.4 mg/kg in one of the samples from the DMC terminus. In the southern portion of the Pool, the median selenium concentrations ranged from 0.2 to 0.7 mg/kg.

Unlike surface-water and groundwater quality sampling results, few guidelines are available for evaluation of sediment quality in general and the effects of MPG pumping in particular (USBR, 2005a). For the parameters of concern in this analysis, guidelines are only available for arsenic and selenium. The “effects range-low” value for arsenic identified by the U.S. Environmental Protection Agency is 12.1 mg/kg dry weight. None of the detected arsenic concentrations exceeded this screening value. Screening criteria have been developed by the U.S. Fish and Wildlife Service (USFWS) for the Grasslands Watershed (URS, 2001), which is located north of the Pool. The USFWS screening criteria for selenium include a target level of 2 mg/kg and a toxicity threshold of 4 mg/kg dry weight. The selenium concentration in only one sample (from the DMC) exceeded the screening level in 2010, and none exceeded the toxicity threshold.

Summary

The salinity at the SJREC canal intakes in the northern portion of the Pool tracked that of the DMC very well in 2010. There were several one to three-day periods in March and April when the EC at the canal intakes exceeded that of the DMC by 90 $\mu\text{mhos/cm}$ or more. The salinity was higher in the southern portion of the Pool due primarily to pumping to the Fresno Slough by the MPG and others. This pumping had a greater effect on water quality in 2010 because flow to the south has decreased over the last several years due to reduced diversions from the southern portion of the Pool. The flow in Lateral 6 and 7 was too low to obtain meaningful sampling results in 2010, and this sample location will be dropped in 2011.

Surface-water grab samples from the Mendota Pool were analyzed for eight trace elements, and four key trace elements (arsenic, boron, molybdenum, and selenium) are summarized in the report. Almost all trace element concentrations were low in 2010. The only exceptions were elevated selenium concentrations (up to 4.9 $\mu\text{g/L}$) measured in daily composite samples from the DMC in February, April, and December.

Sediment sampling was conducted in 2010 at eight locations in the Pool. The samples were analyzed for a variety of constituents, including the same four trace elements discussed above for surface water. Concentrations of all four trace elements were low at all sampling locations. However, selenium concentrations in one sediment sample from the DMC was above a screening level of 2 mg/kg established by the USFWS.

Table 6-1
Monthly Summary of Water Budget for Fresno Slough Branch of Mendota Pool
South of Transect A-A' (2010)

Month	Inflow ¹					Outflow								Change in Storage	Net Flow ⁴
	MPG Wells Along Fresno Slough ²	Meyers Farm Water Bank	James Bypass	James ID	Tranquillity ID, FCWD, RD 1606, & Fresno Slough WD	James & Tranquillity ID	Mendota Wildlife Area	WWD Lateral 6 & 7	Meyers Farm Water Bank	MPG Adjacent Use ³	Hughes, Wilson, Mid Valley, F. Slough, RD 1606	Net Evap.	Est. Seepage		
	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)	(cfs)
January	0	0	0	0	12	0	14	0	13	0	0	-1	40	148	201
February	10	0	0	0	13	55	31	0	24	20	1	0	40	5	154
March	30	0	0	0	34	26	8	0	14	10	1	4	40	-3	36
April	13	0	0	0	20	16	3	4	0	11	1	6	40	3	50
May	39	0	0	0	0	80	16	10	15	21	5	11	40	-4	154
June	26	0	0	0	15	201	39	17	22	28	10	12	40	-2	326
July	25	0	0	0	8	220	42	0	25	28	7	12	40	4	345
August	26	0	0	0	14	101	49	0	22	21	3	11	40	-2	204
September	12	0	0	0	18	65	72	0	23	11	1	8	40	0	191
October	13	0	0	0	16	25	116	0	21	7	0	5	40	-1	184
November	13	0	0	0	2	18	41	0	18	2	0	1	40	3	109
December	0	0	30	0	1	0	21	0	14	1	0	-2	40	-5	38
Mean (cfs)	17	0	3	0	13	67	37	3	18	13	3	6	40	12	166
Total⁵ (af)	12,600	13	1,800	0	9,200	48,600	27,100	1,800	12,800	9,600	1,900	4,100	28,500	8,800	119,600

1. Inflow from the north (primarily from the DMC) is not shown. Inflow from the north is calculated in the last column.

2. Also Includes Fordel wells operated by the City of Mendota.

3. Includes Terra Linda, Coelho-Gardner-Hansen, and Meyers Farming.

4. Calculated as outflow minus inflow plus change in storage. Positive values indicate flow to south; negative values indicate flow to north. Positive values generally represent inflow from the DMC to the southern portion of the Pool.

5. Values greater than 100 af are rounded to the nearest 100 af.

Table 6-2
Summary of 2010 Surface-Water Grab Sample Results¹

Location	EC (µmhos/cm) @ 25°C				Arsenic (µg/L)				Boron (mg/L)				Molybdenum (µg/L)				Selenium (µg/L)			
	Min	Max	Median	n ²	Min	Max	Median	n ²	Min	Max	Median	n ²	Min	Max	Median	n ²	Min	Max	Median	n ²
Columbia Canal	44	614	238	8	2	2	2	2	<0.1	0.14	0.09	8	3.1	-	-	1	<0.4	0.47	<1	7
Mendota Dam	253	727	454	10	2	2	2	2	0.10	0.44	0.18	9	<1.4	-	-	1	<0.4	<0.4	<1	10
CCID Main Canal	246	651	414	10	2	2	2	2	0.10	0.35	0.20	10	<1.4	-	-	1	<0.4	1.1	<1	9
DMC Check 21	222	687	477	15	2	3	2	7	0.09	0.43	0.20	15	<1.4	-	-	1	0.45	1.7	<1	10
CCID Outside Canal	268	709	481	9	<2	2	-	2	0.11	0.44	0.19	9	<1.4	-	-	1	0.48	<1	<1	8
Firebaugh Intake Canal	301	760	496	9	2	2	2	2	0.12	0.46	0.19	9	<1.4	-	-	1	0.48	<1	<1	8
West of Fordel	381	508	445	2	2	2	2	2	0.2	0.2	0.2	2	<1.4	-	-	1	0.57	0.62	0.60	2
Etchegoinberry	581	-	-	1	<2	-	-	1	0.2	-	-	1	1.7	-	-	1	0.64	-	-	1
Mendota Wildlife Area	405	729	541	7	<2	2	2	7	0.2	0.3	0.2	7	<1.4	-	-	1	<0.4	-	-	1
James ID (Booster Plant)	410	960	641	7	<2	3	3	7	0.2	0.4	0.2	7	4.1	-	-	1	<0.4	0.48	-	2
Tranquillity ID	609	824	717	2	3	3	3	2	0.3	0.4	0.35	2	2.9	-	-	1	<0.4	-	-	2

1. Total concentrations.
2. n = number of samples

Table 6-3
Applicable Water Quality Criteria for Trace Elements in Mendota Pool

Constituent ²	CAS #	Applicable Water Quality Criteria ¹ (µg/L)			Criteria Type	Total or Dissolved Concentration
		USEPA: Freshwater Aquatic Life Protection Criteria (Hardness = 85 mg/L) ³	CVRWQCB: Water Quality Objectives (WQO) for Inland Surface Waters	CDFG: Target WQO for Mendota Wildlife Area		
Antimony	7440-36-0					
Arsenic	7440-38-2		10	5	Maximum conc.	Dissolved
Barium	7440-39-3		100		Maximum conc.	Dissolved
Beryllium	7440-41-7					
Boron	7440-42-8		800 ⁴	300	Monthly mean (3/15-9/15)	Total
Cadmium	7440-43-9	0.22			4-day mean	Dissolved
Chromium (III) ⁵	16065-83-1	65			4-day mean	Dissolved
Cobalt	7440-48-4					
Copper	7440-50-8	7.8			4-day mean	Dissolved
Iron	7439-89-6		300		Maximum conc.	Dissolved
Lead	7439-92-1	2.1			4-day mean	Dissolved
Manganese	7439-96-5		50		Maximum conc.	Dissolved
Mercury (total)	7439-97-6	0.77 ⁶			4-day mean	Dissolved
Molybdenum	7439-98-7		19	10	Monthly mean	Total
Nickel	7440-02-0	45			4-day mean	Dissolved
Selenium	7782-49-2		2 ⁷	2 ⁷	Monthly mean	Total
Silver	7440-22-4	2.4			1-hour mean	Dissolved
Thallium	7440-28-0					
Vanadium	7440-62-2					
Zinc	7440-66-6	100			4-day mean	Dissolved

¹ The most stringent criterion for each constituent is listed. CDFG's target WQOs are also listed where available. USEPA criteria are based on California Toxics Rule Criterion Continuous Concentration values. CVRWQCB criteria are based on Sacramento-San Joaquin Valley Basin Plan (CVRWQCB, 1998).

² California Title-22 metals (Curtis and Tompkins website, June 2003) plus iron and manganese.

³ USEPA criteria vary with hardness (except for mercury). During 1999-2003, the total hardness at the DMC (as CaCO₃) during the months when the Bank would extract water (May through August) ranged from 64 to 120 mg/L, with a mean of 85 mg/L.

⁴ CVRWQCB Boron criterion from 9/16 to 3/14 is monthly mean of 1,000 µg/L.

⁵ Used as surrogate for total chromium.

⁶ Mercury criterion does not vary with hardness.

⁷ Based on USFWS criterion established for Grasslands watershed.

**Table 6-4
Sediment Sampling Results**

Sampling Station	Date	Replicate	Lab	EC ^b (umhos/cm)	Arsenic (mg/kg) ^a	Boron (mg/kg) ^a	Molybdenum (mg/kg) ^a	Selenium (mg/kg) ^a	TOC ^a (mg/kg)	TOC ^a (%)	pH ^b	CEC (meq/100g)	% Moisture	Sieve Analysis			
														% Gravel	% Sand	% Silt	% Clay
San Joaquin River Branch																	
Columbia Canal	8/22/01	1	FGL	485	4	<12	<1.2	<1.2	3,123	0.3	6.6	7.1	58.7	0.0	58.0	34.0	8.0
	8/22/01	1	FGS	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-
	8/22/01	2	FGL	534	7	<15	<1.5	<7.5	4,136	0.4	6.6	14.9	66.8	0.0	30.0	56.0	14.0
	8/22/01	3	FGL	565	6	<12	<1.2	<6.2	4,454	0.4	6.8	10.6	59.5	0.0	44.0	46.4	9.6
	10/30/01	1	CAS	201	3.5	5.1 (J)	<0.8	<1.1	-	0.7	8.2	27.7	34.9	0.0	64.0	26.8	9.2
	10/30/01	2	CAS	160	2.8	6.5 (J)	0.8 (J)	<0.9	-	0.8	8.1	25.9	40.7	0.0	54.7	34.6	10.7
	10/30/01	3	CAS	132	3.9	8.0 (J)	<0.7	<1.1	-	1.1	7.8	30.6	47.5	0.0	43.1	46.3	10.6
	10/15/02	1	CAS	44	3.3	6.4 (B)	<0.6	<1	-	1.4	7.6	33.7	51.8	0.0	27.4	58.3	15.1
	10/15/02	2	CAS	79	2.7	2.9 (B)	<0.6	<1	-	0.8	7.4	21.1	38.5	0.0	54.1	36.7	8.1
	10/15/02	3	CAS	63	1.9 (B)	<2.3	0.7 (B)	<1.1	-	0.5	7.3	14.0	30.7	0.0	67.4	23.5	6.2
	10/25/07	1	CAS	264	1.0 (B)	3.5 (B)	<0.6	<0.6	-	0.5	7.3	7.2	29.6	0.0	85.2	6.4	8.4
	10/25/07	2	CAS	242	1.6	5.1 (B)	<0.5	<0.5	-	0.9	7.2	13.0	40.8	0.0	87.3	5.5	7.2
	10/25/07	3	CAS	142	0.6 (B)	4.5 (B)	<0.5	<0.5	-	0.3	7.1	7.6	20.5	0.0	93.6	3.7	2.7
	11/13/09	1	CAS	179	4.6	5.4	0.3 (J)	2.0	-	2.2	7.8	41.0	39.7	0.0	36.8	0.0	63.2
	11/13/09	2	CAS	153	3.1	4.5	<0.1	1.7 (J)	-	1.0	7.8	23.0	51.6	0.0	46.2	1.6	52.2
	11/13/09	3	CAS	94	2.6	3.2	<0.1	0.3 (J)	-	0.7	7.6	18.0	58.7	0.0	65.6	0.0	34.4
	11/18/10	1	CAS	80	4.8	8.9	0.4 (J)	1.4	-	1.4	6.7	30.3	57.2	5.5	24.0	17.5	53.0
11/18/10	2	CAS	88	4.9	8.4	0.4	1.2	-	1.4	6.8	28.4	54.4	0.0	32.8	15.3	51.9	
11/18/10	3	CAS	87	5.8	8.4	0.3 (J)	0.7 (J)	-	1.1	7.0	34.1	53.3	0.0	31.1	17.9	51.0	
Northern Fresno Slough																	
Mendota Dam	8/22/01	1	FGL	1,140	10	20	<1.5	<7.4	4,024	0.4	7.0	20.5	66.2	0.0	10.0	72.4	17.6
	8/22/01	2	FGL	1,070	9	20	<1.2	<5.9	4,596	0.5	7.4	17.4	57.6	0.0	28.0	54.4	17.6
	8/22/01	2	FGS	-	-	-	-	0.7	-	-	-	-	-	-	-	-	-
	8/22/01	3	FGL	951	8	20	<1.2	<5.8	5,126	0.5	7.0	15.6	57.2	0.0	38.0	46.4	15.6
	10/30/01	1	CAS	236	6	18	1.0 (J)	<0.9	-	1.2	7.6	28.8	51.5	0.0	24.3	68.7	7.0
	10/30/01	2	CAS	211	6.1	15.2	1.0 (J)	<1.0	-	0.9	7.5	35.5	47.9	0.0	26.7	64.3	9.0
	10/30/01	3	CAS	246	5.6	12.1	<0.7	<1.0	-	0.9	7.5	37.6	47.7	0.0	24.3	66.2	9.5
	10/15/02	1	CAS	130	4.6	11.8	<0.6	<1.1	-	0.9	7.4	35.6	40.9	0.0	29.4	60.5	10.5
	10/15/02	2	CAS	156	4.6	11.2	0.8 (B)	<1.1	-	1.1	7.3	38.9	44.6	0.0	21.2	66.3	11.4
	10/15/02	3	CAS	106	4.1	9.2 (B)	0.6 (B)	<0.9	-	1.0	7.6	40.0	45.5	0.0	35.8	53.3	12.1
	10/25/07	1	CAS	210	9.1	60.4	<0.5	<0.5	-	0.8	7.7	36.0	41.7	0.0	11.2	38.2	50.6
	10/25/07	2	CAS	290	8.3	49.1	<0.6	<0.6	-	0.8	7.7	31.0	37.2	0.0	10.0	15.6	74.4
	10/25/07	3	CAS	433	7.4	48.7	<0.6	<0.6	-	0.9	7.5	18.0	38.9	0.0	11.2	18.0	70.8
	11/13/09	1	CAS	81	3.6	6.5	0.2 (J)	0.7 (J)	-	1.1	7.2	28.0	51.8	0.0	32.8	3.1	64.1
	11/13/09	2	CAS	97	5.2	8.6	0.2 (J)	0.9 (J)	-	1.4	7.2	52.0	43.0	0.0	13.9	8.9	77.2
	11/13/09	3	CAS	180	4.4	7.8	0.2 (J)	1.3 (J)	-	1.4	7.2	28.0	44.2	0.0	7.5	8.5	84.0
	11/18/10	1	CAS	240	4.7	13.8	0.4	1.5	-	1.9	6.8	40.2	61.3	0.0	6.5	24.7	68.8
11/18/10	2	CAS	273	5.4	11.9	0.3 (J)	1.1	-	1.5	7.0	33.9	58.1	0.0	18.7	23.5	57.8	
11/18/10	3	CAS	209	3.6	10.8	0.3 (J)	1.1	-	1.8	6.9	24.1	57.8	0.0	25.3	12.8	61.9	

Table 6-4 (continued)
Sediment Sampling Results

Sampling Station	Date	Replicate	Lab	EC ^b (umhos/cm)	Arsenic (mg/kg) ^a	Boron (mg/kg) ^a	Molybdenum (mg/kg) ^a	Selenium (mg/kg) ^a	TOC ^a (mg/kg)	TOC ^a (%)	pH ^b	CEC (meq/100g)	% Moisture	Sieve Analysis			
														% Gravel	% Sand	% Silt	% Clay
Delta-Mendota Canal	8/22/01	1	FGL	1,280	13	70	2	<6.1	5,032	0.5	7.8	42.0	59.3	0.0	10.4	34.0	55.6
	8/22/01	1	FGS	-	-	-	-	2.9	-	-	-	-	-	-	-	-	-
	8/22/01	2	FGL	782	4.8	11	<0.86	<4.3	1,127	0.1	7.7	8.0	41.7	0.0	78.4	12.0	9.6
	8/22/01	3	FGL	506	4.8	11	<0.86	<0.86	810	0.1	7.8	7.6	41.6	0.0	78.0	14.0	8.0
	10/30/01	1	CAS	265	8.8	40.0	1.5 (J)	<1.1	-	1.1	7.7	27.5	48.8	0.0	16.2	49.9	33.9
	10/30/01	2	CAS	314	10.9	41.3	1.5 (J)	<1.0	-	0.7	7.7	20.3	55.4	0.0	7.5	44.0	48.5
	10/30/01	3	CAS	329	10.8	52.8	1.8 (J)	<1.0	-	0.9	8.0	21.5	53.0	0.0	9.8	41.0	49.1
	10/15/02	1	CAS	212	6.7	23.7	2.4	1.1 (B)	-	0.9	7.4	26.4	46.5	0.0	13.4	50.1	37.6
	10/15/02	2	CAS	178	7.1	35.2	1.8 (B)	<1	-	0.6	7.5	35.0	44.6	0.0	18.7	14.0	30.3
	10/15/02	3	CAS	223	6.8	35.5	1.7 (B)	1.1 (B)	-	0.8	7.5	24.6	51.0	0.0	10.3	35.0	42.0
	10/24/07	1	CAS	343	5.7	23.7	<0.5	0.5 (B)	-	1.5	7.5	74.0	57.4	0.0	6.5	63.3	30.2
	10/24/07	2	CAS	277	4.9	26.3	<0.5	<0.5	-	1.3	7.3	71.0	51.5	0.0	8.0	68.5	23.5
	10/24/07	3	CAS	371	5.0	23.6	<0.5	<0.5	-	1.4	7.2	64.0	56.1	0.0	9.0	64.0	27.0
	11/12/09	1	CAS	450	9.2	26.0	0.7	1.8 (J)	-	0.7	7.2	49.0	45.2	0.0	5.8	70.2	24.0
	11/12/09	2	CAS	250	8.1	13.6	0.4 (J)	0.9 (J)	-	0.4	7.8	32.0	63.7	0.0	53.0	24.7	22.3
	11/12/09	3	CAS	133	5.0	9.6	<0.1	0.6 (J)	-	0.4	7.7	19.0	68.2	0.0	66.8	13.5	19.7
	11/18/10	1	CAS	423	7.8	32.5	1.4	2.4	-	0.7	7.5	49.0	52.4	1.7	13.8	79.7	4.8
	11/18/10	2	CAS	274	6.1	23.0	0.7	1.1	-	0.6	7.6	38.8	45.1	0.0	54.0	21.6	24.4
	11/18/10	3	CAS	268	5.6	12.7	0.3 (J)	1.0	-	0.8	7.4	37.5	52.5	0.0	31.6	29.0	39.4
Firebaugh Intake Canal	8/22/01	1	FGL	701	10	20	<1.3	<6.4	4,410	0.4	7.2	18.8	60.7	0.0	20.4	40.0	39.6
	8/22/01	2	FGL	763	9	20	<1.2	<5.9	4,008	0.4	7.4	13.9	57.4	0.0	32.4	52.0	15.6
	8/22/01	3	FGL	688	10	20	1.0	<6.3	5,536	0.6	7.3	16.3	60.6	0.0	28.4	53.0	18.6
	8/22/01	3	FGS	-	-	-	-	0.86	-	-	-	-	-	0.0	-	-	-
	10/30/01	1	CAS	168	5.8	16.3	<0.7	<1.0	-	1.1	8.4	43.3	48.4	0.0	24.1	67.8	8.1
	10/30/01	2	CAS	197	5.1	17.2	<0.8	<1.1	-	1.0	7.4	17.6	49.0	0.0	28.6	64.4	7.0
	10/30/01	3	CAS	225	6.1	15.8	<0.7	<1.0	-	1.2	7.1	26.2	47.1	0.0	24.5	69.3	6.2
	10/15/02	1	CAS	66	4.5	12.3	0.6 (B)	<0.9	-	1.4	7.2	35.4	48.1	0.0	17.0	70.0	12.1
	10/15/02	2	CAS	57	4.7	12.2	0.9 (B)	<1	-	1.2	7.3	35.7	41.4	0.0	14.8	70.8	12.7
	10/15/02	3	CAS	89	4.4	8.8 (B)	1.2 (B)	<0.9	-	1.2	7.3	41.1	46.4	0.0	21.1	66.9	12.1
	10/24/07	1	CAS	362	0.4 (B)	5.3 (B)	<0.5	<0.5	-	0.4	7.2	7.6	33.0	0.0	92.1	3.4	4.5
	10/24/07	2	CAS	187	0.5 (B)	8.6 (B)	<0.5	<0.5	-	0.2	7.6	5.3	22.0	0.0	90.7	1.8	7.5
	10/24/07	3	CAS	182	<0.2	7.4 (B)	<0.5	<0.5	-	0.2	7.6	4.8	20.2	0.0	92.6	3.1	4.3
	11/12/09	1	CAS	166	5.0	8.0	0.2 (J)	0.7 (J)	-	1.2	7.2	33.0	49.2	0.0	22.1	13.2	64.7
	11/12/09	2	CAS	174	5.7	6.9	<0.1	0.8 (J)	-	1.0	7.2	28.0	54.2	0.0	25.8	8.7	65.5
	11/12/09	3	CAS	165	5.6	8.6	0.1 (J)	0.8 (J)	-	1.4	7.2	28.0	51.6	0.0	20.1	14.3	65.6
	11/18/10	1	CAS	245	4.4	14.2	0.4	1.1	-	1.3	7.2	38.6	52.3	0.2	16.0	25.1	58.7
	11/18/10	2	CAS	236	4.7	13.7	0.4	1.2	-	1.6	6.9	41.5	60.2	0.0	10.0	30.9	59.1
	11/18/10	3	CAS	222	3.9	12.2	0.3 (J)	1.2	-	1.1	7.1	28.4	49.3	0.0	26.5	14.1	59.4
Central Fresno Slough																	
Etchegoinberry	8/22/01	1	FGL	665	9	30	<2.1	<2.1	7,978	0.8	7.3	30.4	75.8	0.0	18.4	40.0	41.6
	8/22/01	1	FGS	-	-	-	-	1.6	-	-	-	-	-	-	-	-	-
	8/22/01	2	FGL	660	8	20	<1.8	<8.8	8,464	0.8	7.3	27.7	71.6	0.0	16.4	46.0	37.6
	8/22/01	3	FGL	641	7	<18	<1.8	<8.8	7,837	0.8	7.3	26.4	71.7	0.0	14.4	48.0	37.6

Table 6-4 (continued)
Sediment Sampling Results

Sampling Station	Date	Replicate	Lab	EC ^b (umhos/cm)	Arsenic (mg/kg) ^a	Boron (mg/kg) ^a	Molybdenum (mg/kg) ^a	Selenium (mg/kg) ^a	TOC ^a (mg/kg)	TOC ^a (%)	pH ^b	CEC (meq/100g)	% Moisture	Sieve Analysis			
														% Gravel	% Sand	% Silt	% Clay
Etchegoinberry	10/30/01	1	CAS	144	6.9	27.4	<0.7	<1.0	-	1.8	7.7	35.9	73.6	0.0	0.5	58.2	41.3
	10/30/01	2	CAS	187	5.8	27.2	1.0 (J)	<1.0	-	1.7	7.4	45.0	70.6	0.0	0.7	55.0	44.4
	10/30/01	3	CAS	182	2.8	10.0 (J)	0.8 (J)	<1.0	-	0.7	7.8	19.2	36.0	0.0	66.8	27.1	6.1
	10/15/02	1	CAS	133	5.0	20.6	0.9 B	<1.1	-	1.7	7.4	52.5	67.2	0.0	0.9	51.0	49.1
	10/15/02	2	CAS	129	5.0	14.1	<0.6	<1.1	-	1.6	7.5	54.7	66.0	0.0	0.8	52.2	47.9
	10/15/02	3	CAS	112	4.8	16.8	1 (B)	<1.1	-	1.7	7.6	57.1	69.8	0.0	1.1	54.3	48.5
	10/24/07	1	CAS	242	4.6	34.5	<0.6	<0.6	-	1.1	7.9	34.0	40.4	0.0	28.5	15.4	56.1
	10/24/07	2	CAS	157	4.1	43.8	<0.6	<0.6	-	0.7	7.9	17.0	36.0	0.0	29.0	13.1	57.9
	10/24/07	3	CAS	100	3.6	42.9	<0.6	<0.6	-	0.8	8.3	28.0	37.6	0.0	13.2	14.2	72.6
	11/12/09	1	CAS	371	6.7	18.3	<0.1	0.9 (J)	-	1.9	7.4	51.0	23.0	0.0	0.4	77.7	21.9
	11/12/09	2	CAS	249	4.1	9.2	<0.1	2.7	-	1.3	7.6	58.0	44.7	0.0	11.7	23.4	64.9
	11/12/09	3	CAS	308	5.7	14.8	<0.1	2.7	-	1.6	7.5	63.0	28.1	0.0	1.5	60.2	38.3
Southern Fresno Slough	11/22/10	1	CAS	370	5.8	20.9	0.4 (J)	1.0 (J)	-	2.1	7.2	68.7	74.8	0.0	0.5	74.9	24.6
	11/22/10	2	CAS	404	5.8	17.2	0.4 (J)	0.8 (J)	-	2.1	7.4	38.8	75.1	0.0	0.9	79.8	19.3
	11/22/10	3	CAS	398	6.5	16.6	0.5 (J)	1.1 (J)	-	2.0	7.4	38.7	73.9	0.0	1.7	74.9	23.4
	Southern Fresno Slough																
	8/22/01	1	FGL	909	5	<22	<2.2	<2.2	5,045	0.5	7.5	33.5	77.1	0.0	18.0	36.0	46.0
	8/22/01	2	FGL	951	4	<20	<2	<2	7,134	0.7	7.4	33.6	75.2	-	22.0	30.0	48.0
	8/22/01	3	FGL	443	2.5	<9.5	<0.95	<0.95	1,941	0.2	7.4	11.3	47.1	0.0	58.0	26.0	16.0
	8/22/01	3	FGS	-	-	-	-	0.3	-	-	-	-	-	0.0	-	-	-
	10/30/01	1	CAS	205	4.5	31	<0.7	<1.0	-	1.5	7.4	46.5	71.4	0.0	2.4	49.5	48.1
	10/30/01	2	CAS	168	4.5	29.7	1.3 (J)	<1.2	-	1.4	7.8	49.2	68.5	0.0	2.0	50.3	47.7
	10/30/01	3	CAS	190	5.1	30.8	<0.7	<1.0	-	1.4	7.7	33.8	70.7	0.0	1.5	55.2	43.3
	10/15/02	1	CAS	168	2.6 (B)	4.6 (B)	0.6 (B)	<1.1	-	0.2	7.6	13.4	25.7	0.0	74.6	19.1	3.8
Whitesbridge Road	10/15/02	2	CAS	202	3.2	4.2 (B)	0.7 (B)	<1	-	0.2	8.2	9.3	25.7	0.0	85.6	12.5	2.3
	10/15/02	3	CAS	162	8.6	25.1	1.7 (B)	<1	-	0.3	8.3	34.8	38.0	0.0	53.7	24.3	16.2
	10/24/07	1	CAS	363	2.2	12.8	<0.6	<0.6	-	0.5	7.8	13.0	26.4	0.0	70.6	19.9	9.5
	10/24/07	2	CAS	349	0.6 (B)	5.6 (B)	<0.5	<0.5	-	0.3	7.4	7.2	32.5	0.0	77.2	17.9	4.9
	10/24/07	3	CAS	325	0.3 (B)	6.5 (B)	<0.6	<0.6	-	0.4	7.6	8.9	26.8	0.0	68.2	24.7	7.1
	11/12/09	1	CAS	222	4.7	14.6	<0.1	2.8	-	1.2	7.3	78.0	29.9	0.0	4.1	58.2	37.7
	11/12/09	2	CAS	336	4.9	18.0	0.1 (J)	0.5 (J)	-	1.4	7.5	79.0	28.0	0.0	1.4	82.9	15.7
	11/12/09	3	CAS	216	5.4	6.2	0.3 (J)	0.5 (J)	-	0.2	8.1	14.0	71.8	0.0	75.9	5.7	18.4
	11/22/10	1	CAS	405	4.3	18.4	0.4 (J)	1.2	-	1.5	7.6	53.0	70.6	0.0	1.9	65.3	32.8
	11/22/10	2	CAS	420	7.3	10.4	0.7	0.3 (J)	-	0.3	8.2	22.8	37.6	4.9	68.3	3.3	23.5
	11/22/10	3	CAS	384	4.1	16.2	0.3 (J)	0.5 (J)	-	1.5	7.6	46.8	68.4	0.0	2.7	68.7	28.6
James ID Booster Plant	8/22/01	1	FGL	570	1.8	<8.4	<0.84	<4.2	1,649	0.2	7.5	5.2	40.4	0.0	88.0	6.0	6.0
	8/22/01	2	FGL	526	2.2	<8.1	<0.81	<4.1	874	0.1	7.5	3.9	38.4	0.0	90.0	5.0	5.0
	8/22/01	3	FGL	664	1.7	<8.3	<0.83	<0.83	799	0.1	7.6	5.8	40.1	0.0	88.0	7.0	5.0
	8/22/01	3	FGS	-	-	-	-	0.1	-	-	-	-	-	-	-	-	-
	10/30/01	1	CAS	255	2.7	10.2	<0.7	<1.0	-	0.8	7.8	39.7	47.3	0.0	30.1	58.7	11.2
	10/30/01	2	CAS	265	2.3	6.6 (J)	<0.7	<1.0	-	0.5	7.5	24.4	42.1	0.0	53.0	37.4	9.5
James ID Booster Plant	10/30/01	3	CAS	298	2.9	9.7 (J)	<0.7	<1.0	-	1.0	7.6	16.9	47.9	0.0	35.1	53.6	11.3

Table 6-4 (continued)
Sediment Sampling Results

Sampling Station	Date	Replicate	Lab	EC ^b (umhos/cm)	Arsenic (mg/kg) ^a	Boron (mg/kg) ^a	Molybdenum (mg/kg) ^a	Selenium (mg/kg) ^a	TOC ^a (mg/kg)	TOC ^a (%)	pH ^b	CEC (meq/100g)	% Moisture	Sieve Analysis			
														% Gravel	% Sand	% Silt	% Clay
James ID Booster Plant	10/15/02	1	CAS	112	2.5 (B)	6.3 (B)	<0.6	<1	-	0.7	7.8	22.2	40.9	0.0	37.6	58.4	9.7
	10/15/02	2	CAS	140	2.6	10.8	1.1 (B)	<0.9	-	0.9	7.5	27.8	45.0	0.0	23.1	61.4	13.4
	10/15/02	3	CAS	170	1.4 (B)	4.1 (B)	1.5 (B)	<1	-	0.4	8.1	11.9	28.8	0.0	73.3	20.0	6.1
	10/25/07	1	CAS	167	0.8 (B)	5.8 (B)	<0.5	<0.5	-	0.2	8.1	3.7	20.4	0.0	91.9	6.3	1.8
	10/25/07	2	CAS	226	0.9 (B)	4.6 (B)	<0.5	<0.5	-	0.1	7.9	2.9	21.8	0.0	93.6	4.3	2.1
	10/25/07	3	CAS	170	0.7 (B)	6.4 (B)	<0.6	<0.6	-	0.1	7.8	2.3	17.7	0.0	95.2	3.8	1.0
	11/12/09			----- No Sample -----													
	11/19/10	1	CAS	222	1.2	3.9	0.1 (J)	0.5 (J)	-	0.2	7.2	4.3	22.7	0.0	90.0	2.9	7.2
	11/19/10	2	CAS	284	1.8	7.0	0.2 (J)	0.2 (J)	-	0.5	7.3	17.6	43.2	0.0	47.9	13.9	38.2
	11/19/10	3	CAS	273	2.1	8.6	0.3 (J)	0.2 (J)	-	0.7	7.4	15.4	42.7	0.0	51.7	4.3	44.0
Lateral 6	8/22/01	1	FGL	1,280	10	60	<1	<10	3,402	0.3	8.0	43.8	51.1	0.0	14.4	34.0	51.6
	8/22/01	1	FGS	-	-	-	-	0.5	-	-	-	-	-	-	-	-	-
	8/22/01	2	FGL	1,260	5	40	<1.1	<5.4	5,826	0.6	8.0	39.9	53.5	0.0	24.4	27.6	48.0
	8/22/01	3	FGL	1,160	5.4	37	<0.97	<4.8	6,158	0.6	8.0	39.4	48.3	0.0	26.0	28.0	46.0
	10/30/01	1	CAS	305	3.3	33	1.0 (J)	<1.1	-	1.0	8.1	19.6	59.2	0.0	2.4	74.5	23.1
	10/30/01	2	CAS	277	3.4	28.9	<0.8	<1.1	-	1.0	8.0	33.7	59.4	0.0	9.5	67.8	22.7
	10/30/01	3	CAS	247	3.7	28.0	<0.8	<1.1	-	1.0	8.1	25.0	58.1	0.0	11.6	64.8	23.6
	10/15/02	1	CAS	147	3.2	17.2	1 B	<1.1	-	0.9	8.0	35.1	44.0	0.0	25.5	55.7	16.2
	10/15/02	2	CAS	147	2.8	25.7	0.8 (B)	<1	-	1.0	8.2	42.6	49.7	0.0	18.3	61.9	21.1
	10/15/02	3	CAS	271	2.6 (B)	28.1	<0.6	<1	-	1.1	7.8	40.8	51.7	0.0	5.3	72.9	21.9
	10/25/07	1	CAS	282	4.1	27.7	<0.5	<0.5	-	1.2	8.2	49.0	55.9	0.0	20.4	40.7	38.9
	10/25/07	2	CAS	320	4.4	27.2	<0.5	<0.5	-	1.6	8.2	67.0	55.8	0.0	26.6	34.9	38.5
	10/25/07	3	CAS	451	3.9	19.6	<0.5	<0.5	-	1.2	8.2	36.0	47.4	0.0	37.7	31.2	31.1
	11/13/09	1	CAS	479	4.1	18.2	0.4	1.2 (J)	-	0.9	8.0	49.0	52.1	0.0	10.1	42.3	47.6
	11/13/09	2	CAS	356	4.8	16.0	0.3 (J)	0.7 (J)	-	0.6	8.0	36.0	59.0	0.0	30.0	28.5	41.5
	11/13/09	3	CAS	303	5.0	14.3	0.7	1.1 (J)	-	0.6	8.1	27.0	63.2	0.0	43.4	23.3	33.3
	11/19/10	1	CAS	386	2.7	27.8	0.5	<0.1	-	1.1	8.2	47.0	44.6	0.0	18.2	0.0	81.8
	11/19/10	2	CAS	448	3.7	36.3	1.2	0.7 (J)	-	1.0	8.3	70.9	60.8	0.0	1.1	75.6	23.3
	11/19/10	3	CAS	380	2.8	27.6	0.9	0.7 (J)	-	0.9	8.6	35.3	48.3	0.3	13.7	55.7	30.3

Constituent abbreviations: EC = electrical conductivity @ 25 degrees C; TOC = total organic carbon; CEC = cation exchange capacity

Laboratory abbreviations: FGL - Fruit Growers Laboratory, Santa Paula, California; FGS - Frontier Geosciences, Seattle, Washington; CAS - Columbia Analytical Services, Kelso, Washington

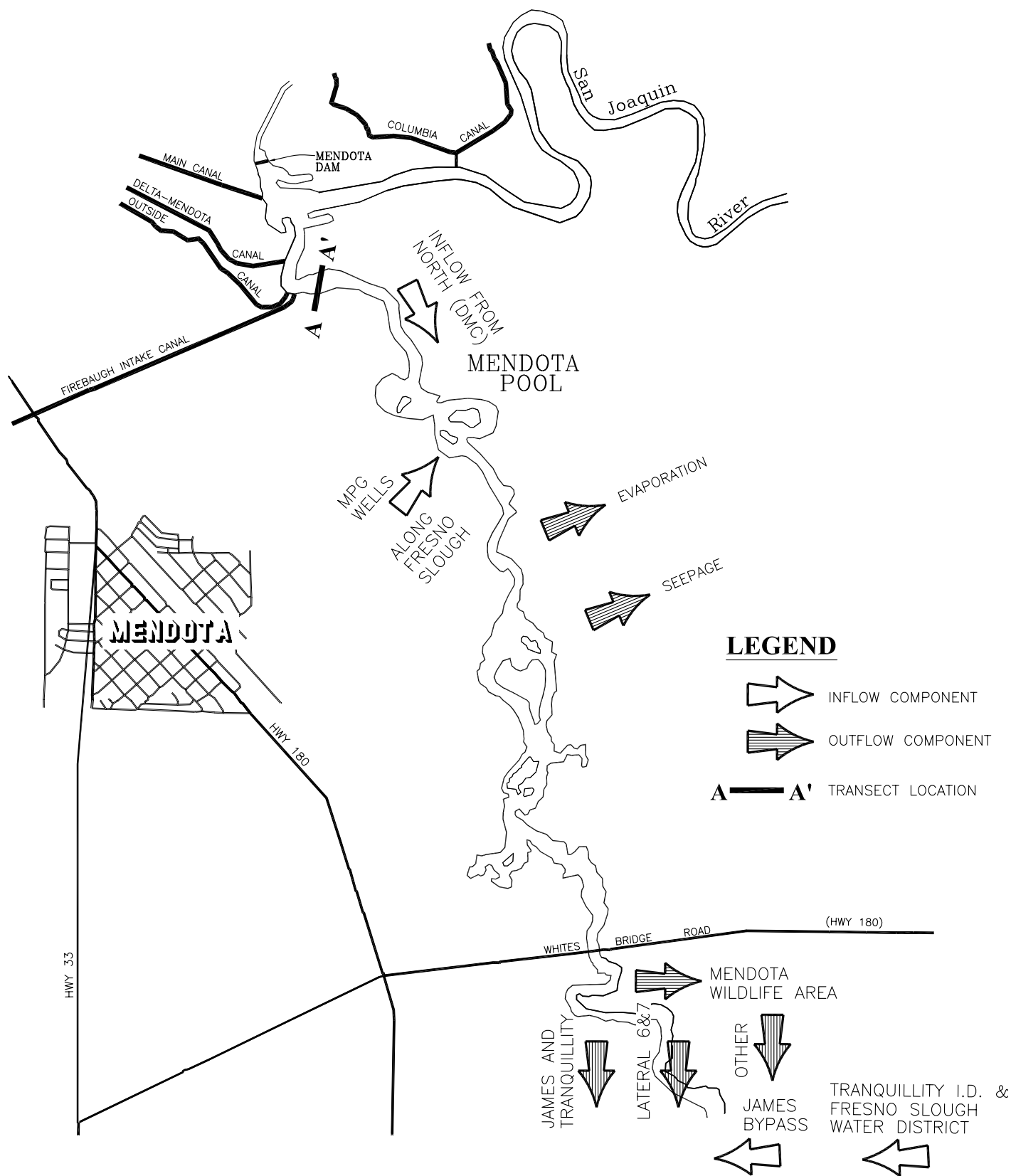
a. Data are expressed on a dry weight basis

b. Analysis performed on saturation extract

Data Qualifiers:

B - Analyte found in method blank at significant level relative to sample results

J - Result is an estimated concentration that is greater than the Method Detection Limit but less than the Method Reporting Limit.



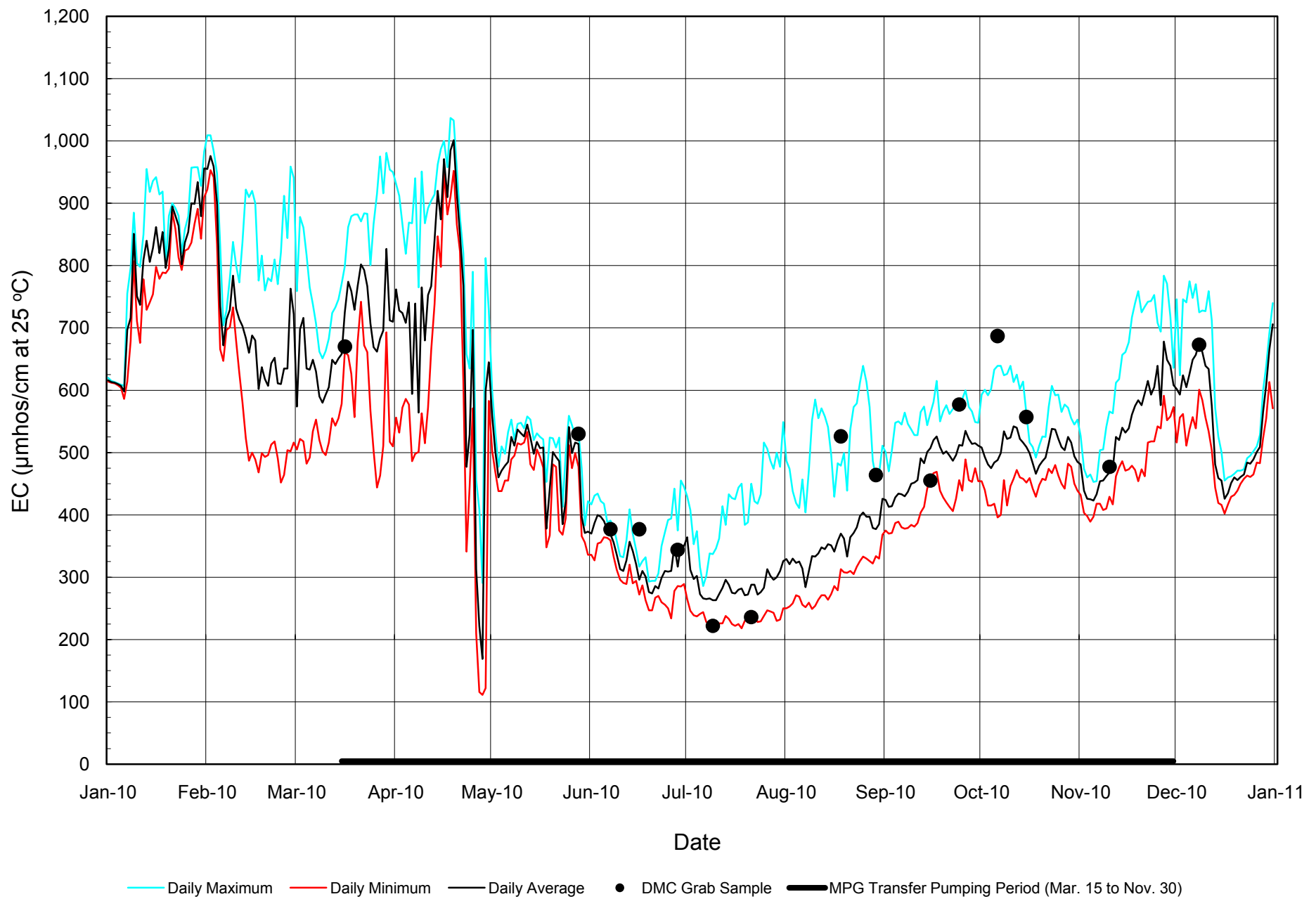
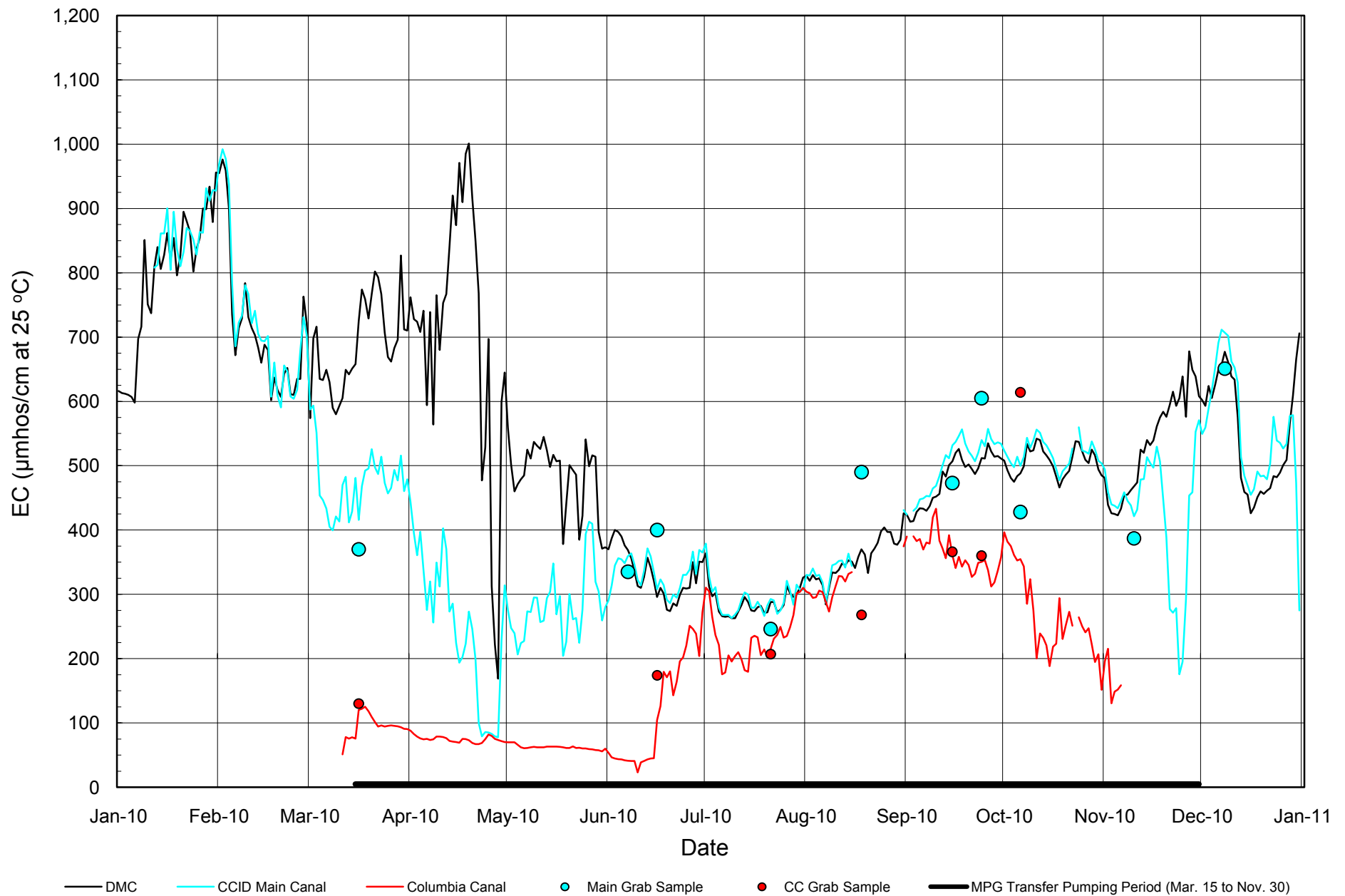
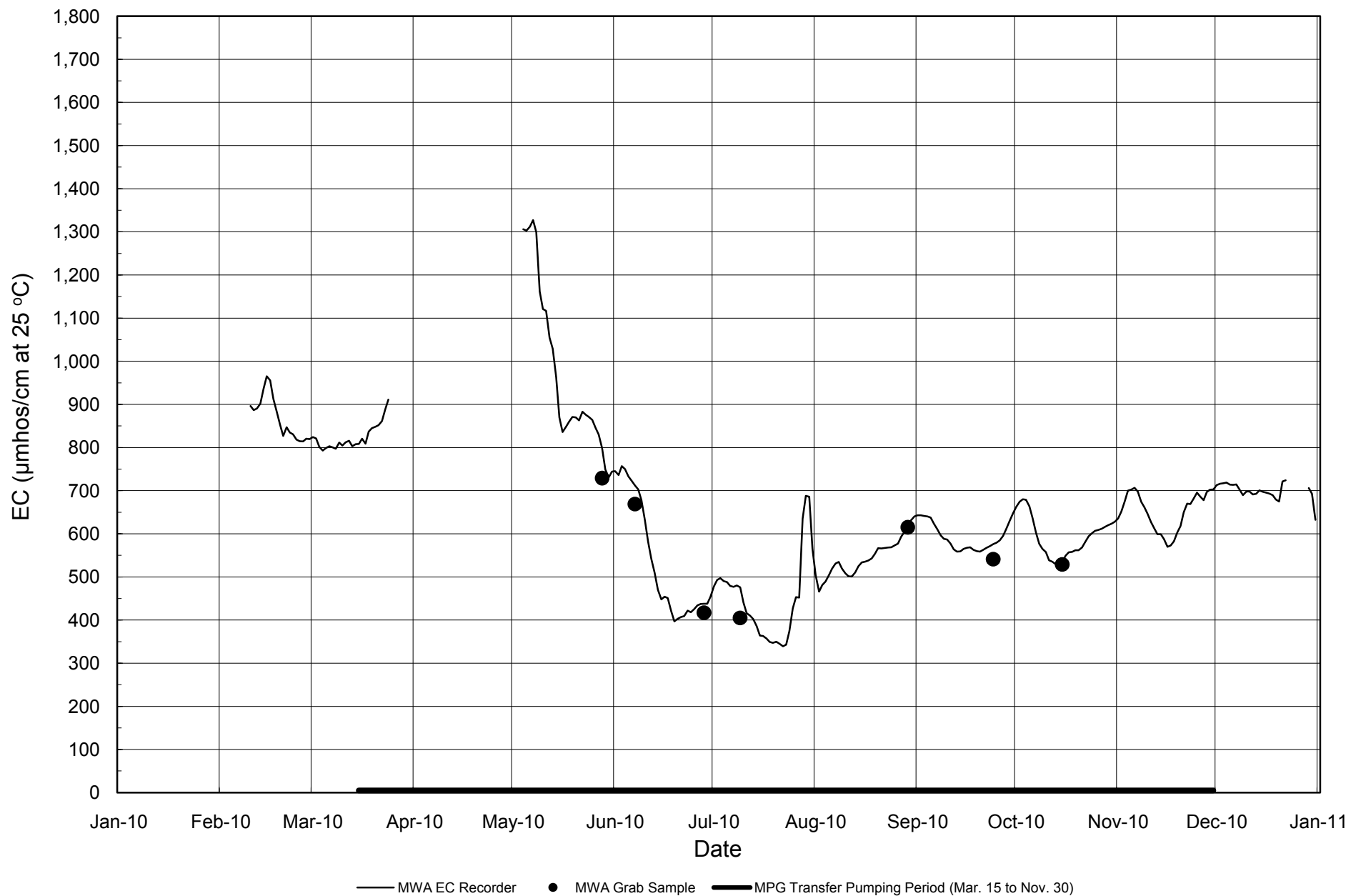




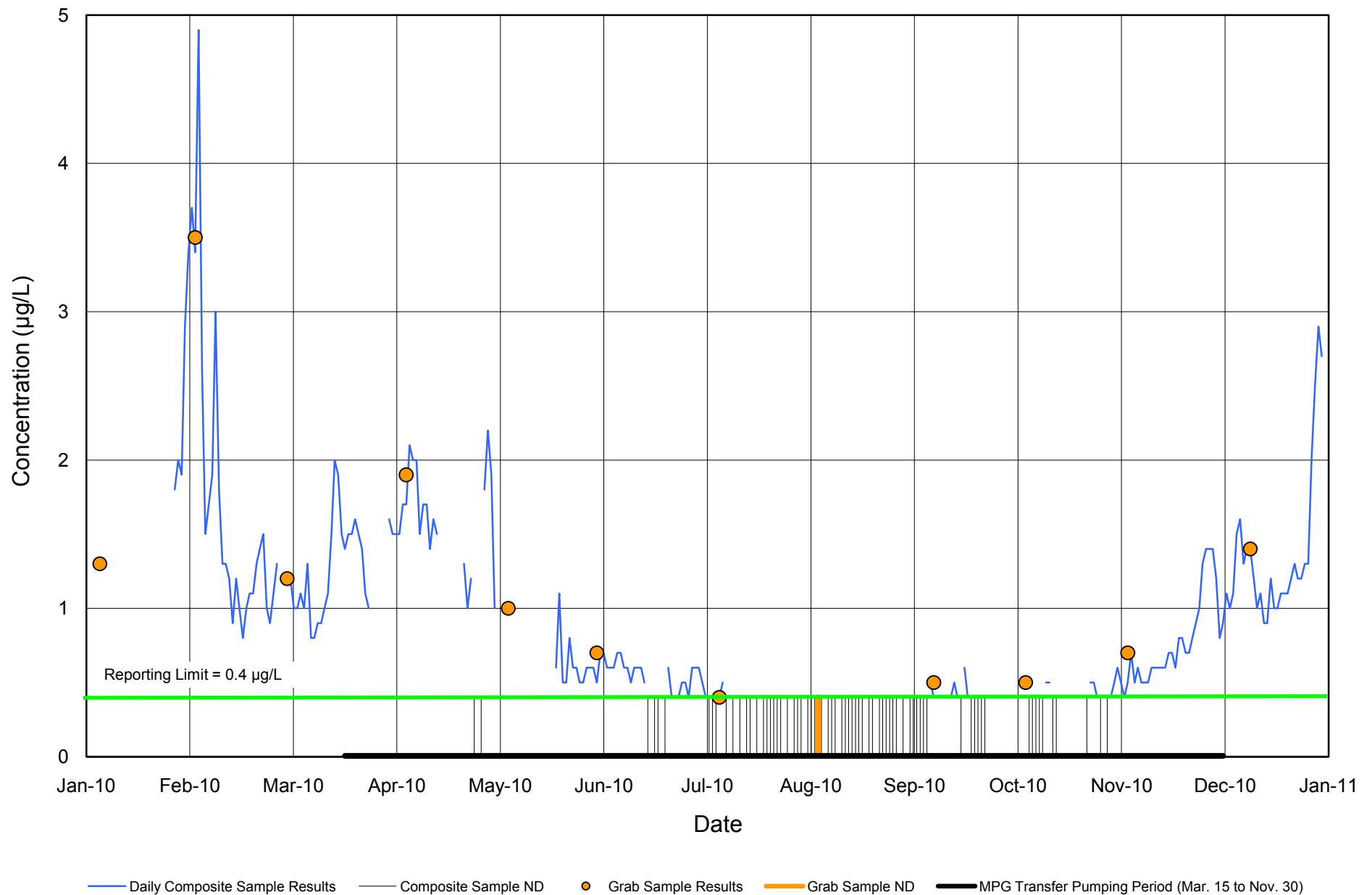
Figure 6-3
Daily Average EC and Grab Sample Results at DMC,
CCID Outside Canal, and Firebaugh Intake Canal





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Figure 6-5
Daily Average EC and Grab Sample
Results at Mendota Wildlife Area



VII. Compaction and Land Subsidence

Compaction data are collected from two extensometers in the Mendota area to evaluate compliance with the subsidence criteria specified in the Settlement Agreement and the EIS. The Agreement states that MPG transfer pumping cannot cause more than an average of 0.005 foot of subsidence per year at the Yearout Ranch extensometer. The MPG EIS also applies this criterion to the Fordel extensometer.

The extensometer at Fordel, Inc. was installed by the MPG in 1999 at a site approximately one mile west of the Fresno Slough. This extensometer is located near the cluster of USGS and USBR monitoring wells west of the Mendota Airport. The Yearout Ranch extensometer, which was installed by DWR in 1965, is located about two miles east of the Fresno Slough, northeast of the Spreckels Sugar Co. Mendota factory. Historical compaction and water-level data were collected at this site from 1966 to 1982 by DWR. Data collection was reinitiated by CCID in 1999, and CCID has continued to monitor the extensometer since that time. The historical data record was analyzed to calculate the relationship between drawdown and inelastic compaction at the Yearout Ranch location (KDSA and LSCE, 2000b), and reexamined based on more recent data (LSCE and KDSA, 2003).

The two extensometers monitor the compaction of sediments between the ground surface and the top of the Corcoran Clay (the top of the Corcoran Clay was identified during construction of the extensometers at depths of 418 and 428 feet at the Fordel and Yearout Ranch sites, respectively). All measurements are reported in reference to an arbitrarily chosen reference datum. The reference datum was chosen to be the measurement of maximum recovery after the 1999 irrigation season, which occurred in March 2000. These measurements were assigned a zero value, and all subsequent measurements are reported in reference to this period.

For each year, the total compaction is calculated as the difference between the measurement of greatest compaction (this is typically a summer measurement coinciding with low groundwater levels) and the preceding measurement of least compaction (this is typically a winter or spring measurement coinciding with high groundwater levels). The total compaction is comprised of elastic and inelastic components. Elastic compaction occurs relatively instantaneously in response to water-level declines in the aquifer and is followed by expansion (i.e., elastic rebound) as water levels recover. If the compaction during the irrigation season is greater than the expansion during the subsequent winter/spring when water levels recover, this difference is considered to represent the inelastic compaction during that period. At the end of each year, the amount of land subsidence occurring at each site is indicated by the inelastic compaction.

Inelastic compaction can continue for years after water levels have recovered, and is generally considered permanent, i.e., non-reversible. However, as discussed below, data collected from the extensometers during years of rising groundwater levels shows that some or all of the compaction originally considered to be inelastic can be reversible. This means that inelastic compaction cannot be determined accurately on an annual basis.

Fordel Extensometer

Table 7-1 and **Figure 7-1** show compaction at the Fordel extensometer and water levels at nearby USGS monitoring well T13S/R15E-31J3 (31J3) for 1999-2010. Monitoring well 31J3 is perforated just above the Corcoran Clay from 400 to 410 feet in depth, and water levels are monitored daily by a pressure transducer installed in the well and checked with manual field measurements using an electric sounder about six times a year. The shallowest and deepest water levels in 2010 were recorded on February 3 (39.60 feet) and August 5 (74.71 feet), respectively, indicating a drawdown of 35.11 feet. The shallowest water level following the 2010 irrigation season was recorded on February 3, 2011 (35.12 feet), indicating 39.59 feet of recovery. This meant that the water level was about 4.5 feet higher than in February 2010. The February 2011 water level is similar to the highest water levels reported during 2001-2004.

Compaction at the Fordel extensometer is monitored hourly with electronic equipment and monthly with manual dial indicator readings. The total seasonal compaction in 2010 was 0.011 foot. As of January 26, 2011, the elastic rebound was 0.021 foot. This meant that there was no inelastic compaction in 2010, and the net expansion was 0.010 foot. The cumulative inelastic compaction at the Fordel site during the 11-year period beginning in March 2000 decreased to 0.024 foot. This amounts to an average inelastic compaction of about 0.0022 foot per year.

Yearout Ranch Extensometer

Table 7-1 and **Figure 7-2** show water levels and compaction measured at the Yearout Ranch extensometer, which is also completed as an observation well with a perforated interval of 373 to 433 feet in depth. Daily automated water-level measurements were made in this well until the transducer failed in 2004. Since that time, water-level measurements have been limited to manual measurements made every one to two months. Due to the much lower frequency of manual measurements, the actual seasonal water-level fluctuations have not been recorded in recent years. At the end of 2009, water-level measurements were not made between December 18 (depth to water = 59.25 feet) and March 5, 2010 (depth to water = 51.70 feet). Based on the available measurements, there was approximately 68.1 feet of drawdown and 70.5 feet of recovery between March 2010 and January 2011. As a result, water levels were 2.4 feet higher in 2011.

The compaction at this location was monitored with automated equipment on a daily basis until December 2007. There were no daily readings in 2008, but the automated readings resumed in January 2009 and continued until May 14, 2009. Only manual measurements are available since that time. In 2010, dial indicator readings were made every one to two months and a direct rod survey was conducted on March 9. Since the compaction measurements shown in **Table 7-1** and **Figure 7-2** are based on limited data, the elastic and inelastic compaction reported at this extensometer should be considered approximate.

As shown in **Table 7-1**, the total seasonal compaction measured in 2010 was 0.056 foot, and the elastic rebound was 0.065 foot as of January 10, 2011. As at the Fordel extensometer, there was no inelastic compaction in 2010, and the net expansion was 0.009 foot. As a result, the cumulative inelastic compaction at the Yearout Ranch site during the 11-year period beginning

in March 2000 decreased from 0.113 to 0.104 foot. This amounts to an average inelastic compaction of about 0.01 foot per year.

As in previous years when the MPG pumped for transfer, drawdowns calculated with the groundwater flow model discussed in Chapter VIII were used to distinguish the inelastic compaction at Yearout Ranch caused by MPG transfer pumping from that caused by other pumping in the study area. As shown in **Table 7-2**, the 2010 groundwater model results indicated that 51 percent of the drawdown at the Yearout Ranch extensometer was caused by MPG transfer pumping and 49 percent was due to other pumping in the area. As in the past, these percentages were used in combination with measured water levels to estimate the actual amount of compaction attributable to MPG transfer pumping.

As shown in **Table 7-2**, the cumulative inelastic compaction caused by MPG transfer pumping since 2000 is estimated to be 0.031 foot, which corresponds to an average annual inelastic compaction of 0.0028 foot. This is less than the average annual compaction of 0.005 foot due to MPG transfer pumping specified in the Agreement.

Other Compaction Data

In addition to the two extensometers in the Mendota area, a number of GPS monitoring stations have been installed throughout the western United States in recent years by PBO which is a division of UNAVCO. One of these PBO stations (No. P304) is located on land owned by Meyers Farming southeast of Mendota and west of the Fresno Slough (see **Figure 1-2**). PBO's primary focus is monitoring plate tectonics, but data from the high-definition GPS monitoring stations are also useful to monitor subsidence. Extensometers such as the two discussed above monitor compaction within a specific depth interval (i.e. between the ground surface and the bottom of the extensometer). In contrast, GPS stations monitor the total displacement of the ground surface, which shows how much cumulative compaction is occurring in all depth zones, including the Corcoran Clay and the lower aquifer below the Corcoran Clay. Data from each of the GPS stations are uploaded daily to the UNAVCO website.

The Mendota PBO station began collecting data on April 28, 2004, and these data are plotted on **Figure 7-3** along with compaction data from the Fordel extensometer. Since the start of the monitoring period, there has been about 0.28 foot of total inelastic compaction at this site, which is ten times more than was measured at the Fordel extensometer over the same period. The additional inelastic compaction is apparently occurring in and below the Corcoran Clay. A hydrograph of water levels below the Corcoran Clay at USGS monitoring well T13S/R15E-31J6 is shown on the bottom of **Figure 7-3**. This well is located west of the Mendota Airport near the Fordel extensometer) and has a perforated interval of 480-490 feet.

There is little pumpage from the lower aquifer (below the Corcoran Clay) near the City of Mendota. There are four composite wells in FWD and at least 12 in PFC, but most of the perforated interval of these wells is above the Corcoran Clay. Inelastic compaction occurring in and below the Corcoran Clay in the Mendota area is caused primarily by pumping from the lower aquifer occurring west of Mendota in Westlands and Panoche Water Districts and north and east of the PFC service area in Madera County.

Table 7-1
Water Levels and Compaction at Fordel and Yearout Ranch Extensometers

Year	Measured Depth to Water ¹						Drawdown (ft)	Recovery (ft)	Annual Compaction ²			Cumulative Inelastic Compaction (ft)
	Minimum (Start)		Maximum		Minimum (End)				Total (ft)	Elastic (ft)	Inelastic (ft)	
	(date)	(ft)	(date)	(ft)	(date)	(ft)						
Fordel, Inc.												
1999	01/08/99	27.70	09/06/99	88.91	03/22/00	30.81	61.21	58.10	NA ³	0.035	NA ³	NA
2000	03/22/00	30.81	08/17/00	99.96	02/25/01	33.90	69.15	66.06	0.043 ⁴	0.041 ⁴	0.002	0.002
2001	02/25/01	33.90	06/28/01	89.19	01/07/02	35.70	55.29	53.49	0.035	0.032 ⁵	0.003 ⁵	0.005
2002	01/07/02	35.70	07/01/02	70.50	01/25/03	35.21	34.80	35.29	NA	0.024	0.001 ⁶	0.006 ⁶
2003	01/25/03	35.21	08/02/03	67.40	01/06/04	34.65	32.19	32.75	0.020	0.019	0.000	0.006
2004	01/06/04	34.65	08/02/04	71.10	03/30/05	32.57	36.45	38.53	0.018	0.020	-0.002	0.005
2005	03/30/05	32.57	08/16/05	64.01	02/03/06	28.18	31.44	35.83	0.015	0.021	-0.007	-0.002
2006	02/03/06	28.18	07/20/06	51.08	01/17/07	24.41	22.90	26.67	0.009	0.017	-0.007	-0.010
2007	01/17/07	24.41	06/12/07	76.09	02/16/08	34.26	51.68	41.83	0.044	0.022	0.023	0.013
2008	02/16/08	34.26	08/19/08	79.32	12/25/08	37.03	45.06	42.29	0.030	0.022	0.008	0.021
2009	12/25/08	37.03	05/06/09	85.98	02/03/10	39.60	48.95	46.38	0.031	0.018	0.013	0.034
2010	02/03/10	39.60	08/05/10	74.71	02/03/11	35.12	35.11	39.59	0.011	0.021	-0.010	0.024
Yearout Ranch												
1999	NA	NA	NA	NA	NA	NA	NA	NA	NA ³	0.098	NA ³	NA
2000	03/06/00	36.66	08/18/00	121.43	03/12/01	37.84	84.77	83.59	0.112	0.097	0.015	0.015
2001	03/12/01	37.84	06/19/01	132.12	02/05/02	44.07	94.28	88.05	0.109	0.088	0.021	0.035
2002	02/05/02	44.07	07/30/02	114.02	01/22/03	46.27	69.95	67.75	0.095 ⁷	0.084 ⁷	0.011 ⁷	0.046 ⁷
2003	01/22/03	46.27	09/19/03	106.31	01/20/04	48.38	60.04	57.93	0.073 ⁸	0.058 ⁸	0.015 ⁸	0.061 ⁸
2004	01/20/04	48.38	08/19/04	110.67	03/08/05	49.57	62.29	61.10	0.075	0.074	0.001	0.062
2005	03/08/05	49.57	06/30/05	115.69	02/08/06	43.10	66.12	72.59	0.082	0.083	-0.001	0.061
2006	02/08/06	43.10	08/04/06	92.00	01/08/07	38.50	48.90	53.50	0.074	0.073	0.001	0.062
2007	01/08/07	38.50	NA ⁹	NA ⁹	02/08/08	44.75	NA ⁹	NA ⁹	0.106	0.088	0.018	0.081
2008	02/08/08	44.75	05/16/08	125.40	01/01/09	45.50	80.65	79.90	0.088	0.068	0.020	0.100
2009	01/01/09	45.50	05/27/09	130.00	03/05/10	51.70	84.50	78.30	0.098	0.085	0.013	0.113
2010	03/05/10	51.70	08/12/10	119.82	01/10/11	49.30	68.12	70.52	0.056	0.065	-0.009	0.104

NA = not available

1. Water levels at Fordel are measured at USGS well T13S/R15E-31J3 (located approximately 150 feet north of the extensometer).
2. Total compaction is calculated as the difference between the measurement of greatest compaction in a given year and the preceding measurement of least compaction. Elastic compaction is calculated as the difference between the measurement of greatest compaction in a given year and the subsequent measurement of least compaction. Inelastic compaction is calculated as the difference between total compaction and its elastic component. This is equal to the difference between the recovered compaction levels at the end of one compaction cycle and the preceding recovered compaction levels at the beginning of a compaction cycle. Measurements are rounded to one-thousandth of a foot.
3. Total and inelastic compaction could not be calculated in 1999 because data collection did not begin until July.
4. Values were increased by 0.003 foot, based on the difference in drawdown between July 11 and August 17, 2000, to correct for unmeasured periods.
5. Estimated value. See discussion in 2001 Annual Report regarding foundation washout.
6. Estimated value. See discussion in 2002 Annual Report regarding foundation washout and new reference datum.
7. Estimated value. See discussion in 2002 Annual Report regarding malfunction of logging equipment.
8. Estimated value. See discussion in 2003 Annual Report regarding malfunction of logging equipment.
9. No 2007 water level measurements after March 30.

Table 7-2
Distribution of Drawdown and Compaction
at Yearout Ranch Extensometer (2000-2010)

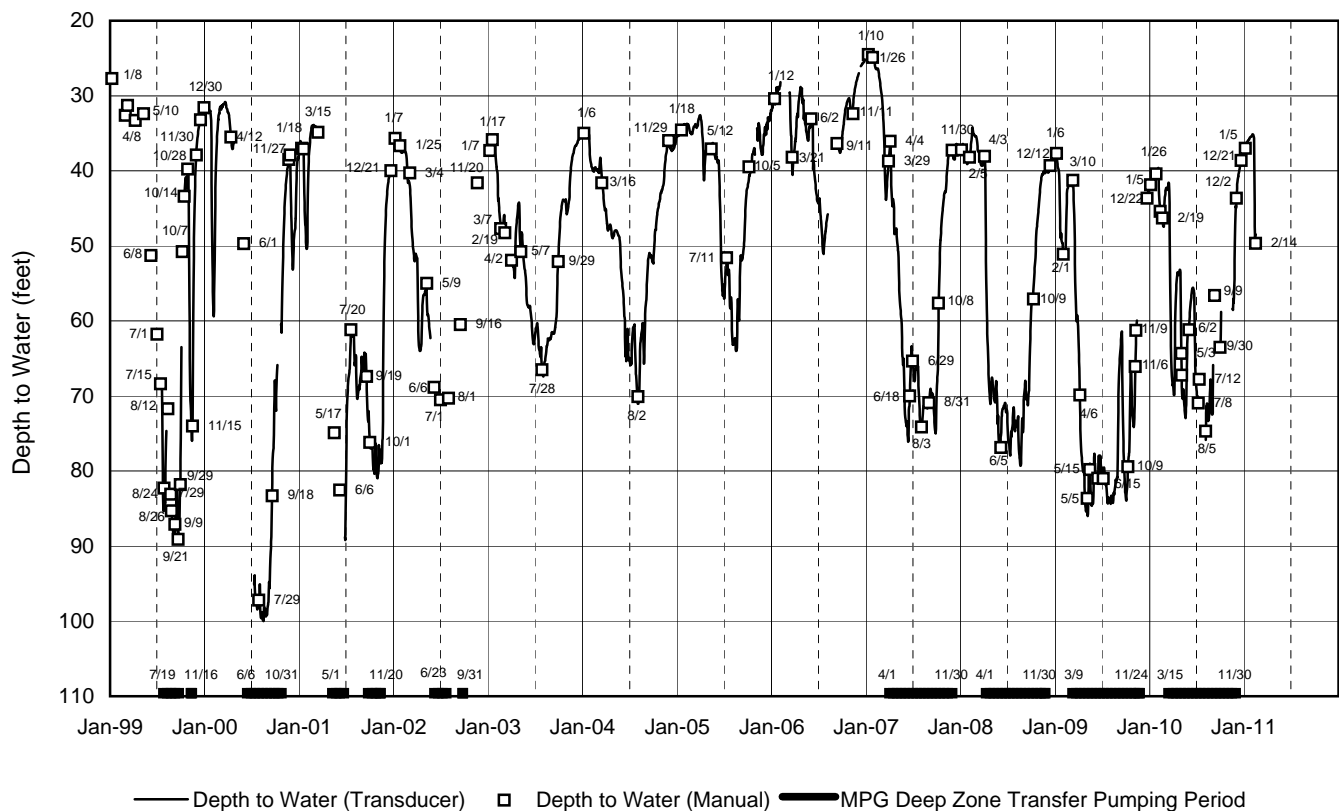
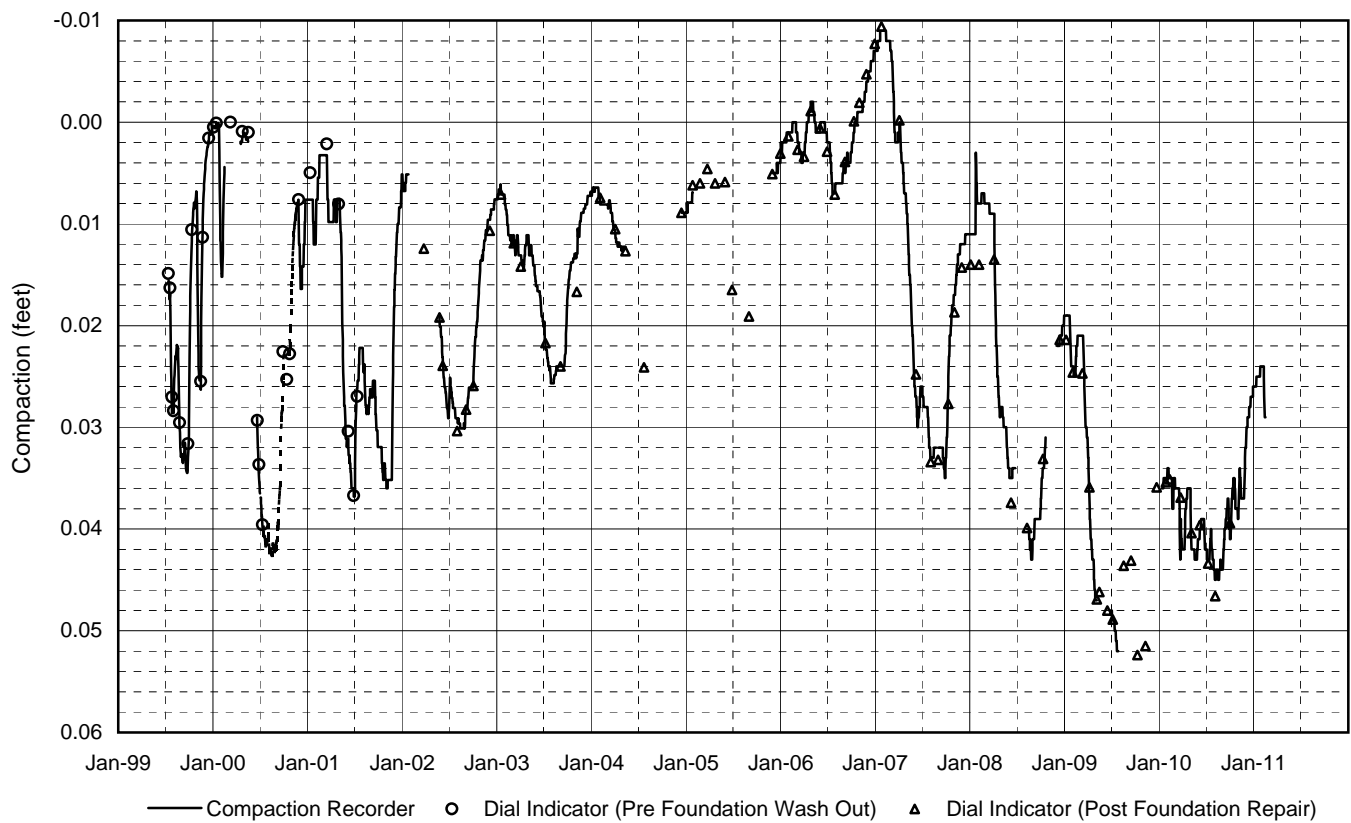
Year	Simulation	Drawdown				Compaction		
		Simulated Drawdown		Measured Drawdown (ft)	Distribution of Measured Drawdown (ft)	Measured Inelastic Compaction (ft)	Distribution of Measured Inelastic Compaction	
		(ft)	(%)				Annual ¹ (ft)	Cumulative (ft)
2000	Transfer Pumping	13.0	16		13.1		0.0023	0.0023
	Other Pumping	70.6	84		71.6		0.0122	0.0122
	All Pumping	83.6	100	84.77		0.0145		0.0145
2001	Transfer Pumping	35.7	39		36.9		0.0081	0.0104
	Other Pumping	55.5	61		57.4		0.0127	0.0249
	All Pumping	91.2	100	94.28		0.0208		0.0353
2002	Transfer Pumping	23.8	33		23.1		0.0036	0.014
	Other Pumping	48.3	67		46.9		0.0074	0.0323
	All Pumping	72.1	100	69.95		0.011 ²		0.046 ²
2003	Transfer Pumping	NA	NA		0.00		0.000	0.014
	Other Pumping	NA	NA		60.04		0.015	0.047
	All Pumping	NA	NA	60.04		0.015 ³		0.061 ²
2004	Transfer Pumping	NA	NA		0.00		0.000	0.014
	Other Pumping	NA	NA		62.29		0.001	0.048
	All Pumping	NA	NA	62.29		0.001		0.062
2005	Transfer Pumping	NA	NA		0.00		0.000	0.014
	Other Pumping	NA	NA		66.12		-0.001	0.048
	All Pumping	NA	NA	66.12		-0.001		0.061
2006	Transfer Pumping	NA	NA		0.00		0.000	0.014
	Other Pumping	NA	NA		48.90		0.001	0.048
	All Pumping	NA	NA	48.90		0.001		0.062
2007	Transfer Pumping	15.6	23		15.9		0.004	0.018
	Other Pumping	53.2	77		54.1		0.014	0.062
	All Pumping	68.8	100	NM ³		0.018		0.081
2008	Transfer Pumping	32.4	49		39.5		0.010	0.028
	Other Pumping	33.8	51		41.2		0.010	0.072
	All Pumping	66.2	100	80.65		0.020		0.100
2009	Transfer Pumping	36.1	56		47.5		0.007	0.035
	Other Pumping	28.1	44		37.0		0.006	0.078
	All Pumping	64.2	100	84.50		0.013		0.113
2010	Transfer Pumping	29.6	51		34.4		-0.005	0.031
	Other Pumping	29.0	49		33.7		-0.004	0.074
	All Pumping	58.6	100	68.12		-0.009		0.104

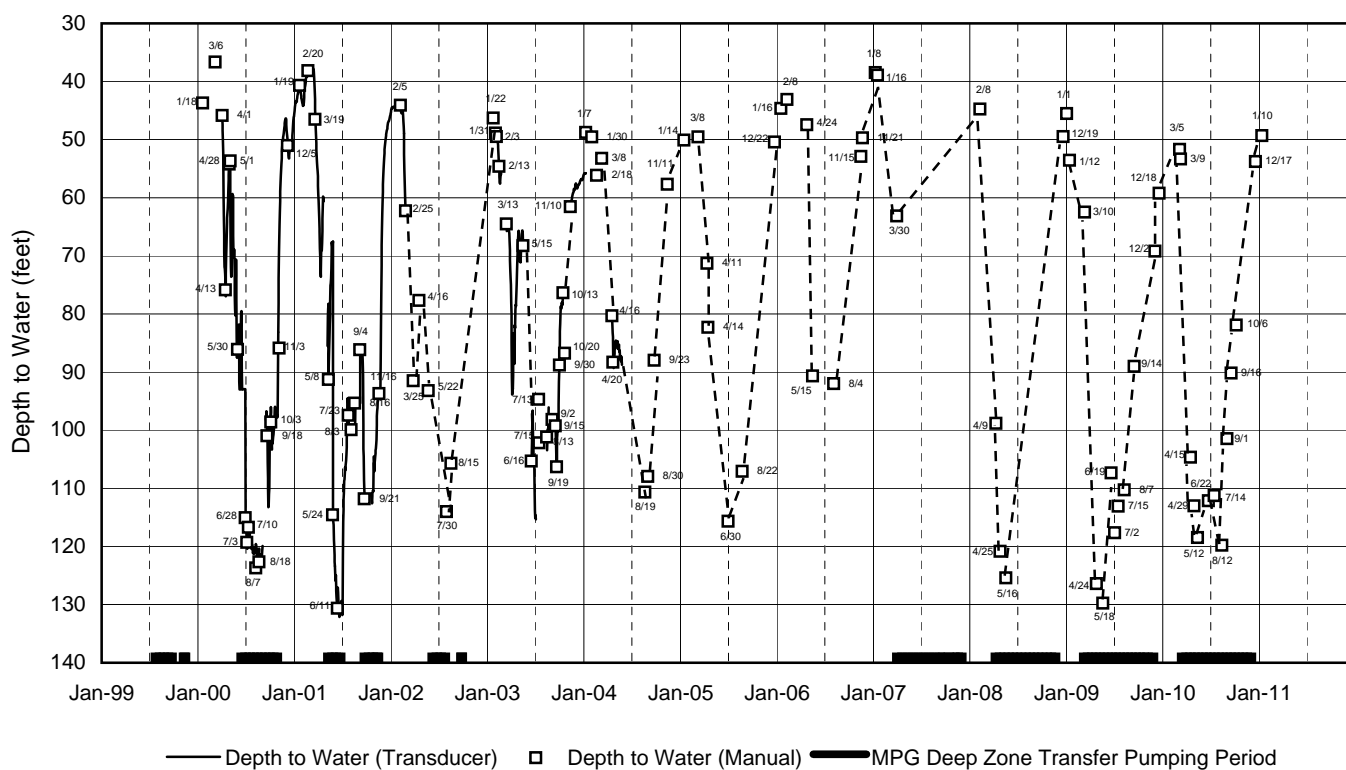
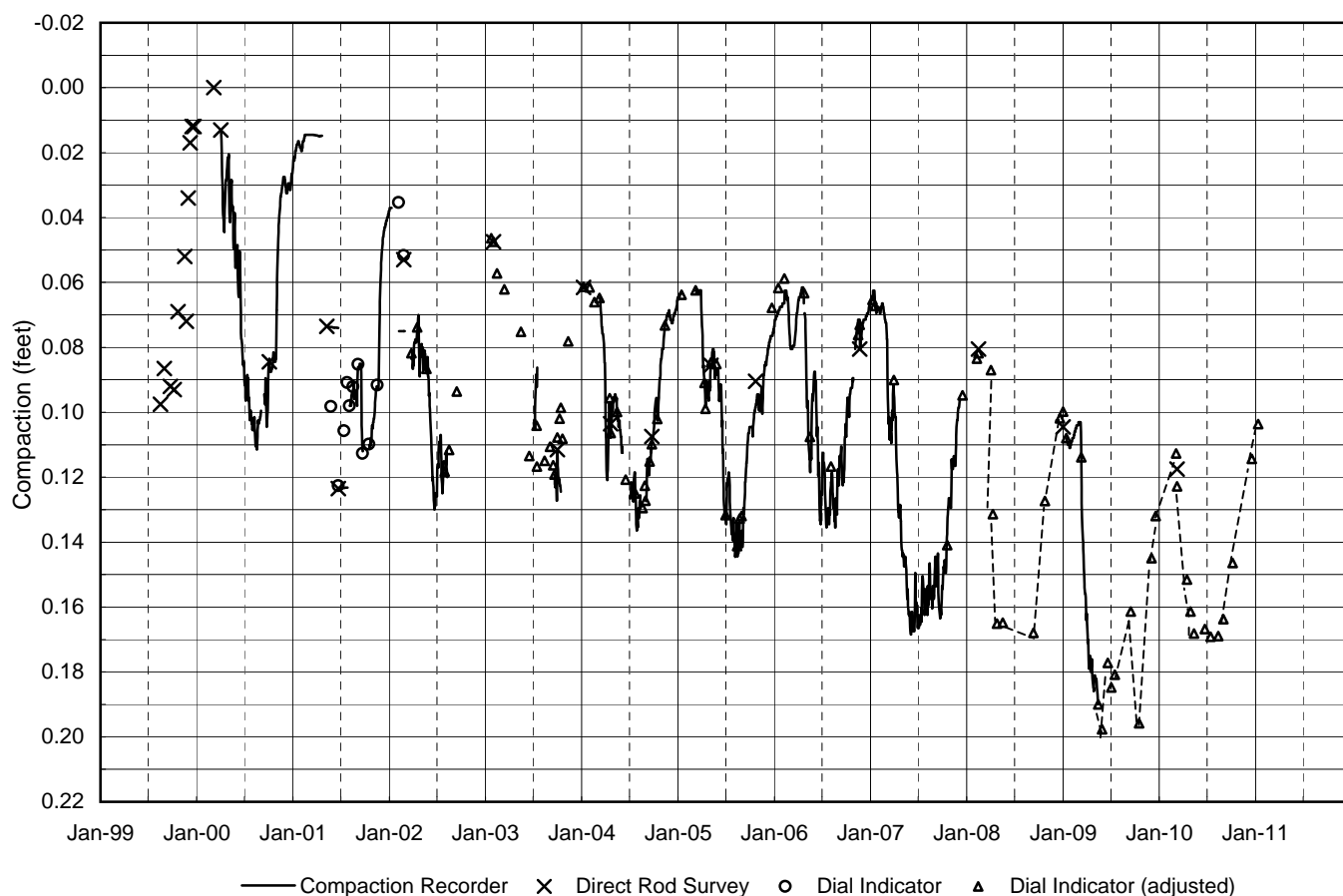
NA = not applicable; NM = not measured

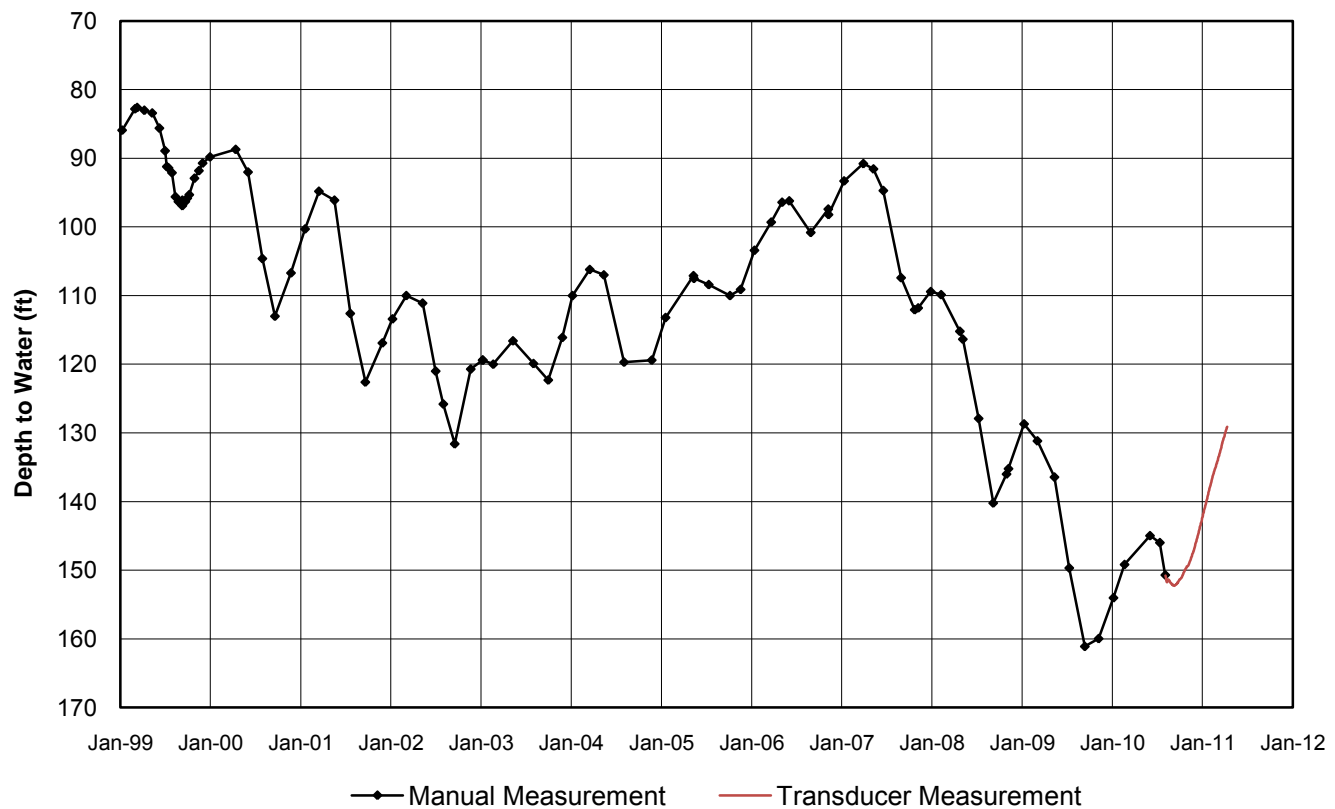
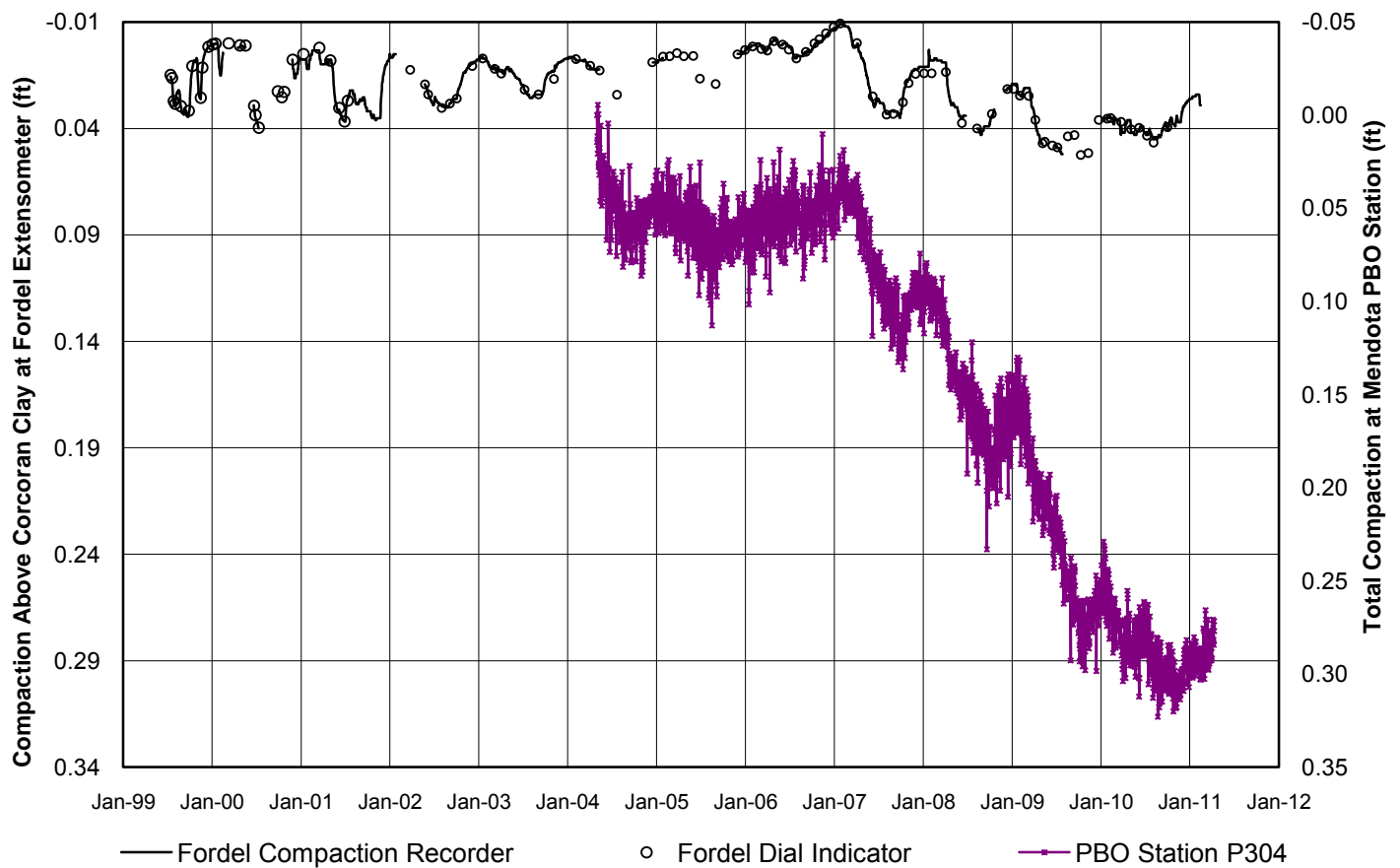
1. Calculated as measured value multiplied by the percentage based on simulation.

2. Estimated values. See discussion in 2002 and 2003 annual reports regarding malfunction of logging equipment.

3. 2007 water level measurements not available after March 30.







VIII. Pumping Cost Reimbursements

Analytical groundwater flow models have been used to predict drawdowns caused by MPG pumping in many previous reports. Beginning in 2000, an analytical model based on the Hantush-Jacob (1955) equation, which calculates the drawdown in a semi-confined (leaky) aquifer, was used for drawdown simulations. Detailed discussions of the Hantush-Jacob model are included in the 2000, 2001, and 2002 annual reports. The model was initially calibrated against 1999-2000 water-level data for wells in the original study area, and was recalibrated against 2000-2001 water-level data after the study area was expanded in 2001. The model calibration was checked by comparing 2007 measured and simulated water levels for deep-zone wells in different parts of the study area. The results showed that the simulated drawdown and recovery were sufficiently accurate for the reimbursement calculations (LSCE and KDSA, 2008). Additional calibration checks for wells in the CCID and PFC service areas were performed for this report using 2010 model results and water-level data.

The simulation period discussed in this report is the 2010 calendar year. The model results were used to estimate the percentage of total drawdown at non-MPG wells caused by MPG transfer pumping. The drawdown percentage was used to calculate the amount of inelastic compaction at the Yearout Ranch extensometer caused by MPG transfer pumping and the reimbursement to be paid by the MPG to other well owners for increased pumping costs.

Pumping Cost Reimbursement Calculations

Under the terms of the Settlement Agreement, the MPG is required to reimburse well owners in the SJREC and PFC service areas for increased pumping costs due to drawdowns estimated to be caused by MPG transfer pumping. The reimbursement calculation requires the use of the groundwater model to estimate the monthly percentage of the total drawdown at each well caused by MPG transfer pumping. In addition to these estimated percentages, the reimbursement calculation requires the following inputs:

- 1) estimated monthly drawdown at each well,
- 2) monthly pumpage (discussed in Chapter III)
- 3) average annual power cost, and
- 4) pump efficiency determined from pump tests.

The pumping cost reimbursement calculation is explained below using one of the southern PFC wells (No. 3211-61 [W-73]) as an example.

Example Calculation

Table 8-1 shows an example pumping cost reimbursement calculation for PFC well No. 3211-61 (W-73). Note that this and other tables at the end of this chapter only show the March to November period, which includes the months when deep-zone transfer pumpage and associated drawdowns occurred in 2010. The rows in **Table 8-1** are numbered and the calculation for each row is described below:

- 1) Well No. W-73 was not included in the MPG water-level monitoring program; therefore, the monthly drawdown in this well due to all pumping was estimated

based on drawdown contour maps. These were prepared by first extrapolating between the bimonthly measured values to estimate the monthly drawdown for each well in the monitoring program. A separate contour map was prepared for each month using these estimated drawdowns.

- 2) The percentage of the total drawdown caused by MPG transfer pumping was estimated using the Hantush-Jacob groundwater model discussed above. To estimate the percentage, the model was used to simulate drawdown due to all deep-zone pumping in the study area (A), followed by a separate simulation of drawdown due only to MPG deep-zone transfer pumping (B). Dividing B by A yields the proportion of the total drawdown estimated to be caused by MPG transfer pumping. For well No. W-73, this proportion ranged from zero in July and August to a high of about 68 percent in April.
- 3) Multiplying the estimated monthly drawdown by these percentages yielded the drawdown in well No. W-73 assumed to be caused by MPG transfer pumping. These drawdowns ranged from zero in July and August to 23 feet in April.
- 4) The 2010 monthly pumpage for most PFC production wells, including well No. W-73, is based on flow meter readings.
- 5) The average power cost for all PFC production wells was calculated by dividing PFC's total PG&E charges for groundwater pumping by the total kilowatt-hours (kwh). For 2010, the average power cost was \$0.1543 per kwh. These power costs include PG&E's fixed charges known as standby or demand charges.
- 6) The pump efficiency for well No. W-73 (63 percent) was based on a pump test conducted by Mid Valley Pump Testing on July 5, 2010.
- 7) The effective pumping cost (\$/af/foot of drawdown) was calculated as the power cost (\$/kwh) divided by the pump efficiency times a conversion factor for kilowatt-hours and acre-feet (1.0237 kwh/af/ft). For well No. W-73, the effective pumping cost was calculated to be \$0.2507/af/foot of drawdown.
- 8) The estimated monthly pumping cost attributed to MPG transfer pumping was calculated as the drawdown due to transfer pumping times the monthly pumpage times the effective pumping cost. The calculated pumping cost reimbursement for each month is shown on the last row of **Table 8-1**. The pumping cost reimbursement for well W-73 ranged from zero in July and August to \$309 in May. The 2010 total was \$368.

Calculations for All Wells

The reimbursement calculations for all wells in the compensation program are shown in **Tables 8-2 through 8-4**. **Table 8-2** shows the simulated monthly drawdowns due to: 1) all pumping in the area and 2) MPG transfer pumping only. The percentage of the total drawdown estimated to be caused by MPG transfer pumping was derived from these results. Note that this table shows all deep production wells simulated with the model. The average percentage of drawdown due to MPG transfer pumping during March-November shown on **Table 8-2** ranged from zero at the CCID wells to about 22 percent at PFC well No. 3730-62 (W-94).

The total estimated drawdown for each well is shown in **Table 8-3**. For wells included in the MPG water-level monitoring program, the monthly drawdown was calculated using measured values as available. For wells or months without water-level data, the monthly drawdown

(shown in italics) was estimated based on drawdown contour maps described above. The estimated drawdowns were multiplied by the MPG percentages from **Table 8-2** to calculate the monthly drawdown attributed to MPG transfer pumping, and the results are shown on **Table 8-3**.

Reimbursement for SJREC and Paramount Farming Co.

Table 8-4 shows the calculated reimbursement for most of the wells included in the Settlement Agreement. The power cost used for all wells in 2010 (\$0.1543 per kwh) was based on the power cost reported by PFC, which is the principal recipient of pumping cost reimbursements from the MPG. This table also shows the pump efficiency based on recent pump test results. PFC supplied 2010 pump tests for 73 of its wells, and the pump efficiencies ranged from 39 to 75 percent. The average pump efficiency for all PFC wells with 2010 pump test data was 63 percent. Pump tests conducted in 2001 were used for the CCID and some CCC wells. A pump efficiency of 60 percent was assumed for wells for which no pump test data were available. **Table 8-4** shows the calculated reimbursement for each well on a monthly basis. The total reimbursement for all wells in 2010 was \$6,642. All of the reimbursement is for wells in the PFC service area, especially wells in the southern portion of PFC. Most of the 2010 reimbursement is due to pumpage occurring in May, which was the only month with significant pumping in both MPG and PFC wells.

Summary

Analytical models based on the Hantush-Jacob equation, which incorporates vertical leakage, have been used for simulations of drawdown due to MPG transfer pumping and total pumping beginning with the 2000 Annual Report. The current version of the model includes pumpage for over 200 irrigation and other large-capacity wells in the expanded study area. The primary use of the model is to determine the percentage of total drawdown caused by MPG transfer pumping. This percentage is one of the components needed to calculate the pumping cost reimbursement to be paid by the MPG to other major pumpers in the area. Use of the model to estimate the percentage of total drawdown is more accurate than using simulated drawdowns in the calculation, because the model error at each well is generally equivalent regardless of whether the drawdown is caused by MPG or non-MPG pumping. The calculated reimbursements are still considered approximations in that they are based on a combination of estimated drawdowns and groundwater model results.

Table 8-1
2010 Example Reimbursement Calculation for PFC Well 3211-61 (W-73)

	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Total
1. Calculated drawdown (ft)	16	34	44	42	40	36	32	24	15	582
2. MPG percentage (calculated using model)	21.9	68.2	28.2	0.2	0.0	0.0	1.4	1.6	6.0	
3. Drawdown due to MPG pumping (ft) ¹	3.6	23.0	12.3	0.1	0.0	0.0	0.4	0.4	0.9	
4. 3211-65 (W-62) pumpage (af)	15	4	100	103	98	96	76	51	39	
5. 2010 power cost (\$/kwh)	0.1543	0.1543	0.1543	0.1543	0.1543	0.1543	0.1543	0.1543	0.1543	
6. Pump efficiency (e _o) from PG&E test (%)	63	63	63	63	63	63	63	63	63	
7. Effective pumping cost (\$/af/ft of drawdown) ²	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	0.251	
8. Increased pumping cost due to MPG drawdown ³	\$14	\$22	\$309	\$2	\$0	\$0	\$8	\$5	\$9	\$368

1. Row 1 x (Row 2/100)

2. Effective pumping cost = 1.0237 x (\$/kwh)/e_o = 1.0237 x Row 5/(Row 6/100)

3. Row 3 x Row 4 x Row 7

Table 8-2
Simulated Deep-Zone Drawdown at Non-MPG Production Wells Due to MPG Transfer Pumping in 2010

Well Owner/ Service Area	Well Name	March			April			May			June			July			August			September			October			November			Mean (Mar-Nov)		
		Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD		
		All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG
		Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %	Pumping (ft)	Transfer (ft)	Transfer %
Western Area																															
Central California ID	5A	12.2	0.0	0.0	9.1	0.0	0.0	3.9	0.0	0.0	0.9	0.0	0.0	10.2	0.0	0.0	11.8	0.0	0.0	5.1	0.0	0.0	12.7	0.0	0.0	3.3	0.0	0.0	7.7	0.0	0.0
	12C	0.2	0.0	0.0	10.7	0.0	0.0	4.0	0.0	0.0	0.6	0.0	0.0	7.8	0.0	0.0	12.5	0.0	0.0	13.9	0.0	0.0	9.0	0.0	0.0	2.5	0.0	0.0	6.8	0.0	0.0
	15B	9.3	0.0	0.0	6.4	0.0	0.0	2.6	0.0	0.0	0.4	0.0	0.0	5.7	0.0	0.0	8.1	0.0	0.0	3.5	0.0	0.0	8.0	0.0	0.0	2.1	0.0	0.0	5.1	0.0	0.0
	16B	12.4	0.0	0.0	11.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0	7.3	0.0	0.0	11.1	0.0	0.0	5.4	0.0	0.0	11.5	0.0	0.0	3.2	0.0	0.0	6.9	0.0	0.0
	23B	13.1	0.0	0.0	9.9	0.0	0.0	3.8	0.0	0.0	0.5	0.0	0.0	7.0	0.0	0.0	11.5	0.0	0.0	12.8	0.0	0.0	8.1	0.0	0.0	2.2	0.0	0.0	7.7	0.0	0.0
	28B	12.3	0.0	0.0	8.9	0.0	0.0	4.7	0.0	0.0	0.8	0.0	0.0	6.4	0.0	0.0	9.6	0.0	0.0	5.2	0.0	0.0	10.4	0.0	0.0	3.1	0.0	0.0	6.8	0.0	0.0
	32B	13.2	0.0	0.0	9.3	0.0	0.0	4.5	0.0	0.0	3.2	0.0	0.0	10.4	0.0	0.0	13.4	0.0	0.0	13.8	0.0	0.0	10.1	0.0	0.0	2.6	0.0	0.0	8.9	0.0	0.0
	35A	17.3	0.0	0.0	12.1	0.0	0.0	4.8	0.0	0.0	0.7	0.0	0.0	12.0	0.0	0.0	12.4	0.0	0.0	6.4	0.0	0.0	14.0	0.0	0.0	3.4	0.0	0.0	9.2	0.0	0.0
	38A	1.7	0.0	0.0	0.0	0.0	0.0	4.7	0.0	0.0	1.9	0.0	0.0	1.8	0.0	0.0	0.9	0.0	0.0	0.2	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	1.3	0.0	0.0
Eastern Area																															
Columbia Canal Company	CCC-1	15.1	7.5	49.7	26.7	13.2	49.4	37.9	8.0	21.1	42.6	0.1	0.2	47.4	0.0	0.0	38.1	0.0	0.0	24.8	0.3	1.2	11.3	0.2	1.8	3.2	0.3	9.4	27.5	3.3	12.0
	CCC-2	18.4	9.2	50.0	30.5	18.0	59.0	50.2	14.0	27.9	47.1	0.0	0.0	52.2	0.0	0.0	44.3	0.0	0.0	32.0	0.4	1.3	14.6	0.2	1.4	6.4	0.4	6.3	32.9	4.7	14.3
	Snyder	8.0	1.1	13.8	7.1	2.1	29.6	10.4	1.7	16.3	12.2	0.0	0.0	20.1	0.0	0.0	15.2	0.0	0.0	8.3	0.6	7.2	6.3	0.2	3.2	2.6	0.4	15.4	10.0	0.7	6.8
	B-Heirs	0.9	0.0	0.0	0.9	0.0	0.0	1.0	0.1	10.0	7.2	0.0	0.0	8.7	0.0	0.0	6.6	0.0	0.0	1.5	0.0	0.0	0.9	0.0	0.0	0.3	0.0	0.0	3.1	0.0	0.4
	Cardella-2	9.4	2.8	29.8	10.3	5.4	52.4	19.3	4.2	21.8	19.6	0.0	0.0	24.0	0.0	0.0	19.2	0.0	0.0	12.2	0.7	5.7	7.1	0.3	4.2	3.9	0.6	15.4	13.9	1.6	11.2
	D.M.A.	1.4	0.0	0.0	1.4	0.1	7.1	2.3	0.1	4.3	16.2	0.0	0.0	17.5	0.0	0.0	16.5	0.0	0.0	2.6	0.0	0.0	1.3	0.0	0.0	0.4	0.0	0.0	6.6	0.0	0.3
	Elrod-1	2.4	0.1	4.2	2.4	0.3	12.5	4.5	0.2	4.4	7.1	0.0	0.0	9.9	0.0	0.0	8.0	0.0	0.0	4.5	0.0	0.0	2.2	0.1	4.5	0.7	0.0	0.0	4.6	0.1	1.7
	Elrod-2	1.0	0.1	10.0	1.0	0.1	10.0	1.1	0.0	0.0	8.4	0.0	0.0	9.5	0.0	0.0	8.5	0.0	0.0	1.6	0.0	0.0	0.9	0.0	0.0	0.3	0.0	0.0	3.6	0.0	0.6
	N.F. Davis	2.4	0.1	4.2	2.3	0.1	4.3	2.6	0.1	3.8	12.2	0.0	0.0	15.2	0.0	0.0	7.8	0.0	0.0	3.8	0.0	0.0	2.2	0.0	0.0	0.7	0.1	14.3	5.5	0.0	0.8
	G-2 Farms 1	7.1	0.6	8.5	6.0	1.0	16.7	9.5	0.8	8.4	10.8	0.1	0.9	18.4	0.0	0.0	14.1	0.0	0.0	8.8	0.3	3.4	5.8	0.1	1.7	2.1	0.3	14.3	9.2	0.4	3.9
	G-2 Farms 2	7.3	0.3	4.1	6.8	0.5	7.4	45.9	0.4	0.9	48.9	0.0	0.0	54.0	0.0	0.0	52.4	0.0	0.0	48.9	0.1	0.2	6.9	0.0	0.0	2.1	0.2	9.5	30.4	0.2	0.5
Paramount Farming Company	2480-61 (W-43)	6.1	1.6	26.2	8.0	3.1	38.8	16.9	2.4	14.2	18.9	0.1	0.5	25.2	0.0	0.0	15.8	0.0	0.0	9.2	0.2	2.2	4.4	0.1	2.3	2.3	0.2	8.7	11.9	0.9	7.2
	2480-62 (W-97)	6.3	1.7	27.0	8.5	3.1	36.5	18.3	2.4	13.1	20.4	0.0	0.0	38.3	0.0	0.0	16.9	0.0	0.0	9.8	0.3	3.1	4.6	0.1	2.2	2.3	0.2	8.7	13.9	0.9	6.2
	2480-63 (W-100)	6.6	1.7	25.8	9.3	3.2	34.4	20.0	2.5	12.5	22.5	0.0	0.0	29.3	0.0	0.0	18.1	0.0	0.0	10.4	0.2	1.9	4.8	0.1	2.1	2.3	0.2	8.7	13.7	0.9	6.4
	2480-64 (W-88)	7.0	1.7	24.3	10.2	3.2	31.4	21.9	2.4	11.0	24.6	0.0	0.0	30.0	0.0	0.0	19.6	0.0	0.0	11.1	0.2	1.8	5.1	0.1	2.0	2.4	0.2	8.3	14.7	0.9	5.9
	2480-65 (W-33)	4.6	1.0	21.7	5.7	2.0	35.1	12.4	1.5	12.1	14.6	0.0	0.0	18.8	0.0	0.0	12.3	0.0	0.0	6.8	0.2	2.9	3.4	0.1	2.9	1.6	0.1	6.3	8.9	0.5	6.1
	2480-66 (W-42)	1.4	0.2	14.3	1.7	0.5	29.4	4.9	0.3	6.1	6.1	0.0	0.0	9.4	0.0	0.0	5.5	0.0	0.0	2.4	0.0	0.0	1.1	0.1	9.1	0.6	0.1	16.7	3.7	0.1	3.6
	2480-67 (W-84)	5.1	1.1	21.6	6.9	2.1	30.4	15.6	1.6	10.3	18.3	0.0	0.0	23.2	0.0	0.0	14.8	0.0	0.0	8.0	0.2	2.5	3.7	0.0	0.0	1.7	0.1	5.9	10.8	0.6	5.2
	2480-69 (W-30)	2.7	0.3	11.1	2.7	0.6	22.2	5.4	0.5	9.3	7.2	0.0	0.0	9.9	0.0	0.0	7.1	0.0	0.0	4.1	0.1	2.4	2.2	0.1	4.5	0.8	0.0	0.0	4.7	0.2	3.8
	2480-70 (W-81)	2.7	0.3	11.1	2.8	0.7	25.0	6.0	0.6	10.0	8.1	0.0	0.0	11.5	0.0	0.0	7.2	0.0	0.0	4.0	0.1	2.5	2.1	0.0	0.0	0.9	0.1	11.1	5.0	0.2	4.0
	2480-71 (W-5)	2.3	0.3	13.0	2.3	0.5	21.7	5.2	0.4	7.7	7.0	0.0	0.0	9.9	0.0	0.0	6.2	0.0	0.0	3.4	0.1	2.9	1.7	0.0	0.0	0.7	0.1	14.3	4.3	0.2	3.6
	2480-72 (W-35)	2.4	0.3	12.5	2.6	0.6	23.1	6.4	0.5	7.8	8.8	0.0	0.0	11.3	0.0	0.0	6.8	0.0	0.0	3.6	0.1	2.8	1.8	0.0	0.0	0.7	0.1	14.3	4.9	0.2	3.6
	2480-73 (W-56)	1.5	0.2	13.3	1.5	0.2	13.3	3.4	0.3	8.8	5.1	0.0	0.0	7.1	0.0	0.0	4.7	0.0	0.0	2.3	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	3.0	0.1	2.6
	2480-74 (W-55)	1.6	0.2	12.5	1.7	0.4	23.5	3.9	0.3	7.7	5.5	0.0	0.0	7.2	0.0	0.0	4.8	0.0	0.0	2.4	0.0	0.0	1.2	0.0	0.0	0.4	0.0	0.0	3.2	0.1	3.1
	2480-75 (W-50)	1.6	0.2	12.5	1.8	0.4	22.2	4.3	0.3	7.0	5.8	0.0	0.0	7.5	0.0	0.0	4.9	0.0	0.0	2.5	0.1	4.0	1.2	0.0	0.0	0.4	0.0	0.0	3.3	0.1	3.3
	2560-61 (W-82)	5.5	0.4	7.3	4.8	0.7	14.6	8.8	0.7	8.0	10.2	0.0	0.0	15.9	0.0	0.0	12.5	0.0	0.0	8.3	0.2	2.4	4.6	0.1	2.2	1.7	0.1	5.9	8.0	0.2	3.0

Table 8-2 (continued)
Simulated Deep-Zone Drawdown at Non-MPG Production Wells Due to MPG Transfer Pumping in 2010

Well Owner/ Service Area	Well Name	March			April			May			June			July			August			September			October			November			Mean (Mar-Nov)		
		Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD		
		All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG
		Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%
Paramount Farming Company	2560-62 (W-25)	4.3	0.4	9.3	3.9	0.6	15.4	7.5	0.6	8.0	9.1	0.0	0.0	13.1	0.0	0.0	10.7	0.0	0.0	7.0	0.2	2.9	3.6	0.1	2.8	1.3	0.1	7.7	6.7	0.2	3.3
	2570-61 (W-51)	1.9	0.2	10.5	1.9	0.3	15.8	3.7	0.3	8.1	6.5	0.0	0.0	8.8	0.0	0.0	6.1	0.0	0.0	3.1	0.0	0.0	1.6	0.0	0.0	0.6	0.1	16.7	3.8	0.1	2.6
	2570-62 (W-68)	1.7	0.1	5.9	1.7	0.2	11.8	3.3	0.2	6.1	5.9	0.0	0.0	7.8	0.0	0.0	6.1	0.0	0.0	3.0	0.0	0.0	1.5	0.0	0.0	0.5	0.0	0.0	3.5	0.1	1.6
	3191-61 (W-85)	11.3	4.2	37.2	14.3	8.0	55.9	29.0	6.1	21.0	28.9	0.0	0.0	32.4	0.0	0.0	25.6	0.0	0.0	17.1	0.6	3.5	8.2	0.3	3.7	5.1	0.6	11.8	19.1	2.2	11.5
	3191-62 (W-86)	10.6	3.9	36.8	14.0	7.4	52.9	28.7	5.7	19.9	29.3	0.1	0.3	32.8	0.0	0.0	25.1	0.0	0.0	16.8	0.4	2.4	7.7	0.2	2.6	5.2	0.5	9.6	18.9	2.0	10.7
	3191-63 (W-44)	8.3	2.3	27.7	8.8	4.3	48.9	16.9	3.4	20.1	18.0	0.0	0.0	22.2	0.0	0.0	16.7	0.0	0.0	10.5	0.6	5.7	5.9	0.3	5.1	3.5	0.4	11.4	12.3	1.3	10.2
	3191-64 (W-57)	8.6	2.8	32.6	10.2	5.2	51.0	20.3	4.0	19.7	21.5	0.0	0.0	26.0	0.0	0.0	18.8	0.0	0.0	13.0	0.5	3.8	6.3	0.3	4.8	3.6	0.4	11.1	14.3	1.5	10.3
	3191-65 (W-87)	8.8	2.8	31.8	12.4	5.4	43.5	26.3	4.2	16.0	28.2	0.0	0.0	31.9	0.0	0.0	23.3	0.0	0.0	14.3	0.3	2.1	6.5	0.2	3.1	3.4	0.3	8.8	17.2	1.5	8.5
	3191-67 (W-17)	7.1	1.7	23.9	7.4	3.3	44.6	14.5	2.6	17.9	15.9	0.0	0.0	20.2	0.0	0.0	14.5	0.0	0.0	8.9	0.4	4.5	4.9	0.2	4.1	3.1	0.4	12.9	10.7	1.0	8.9
	3191-68 (W-76)	4.7	1.0	21.3	5.6	2.1	37.5	11.7	1.6	13.7	13.7	0.1	0.7	17.6	0.0	0.0	11.8	0.0	0.0	6.7	0.2	3.0	3.4	0.1	2.9	1.7	0.2	11.8	8.5	0.6	6.9
	3191-69 (W-52)	3.5	0.6	17.1	3.8	1.2	31.6	8.1	0.9	11.1	11.6	0.0	0.0	14.0	0.0	0.0	8.8	0.0	0.0	4.9	0.1	2.0	2.6	0.0	0.0	1.2	0.1	8.3	6.5	0.3	5.0
	3211-61 (W-73)	21.7	11.2	51.6	32.1	21.9	68.2	60.2	17.0	28.2	53.0	0.1	0.2	56.3	0.0	0.0	49.6	0.0	0.0	36.1	0.5	1.4	18.4	0.3	1.6	10.0	0.6	6.0	37.5	5.7	15.3
	3211-62 (W-69)	22.0	11.1	50.5	30.6	21.3	69.6	59.3	16.3	27.5	52.8	0.1	0.2	55.1	0.0	0.0	48.3	0.0	0.0	34.5	0.7	2.0	16.8	0.4	2.4	8.9	0.6	6.7	36.5	5.6	15.4
	3211-63 (W-2)	16.5	7.6	46.1	25.8	14.7	57.0	44.6	11.4	25.6	42.6	0.1	0.2	47.9	0.0	0.0	40.3	0.0	0.0	27.5	0.4	1.5	13.1	0.2	1.5	6.2	0.4	6.5	29.4	3.9	13.2
	3211-65 (W-62)	14.7	6.4	43.5	21.9	12.4	56.6	41.4	9.5	22.9	41.0	0.1	0.2	44.0	0.0	0.0	36.4	0.0	0.0	24.3	0.5	2.1	11.6	0.2	1.7	5.8	0.4	6.9	26.8	3.3	12.2
	3211-66 (W-15)	14.5	5.9	40.7	22.6	11.6	51.3	40.6	9.0	22.2	40.5	0.0	0.0	45.8	0.0	0.0	37.9	0.0	0.0	24.6	0.4	1.6	11.3	0.2	1.8	5.6	0.4	7.1	27.0	3.1	11.3
	3211-67 (W-3)	14.4	6.2	43.1	20.7	12.0	58.0	40.7	9.3	22.9	39.2	0.0	0.0	41.5	0.0	0.0	34.4	0.0	0.0	23.0	0.6	2.6	10.9	0.3	2.8	5.6	0.5	8.9	25.6	3.2	12.5
	3211-68 (W-110)	16.2	5.8	35.8	18.8	10.9	58.0	44.4	8.4	18.9	45.2	0.0	0.0	46.8	0.0	0.0	40.9	0.0	0.0	26.7	0.7	2.6	11.8	0.3	2.5	10.1	0.7	6.9	29.0	3.0	10.3
	3211-69 (W-77)	12.5	5.0	40.0	18.5	9.6	51.9	39.0	7.4	19.0	38.0	0.0	0.0	38.5	0.0	0.0	31.6	0.0	0.0	19.9	0.4	2.0	9.2	0.2	2.2	4.9	0.4	8.2	23.6	2.6	10.8
	3211-70 (W-98)	12.4	4.3	34.7	19.6	8.4	42.9	39.2	6.5	16.6	45.9	0.1	0.2	50.3	0.0	0.0	37.0	0.0	0.0	22.6	0.3	1.3	10.5	0.2	1.9	5.5	0.3	5.5	27.0	2.2	8.3
	3211-71 (W-46)	10.1	3.4	33.7	15.0	6.4	42.7	35.2	5.0	14.2	39.9	0.0	0.0	41.6	0.0	0.0	31.8	0.0	0.0	19.5	0.3	1.5	7.9	0.2	2.5	4.1	0.3	7.3	22.8	1.7	7.6
	3211-72 (W-101)	10.4	3.3	31.7	16.2	6.3	38.9	39.3	4.8	12.2	48.5	0.1	0.2	48.4	0.0	0.0	37.2	0.0	0.0	22.6	0.3	1.3	8.6	0.2	2.3	4.0	0.3	7.5	26.1	1.7	6.5
	3211-73 (W-14)	11.0	3.1	28.2	17.5	6.0	34.3	36.8	4.6	12.5	42.8	0.0	0.0	44.2	0.0	0.0	33.4	0.0	0.0	19.8	0.3	1.5	8.2	0.1	1.2	3.7	0.3	8.1	24.2	1.6	6.6
	3211-74 (W-31)	9.2	2.5	27.2	14.0	4.8	34.3	30.4	3.7	12.2	33.1	0.1	0.3	36.5	0.0	0.0	26.2	0.0	0.0	15.4	0.3	1.9	6.7	0.1	1.5	3.1	0.2	6.5	19.4	1.3	6.7
	3211-75 (W-63)	8.9	2.7	30.3	13.1	5.1	38.9	30.3	4.0	13.2	31.9	0.0	0.0	35.5	0.0	0.0	25.2	0.0	0.0	15.2	0.3	2.0	6.6	0.1	1.5	3.3	0.3	9.1	18.9	1.4	7.4
	3211-76 (W-13)	10.1	2.1	20.8	16.3	4.1	25.2	32.7	3.1	9.5	38.9	0.0	0.0	40.9	0.0	0.0	29.2	0.0	0.0	16.3	0.2	1.2	7.6	0.1	1.3	3.2	0.2	6.3	21.7	1.1	5.0
	3311-61 (W-89)	3.2	0.5	15.6	4.8	0.8	16.7	11.9	0.7	5.9	13.5	0.0	0.0	15.4	0.0	0.0	10.3	0.0	0.0	5.1	0.0	0.0	2.4	0.0	0.0	1.1	0.1	9.1	7.5	0.2	3.1
	3311-62 (W-8)	9.0	1.5	16.7	14.4	2.7	18.8	34.3	2.1	6.1	37.5	0.1	0.3	40.8	0.0	0.0	28.6	0.0	0.0	13.5	0.1	0.7	7.4	0.0	0.0	2.3	0.1	4.3	20.9	0.7	3.5
	3311-63 (W-12)	8.4	1.0	11.9	12.3	1.9	15.4	29.5	1.6	5.4	34.1	0.0	0.0	36.5	0.0	0.0	25.2	0.0	0.0	13.6	0.1	0.7	6.9	0.1	1.4	3.5	0.0	0.0	18.9	0.5	2.8
	3311-64 (W-90)	8.5	0.9	10.6	11.2	1.7	15.2	31.7	1.3	4.1	36.3	0.0	0.0	38.4	0.0	0.0	26.5	0.0	0.0	16.9	0.0	0.0	8.3	0.1	1.2	4.8	0.1	2.1	20.3	0.5	2.2
	3421-61 (Cardella-1)	13.9	2.7	19.4	11.9	5.2	43.7	17.8	4.1	23.0	19.4	0.0	0.0	28.6	0.0	0.0	23.3	0.0	0.0	12.4	2.1	16.9	9.9	0.8	8.1	4.9	1.5	30.6	15.8	1.8	11.5
	3421-62 (W-74)	7.7	1.2	15.6	7.0	2.3	32.9	10.7	1.8	16.8	12.5	0.1	0.8	19.8	0.0	0.0	15.5	0.0	0.0	8.2	0.5	6.1	6.0	0.2	3.3	2.6	0.4	15.4	10.0	0.7	7.2
	3421-64 (W-18)	6.2	1.3	21.0	6.0	2.4	40.0	11.5	1.9	16.5	13.3	0.1	0.8	17.3	0.0	0.0	12.2	0.0	0.0	7.2	0.3	4.2	4.2	0.1	2.4	2.5	0.3	12.0	8.9	0.7	8.0
	3421-66 (W-19)	5.2	0.9	17.3	4.9	1.7	34.7	9.4	1.3	13.8	11.7	0.0	0.0	15.3	0.0	0.0	10.6	0.0	0.0	6.2	0.2	3.2	3.6	0.1	2.8	1.7	0.2	11.8	7.6	0.5	6.4
	3421-68 (W-24)	3.7	0.5	13.5	3.7	1.1	29.7	7.2	0.8	11.1	9.0	0.0	0.0	12.2	0.0	0.0	8.7	0.0	0.0	5.1	0.2	3.9	2.9	0.1	3.4	1.2	0.1	8.3	6.0	0.3	5.2
	3431-61 (W-32)	1.1	0.2	18.2	1.0	0.2	20.0	3.6	0.2	5.6	4.9	0.0	0.0	7.2	0.0	0.0	4.0	0.0	0.0	1.6	0.0	0.0	0.7	0.0	0.0	0.3	0.0	0.0	2.7	0.1	2.5
	3431-62 (W-91)	0.9	0.1	11.1	0.8	0.2	25.0	3.2	0.1	3.1	4.2	0.0	0.0	6.2	0.0	0.0	3.3	0.0	0.0	1.2	0.0	0.0	0.6	0.0	0.0	0.2	0.0	0.0	2.3	0.0	1.9

Table 8-2 (continued)
Simulated Deep-Zone Drawdown at Non-MPG Production Wells Due to MPG Transfer Pumping in 2010

Well Owner/ Service Area	Well Name	March			April			May			June			July			August			September			October			November			Mean (Mar-Nov)		
		Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD			Simulated DD		
		All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG	All	MPG	MPG
		Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%	Pumping (ft)	Transfer (ft)	%
Paramount Farming Company	3431-63 (W-36)	2.8	0.4	14.3	3.0	0.6	20.0	8.9	0.5	5.6	10.5	0.0	0.0	13.5	0.0	0.0	8.2	0.0	0.0	4.0	0.1	2.5	1.9	0.0	0.0	0.7	0.0	0.0	5.9	0.2	3.0
	3561-61 (W-27)	3.3	0.4	12.1	3.3	0.9	27.3	6.4	0.6	9.4	8.2	0.0	0.0	11.3	0.0	0.0	8.1	0.0	0.0	4.8	0.2	4.2	2.6	0.1	3.8	1.1	0.1	9.1	5.5	0.3	4.7
	3561-62 (W-28)	3.1	0.4	12.9	3.0	0.7	23.3	6.0	0.5	8.3	7.8	0.0	0.0	10.7	0.0	0.0	7.8	0.0	0.0	4.6	0.1	2.2	2.5	0.1	4.0	1.0	0.1	10.0	5.2	0.2	4.1
	3561-63 (W-83)	2.4	0.2	8.3	2.4	0.5	20.8	4.7	0.3	6.4	6.7	0.0	0.0	9.1	0.0	0.0	6.8	0.0	0.0	3.9	0.1	2.6	2.0	0.0	0.0	0.7	0.0	0.0	4.3	0.1	2.8
	3561-64 (W-80)	1.5	0.1	6.7	1.5	0.2	13.3	2.8	0.1	3.6	5.9	0.0	0.0	7.5	0.0	0.0	6.2	0.0	0.0	2.7	0.1	3.7	1.3	0.0	0.0	0.5	0.1	20.0	3.3	0.1	2.0
	3591-61 (W-34)	4.2	0.7	16.7	5.4	1.4	25.9	13.3	1.1	8.3	16.6	0.0	0.0	21.3	0.0	0.0	13.0	0.0	0.0	6.6	0.2	3.0	3.0	0.0	0.0	1.3	0.1	7.7	9.4	0.4	4.1
	3591-63 (W-7)	6.1	0.7	11.5	8.6	1.4	16.3	22.9	1.1	4.8	29.5	0.0	0.0	32.7	0.0	0.0	22.5	0.0	0.0	10.1	0.1	1.0	4.5	0.0	0.0	1.7	0.0	0.0	15.4	0.4	2.4
	3591-64 (W-92)	3.8	0.5	13.2	4.2	1.0	23.8	12.6	0.7	5.6	18.8	0.0	0.0	21.3	0.0	0.0	12.2	0.0	0.0	5.5	0.1	1.8	2.5	0.1	4.0	0.9	0.0	0.0	9.1	0.3	2.9
	3591-65 (W-75)	4.9	0.5	10.2	5.4	0.9	16.7	19.4	0.8	4.1	26.6	0.0	0.0	31.6	0.0	0.0	21.2	0.0	0.0	8.5	0.0	0.0	3.0	0.0	0.0	1.1	0.1	9.1	13.5	0.3	1.9
	3591-66 (W-11)	5.1	0.6	11.8	6.4	1.0	15.6	20.1	0.8	4.0	27.5	0.0	0.0	31.0	0.0	0.0	20.8	0.0	0.0	8.5	0.1	1.2	3.4	0.0	0.0	1.2	0.1	8.3	13.8	0.3	2.1
	3591-67 (W-10)	3.1	0.4	12.9	3.5	0.8	22.9	10.0	0.6	6.0	12.9	0.0	0.0	16.7	0.0	0.0	9.5	0.0	0.0	4.5	0.1	2.2	2.2	0.1	4.5	0.8	0.1	12.5	7.0	0.2	3.3
	3591-68 (W-93)	5.0	0.3	6.0	5.9	0.8	13.6	19.6	0.6	3.1	28.0	0.0	0.0	28.6	0.0	0.0	18.2	0.0	0.0	8.7	0.1	1.1	4.1	0.0	0.0	1.1	0.0	0.0	13.2	0.2	1.5
	3591-69 (W-39)	2.7	0.3	11.1	2.5	0.6	24.0	7.5	0.4	5.3	9.0	0.1	1.1	11.5	0.0	0.0	6.5	0.0	0.0	3.3	0.0	0.0	1.6	0.0	0.0	0.6	0.1	16.7	5.0	0.2	3.3
	3591-70 (W-72)	3.7	0.3	8.1	3.1	0.5	16.1	9.7	0.5	5.2	11.6	0.0	0.0	16.2	0.0	0.0	8.8	0.0	0.0	4.4	0.1	2.3	2.4	0.0	0.0	0.7	0.1	14.3	6.7	0.2	2.5
	3591-71 (W-71)	3.8	0.3	7.9	3.6	0.6	16.7	10.7	0.5	4.7	13.3	0.0	0.0	16.3	0.0	0.0	9.6	0.0	0.0	4.6	0.1	2.2	2.3	0.1	4.3	0.7	0.0	0.0	7.2	0.2	2.5
	3591-72 (W-60)	4.3	0.3	7.0	5.5	0.7	12.7	16.5	0.5	3.0	22.8	0.0	0.0	24.0	0.0	0.0	15.4	0.0	0.0	7.4	0.0	0.0	3.5	0.0	0.0	0.9	0.0	0.0	11.1	0.2	1.5
	3730-61 (W-95)	16.9	7.5	44.4	28.0	13.7	48.9	45.3	9.0	19.9	52.2	0.0	0.0	59.8	0.0	0.0	51.3	0.0	0.0	38.5	0.3	0.8	16.4	0.1	0.6	4.7	0.3	6.4	34.8	3.4	9.9
	3730-62 (W-94)	39.0	23.0	59.0	62.9	45.6	72.5	91.5	38.1	41.6	71.3	0.6	0.8	84.4	0.2	0.2	72.9	0.0	0.0	53.3	1.4	2.6	25.8	0.8	3.1	10.0	1.6	16.0	56.8	12.4	21.8
	3730-63 (W-112)	22.5	11.1	49.3	35.2	22.0	62.5	69.5	17.5	25.2	66.2	0.0	0.0	73.3	0.0	0.0	64.3	0.0	0.0	54.1	0.4	0.7	23.2	0.3	1.3	13.2	0.5	3.8	46.8	5.8	12.3
	3730-64 (W-111)	28.1	16.4	58.4	42.7	31.9	74.7	73.6	25.3	34.4	61.7	0.1	0.2	67.1	0.0	0.0	60.0	0.0	0.0	47.5	0.8	1.7	19.6	0.4	2.0	6.4	0.8	12.5	45.2	8.4	18.6
	3730-65 (W-53)	25.6	13.1	51.2	33.9	24.9	73.5	55.6	19.3	34.7	44.9	0.1	0.2	48.6	0.0	0.0	43.4	0.0	0.0	29.7	1.3	4.4	15.3	0.6	3.9	8.2	1.4	17.1	33.9	6.7	19.9
	3730-66 (W-59)	19.8	9.1	46.0	30.9	17.9	57.9	57.9	14.1	24.4	55.8	0.1	0.2	60.9	0.0	0.0	52.3	0.0	0.0	37.6	0.4	1.1	18.4	0.2	1.1	9.1	0.5	5.5	38.1	4.7	12.3
	3730-67 (W-96)	26.0	14.5	55.8	37.0	27.6	74.6	61.4	20.9	34.0	51.0	0.1	0.2	55.0	0.0	0.0	48.1	0.0	0.0	35.1	0.9	2.6	17.1	0.4	2.3	7.9	0.8	10.1	37.6	7.2	19.3
	3730-68 (W-48)	23.7	11.5	48.5	30.7	21.9	71.3	55.8	16.8	30.1	47.8	0.0	0.0	44.2	0.0	0.0	39.0	0.0	0.0	26.3	0.9	3.4	13.7	0.5	3.6	7.8	1.0	12.8	32.1	5.8	18.2
	3730-70 (W-108)	27.2	9.8	36.0	29.3	18.7	63.8	64.1	14.4	22.5	57.3	0.1	0.2	60.9	0.0	0.0	55.4	0.0	0.0	34.8	1.1	3.2	19.1	0.5	2.6	13.3	1.0	7.5	40.2	5.1	12.6
	3730-72 (W-107)	12.1	3.9	32.2	13.2	7.4	56.1	28.1	5.7	20.3	29.6	0.1	0.3	33.6	0.0	0.0	28.7	0.0	0.0	20.6	1.1	5.3	11.7	0.4	3.4	5.8	0.9	15.5	20.4	2.2	10.6
	3921-62 (W-78)	23.0	8.8	38.3	25.2	16.6	65.9	51.9	12.9	24.9	43.2	0.0	0.0	50.3	0.0	0.0	44.1	0.0	0.0	28.7	1.2	4.2	16.1	0.5	3.1	10.4	1.2	11.5	32.5	4.6	14.1
	7101-61 (W-61)	2.0	0.2	10.0	2.0	0.4	20.0	4.2	0.3	7.1	6.1	0.0	0.0	8.3	0.0	0.0	6.0	0.0	0.0	3.2	0.0	0.0	1.7	0.1	5.9	0.6	0.0	0.0	3.8	0.1	2.9
	7102-61 (W-99)	7.2	1.4	19.4	10.9	2.9	26.6	23.4	2.3	9.8	26.4	0.0	0.0	31.2	0.0	0.0	20.7	0.0	0.0	11.5	0.2	1.7	5.2	0.0	0.0	2.3	0.1	4.3	15.4	0.8	5.0
	7102-62 (W-66)	5.9	1.1	18.6	8.5	2.1	24.7	19.2	1.6	8.3	22.5	0.0	0.0	26.6	0.0	0.0	18.1	0.0	0.0	9.4	0.1	1.1	4.3	0.0	0.0	1.9	0.1	5.3	12.9	0.6	4.3
	7102-63 (W-65)	5.5	1.1	20.0	7.7	2.1	27.3	17.4	1.6	9.2	20.4	0.0	0.0	24.9	0.0	0.0	16.2	0.0	0.0	8.7	0.2	2.3	4.0	0.1	2.5	1.8	0.1	5.6	11.8	0.6	4.9
	7102-64 (W-64)	6.3	1.1	17.5	9.3	2.1	22.6	21.0	1.6	7.6	24.5	0.0	0.0	28.5	0.0	0.0	19.0	0.0	0.0	10.2	0.1	1.0	4.7	0.1	2.1	2.0	0.1	5.0	13.9	0.6	4.1
	7102-65 (W-70)	5.3	0.9	17.0	7.4	1.8	24.3	17.4	1.4	8.0	20.9	0.1	0.5	24.8	0.0	0.0	16.3	0.0	0.0	8.4	0.1	1.2	3.9	0.1	2.6	1.7	0.1	5.9	11.8	0.5	4.2
	7102-66 (W-67)	5.9	0.9	15.3	8.6	1.7	19.8	20.1	1.3	6.5	24.0	0.0	0.0	27.9	0.0	0.0	18.5	0.0	0.0	9.6	0.1	1.0	4.4	0.0	0.0	1.9	0.1	5.3	13.4	0.5	3.4

Table 8-3
Estimated Drawdowns for 2010 Pumping Cost Reimbursements

Well Owner / Service Area	Well Name	Drawdown Due to All Pumping (ft) ¹										Drawdown Due to MPG Transfer Pumping (ft) ²									
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		
Central California ID	5A	5.4	6.5	6.3	8.3	6.7	8.7	7.1	5.8	2.0	0	0	0	0	0	0	0	0	0		
	12C	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	15B	0.3	0.5	0.7	0.4	0.1	0.3	0.7	0.3	0.0	0	0	0	0	0	0	0	0	0		
	16B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	23B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	28B	1.1	2.2	2.1	2.7	3.3	3.6	3.6	2.8	1.2	0	0	0	0	0	0	0	0	0		
	32B	1.7	2.1	2.4	1.6	0.6	2.1	3.2	2.4	1.2	0	0	0	0	0	0	0	0	0		
	35A	0.4	0.6	0.7	0.8	0.8	0.8	0.7	0.1	0.0	0	0	0	0	0	0	0	0	0		
38A	1.2	1.0	0.0	2.1	3.6	0.6	0.0	-2.5	0.0	0	0	0	0	0	0	0	0	0			
Columbia Canal Company	CC-1	11.2	21.0	33.0	38.1	43.2	38.0	36.8	24.0	13.8	1	10	7	0	0	0	0	0	1		
	CC-2	14.6	31.9	45.0	47.2	49.0	46.9	45.2	31.3	19.1	3	19	13	0	0	0	1	0	1		
	Snyder	13.2	24.1	22.9	27.5	32.6	32.0	27.7	25.6	23.3	0	7	4	0	0	0	2	1	4		
	B-Heirs	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	Cardella-2	10.2	11.1	15.8	0.0	25.4	23.9	22.4	16.4	10.4	1	6	3	0	0	0	1	1	2		
	Diepersloot #1	0.0	0.0	0.0	0.0	2.8	3.0	0.1	0.1	0.8	0	0	0	0	0	0	0	0	0		
	Elrod-1	0.1	0.0	0.0	3.3	7.4	6.7	3.3	3.6	3.8	0	0	0	0	0	0	0	0	0		
	Elrod-2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	N.F. Davis	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0		
	G-2 Farms 1	5.7	9.4	8.5	11.7	15.0	12.8	9.2	9.3	9.0	0	2	1	0	0	0	0	0	1		
G-2 Farms 2	0.2	0.0	0.0	0.7	2.1	0.4	0.0	0.0	0.0	0	0	0	0	0	0	0	0	0			
Paramount Farming Co.	2480-61 (W-43)	5.5	7.2	10.5	16.6	22.9	20.8	18.1	14.8	10.4	0	3	1	0	0	0	0	0	1		
	2480-62 (W-97)	6.1	7.8	11.4	17.6	23.9	22.5	19.3	15.6	11.2	0	3	1	0	0	0	1	0	1		
	2480-63 (W-100)	7.8	9.6	13.3	19.8	26.0	25.4	21.9	17.7	13.6	0	3	2	0	0	0	0	0	1		
	2480-64 (W-88)	10.2	12.2	16.0	22.9	29.0	29.2	25.3	20.8	16.6	0	4	2	0	0	0	0	0	1		
	2480-65 (W-33)	7.8	9.1	10.2	14.5	20.3	18.3	17.2	15.9	13.7	0	3	1	0	0	0	1	0	1		
	2480-66 (W-42)	2.5	3.1	4.3	8.3	12.0	12.6	9.4	9.6	6.5	0	1	0	0	0	0	0	1	1		
	2480-67 (W-84)	3.8	4.4	6.2	9.9	15.0	15.7	13.6	10.8	9.8	0	1	1	0	0	0	0	0	1		
	2480-69 (W-30)	3.1	4.3	3.8	9.9	15.6	14.8	11.1	10.8	9.9	0	1	0	0	0	0	0	0	0		
	2480-70 (W-81)	3.7	4.9	4.7	11.5	17.9	17.1	13.5	12.9	11.6	0	1	0	0	0	0	0	0	1		
	2480-71 (W-5)	1.4	1.8	1.6	8.6	15.1	15.2	11.1	10.2	9.3	0	0	0	0	0	0	0	0	1		
	2480-72 (W-35)	0.5	0.5	0.8	8.7	15.9	16.6	12.2	10.7	9.6	0	0	0	0	0	0	0	0	1		
	2480-73 (W-56)	0.0	0.0	0.0	4.3	10.4	11.3	6.9	5.6	5.8	0	0	0	0	0	0	0	0	0		
	2480-74 (W-55)	0.0	0.0	0.0	4.8	11.2	12.6	7.9	6.2	6.3	0	0	0	0	0	0	0	0	0		
	2480-75 (W-50)	0.0	0.0	0.0	4.8	11.4	13.3	8.4	6.2	6.4	0	0	0	0	0	0	0	0	0		
	2560-61 (W-82)	4.4	6.9	6.0	9.6	13.2	11.1	7.5	7.9	7.7	0	1	0	0	0	0	0	0	0		
	2560-62 (W-25)	3.7	5.6	4.8	8.9	12.9	11.1	7.6	8.0	7.7	0	1	0	0	0	0	0	0	1		
	2570-61 (W-51)	0.0	0.0	0.0	4.7	9.9	9.9	6.0	5.6	5.6	0	0	0	0	0	0	0	0	1		
	2570-62 (W-68)	0.0	0.0	0.0	3.4	8.3	8.3	4.5	4.2	4.4	0	0	0	0	0	0	0	0	0		
	3191-61 (W-85)	8.1	11.4	21.2	29.4	36.3	31.0	24.0	15.6	5.4	1	6	4	0	0	0	1	1	1		
	3191-62 (W-86)	8.5	12.6	22.4	31.7	39.6	34.7	27.3	18.5	8.2	1	7	4	0	0	0	1	0	1		
	3191-63 (W-44)	7.8	12.6	16.5	22.1	27.7	25.8	23.6	18.7	12.8	0	6	3	0	0	0	1	1	1		
	3191-64 (W-57)	7.1	10.2	16.2	22.9	29.1	25.9	22.3	16.4	8.9	0	5	3	0	0	0	1	1	1		
	3191-65 (W-87)	8.6	12.8	20.4	29.7	37.5	34.3	28.1	20.7	12.3	0	6	3	0	0	0	1	1	1		
	3191-67 (W-17)	8.6	13.2	16.0	21.9	27.8	25.8	23.5	19.8	14.6	0	6	3	0	0	0	1	1	2		
	3191-68 (W-76)	8.8	11.0	12.2	17.2	23.3	21.0	19.5	18.1	15.1	0	4	2	0	0	0	1	1	2		
	3191-69 (W-52)	8.0	10.1	10.2	16.5	23.0	21.5	18.8	18.2	16.0	0	3	1	0	0	0	0	0	1		
	3211-61 (W-73)	16.4	33.8	43.6	42.4	40.5	36.2	31.9	23.6	14.8	4	23	12	0	0	0	0	0	1		
	3211-62 (W-69)	16.1	30.2	40.3	41.5	41.3	35.5	29.1	21.0	11.6	3	21	11	0	0	0	1	1	1		
	3211-63 (W-2)	7.0	25.0	31.9	30.2	28.2	24.8	21.5	15.1	9.2	1	14	8	0	0	0	0	0	1		
	3211-65 (W-62)	6.3	20.6	29.0	32.0	34.0	29.4	22.9	15.5	7.6	1	12	7	0	0	0	0	0	1		
	3211-66 (W-15)	1.4	18.8	22.8	19.6	16.4	13.2	10.1	6.9	3.7	0	10	5	0	0	0	0	0	0		
	3211-67 (W-3)	9.6	20.0	31.4	38.9	44.8	39.1	30.2	20.0	9.0	1	12	7	0	0	0	1	1	1		
	3211-68 (W-110)	9.5	14.2	25.3	32.5	38.1	31.5	23.3	14.3	3.5	1	8	5	0	0	0	1	0	0		
	3211-69 (W-77)	8.8	17.4	30.6	40.7	52.6	44.6	36.8	22.9	11.3	1	9	6	0	0	0	1	0	1		

Table 8-3 (continued)
Estimated Drawdowns for 2010 Pumping Cost Reimbursements

Well Owner / Service Area	Well Name	Drawdown Due to All Pumping (ft) ¹										Drawdown Due to MPG Transfer Pumping (ft) ²									
		Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		
Paramount Farming Co.	3211-70 (W-98)	3.5	16.3	22.9	26.9	29.7	26.7	21.2	14.5	8.4	0	7	4	0	0	0	0	0	0		
	3211-71 (W-46)	8.3	14.7	23.4	33.1	41.0	37.6	30.3	21.7	12.5	1	6	3	0	0	0	0	1	1		
	3211-72 (W-101)	7.2	14.8	22.3	30.7	37.3	34.6	28.1	20.5	12.6	0	6	3	0	0	0	0	0	1		
	3211-73 (W-14)	5.5	14.1	20.2	27.0	32.0	30.3	24.8	18.1	11.9	0	5	3	0	0	0	0	0	1		
	3211-74 (W-31)	9.2	14.3	20.3	28.9	35.5	34.0	28.5	22.2	15.5	0	5	2	0	0	0	1	0	1		
	3211-75 (W-63)	9.1	13.9	20.8	29.8	37.1	34.8	28.8	21.9	14.2	0	5	3	0	0	0	1	0	1		
	3211-76 (W-13)	6.8	11.5	16.2	24.4	30.2	30.4	25.5	20.1	15.1	0	3	2	0	0	0	0	0	1		
	3311-61 (W-89)	13.8	15.7	20.7	27.0	34.9	34.3	32.4	26.3	24.3	0	3	1	0	0	0	0	0	2		
	3311-62 (W-8)	2.2	1.7	5.8	15.0	21.6	25.0	19.3	15.8	12.3	0	0	0	0	0	0	0	0	1		
	3311-63 (W-12)	3.6	4.0	7.4	14.4	20.6	25.3	19.9	13.9	13.0	0	1	0	0	0	0	0	0	0		
	3311-64 (W-90)	3.8	4.2	7.4	12.8	18.6	24.4	18.9	12.1	12.5	0	1	0	0	0	0	0	0	0		
	3421-61 (Cardella-1)	10.2	13.5	18.4	22.4	26.2	21.1	16.1	10.2	11.3	1	6	4	0	0	0	3	1	3		
	3421-62 (W-74)	14.6	26.8	25.6	30.6	37.6	35.6	32.7	28.7	26.1	0	9	4	0	0	0	2	1	4		
	3421-64 (W-18)	10.0	15.6	16.6	22.2	28.1	26.4	23.9	21.6	17.8	0	6	3	0	0	0	1	1	2		
	3421-66 (W-19)	9.7	14.6	14.8	20.4	26.4	24.7	22.0	20.7	17.8	0	5	2	0	0	0	1	1	2		
	3421-68 (W-24)	7.1	10.3	9.9	15.8	21.7	20.1	16.9	16.5	14.7	0	3	1	0	0	0	1	1	1		
	3431-61 (W-32)	15.9	16.6	17.5	20.9	26.6	25.7	26.2	23.5	24.3	0	3	1	0	0	0	0	0	0		
	3431-62 (W-91)	0.8	0.5	0.1	9.8	17.2	18.5	13.5	12.3	10.0	0	0	0	0	0	0	0	0	0		
	3431-63 (W-36)	0.0	0.0	0.0	7.2	14.5	16.9	12.0	9.3	8.8	0	0	0	0	0	0	0	0	0		
	3561-61 (W-27)	5.5	7.8	7.4	13.3	19.1	17.8	14.3	14.1	12.7	0	2	1	0	0	0	1	1	1		
	3561-62 (W-28)	4.4	6.4	5.8	11.6	17.2	16.0	12.5	12.3	11.2	0	1	0	0	0	0	0	0	1		
	3561-63 (W-83)	1.7	2.3	1.8	7.4	12.7	12.1	8.3	8.1	7.7	0	0	0	0	0	0	0	0	0		
	3561-64 (W-80)	0.0	0.0	0.0	2.0	6.6	6.8	3.1	2.8	3.3	0	0	0	0	0	0	0	0	1		
	3591-61 (W-34)	7.6	8.0	9.7	11.6	16.2	19.4	16.8	13.5	14.4	0	2	1	0	0	0	1	0	1		
	3591-63 (W-7)	3.2	3.7	7.1	8.9	13.2	21.8	16.2	8.4	11.2	0	1	0	0	0	0	0	0	0		
	3591-64 (W-92)	4.2	4.1	5.8	9.5	15.2	19.5	15.4	11.6	12.7	0	1	0	0	0	0	0	0	0		
	3591-65 (W-75)	2.3	2.7	5.9	4.7	8.0	18.3	13.0	5.6	10.1	0	0	0	0	0	0	0	0	1		
	3591-66 (W-11)	1.0	1.6	5.7	1.9	3.8	18.0	11.7	1.9	8.5	0	0	0	0	0	0	0	0	1		
	3591-67 (W-10)	0.7	0.3	1.6	7.9	14.6	18.0	13.2	10.0	10.1	0	0	0	0	0	0	0	0	1		
	3591-68 (W-93)	0.0	0.4	3.8	2.7	6.2	17.9	11.5	2.2	7.8	0	0	0	0	0	0	0	0	0		
	3591-69 (W-39)	0.0	0.0	0.0	6.1	13.2	15.6	10.6	7.9	7.8	0	0	0	0	0	0	0	0	1		
	3591-70 (W-72)	0.0	0.0	0.0	5.7	12.2	16.7	11.4	7.3	8.3	0	0	0	0	0	0	0	0	1		
	3591-71 (W-71)	0.0	0.0	1.2	4.9	10.5	17.0	11.5	5.9	8.4	0	0	0	0	0	0	0	0	0		
	3591-72 (W-60)	0.0	0.0	2.6	2.9	7.2	17.6	11.2	2.2	7.2	0	0	0	0	0	0	0	0	0		
	3730-61 (W-95)	16.5	33.0	49.1	55.5	69.2	54.6	47.1	33.9	25.0	2	16	10	0	0	0	0	0	2		
	3730-62 (W-94)	37.7	63.8	93.6	75.7	70.8	61.8	56.9	41.7	34.2	17	46	39	1	0	0	1	1	5		
	3730-63 (W-112)	14.4	30.0	42.9	45.0	46.8	46.4	46.4	32.1	18.6	3	19	11	0	0	0	0	0	1		
	3730-64 (W-111)	28.6	49.3	62.5	59.4	55.8	49.6	43.6	33.8	23.5	9	37	21	0	0	0	1	1	3		
	3730-65 (W-53)	23.5	46.5	57.6	55.4	57.3	46.9	39.7	30.4	21.8	6	34	20	0	0	0	2	1	4		
	3730-66 (W-59)	13.1	30.1	40.9	41.9	42.4	40.3	38.6	26.9	16.7	2	17	10	0	0	0	0	0	1		
3730-67 (W-96)	19.3	33.0	43.1	43.9	43.2	37.4	31.3	23.1	13.5	5	25	15	0	0	0	1	1	1			
3730-68 (W-48)	19.1	31.9	42.6	44.3	44.6	37.0	29.1	20.7	10.9	4	23	13	0	0	0	1	1	1			
3730-70 (W-108)	16.7	29.9	40.9	42.2	43.0	34.9	26.5	17.6	8.6	3	19	9	0	0	0	1	0	1			
3730-72 (W-107)	3.8	7.1	14.2	18.4	22.4	17.7	12.7	5.6	1.3	0	4	3	0	0	0	1	0	0			
3921-62 (W-78)	11.6	26.7	10.5	37.5	17.0	31.6	1.4	13.9	0.0	2	18	3	0	0	0	0	0	0			
7101-61 (W-61)	0.7	0.8	0.3	6.3	12.0	11.9	7.9	7.4	7.1	0	0	0	0	0	0	0	0	0			
7102-61 (W-99)	12.5	14.2	17.4	24.6	30.4	31.8	27.9	23.5	20.0	0	4	2	0	0	0	0	0	1			
7102-62 (W-66)	7.1	7.9	10.7	14.7	19.6	23.5	19.7	14.9	14.4	0	2	1	0	0	0	0	0	1			
7102-63 (W-65)	5.7	6.5	9.0	12.6	17.6	20.2	17.1	13.1	12.4	0	2	1	0	0	0	0	0	1			
7102-64 (W-64)	7.8	8.5	11.5	16.1	21.1	25.7	21.4	16.2	15.7	0	2	1	0	0	0	0	0	1			
7102-65 (W-70)	5.3	5.9	8.6	10.8	15.0	20.3	16.6	11.5	12.5	0	1	1	0	0	0	0	0	1			
7102-66 (W-67)	5.9	6.5	9.5	12.6	17.2	23.4	18.8	12.9	13.7	0	1	1	0	0	0	0	0	1			

1. Drawdowns were estimated based on measured water levels shown on hydrographs where available. Contour maps were used to estimate drawdowns in wells lacking water level data (italicized values).
2. Values obtained by multiplying the estimated drawdowns by the monthly MPG percentages (see Table 8-2).

Table 8-4
2010 Pumping Cost Reimbursement for Well Owners
Included in Settlement Agreement

Well Owner / Service Area	Well ID	Power Cost (\$/kwh)	Pump* Efficiency	Pumpage (af)									Reimbursement (\$)										
				Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total	
Central California ID	5A	0.1543	0.49	148	107	47	6	115	139	59	154	38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	12C	0.1543	0.45	0	124	48	6	94	151	163	109	29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	15B	0.1543	0.51	105	68	30	4	64	91	38	90	22	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	16B	0.1543	0.77	146	125	2	0	85	129	60	135	37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	23B	0.1543	0.55	161	117	46	6	85	139	151	99	26	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	28B	0.1543	0.55	149	105	57	6	71	114	60	126	37	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	32B	0.1543	0.55	160	109	55	6	62	130	163	123	31	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	35A	0.1543	0.57	210	142	58	8	145	150	75	169	40	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	38A	0.1543	0.69	20	0	56	21	20	9	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Total			1,099	897	399	62	741	1,052	769	1,004	260	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Columbia Canal Company	CC-1	0.1543	0.64	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	CC-2	0.1543	0.69	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Total			0	0	0	0	0	0	0	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
CCC Service Area	Snyder	0.1543	0.60	0	0	0	24	30	15	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Cardella-2	0.1543	0.68	0	0	0	96	96	96	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Diepersloot #1	0.1543	0.60	0	0	0	127	127	127	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Elrod-1	0.1543	0.60	0	0	0	0	3	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Elrod-2	0.1543	0.60	0	0	0	0	1	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	N.F. Davis	0.1543	0.60	0	0	0	141	141	141	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	G-2 Farms 1	0.1543	0.60	0	0	0	0	16	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	G-2 Farms 2	0.1543	0.60	0	0	378	378	378	378	378	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	Total			0	0	378	767	793	758	378	0	0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Paramount Farming Co.	2480-61 (W-43)	0.1543	0.56	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-62 (W-97)	0.1543	0.74	0	0	0	0	142	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-63 (W-100)	0.1543	0.69	0	0	0	2	10	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-64 (W-88)	0.1543	0.64	0	0	0	0	8	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-65 (W-33)	0.1543	0.48	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-66 (W-42)	0.1543	0.61	0	0	0	0	8	8	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-67 (W-84)	0.1543	0.35	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-69 (W-30)	0.1543	0.56	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-70 (W-81)	0.1543	0.63	0	0	0	3	10	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0

Table 8-4 (continued)
2010 Pumping Cost Reimbursement for Well Owners
Included in Settlement Agreement

Well Owner / Service Area	Well ID	Power Cost (\$/kwh)	Pump* Efficiency	Pumpage (af)									Reimbursement (\$)										
				Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total	
Paramount Farming Co.	2480-71 (W-5)	0.1543	0.62	0	0	0	0	7	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-72 (W-35)	0.1543	0.71	0	0	0	6	6	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-73 (W-56)	0.1543	0.51	0	0	0	0	4	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-74 (W-55)	0.1543	0.60	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2480-75 (W-50)	0.1543	0.61	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2560-61 (W-82)	0.1543	0.70	0	0	0	0	9	0	0	0	1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.10	\$0
	2560-62 (W-25)	0.1543	0.72	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2570-61 (W-51)	0.1543	0.73	0	0	0	7	11	1	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	2570-62 (W-68)	0.1543	0.80	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	3191-61 (W-85)	0.1543	0.67	0	0	2	2	5	0	4	0	0	0.00	0.00	1.89	0.00	0.00	0.00	0.82	0.00	0.00	0.00	\$3
	3191-62 (W-86)	0.1543	0.73	0	0	2	5	9	0	7	0	7	0.00	0.00	2.34	0.11	0.00	0.00	1.03	0.00	1.19	0.00	\$5
	3191-63 (W-44)	0.1543	0.49	4	0	2	5	5	0	0	0	3	0.40	0.00	1.94	0.00	0.00	0.00	0.00	0.00	1.41	0.00	\$3
	3191-64 (W-57)	0.1543	0.67	0	0	3	9	15	0	11	0	0	0.00	0.00	2.34	0.00	0.00	0.00	2.32	0.00	0.00	0.00	\$5
	3191-65 (W-87)	0.1543	0.60	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	3191-67 (W-17)	0.1543	0.70	4	0	2	4	6	0	0	0	4	0.28	0.12	1.39	0.00	0.00	0.00	0.00	0.00	1.70	0.00	\$3
	3191-68 (W-76)	0.1543	0.53	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	3191-69 (W-52)	0.1543	0.73	0	0	0	17	9	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0
	3211-61 (W-73)	0.1543	0.63	15	4	100	103	98	96	76	51	39	13.60	21.69	308.79	2.07	0.00	0.00	8.38	4.92	8.69	0.00	\$355
	3211-62 (W-69)	0.1543	0.60	16	4	108	118	113	106	80	39	24	14.62	22.41	314.15	2.45	0.00	0.00	12.44	5.14	4.95	0.00	\$362
	3211-63 (W-2)	0.1543	0.61	0	0	0	4	22	21	14	9	5	0.00	0.00	0.00	0.08	0.00	0.00	1.17	0.54	0.77	0.00	\$3
	3211-65 (W-62)	0.1543	0.41	0	0	12	20	21	20	15	9	4	0.00	0.00	31.04	0.62	0.00	0.00	2.64	0.93	0.81	0.00	\$36
	3211-66 (W-15)	0.1543	0.59	0	0	1	2	23	27	12	5	6	0.00	0.00	1.77	0.00	0.00	0.00	0.55	0.16	0.43	0.00	\$3
	3211-67 (W-3)	0.1543	0.55	0	1	17	19	17	15	12	5	0	0.00	3.57	36.01	0.00	0.00	0.00	2.69	0.82	0.00	0.00	\$43
	3211-68 (W-110)	0.1543	0.66	25	9	112	138	127	127	78	23	46	6.18	18.39	127.93	0.00	0.00	0.00	11.40	2.01	2.67	0.00	\$162
	3211-69 (W-77)	0.1543	0.52	0	6	39	23	0	9	0	0	0	0.00	15.15	68.65	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$84
	3211-70 (W-98)	0.1543	0.72	0	4	31	81	104	53	24	15	13	0.00	5.47	25.49	1.04	0.00	0.00	1.49	0.91	1.30	0.00	\$36
	3211-71 (W-46)	0.1543	0.60	0	2	44	66	57	48	27	4	3	0.00	3.38	38.74	0.00	0.00	0.00	3.35	0.58	0.72	0.00	\$47
	3211-72 (W-101)	0.1543	0.65	0	4	77	141	116	96	55	10	3	0.00	5.61	50.71	2.17	0.00	0.00	4.99	1.16	0.69	0.00	\$65
	3211-73 (W-14)	0.1543	0.61	0	2	33	60	50	39	19	4	2	0.00	2.43	21.75	0.00	0.00	0.00	1.82	0.23	0.50	0.00	\$27
	3211-74 (W-31)	0.1543	0.55	0	0	11	3	10	2	0	0	0	0.00	0.00	7.78	0.08	0.00	0.00	0.00	0.00	0.00	0.00	\$8
	3211-75 (W-63)	0.1543	0.70	0	0	25	12	16	3	2	0	0	0.00	0.00	15.45	0.00	0.00	0.00	0.26	0.00	0.00	0.00	\$16

Table 8-4 (continued)
2010 Pumping Cost Reimbursement for Well Owners
Included in Settlement Agreement

Well Owner / Service Area	Well ID	Power Cost (\$/kwh)	Pump* Efficiency	Pumpage (af)									Reimbursement (\$)										
				Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total	
Paramount Farming Co.	3211-76 (W-13)	0.1543	0.55	0	2	20	55	50	30	12	11	5	0.00	1.87	8.88	0.00	0.00	0.00	1.09	0.84	1.35	\$14	
	3311-61 (W-89)	0.1543	0.68	0	0	0	0	5	5	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3311-62 (W-8)	0.1543	0.72	0	1	70	67	77	51	4	18	0	0.00	0.08	5.40	0.59	0.00	0.00	0.14	0.00	0.00	\$6	
	3311-63 (W-12)	0.1543	0.58	8	3	42	49	49	33	16	15	13	0.15	0.47	4.52	0.00	0.00	0.00	0.64	0.82	0.00	\$6	
	3311-64 (W-90)	0.1543	0.70	18	6	93	96	91	65	65	36	29	0.26	0.86	6.43	0.00	0.00	0.00	0.00	1.19	1.71	\$10	
	3421-61 (Cardella-1)	0.1543	0.39	3	0	1	2	9	0	0	0	0	0.74	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	\$2	
	3421-62 (W-74)	0.1543	0.69	0	0	0	0	9	7	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3421-64 (W-18)	0.1543	0.68	5	0	2	6	7	0	0	0	4	0.25	0.00	1.44	0.23	0.00	0.00	0.00	0.00	1.99	\$4	
	3421-66 (W-19)	0.1543	0.68	4	0	1	7	7	0	0	0	0	0.16	0.00	0.48	0.00	0.00	0.00	0.00	0.01	0.00	\$0	
	3421-68 (W-24)	0.1543	0.67	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3431-61 (W-32)	0.1543	0.67	0	0	0	0	7	5	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3431-62 (W-91)	0.1543	0.63	0	0	1	0	7	5	0	0	0	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3431-63 (W-36)	0.1543	0.64	0	0	9	1	3	2	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3561-61 (W-27)	0.1543	0.43	0	0	0	0	0	0	0	0	0	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3561-62 (W-28)	0.1543	0.58	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3561-63 (W-83)	0.1543	0.44	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3561-64 (W-80)	0.1543	0.66	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3591-61 (W-34)	0.1543	0.68	0	0	0	0	10	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3591-63 (W-7)	0.1543	0.65	5	1	32	57	62	46	7	3	0	0.05	0.12	2.69	0.00	0.00	0.00	0.28	0.00	0.00	\$3	
	3591-64 (W-92)	0.1543	0.67	3	0	16	48	41	13	2	0	0	0.03	0.00	1.22	0.00	0.00	0.00	0.15	0.00	0.00	\$1	
	3591-65 (W-75)	0.1543	0.66	8	0	52	79	105	75	19	0	0	0.04	0.00	3.02	0.00	0.00	0.00	0.00	0.00	0.00	\$3	
	3591-66 (W-11)	0.1543	0.59	6	1	39	64	74	52	9	0	0	0.02	0.06	2.35	0.00	0.00	0.00	0.32	0.00	0.00	\$3	
	3591-67 (W-10)	0.1543	0.50	0	0	5	7	16	2	0	0	0	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	3591-68 (W-93)	0.1543	0.66	11	1	49	86	69	39	19	11	2	0.00	0.01	1.34	0.00	0.00	0.00	0.60	0.00	0.00	\$2	
	3591-69 (W-39)	0.1543	0.71	4	0	12	7	10	0	1	0	0	0.00	0.00	0.00	0.11	0.00	0.00	0.00	0.00	0.00	\$0	
	3591-70 (W-72)	0.1543	0.60	10	0	11	5	28	5	4	5	0	0.00	0.00	0.00	0.00	0.00	0.00	0.24	0.00	0.00	\$0	
	3591-71 (W-71)	0.1543	0.50	8	0	8	4	8	0	0	1	0	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.09	0.00	\$0	
	3591-72 (W-60)	0.1543	0.61	6	1	27	45	37	21	11	6	1	0.00	0.00	0.56	0.00	0.00	0.00	0.00	0.00	0.00	\$1	
	3730-61 (W-95)	0.1543	0.74	17	10	64	104	140	146	147	56	13	8.33	32.75	134.27	0.00	0.00	0.00	11.47	2.47	4.42	\$185	
	3730-62 (W-94)	0.1543	0.47	14	5	48	75	116	90	89	35	0	80.33	82.62	630.45	15.99	6.57	0.00	44.52	15.25	0.00	\$795	
	3730-63 (W-112)	0.1543	0.64	32	21	213	247	275	250	264	104	80	25.15	98.51	566.90	0.00	0.00	0.00	22.32	10.66	13.90	\$712	

Table 8-4 (continued)
2010 Pumping Cost Reimbursement for Well Owners
Included in Settlement Agreement

Well Owner / Service Area	Well ID	Power Cost (\$/kwh)	Pump* Efficiency	Pumpage (af)									Reimbursement (\$)										
				Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Total	
Paramount Farming Co.	3730-64 (W-111)	0.1543	0.63	30	19	179	220	232	215	195	61	0	69.83	172.00	965.33	5.32	0.00	0.00	35.94	10.47	0.00	\$1,189	
	3730-65 (W-53)	0.1543	0.54	11	6	65	81	87	74	54	16	4	18.73	61.02	377.38	2.91	0.00	0.00	27.29	5.58	4.35	\$479	
	3730-66 (W-59)	0.1543	0.72	17	10	97	114	122	111	80	51	32	8.82	38.47	212.74	1.88	0.00	0.00	7.18	3.27	6.45	\$270	
	3730-67 (W-96)	0.1543	0.64	17	9	77	100	116	99	84	38	9	22.39	52.63	278.83	2.13	0.00	0.00	16.61	5.08	3.04	\$358	
	3730-68 (W-48)	0.1543	0.60	14	4	61	74	0	1	0	0	0	15.03	26.61	207.32	0.00	0.00	0.00	0.00	0.00	0.00	\$234	
	3730-70 (W-108)	0.1543	0.67	72	28	206	209	223	215	114	67	63	53.13	124.85	446.83	3.63	0.00	0.00	22.47	7.27	9.60	\$615	
	3730-72 (W-107)	0.1543	0.75	0	0	50	73	70	62	63	31	10	0.02	0.00	30.35	0.95	0.00	0.00	8.94	1.25	0.42	\$42	
	3921-62 (W-78)	0.1543	0.67	31	6	100	72	116	94	56	32	28	14.09	22.89	61.33	0.00	0.00	0.00	0.78	3.26	0.00	\$88	
	7101-61 (W-61)	0.1543	0.70	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-61 (W-99)	0.1543	0.66	0	0	0	0	11	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-62 (W-66)	0.1543	0.58	0	0	0	0	0	6	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-63 (W-65)	0.1543	0.70	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-64 (W-64)	0.1543	0.63	0	0	0	0	4	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-65 (W-70)	0.1543	0.38	0	0	0	0	0	0	0	0	0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	\$0	
	7102-66 (W-67)	0.1543	0.57	0	4	3	5	3	2	2	2	0	0.00	1.26	0.51	0.00	0.00	0.00	0.11	0.00	0.00	\$2	
Total				420	172	2,276	2,910	3,333	2,494	1,752	773	453	\$353	\$815	\$5,011	\$42	\$7	\$0	\$256	\$85	\$73	\$6,642	
Total (All Wells)				1,519	1,069	3,052	3,739	4,867	4,304	2,899	1,777	713	\$353	\$815	\$5,011	\$42	\$7	\$0	\$256	\$85	\$73	\$6,642	

* Italicized values indicate estimates or values from 2002, 2007, 2008, or 2009

IX. Summary

Data collected in accordance with the 2010 MPG monitoring program are summarized in this annual report. The MPG classified 2010 as a normal year and engaged in transfer pumping for the sixth time since the Agreement went into effect in 2001.

Pumpage

MPG transfer pumping (and non-MPG transfer pumping by Don Peracchi) occurred between March 15 and November 30 and totaled 11,865 af, which is 15,025 af less than the planned pumpage. MPG pumping for irrigation of overlying and adjacent lands occurred from February through December and totaled 8,071 af (2,060 af less than planned). The sum of MPG transfer and adjacent pumping in 2010 was 19,936 af. The total MPG and Peracchi pumping in FWD was 7,849 af, which is 6,294 af less than the approved pumping program.

Non-MPG pumpage west of the Chowchilla Bypass was estimated to be about 32,000 af in 2010. This included about 14,900 af pumped in the PFC service area, 6,700 af pumped in CCID, and 3,500 af pumped in the CCC service area. Pumpage data are not available for wells east of the Chowchilla Bypass, and the estimates originally made for the 2001 Annual Report (LSCE and KDSA, 2002) were also used for 2010. The total pumpage above the Corcoran Clay east of the Bypass was estimated to be 68,600 af within the study area, which includes about 36,600 af in Aliso Water District and undistricted portions of Madera County and 32,000 af in the undistricted portion of Fresno County east of FWD and Spreckels Sugar Co.

A number of wells in FWD and PFC have been identified as composite wells, but the percentage of the total pumpage occurring below the Corcoran Clay has not been estimated. An estimate of pumpage from the lower aquifer in these composite wells will be made for the next annual report.

Groundwater Levels

Water levels in most wells west of the Chowchilla Bypass have generally been stable over the period of record, but there are notable short-term fluctuations. Water levels rose significantly in almost all shallow and deep wells in 2005 and 2006, due to recharge from flood releases to the SJR and the Bypass and reduced pumping by the MPG and other entities in the study area. After two years of rising water levels, most wells showed residual drawdowns at the end of each year during the 2007-2009 period. In 2010, seasonal drawdowns were similar to previous years, but there was full recovery in early 2011 in almost all wells.

East of the Fresno Slough, water levels in Spreckels Sugar Co. monitoring wells rose during 2003-2006 due to reduced MPG pumping west of the Fresno Slough and recharge from the Bank. In the shallow zone, there were larger drawdowns during 2007-2009 due to extraction from the Bank and MPG pumping. Water levels in shallow wells in the western portion of

Spreckels Sugar Co. showed little recovery at the end of 2008 and 2009, but there was full recovery at the end of 2010.

In the deep zone, water levels in the FWD wells rose during 2005-2006, declined during 2007-2009, and rose in 2010. Water levels in January 2011 were similar to 2004. North of the SJR, hydrographs of deep PFC and CCC wells showed water-level declines from the late 1990s through 2004, followed by rising water levels during 2005-2006 and water-level declines during 2007-2009. Drawdowns in these wells averaged about 31 feet in 2010, and most PFC and CCC wells showed full recovery by early 2011.

Groundwater Quality

TDS concentrations in shallow and deep wells in the Mendota area vary widely, from less than 300 mg/L near the SJR east of the Pool to over 3,000 mg/L west of the Fresno Slough. The CCID wells have the longest period of record showing water quality changes in the Mendota area, with salinity data (measured as EC) going back to the 1960s at several wells. Degradation was observed at several CCID wells, especially in the 1960s and 1970s, due to easterly movement of the saline front. In recent years, degradation has continued at several wells in the CCID area, but most wells showed improved water quality in 2010.

MPG shallow and deep wells west of the Fresno Slough continue to experience degradation due to easterly movement of the saline front, which has increased due to MPG transfer pumping. This is especially true for the CGH wells in the central portion of the well field west of the Slough. Groundwater quality appears to be stable or improving at many wells in the northern and southern portions of the MPG well field along the Fresno Slough. For the southern wells, this is attributed in part to the Bank, which pumps relatively low salinity surface water from the Pool into its recharge ponds.

The operation of the Bank has resulted in substantial water quality improvements in the western portion of the Spreckels Sugar Co. property. In the central portion of the Spreckels' property, however, shallow groundwater remains degraded due to historical wastewater disposal practices. This degraded groundwater has moved downward to the deep zone and is moving north toward the southernmost FWD wells. FWD wells R-3 and R-11 have shown salinity increases as a result, but most other FWD wells exhibit low salinity and stable groundwater quality due to recharge from the SJR and the Mendota Pool.

North of the SJR, the water quality at most wells in the PFC and CCC service areas has generally been stable and acceptable for irrigation. Although many of the PFC and CCC wells have experienced year-to-year salinity fluctuations, the salinity of samples collected in 2010 was similar to that of the mid-1990s.

Surface-Water Flow and Quality

The Pool was not drained in 2010, and the results of the 2010 water budget indicate a southerly flow direction throughout the year. The average monthly DMC inflow across transect A-A' ranged from a high of 345 cfs in June to a low of 36 cfs in March. The average flow to the south was about 166 cfs in 2010.

The salinity of the water delivered to the Pool via the DMC has been subject to large daily and seasonal fluctuations. Daily fluctuations are due to tidal effects in the Delta, and seasonal fluctuations are due to factors such as discharge of drain water to the DMC in the spring. Historically, the highest salinities and greatest daily salinity fluctuations have been measured in the winter and spring, and lower salinity generally occurs during the summer months. These patterns were also observed in 2010, with the highest ECs (a daily average of about 1,000 $\mu\text{mhos/cm}$) occurring in April and the lowest ECs (a daily average of about 260 $\mu\text{mhos/cm}$) occurring in July.

The daily average EC values at the SJREC's canal intakes correlated closely with the DMC data in 2010. However, there were several one to three-day periods in March and April when the EC at one or more of the SJREC canal intakes exceeded the EC measured at the DMC by more than the limit specified in the Agreement (90 $\mu\text{mhos/cm}$). None of these exceedances lasted for more than three days. Since the flow direction in the Fresno Slough is primarily to the south, MPG transfer pumping has the most effect on water quality in the southern portion of the Pool. Sample results document higher salinities at the MWA and other sampling locations in the southern portion of the Pool compared to the SJREC canal intakes.

Surface-water quality data for four key trace elements (arsenic, molybdenum, boron, and selenium) are summarized in the report. Concentrations of trace elements were low in both the northern and southern portion of the Pool, except for elevated selenium concentrations in daily composite samples from the DMC during portions of February, April, and December.

Sediment sampling was conducted in 2010 at eight locations in the Pool. Concentrations of arsenic, boron, molybdenum, and selenium were relatively low at all sampling locations. The selenium concentration in one sample (from the DMC) was above the screening level of 2 mg/kg established by the USFWS.

Compaction

There was no inelastic compaction above the Corcoran Clay at the Fordel or Yearout Ranch extensometers in 2010. At the Fordel extensometer, there was a net expansion of 0.010 foot in 2010, and the cumulative inelastic compaction during the 11-year period beginning in March 2000 decreased to 0.024 foot. This amounts to an average inelastic compaction of about 0.002 foot per year.

At the Yearout Ranch extensometer, the net expansion was 0.009 foot in 2010, and the cumulative inelastic compaction since March 2000 decreased to 0.104 foot. This amounts to an average inelastic compaction of about 0.01 foot per year. The cumulative inelastic compaction caused by MPG transfer pumping since 2000 is estimated to be 0.031 foot, which corresponds to an average annual inelastic compaction of 0.0028 foot. This is less than the limit on average annual compaction of 0.005 foot due to MPG transfer pumping specified in the Agreement.

Total compaction in the area is monitored using high-definition GPS equipment on the Meyers Farm property south of the City of Mendota. Since data collection began in April 2004, there has been about 0.28 foot of total inelastic compaction at this site, which is ten times more than

was measured at the Fordel extensometer during the same period. The additional inelastic compaction is apparently occurring in and below the Corcoran Clay.

Pumping Cost Reimbursements

A groundwater flow model was used to estimate the percentage of total drawdown at non-MPG wells caused by MPG transfer pumping. The drawdown percentage was used to calculate the amount of inelastic compaction at the Yearout Ranch extensometer caused by MPG transfer pumping and the reimbursement to be paid by the MPG to other well owners for increased pumping costs. The total reimbursement for all wells was \$6,642 in 2010. All of the reimbursement is for pumpage occurring in the PFC service area, and most is for wells in the southern portion of the New Columbia Ranch.

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Appendix A

2010 MPG Pumpage

Table A-1
Summary of 2010 MPG Total Pumpage by Well (acre-feet)

		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Terra Linda ¹	TLF-1s (TL-12)	0	54	58	0	0	0	0	0	0	0	0		112
	TLF-2s (TL-13)	0	20	22	4	24	16	12	12	7	0	2		119
	TLF-3s (TL-14)	0	6	17	5	21	26	30	34	30	35	83		287
	TLF-4s (TL-15)	0	27	48	12	48	42	51	49	59	49	38		423
	TLF-5d (TL-5)	0	0	153	70	246	93	288	231	88	205	180		1,554
	TLF-6d (TL-7)	0	0	52	36	150	53	170	199	68	118	131		977
	TLF-7s (TL-10C)	0	0	8	9	15	0	0	0	0	0	0		32
	TLF-8s (TL-10B)	0	0	26	33	51	0	0	0	0	0	0		110
	TLF-9s (TL-10A)	0	0	8	8	13	0	0	0	0	0	0		29
	TLF-10s (TL-16)	0	0	35	21	88	72	71	73	77	85	76		598
	TLF-11As (TL-4A)	0	0	33	19	75	69	75	59	67	59	62		518
	TLF-12d (TL-3)	0	93	96	23	87	90	109	93	106	19	0		716
	TLF-13s (TL-17)	0	45	48	11	45	40	44	36	37	30	33		369
	TLF-14d (TL-8)	0	228	98	37	123	0	286	247	86	157	172		1,434
	TLF-15s	0	0	57	21	82	62	4	0	0	1	0		227
	TLF-16s	0	41	44	25	58	60	71	1	0	64	54		418
	TLF-17s	0	67	53	21	48	52	52	27	0	0	0		320
	TLF-18d (TL-2)	0	0	12	6	11	0	0	0	0	0	11		40
	TL-1	0	0	0	0	0	0	0	0	0	0	0		0
	TL-6	0	0	0	0	0	0	0	0	0	0	0		0
	TL-9	0	0	0	0	0	0	0	0	0	0	0		0
	TL-11	0	0	0	0	0	0	0	0	0	0	0		0
	Total	0	581	868	361	1,185	675	1,263	1,061	625	822	842	0	8,283
	Deep Zone	0	321	411	172	617	236	853	770	348	499	494	0	4,721
	Shallow Zone	0	260	457	189	568	439	410	291	277	323	348	0	3,562
Conejo	Conejo	0	0	0	0	0	0	0	0	0	0	0		0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho/ Coelho/ Fordel	CCF-1	0	0	0	0	0	0	0	0	0	0	0		0
	CCF-2	0	0	0	0	0	0	0	0	0	0	0		0
	Total	0	0	0	0	0	0	0	0	0	0	0	0	0
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
	Shallow Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Silver Creek	SC-3B	0	0	32	2	0	38	34	0	0	0	0		106
	SC-4B	0	0	48	16	0	52	43	0	0	0	0		159
	SC-6	0	0	0	0	0	0	0	0	0	0	0		0
	SC-7	0	0	0	0	0	0	0	0	0	0	0		0
	Total	0	0	80	18	0	90	77	0	0	0	0	0	265
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
	Shallow Zone	0	0	80	18	0	90	77	0	0	0	0	0	265
Coelho/Gardner/Hansen ²	CGH-1 (2s & 3s)	0	0	43	23	85	51	20	88	7	0	0		317
	CGH-2 (1s)	0	0	19	11	48	31	25	41	1	0	0		176
	CGH-3 (5s)	0	0	12	18	72	17	0	0	3	0	0		122
	CGH-4 (inoperable)	0	0	0	0	0	0	0	0	0	0	0		0
	CGH-5 (9As & 9Bs)	0	0	0	0	0	0	0	0	0	0	0		0
	CGH-6 (10s & 11s)	0	0	6	27	124	86	30	54	8	0	0		335
	CGH-7 (13d)	0	0	23	14	0	0	0	35	16	0	0		88
	CGH-8 (inoperable)	0	0	0	0	0	0	0	0	0	0	0		0
	CGH-9 (7s)	0	0	11	45	100	87	38	81	23	0	0		385
	CGH-10 (8s)	0	0	21	11	46	28	20	42	13	0	0		181
	CGH-11 (6s)	0	0	0	18	73	7	0	0	14	0	0		112
	Total	0	0	135	167	548	307	133	341	85	0	0	0	1,716
	Deep Zone	0	0	23	14	0	0	0	35	16	0	0	0	88
	Shallow Zone	0	0	112	153	548	307	133	306	69	0	0	0	1,628
Meyers	MS-6	0	0	31	7	9	0	0	0	0	0	0		47
	MS-7	0	0	53	28	38	0	0	0	0	0	0		119
	DW-1	0	0	173	90	84	0	0	0	0	0	0		347
	DW-1A	0	0	0	0	0	0	0	0	0	0	0		0
	Total	0	0	257	125	131	0	0	0	0	0	0	0	513
	Deep Zone	0	0	173	90	84	0	0	0	0	0	0	0	347
	Shallow Zone	0	0	84	35	47	0	0	0	0	0	0	0	166
Casaca Vineyards	Five Star Wells 1-3-5-6-7	0	0	127	74	273	56	0	0	0	0	0		530
	Total	0	0	127	74	273	56	0	0	0	0	0	0	530
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Daddy's Pride	Five Star Wells 4-9-10	0	0	23	9	37	114	137	40	0	0	0		360
	Total	0	0	23	9	37	114	137	40	0	0	0	0	360
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Solo Mio	Five Star Wells 2-8	0	0	43	13	103	4	0	0	0	0	0		163
	Total	0	0	43	13	103	4	0	0	0	0	0	0	163
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Coelho West	Coelho West Cluster	0	0	120	54	83	0	0	0	0	0	0		257
	Total	0	0	120	54	83	0	0	0	0	0	0	0	257
	Deep Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Baker Farming ³	BF-1	0	0	0	112	257	0	0	0	0	0	0		369
	BF-2	0	0	121	200	174	0	0	0	0	0	0		495
	BF-3	0	0	102	188	46	0	0	0	0	0	0		336
	BF-4	0	0	154	273	234	0	0	0	0	0	0		661
	BF-5	0	0	140	245	229	0	0	0	0	0	0		614
	Total	0	0	517	1,018	940	0	0	0	0	0	0	0	2,475
	Deep Zone	0	0	517	1,018	940	0	0	0	0	0	0	0	2,475
Panoche Creek Farms ³	PCF-1	0	0	0	173	150	0	0	0	0	0	0		323
	Total	0	0	0	173	150	0	0	0	0	0	0	0	323
	Deep Zone	0	0	0	173	150	0	0	0	0	0	0	0	323
	Shallow Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
Farmers Water District ³	R-1	0	0	2	49	63	119	89	34	7	0	0		363
	R-2	0	0	69	94	9	0	0	0	0	0	0		172
	R-3	0	0	0	18	70	0	38	44	0	0	0		171
	R-4	0	0	120	196	96	168	107	43	9	0	0		739
	R-6	0	0	86	114	11	0	0	0	0	0	0		211
	R-7	0	0	68	204	194	0	72	147	89	34	0		808
	R-8	0	0	175	235	220	0	0	0	0	0	0		631
	R-9	0	0	130	237	136	213	167	68	10	0	0		961
	R-10	0	0	121	173	169	0	47	72	23	0	0		605
	R-11	0	0	109	150	130	0	0	0	0	0	0		389
	ELW-2	0	0	0	0	0	0	0	0	0	0	0		0
	ELW-3	0	0	0	0	0	0	0	0	0	0	0		0
	WLW-1	0	0	0	0	0	0	0	0	0	0	0		0
	WLW-2	0	0	0	0	0	0	0	0	0	0	0		0
	WLW-3	0	0	0	0	0	0	0	0	0	0	0		0
Totals	Total	0	0	880	1,471	1,100	500	520	408	138	34	0	0	5,051
	Deep Zone	0	0	880	1,471	1,100	500	520	408	138	34	0	0	5,051
	Shallow Zone	0	0	0	0	0	0	0	0	0	0	0	0	0
	Grand Total	0	581	3,050	3,483	4,550	1,746	2,130	1,850	848	856	842	0	19,936
	Deep Zone	0	321	2,004	2,938	2,891	736	1,373	1,213	502	533	494	0	13,005
	Shallow Zone	0	260	1,046	545	1,659	1,010	757	637	346	323	348	0	6,931
	Fresno Slough Wells	0	581	1,653	821	2,360	1,246	1,610	1,442	710	822	842	0	12,087
	Wells South of SJR	0	0	1,397	2,662	2,190	500	520	408	138	34	0	0	7,849

1. Old Terra Linda well names are shown in parentheses.
2. New CGH well names are shown in parentheses.
3. FWD pumpage (R, BF, and PCF wells) includes non-MPG pumpage by Don Peracchi.

Appendix B

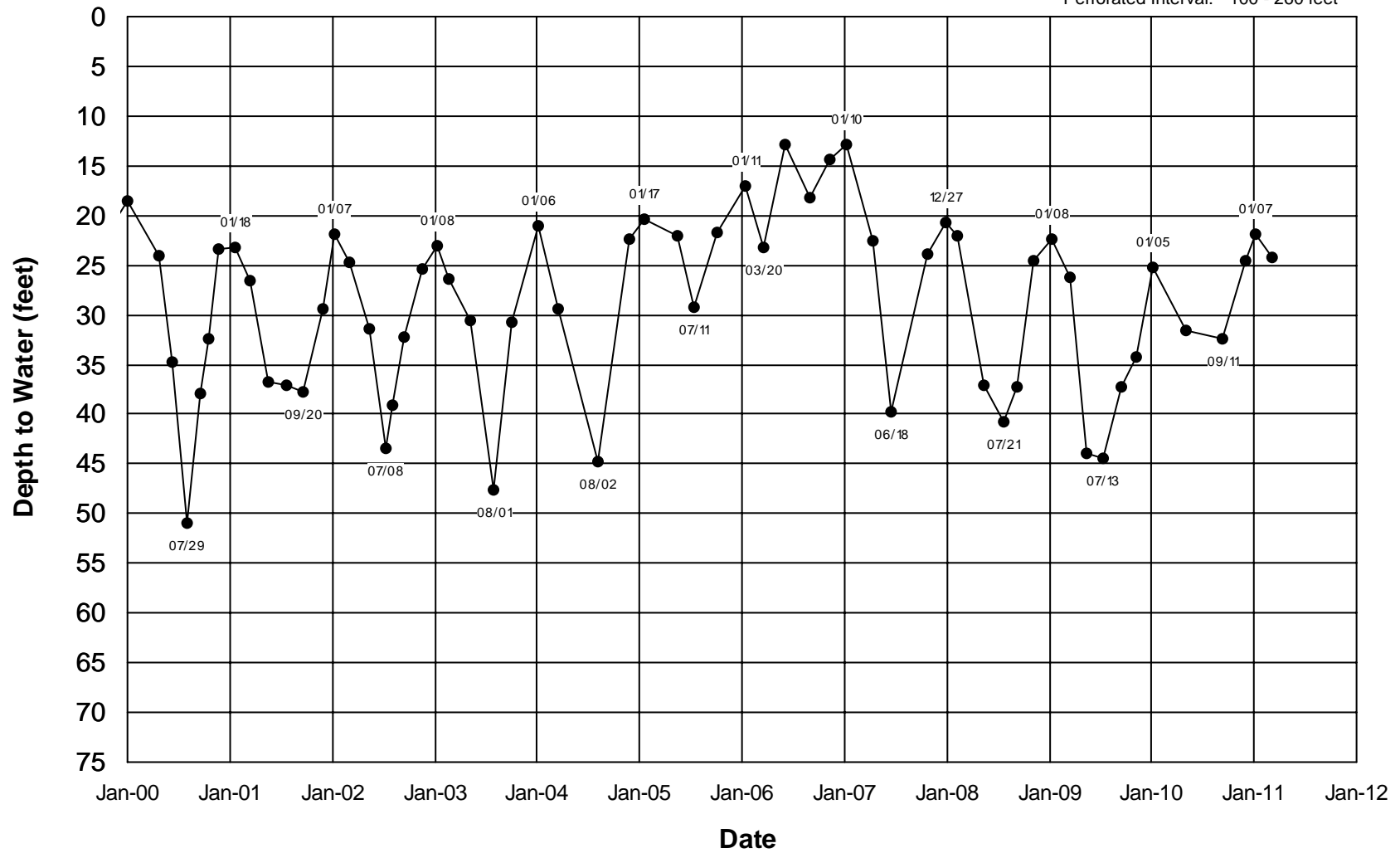
Short-Term Water Level Hydrographs

Mendota Area Hydrograph

CCID Well No. 5A

Reference Elevation: 153.14 feet msl

Perforated Interval: 100 - 260 feet



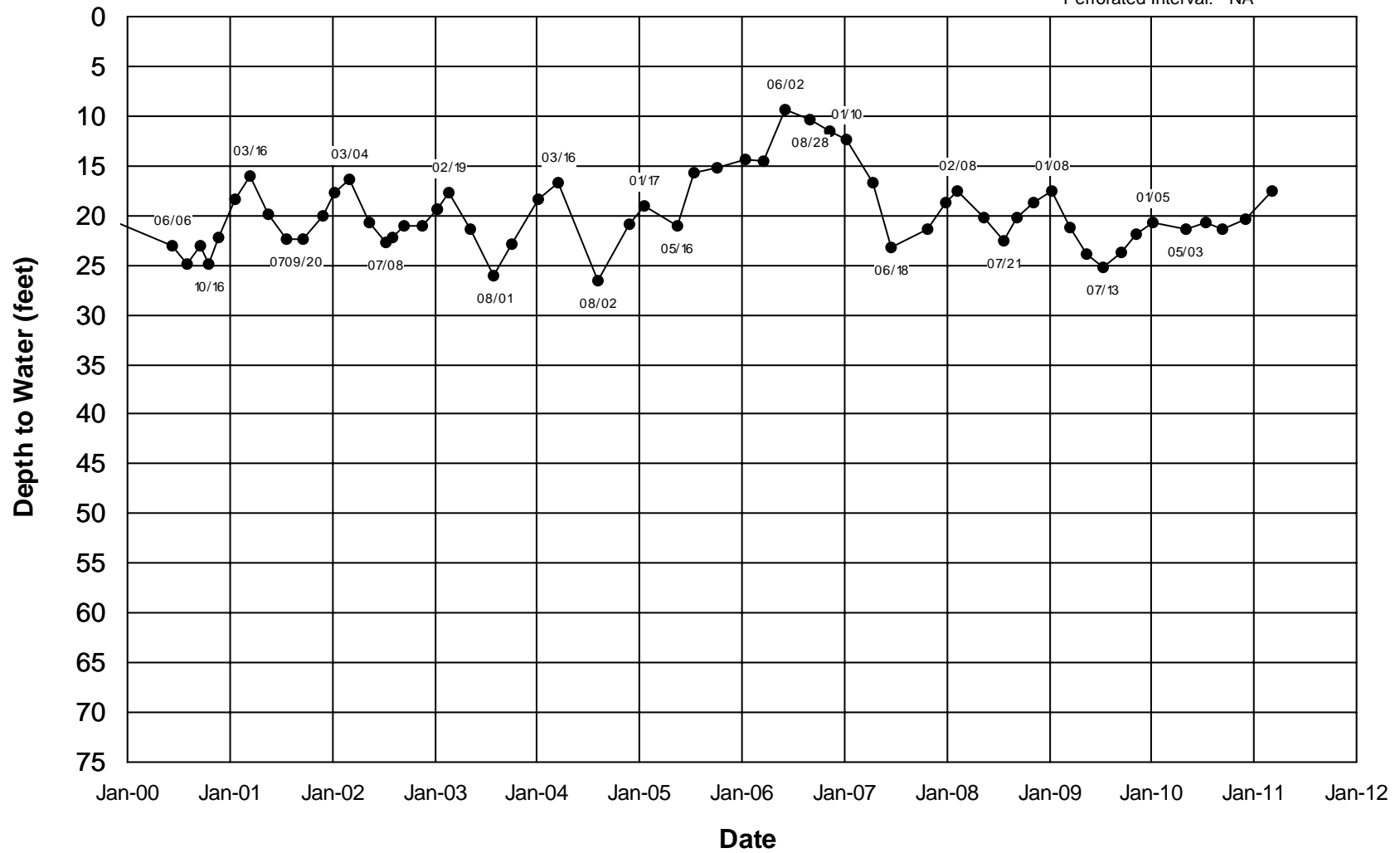
—●— Hand Measurement

Mendota Area Hydrograph

CCID Well No. 15 & 15A & 15B

Reference Elevation: 150.06 feet msl

Perforated Interval: NA



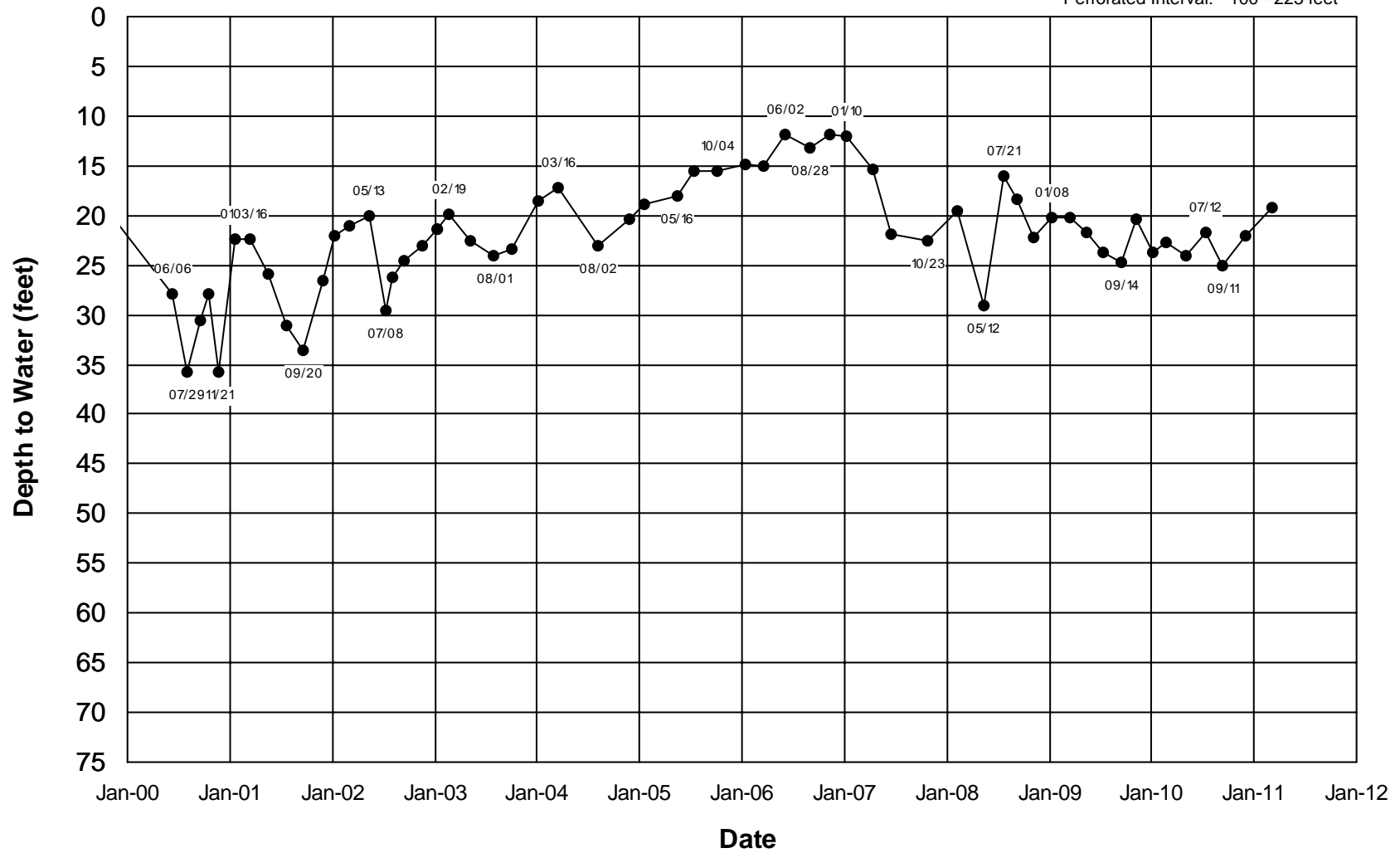
—●— Hand Measurement

Mendota Area Hydrograph

CCID Well No. 32 & 32A & 32B & 32C

Reference Elevation: 152.8 feet msl

Perforated Interval: 100 - 225 feet

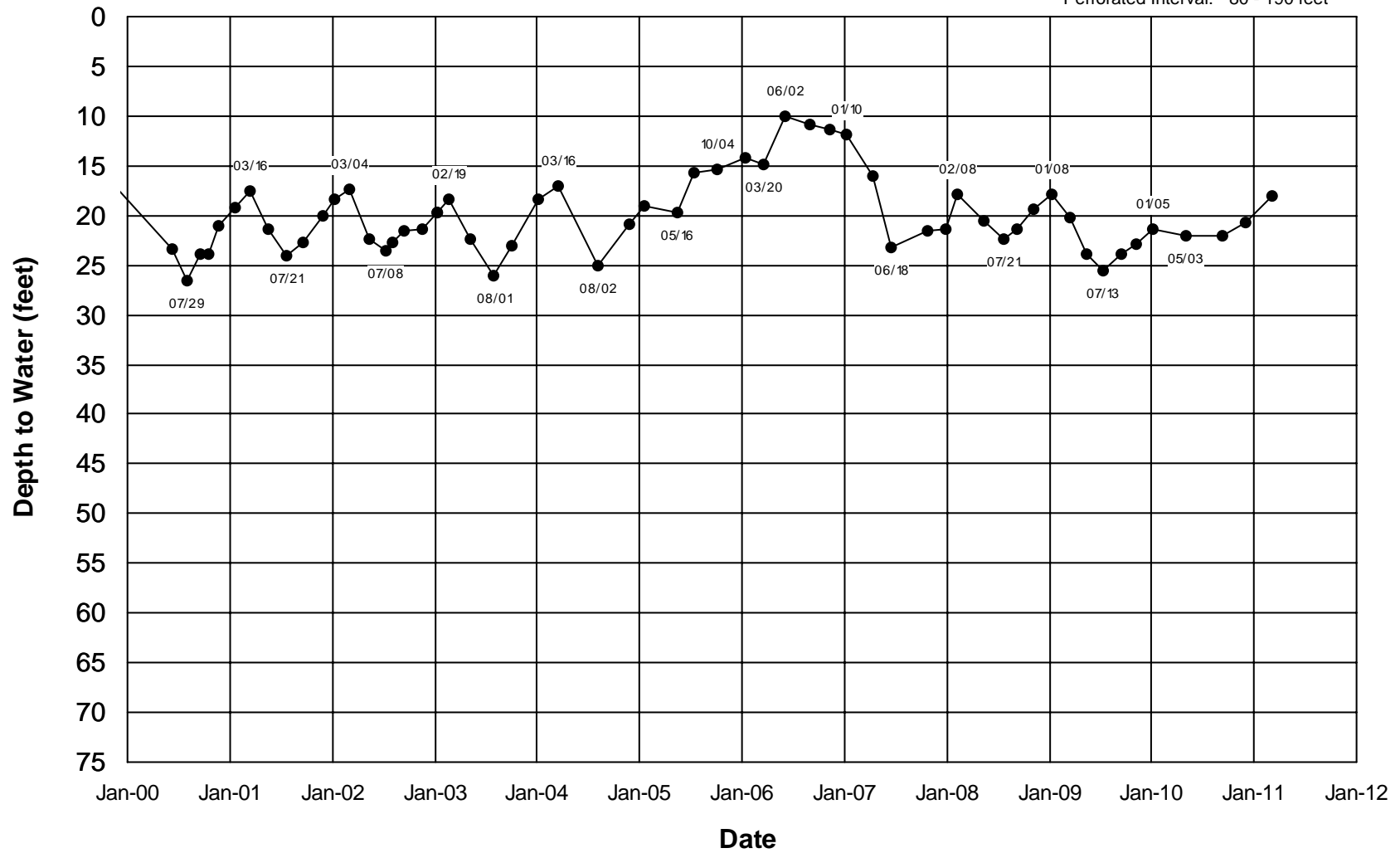


Mendota Area Hydrograph

CCID Well No. 35 & 35A

Reference Elevation: 151.11 feet msl

Perforated Interval: 80 - 190 feet



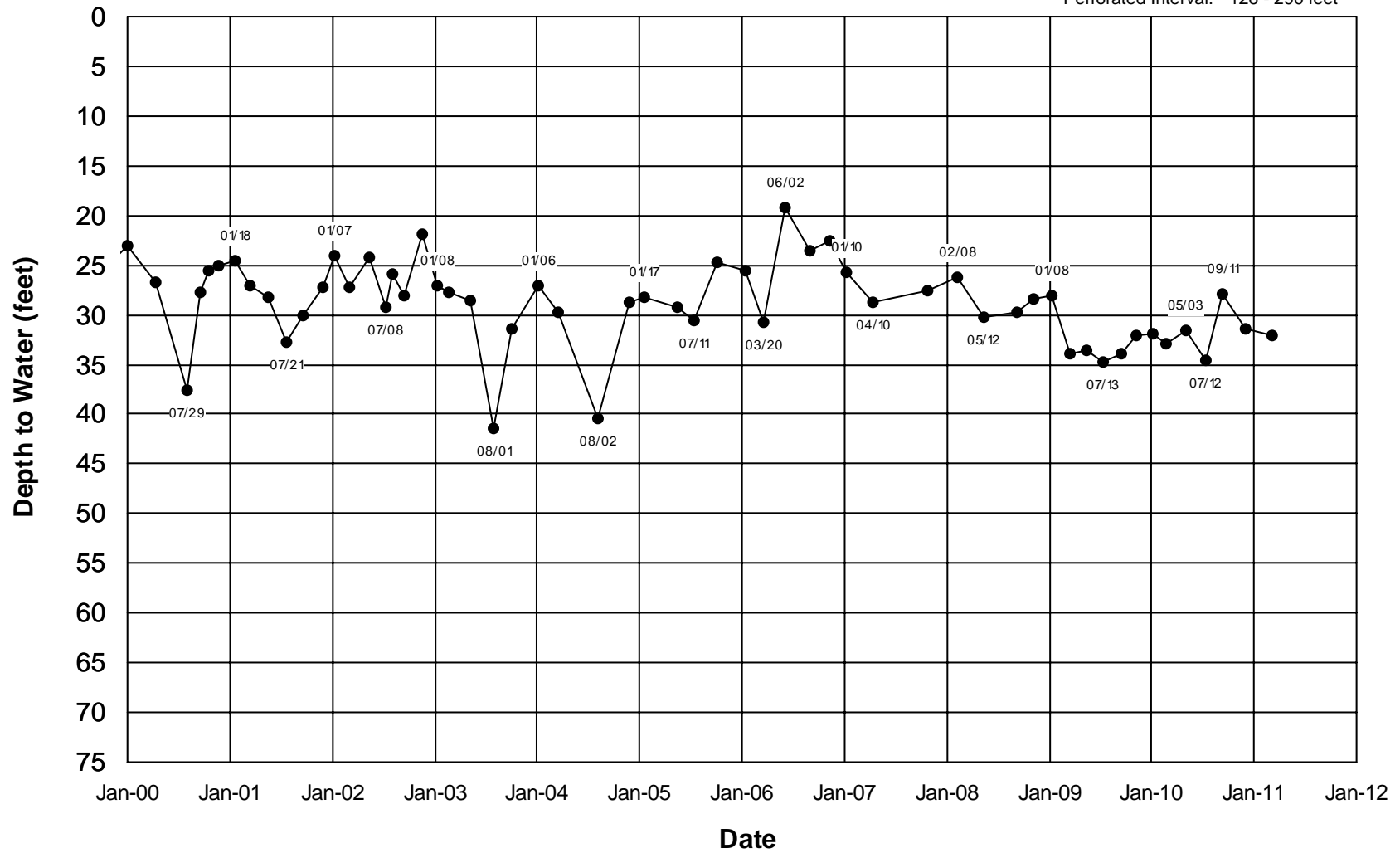
—●— Hand Measurement

Mendota Area Hydrograph

CCID Well No. 38A

Reference Elevation: 153.08 feet msl

Perforated Interval: 126 - 290 feet



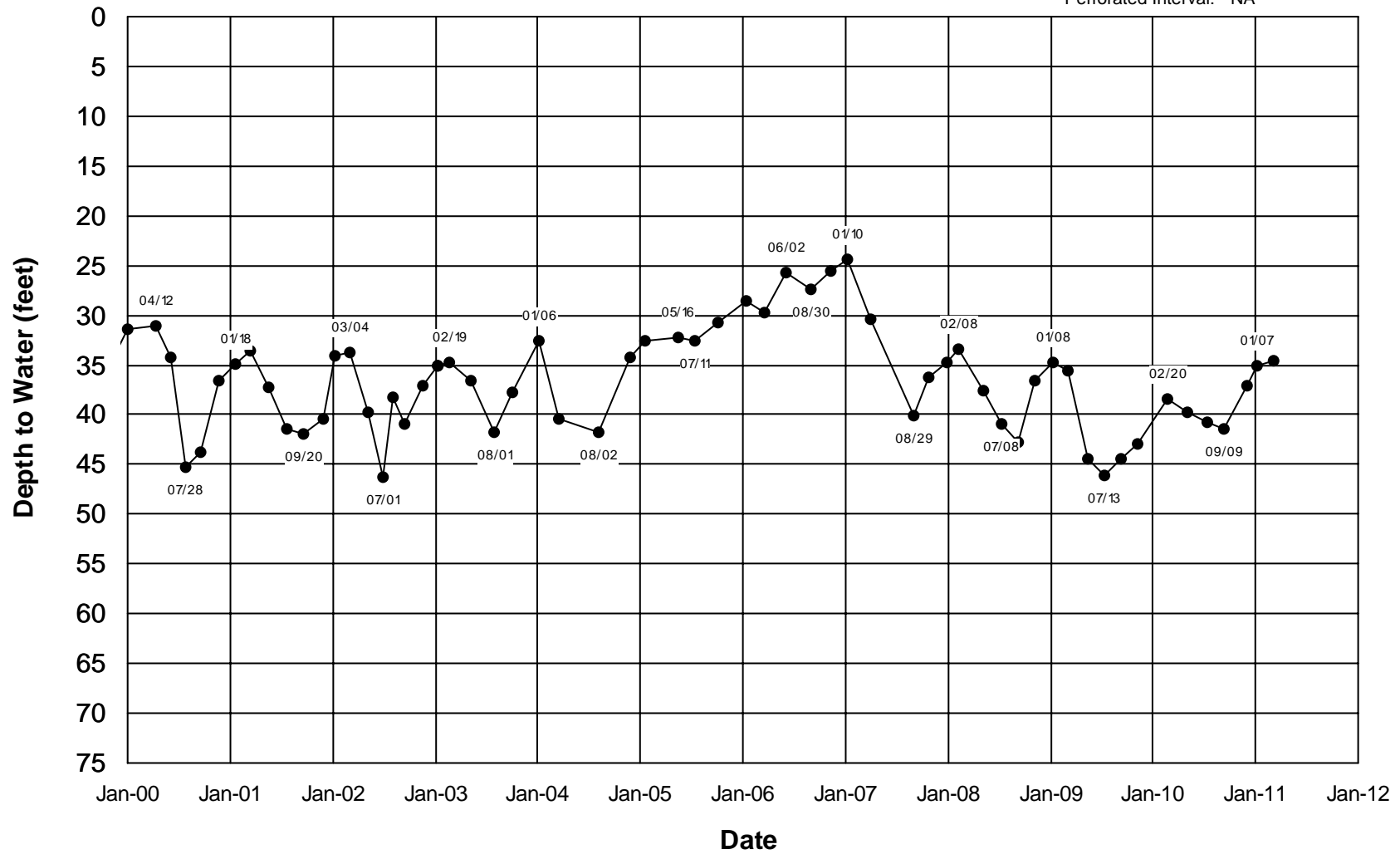
—●— Hand Measurement

Mendota Area Hydrograph

Firebaugh Canal W.D. Well No. 25D2

Reference Elevation: 167 feet msl

Perforated Interval: NA

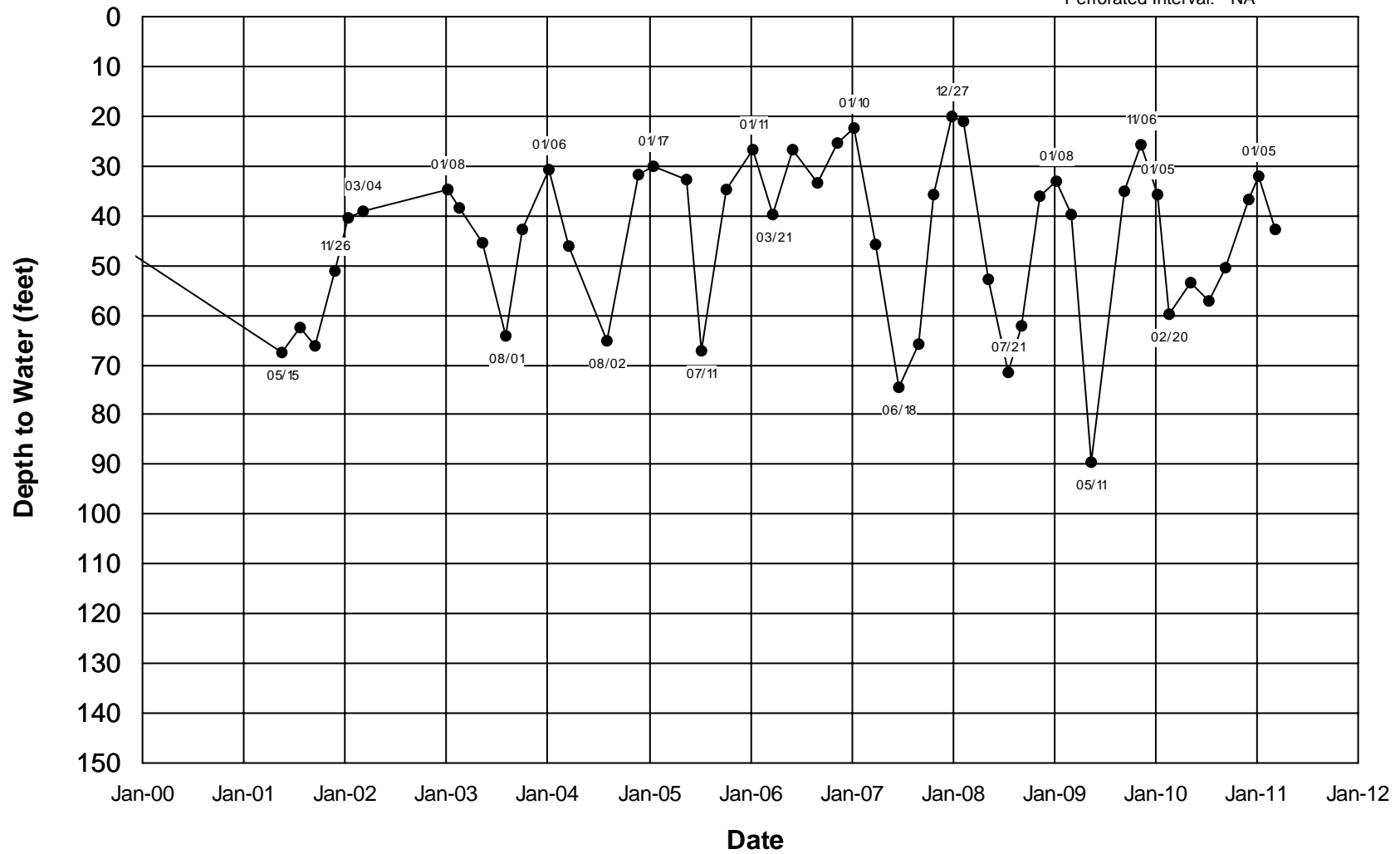


Mendota Area Hydrograph

USBR Well No. T13S/R15E-19R1

Reference Elevation: 165 feet msl

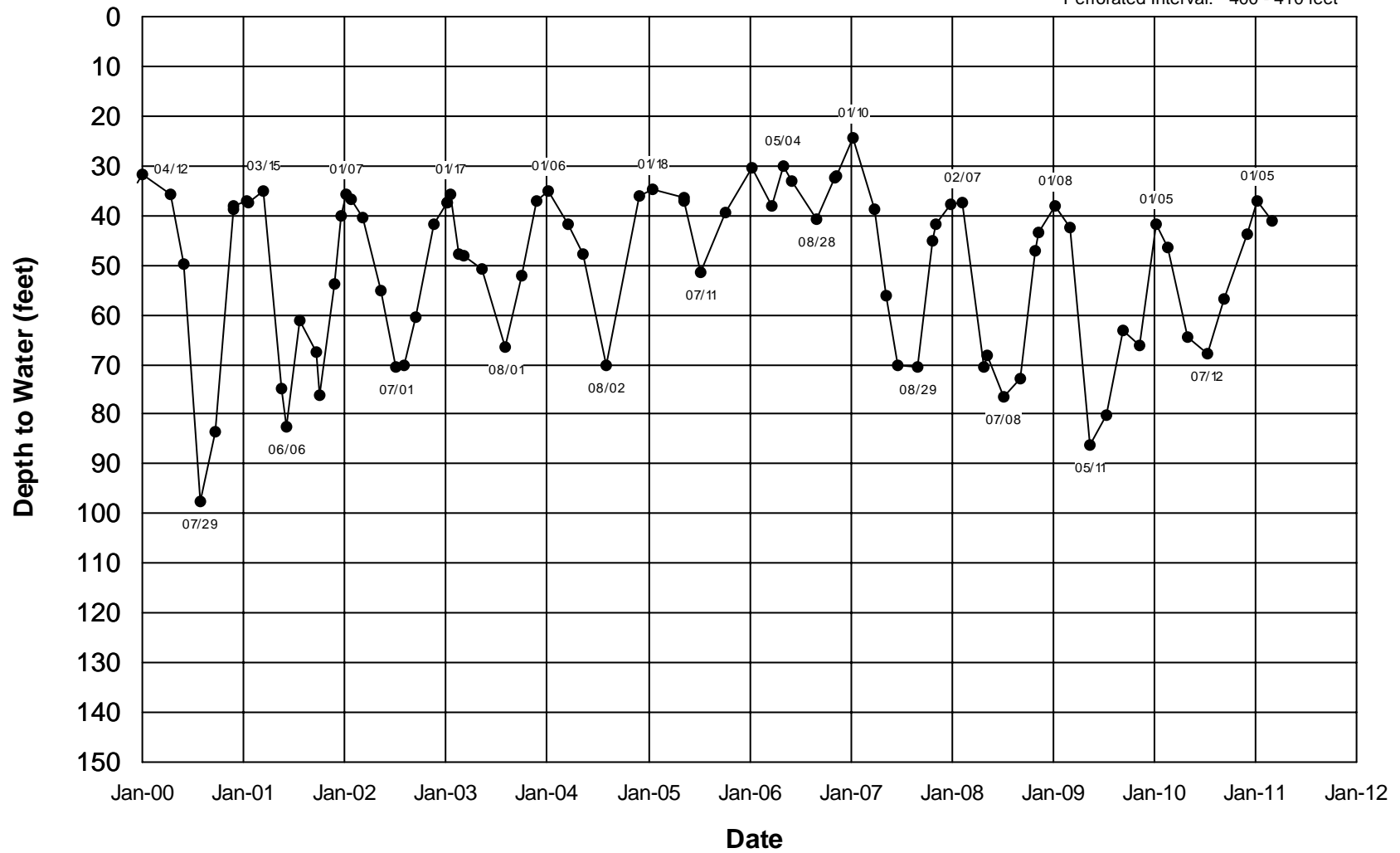
Perforated Interval: NA



Mendota Area Hydrograph

USGS Monitoring Well No. T13S/R15E-31J3

Reference Elevation: 152 feet msl
Perforated Interval: 400 - 410 feet



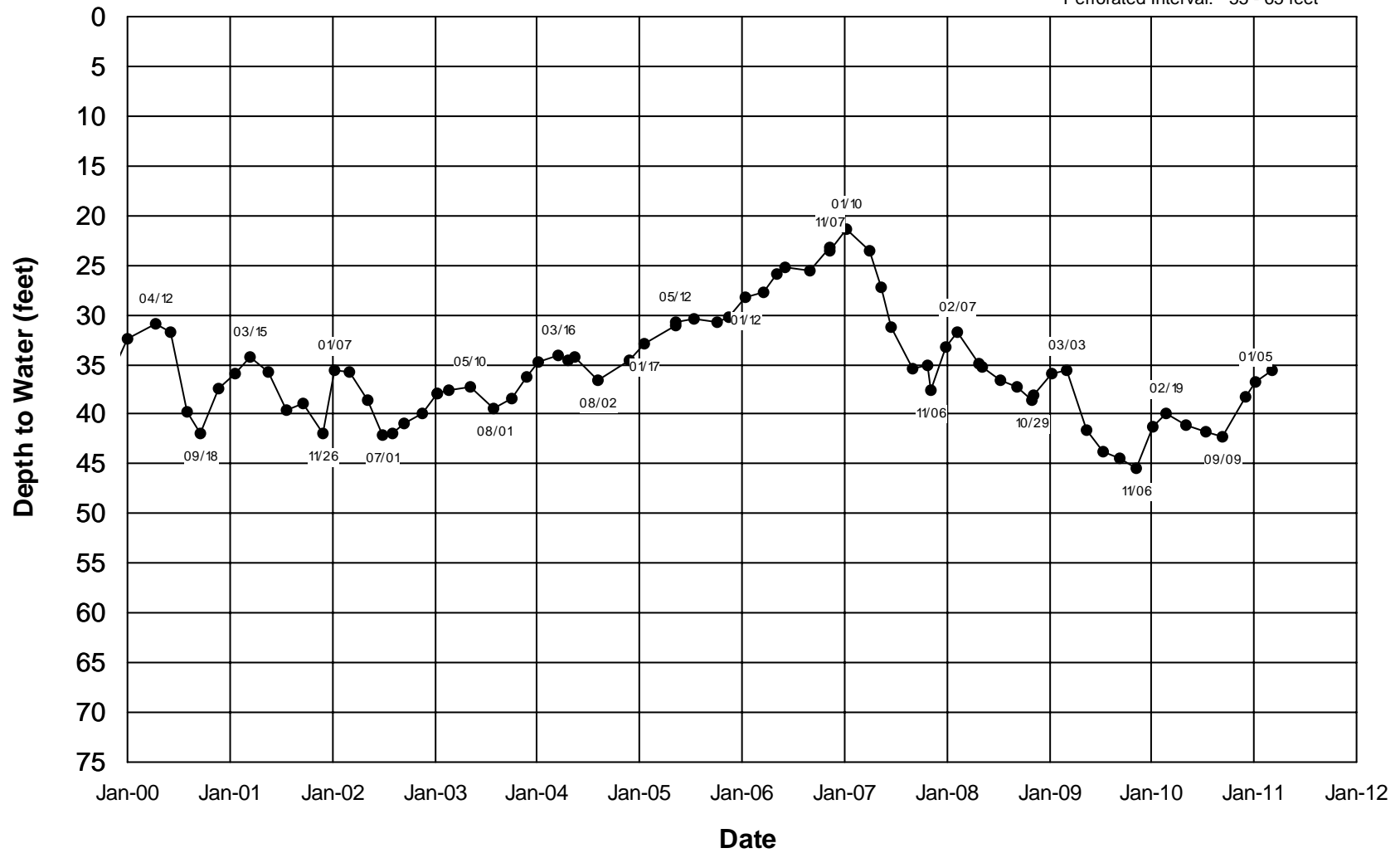
—●— Hand Measurement

Mendota Area Hydrograph

USGS Monitoring Well No. T13S/R15E-31J4

Reference Elevation: 153 feet msl

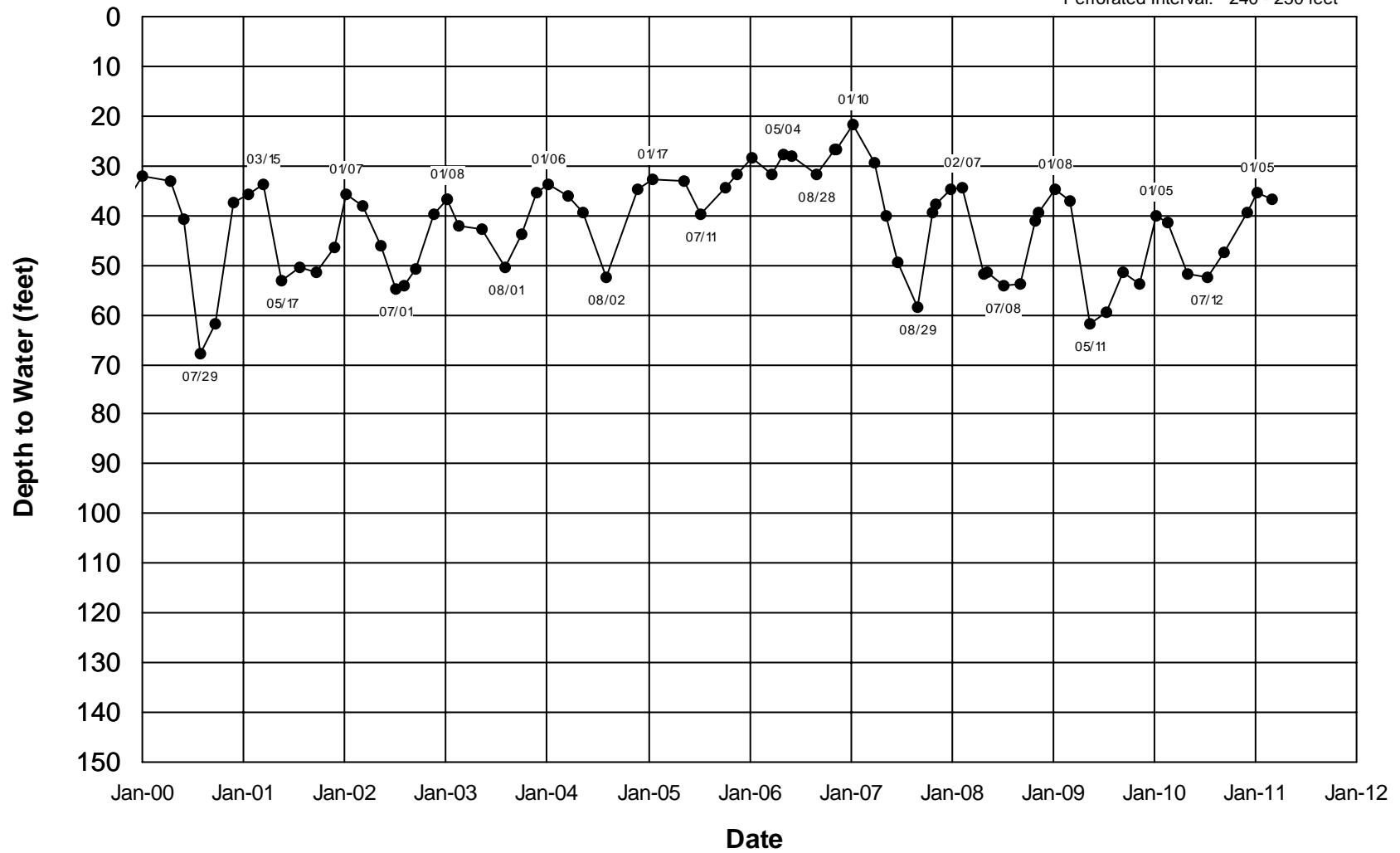
Perforated Interval: 55 - 65 feet



Mendota Area Hydrograph

USGS Monitoring Well No. T13S/R15E-31J5

Reference Elevation: 153 feet msl
Perforated Interval: 240 - 250 feet

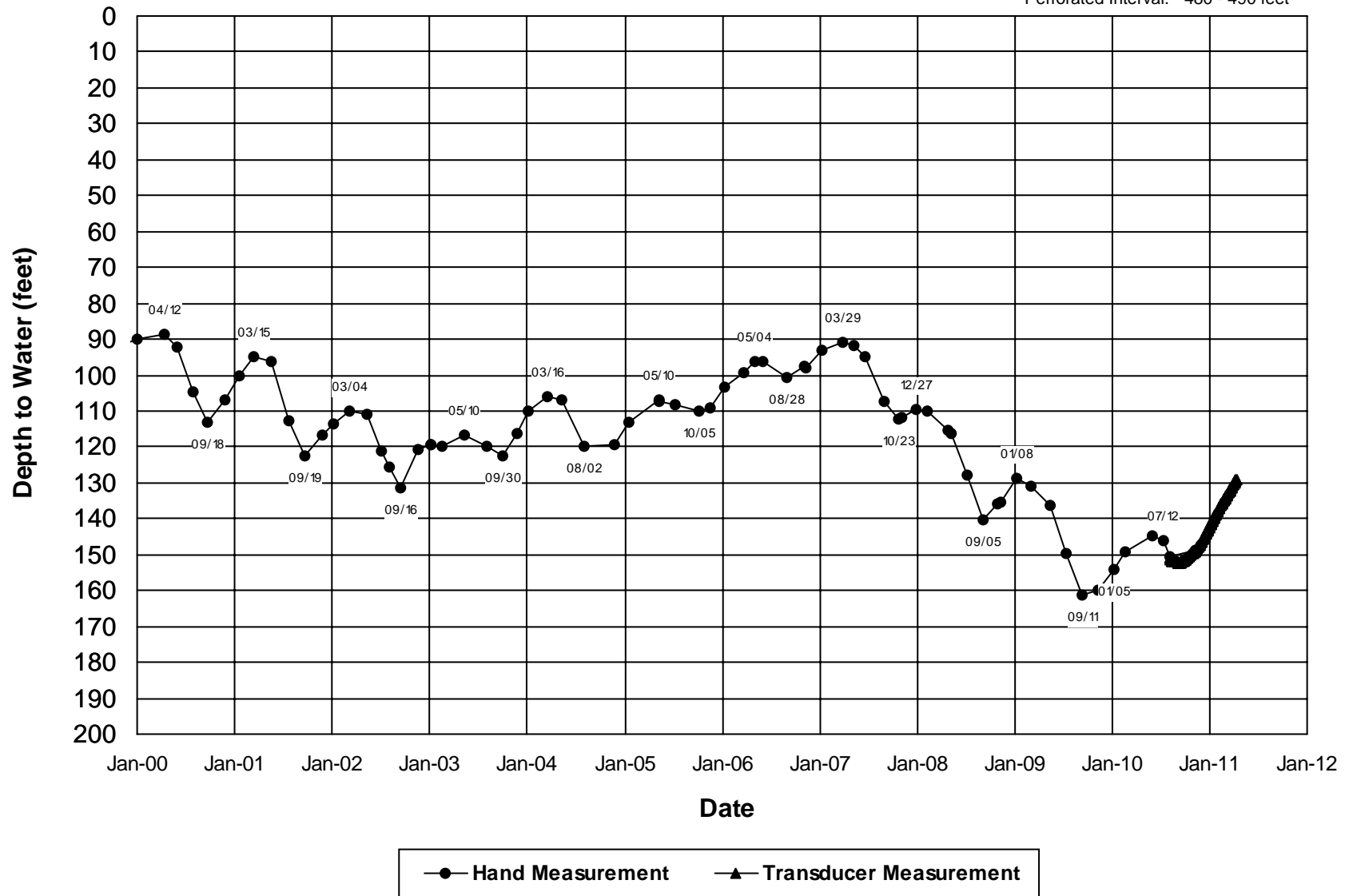


—●— Hand Measurement

Mendota Area Hydrograph

USGS Monitoring Well No. T13S/R15E-31J6

Reference Elevation: 152 feet msl
Perforated Interval: 480 - 490 feet

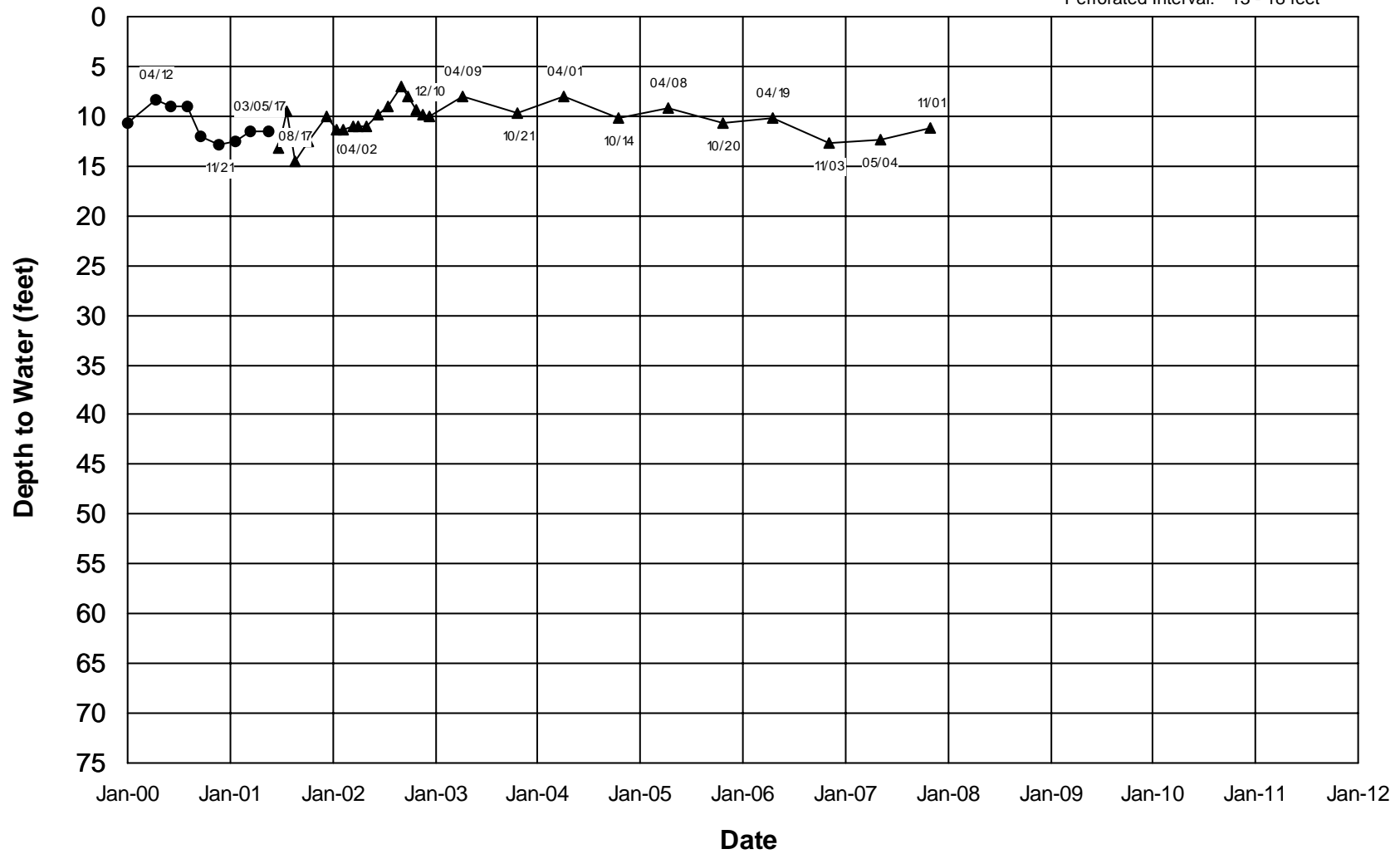


Mendota Area Hydrograph

USGS Monitoring Well No. T14S/R14E-10A1

Reference Elevation: 202.2 feet msl

Perforated Interval: 13 - 18 feet



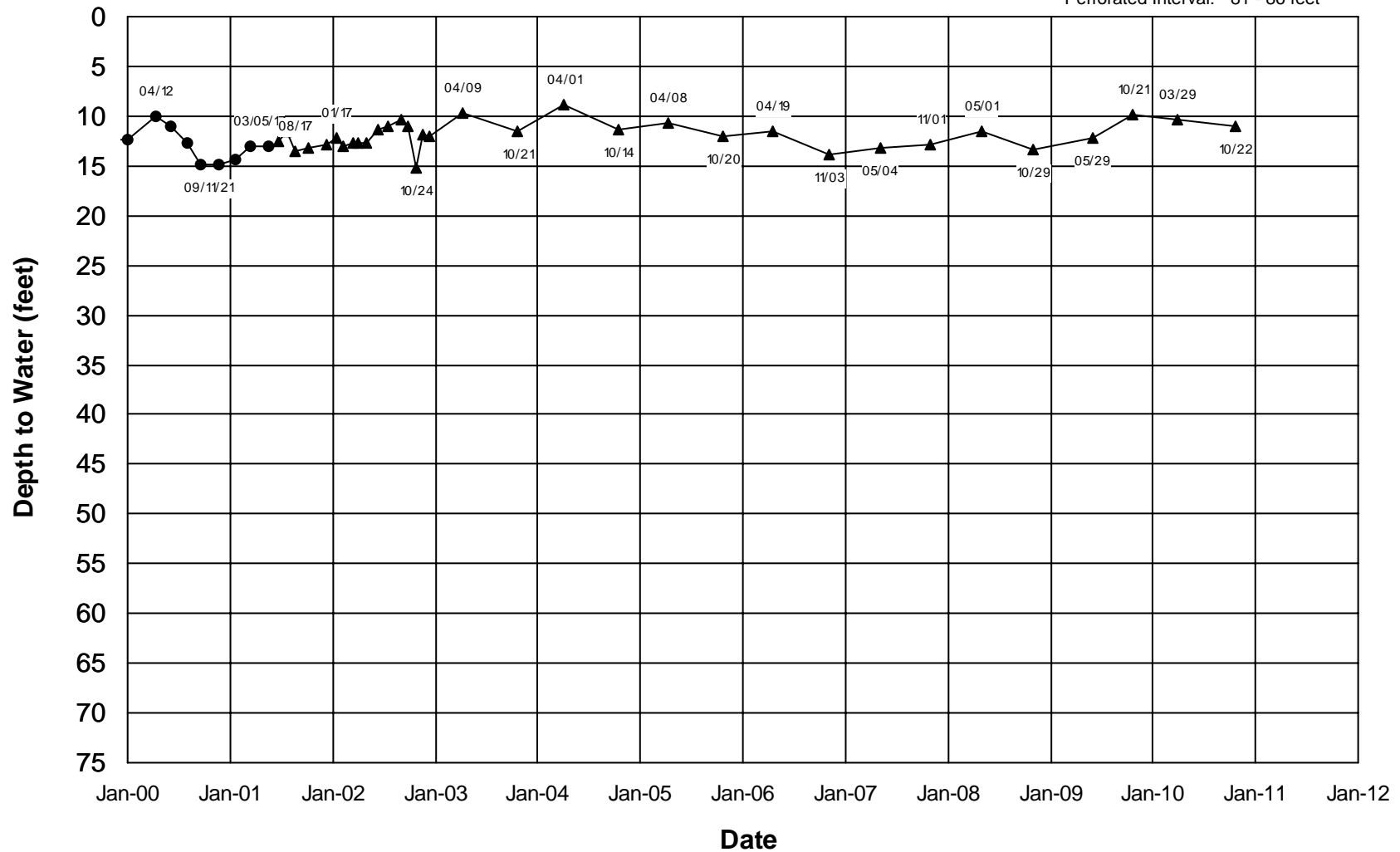
—●— Hand Measurement —▲— Measured with Sonic Sounder

Mendota Area Hydrograph

USGS Monitoring Well No. T14S/R14E-10A2

Reference Elevation: 201 feet msl

Perforated Interval: 81 - 86 feet



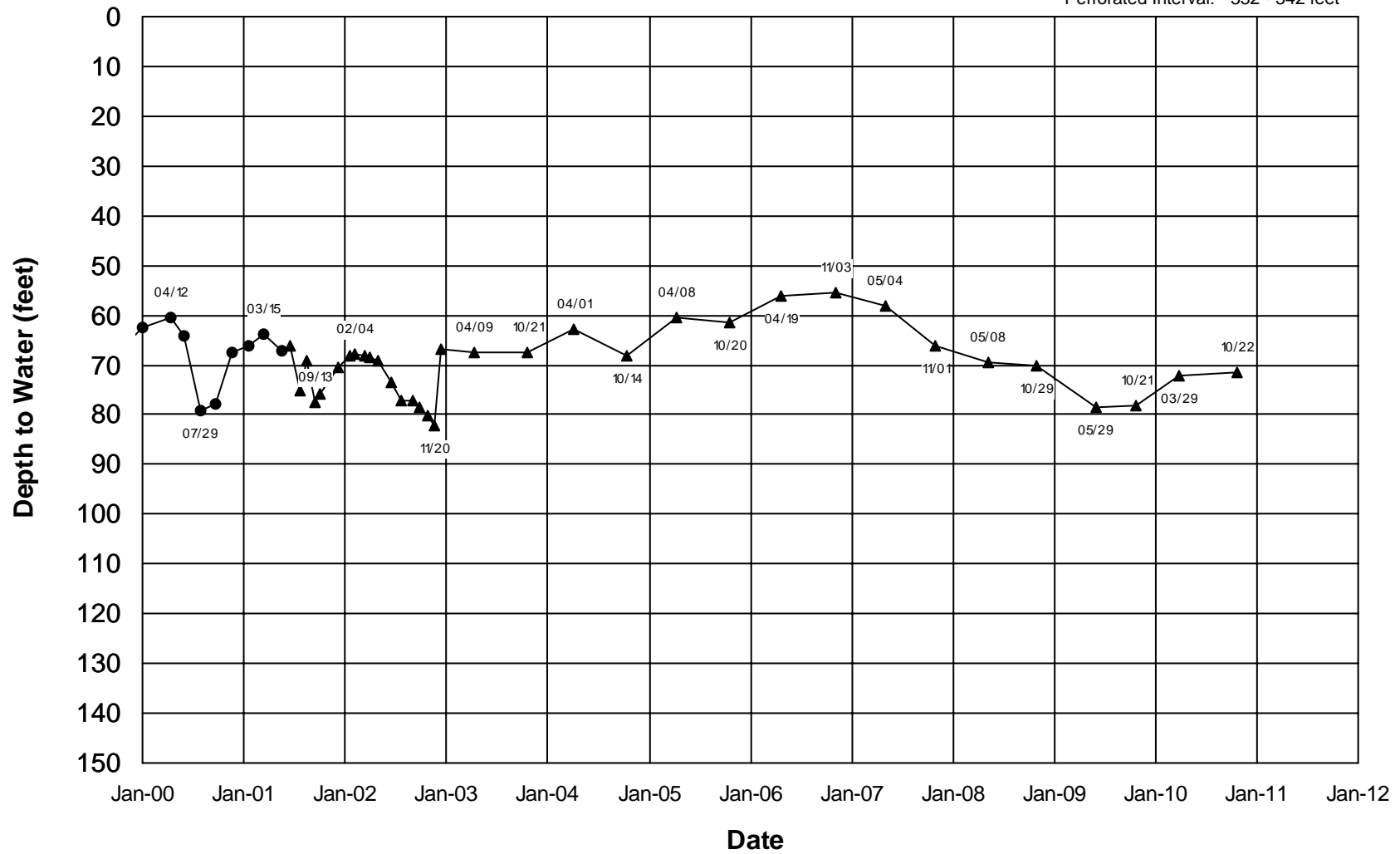
● Hand Measurement ▲ Measured with Sonic Sounder

Mendota Area Hydrograph

USGS Monitoring Well No. T14S/R14E-10A3

Reference Elevation: 202.5 feet msl

Perforated Interval: 332 - 342 feet



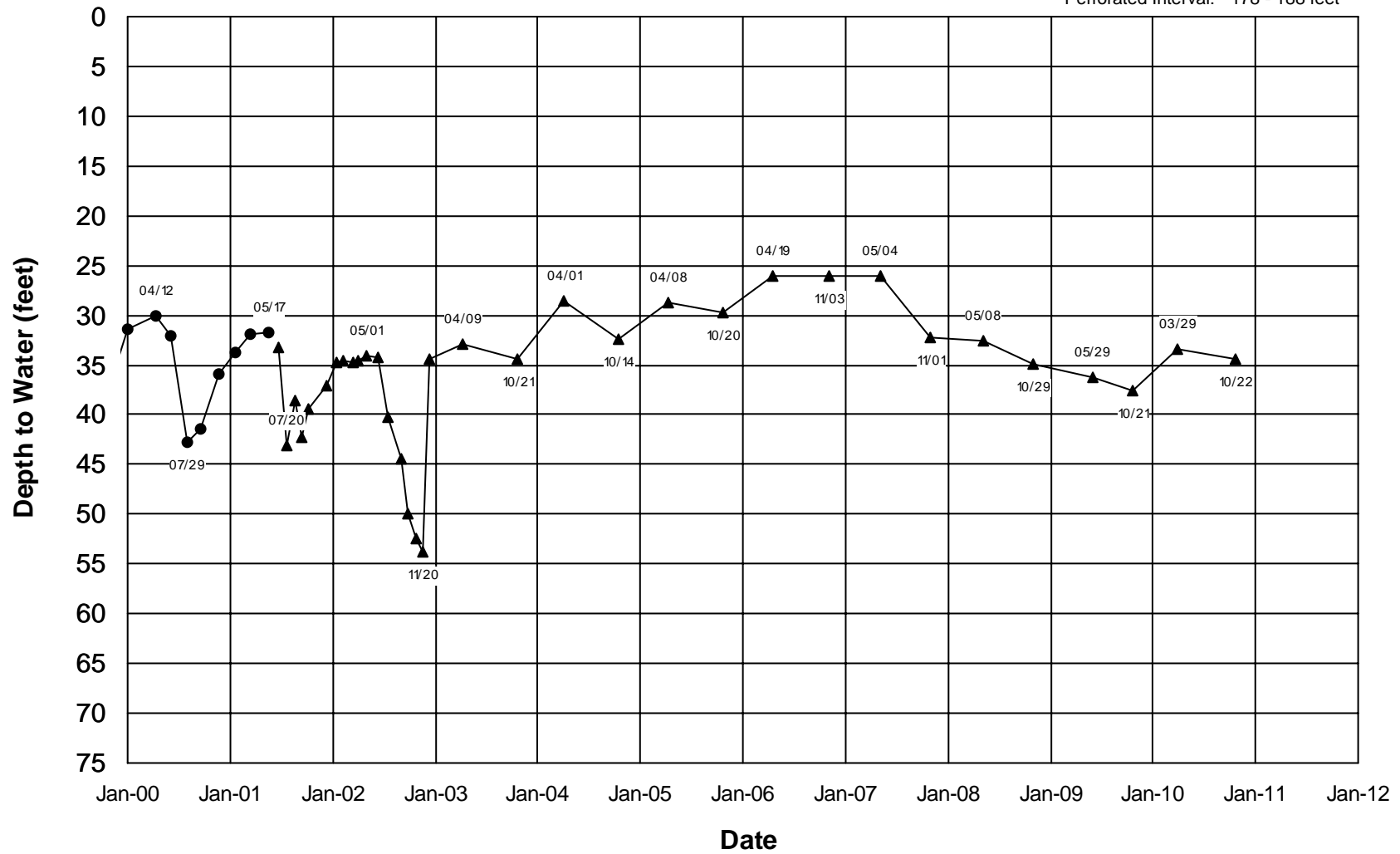
—●— Hand Measurement —▲— Measured with Sonic Sounder

Mendota Area Hydrograph

USGS Monitoring Well No. T14S/R14E-10A4

Reference Elevation: 201.8 feet msl

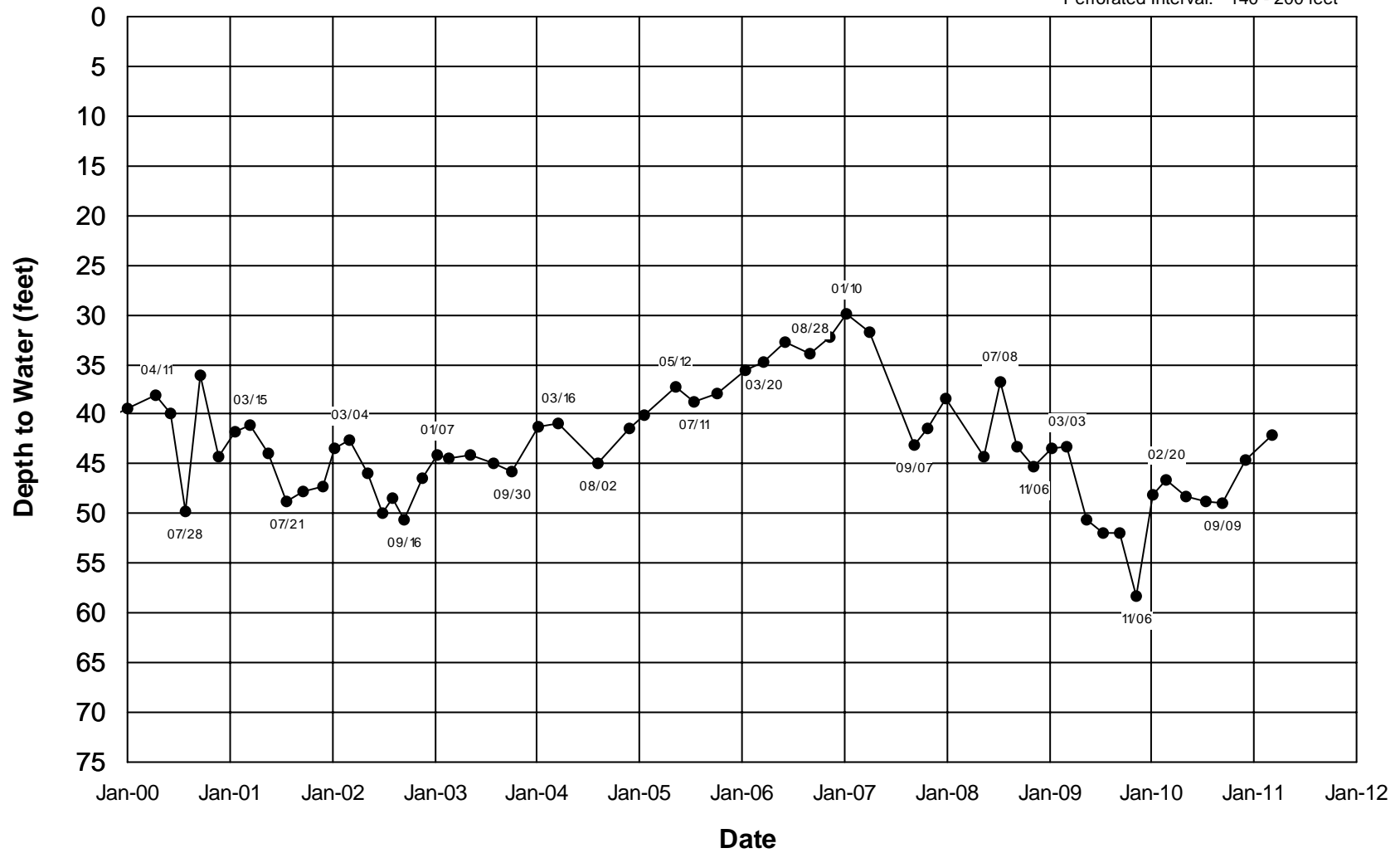
Perforated Interval: 178 - 188 feet



Mendota Area Hydrograph

Hansen Farms Well No. T14S/R15E-7C1

Reference Elevation: 170 feet msl
Perforated Interval: 140 - 200 feet

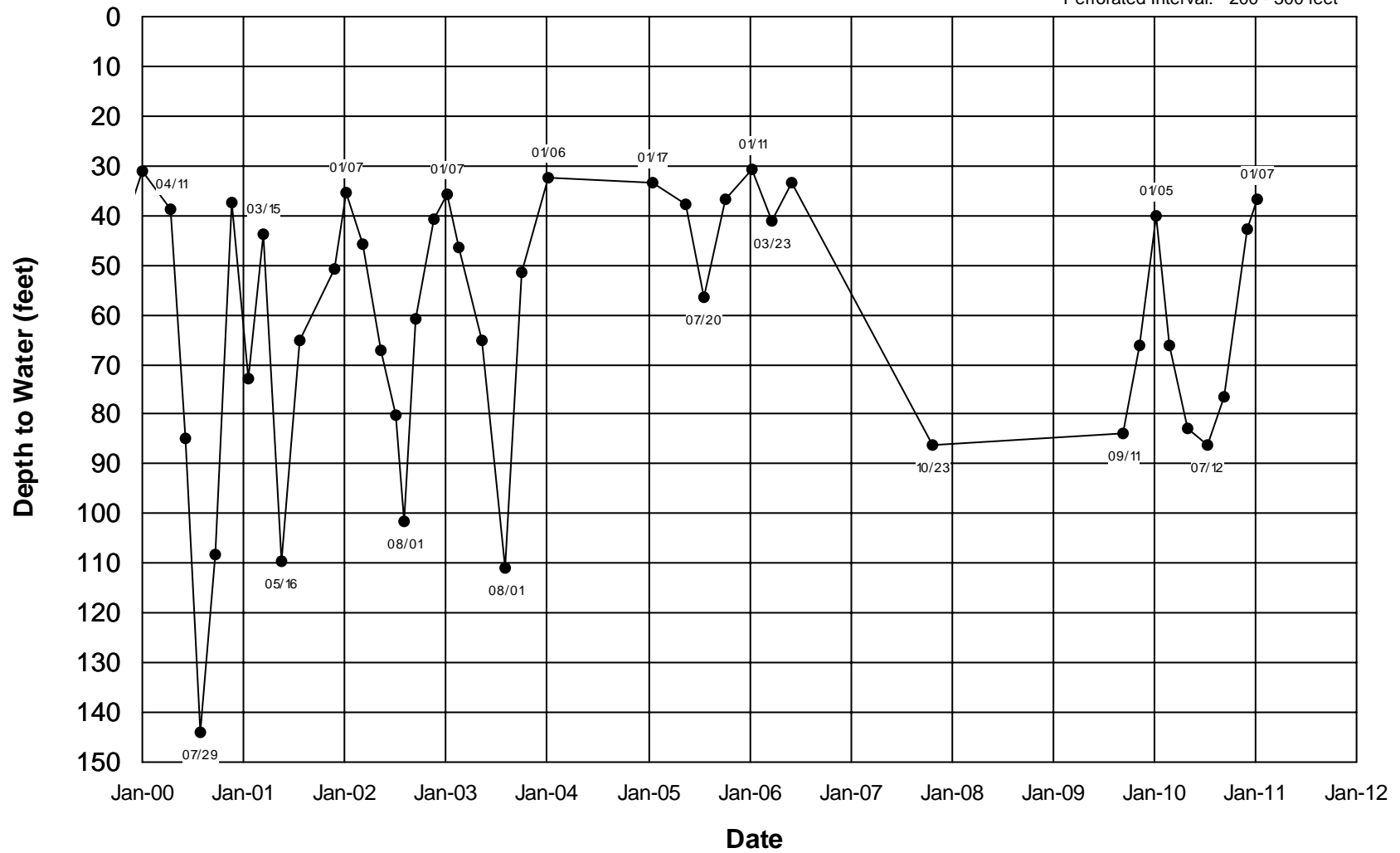


Mendota Pool Group Hydrograph

Fordel M-1

Reference Elevation: 159.61 feet msl

Perforated Interval: 200 - 300 feet



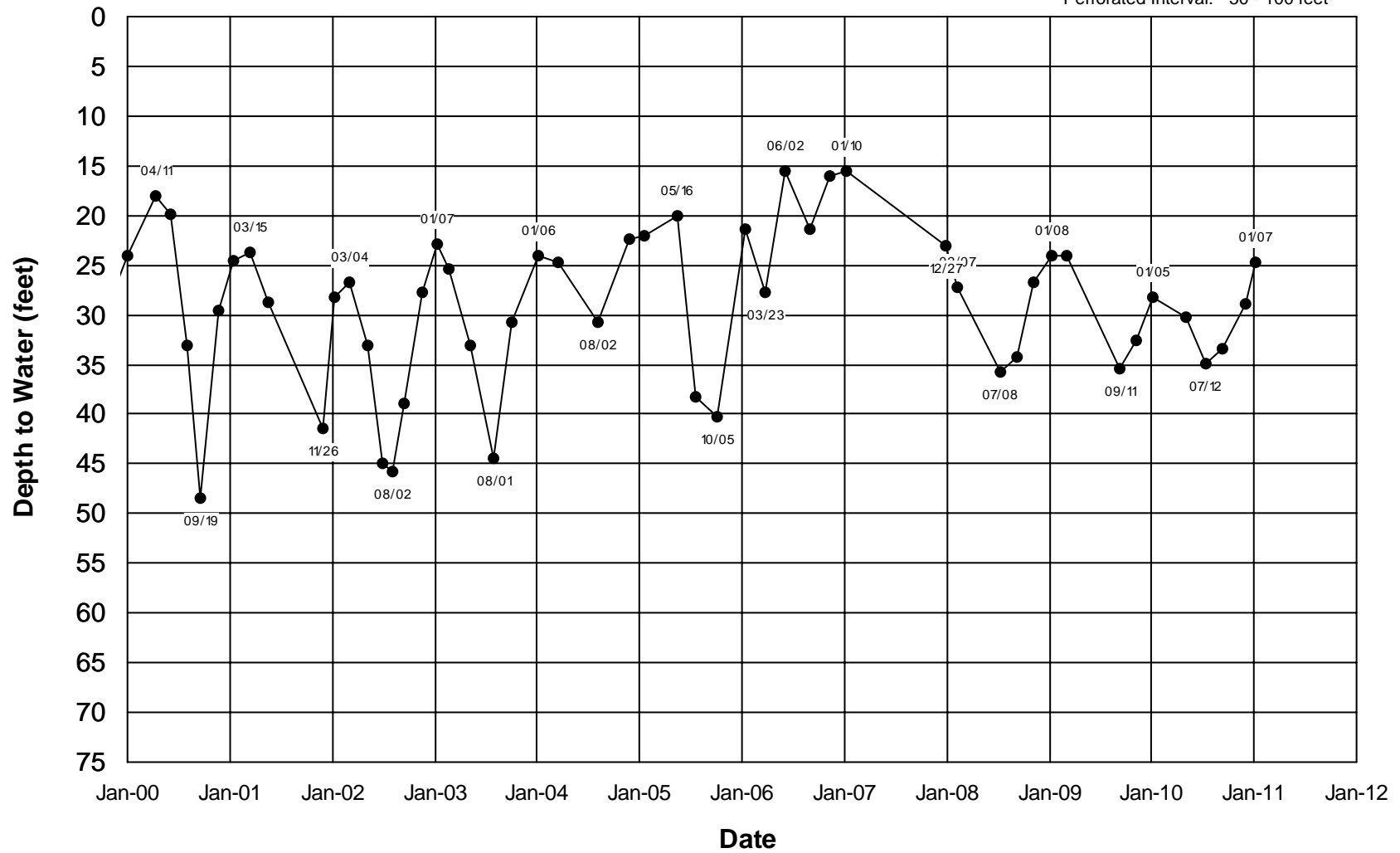
—●— Hand Measurement

Mendota Pool Group Hydrograph

Fordel M-2

Reference Elevation: 159.06 feet msl

Perforated Interval: 50 - 100 feet



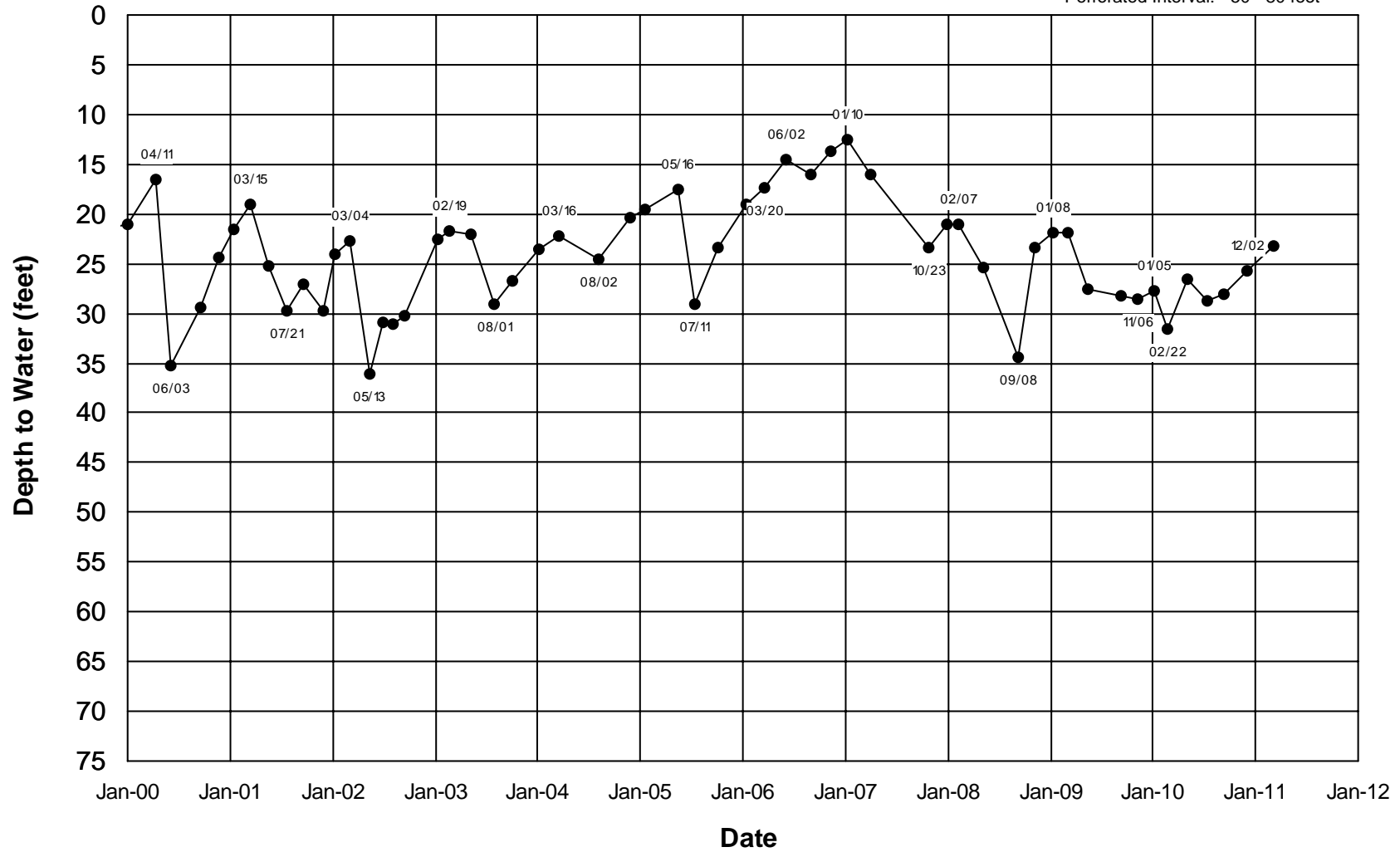
—●— Hand Measurement

Mendota Pool Group Hydrograph

Terra Linda TLF-9s (10A)

Reference Elevation: 156.1 feet msl

Perforated Interval: 50 - 80 feet



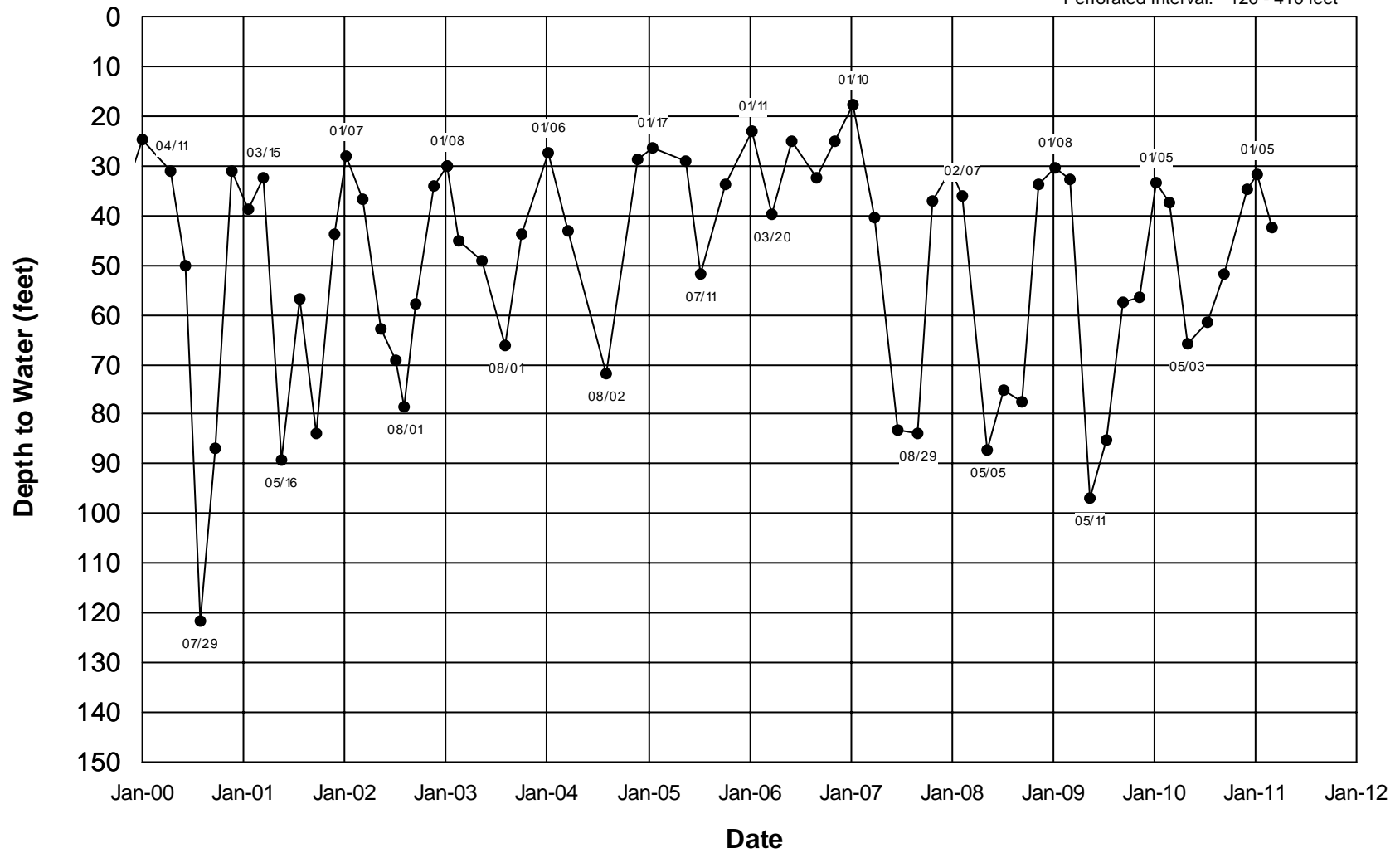
—●— Hand Measurement

Mendota Pool Group Hydrograph

Terra Linda HS-3

Reference Elevation: 154.03 feet msl

Perforated Interval: 120 - 410 feet



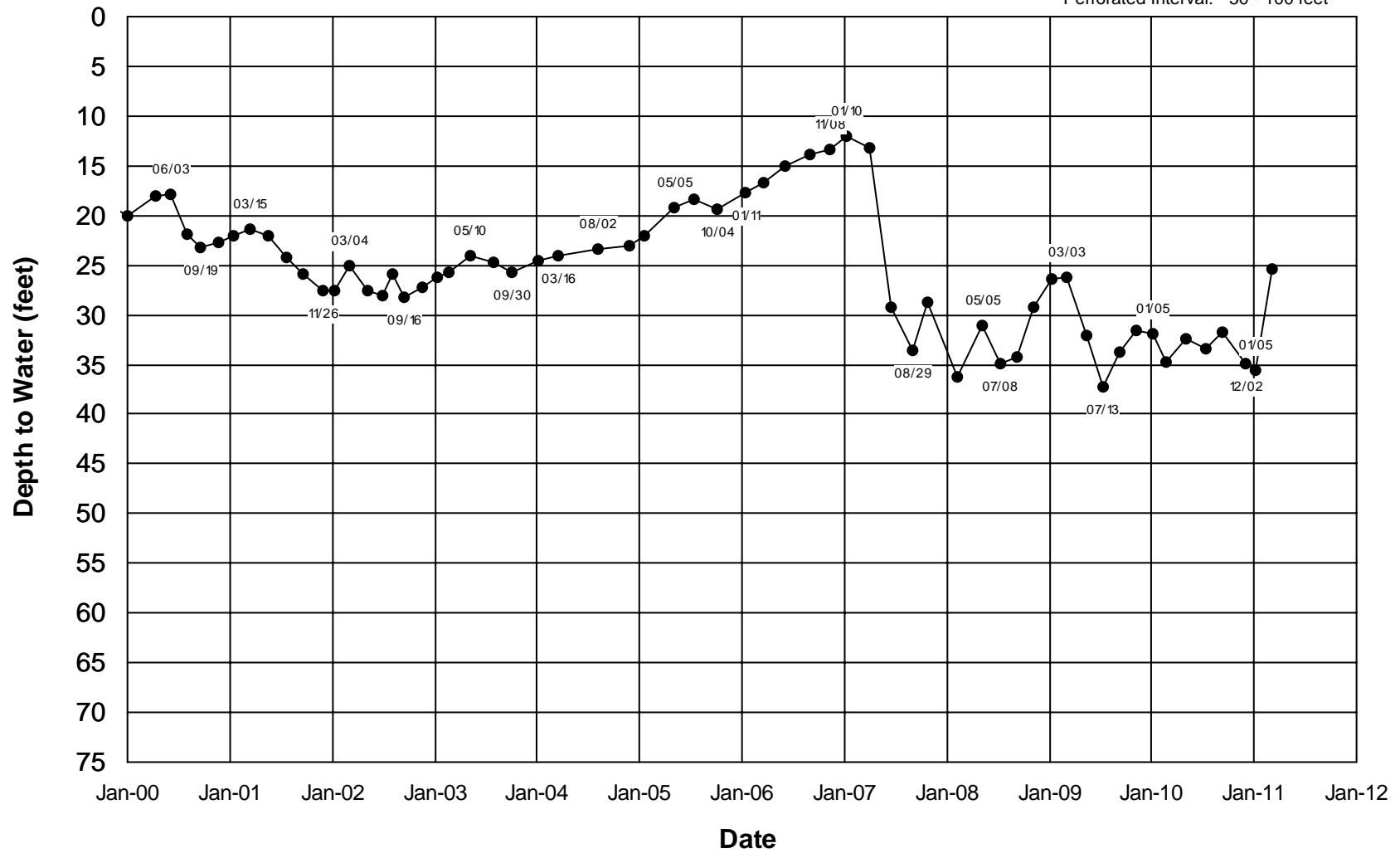
—●— Hand Measurement

Mendota Pool Group Hydrograph

Etchegoinberry No. 2

Reference Elevation: 151.26 feet msl

Perforated Interval: 50 - 100 feet



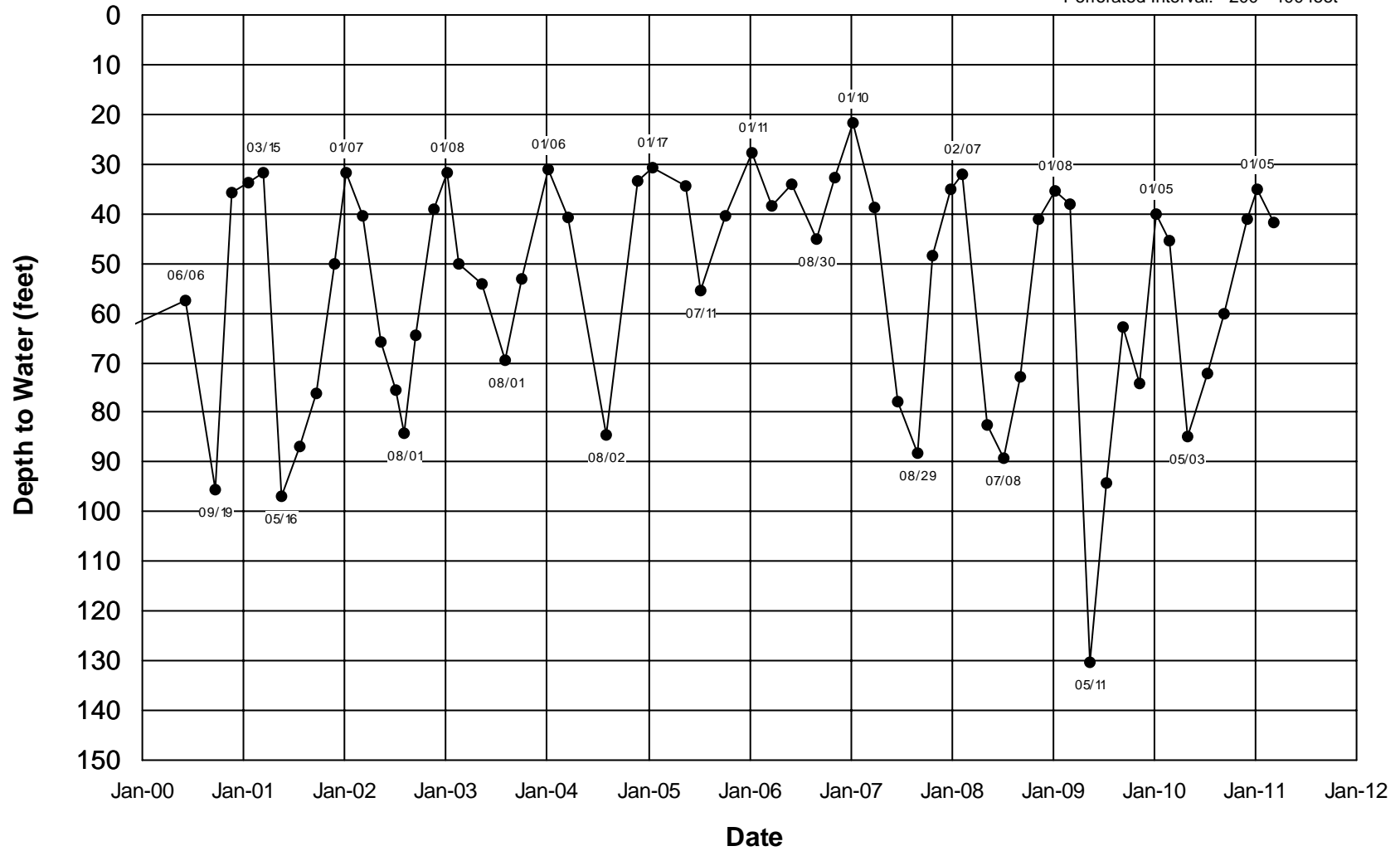
—●— Hand Measurement

Mendota Pool Group Hydrograph

Coelho/Coelho/Fordel CCF-2

Reference Elevation: 157 feet msl

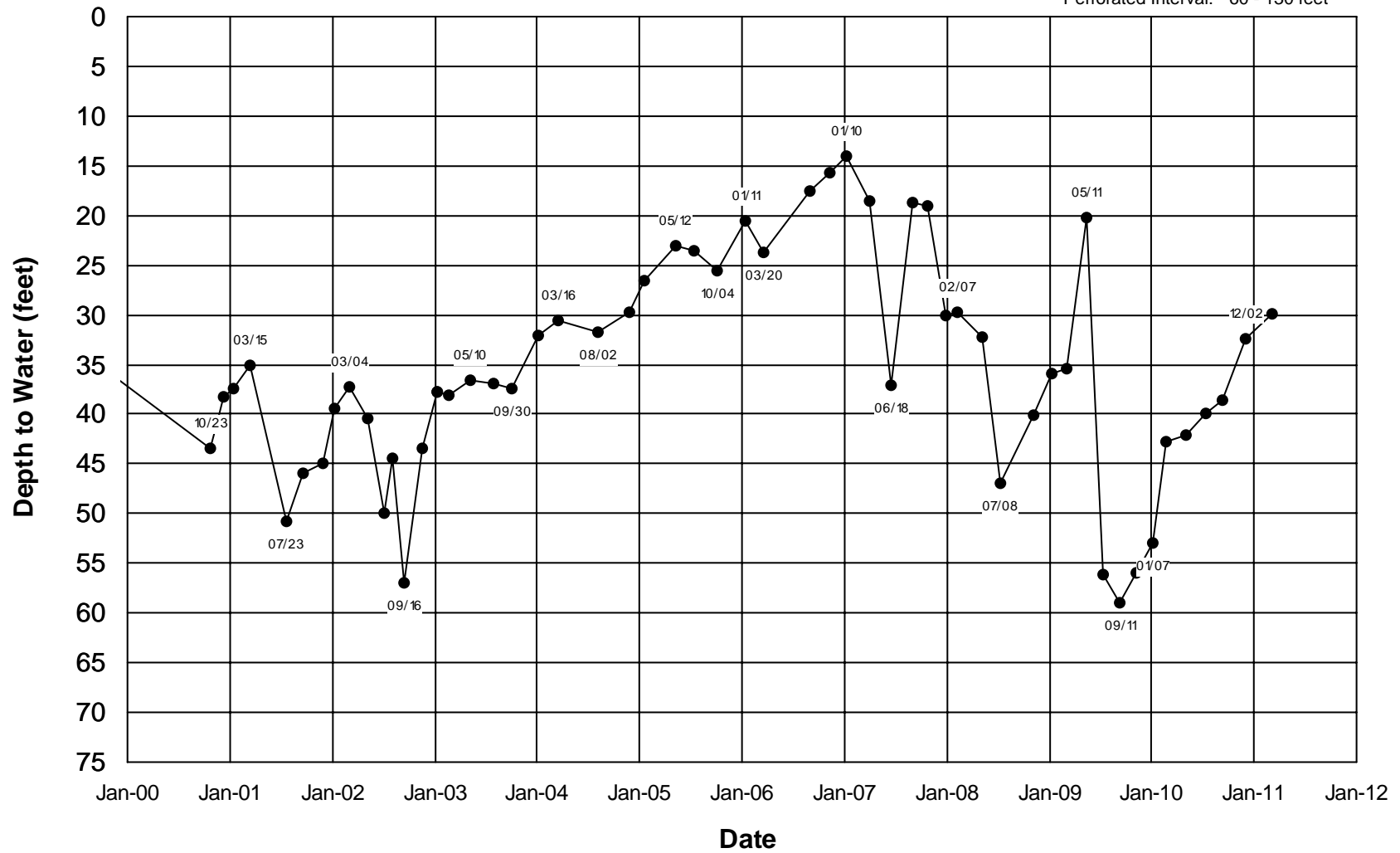
Perforated Interval: 200 - 400 feet



Mendota Pool Group Hydrograph

Meyers Farming MS-4

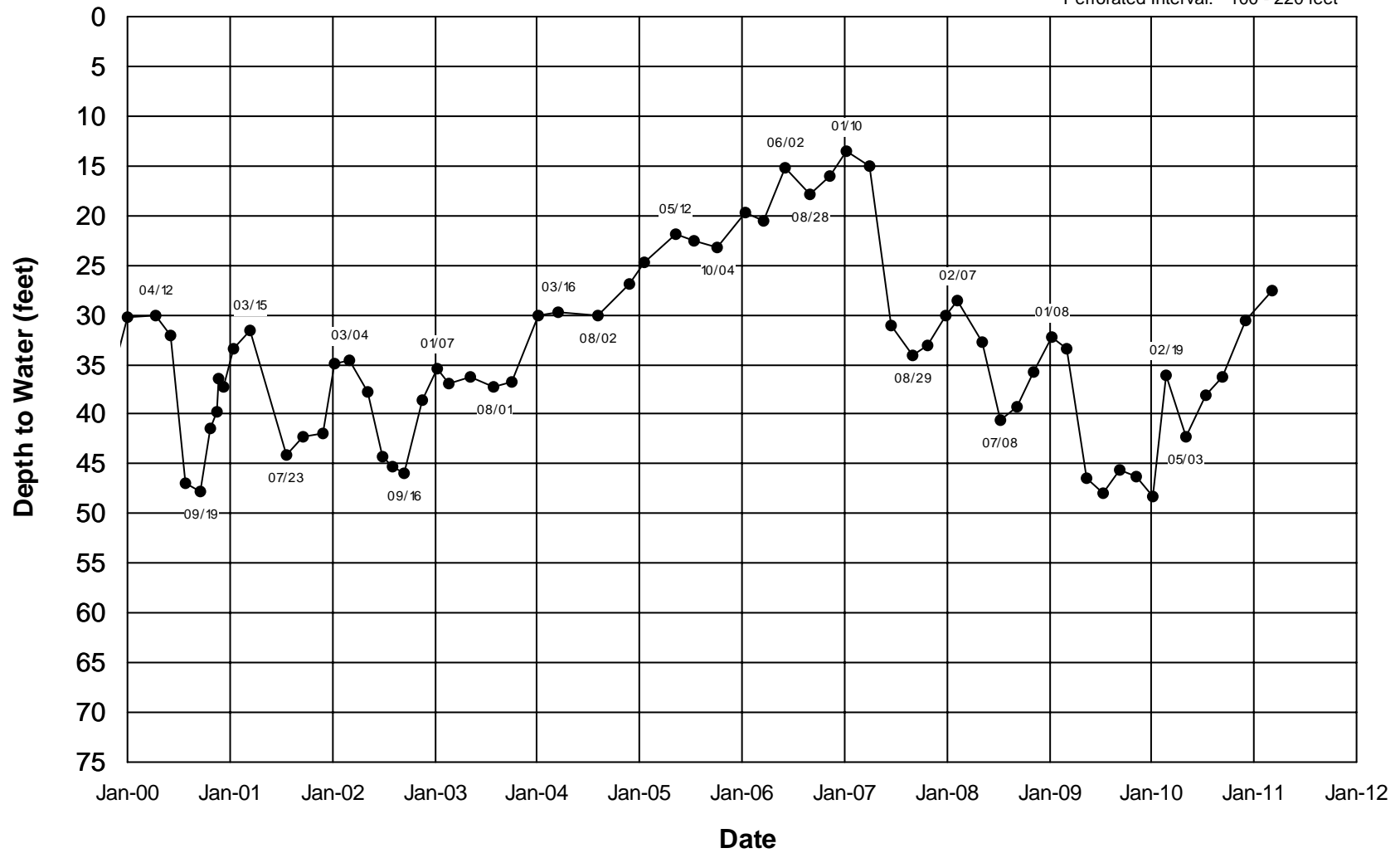
Reference Elevation: 156 feet msl
Perforated Interval: 60 - 130 feet



Mendota Pool Group Hydrograph

Meyers Farming MS-5

Reference Elevation: 156 feet msl
Perforated Interval: 100 - 220 feet



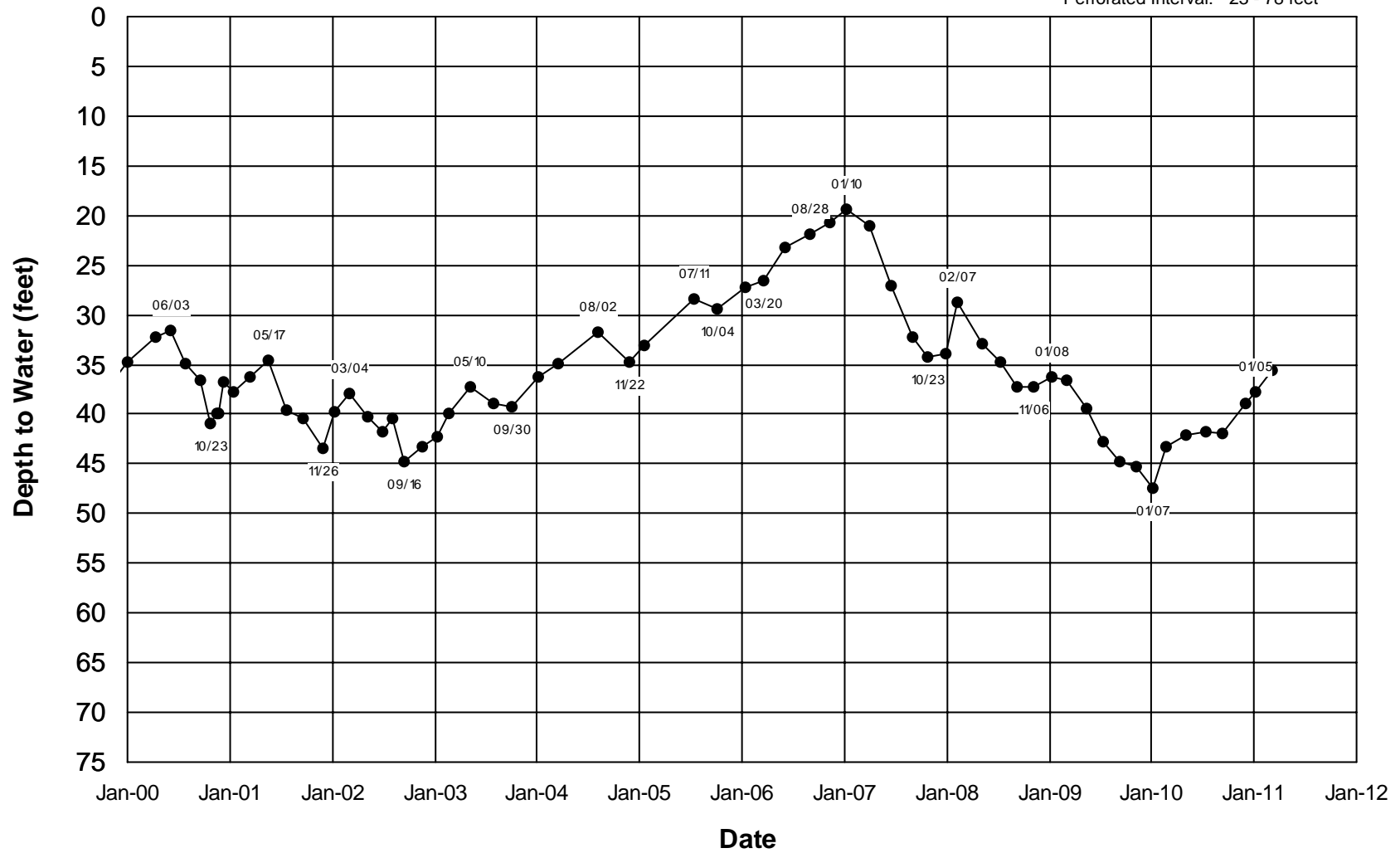
—●— Hand Measurement

Mendota Area Hydrograph

Meyers Farm Monitoring Well S-2

Reference Elevation: 162.34 feet msl

Perforated Interval: 23 - 78 feet



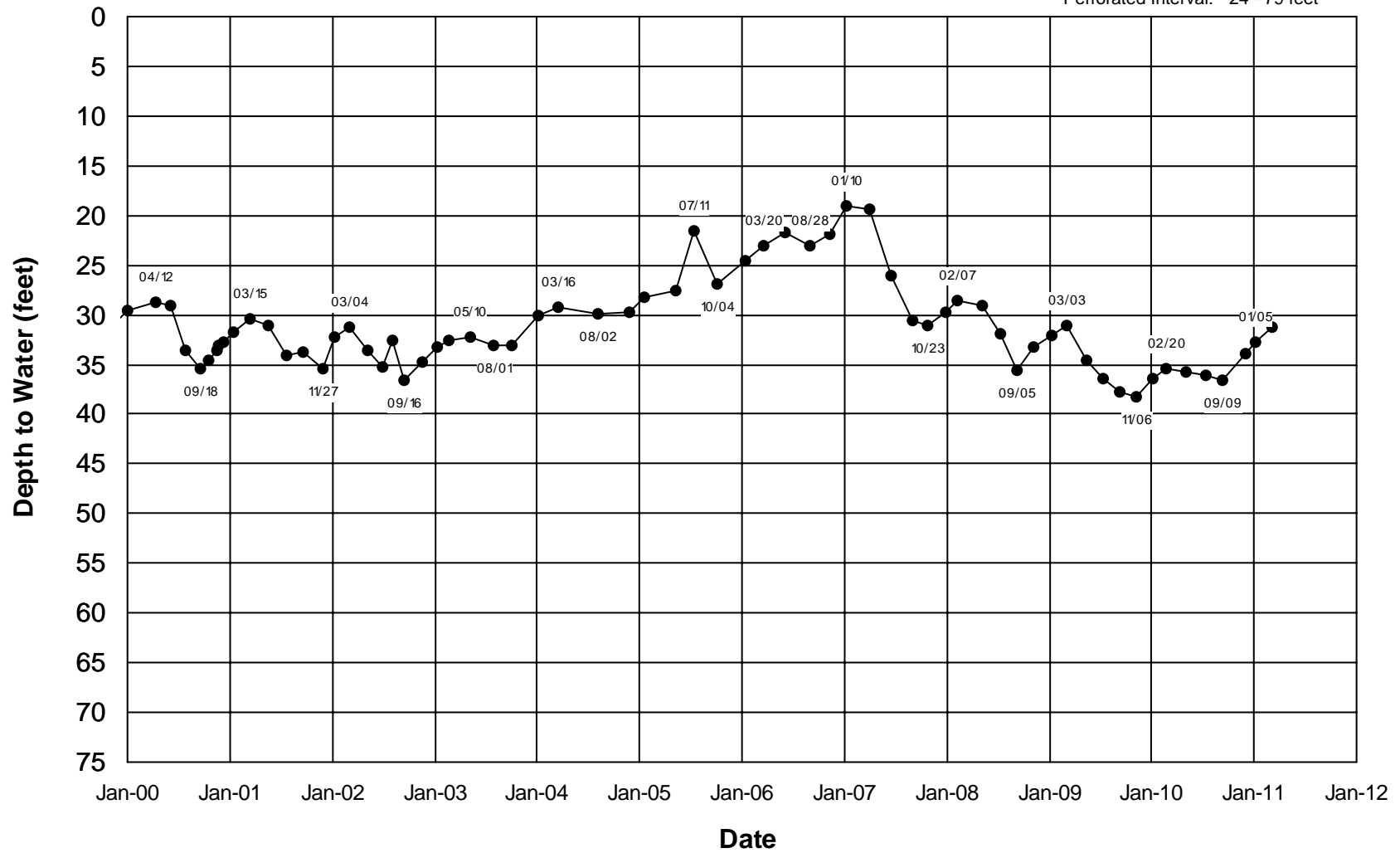
—●— Hand Measurement

Mendota Area Hydrograph

Meyers Farm Monitoring Well P-6

Reference Elevation: 161.08 feet msl

Perforated Interval: 24 - 79 feet



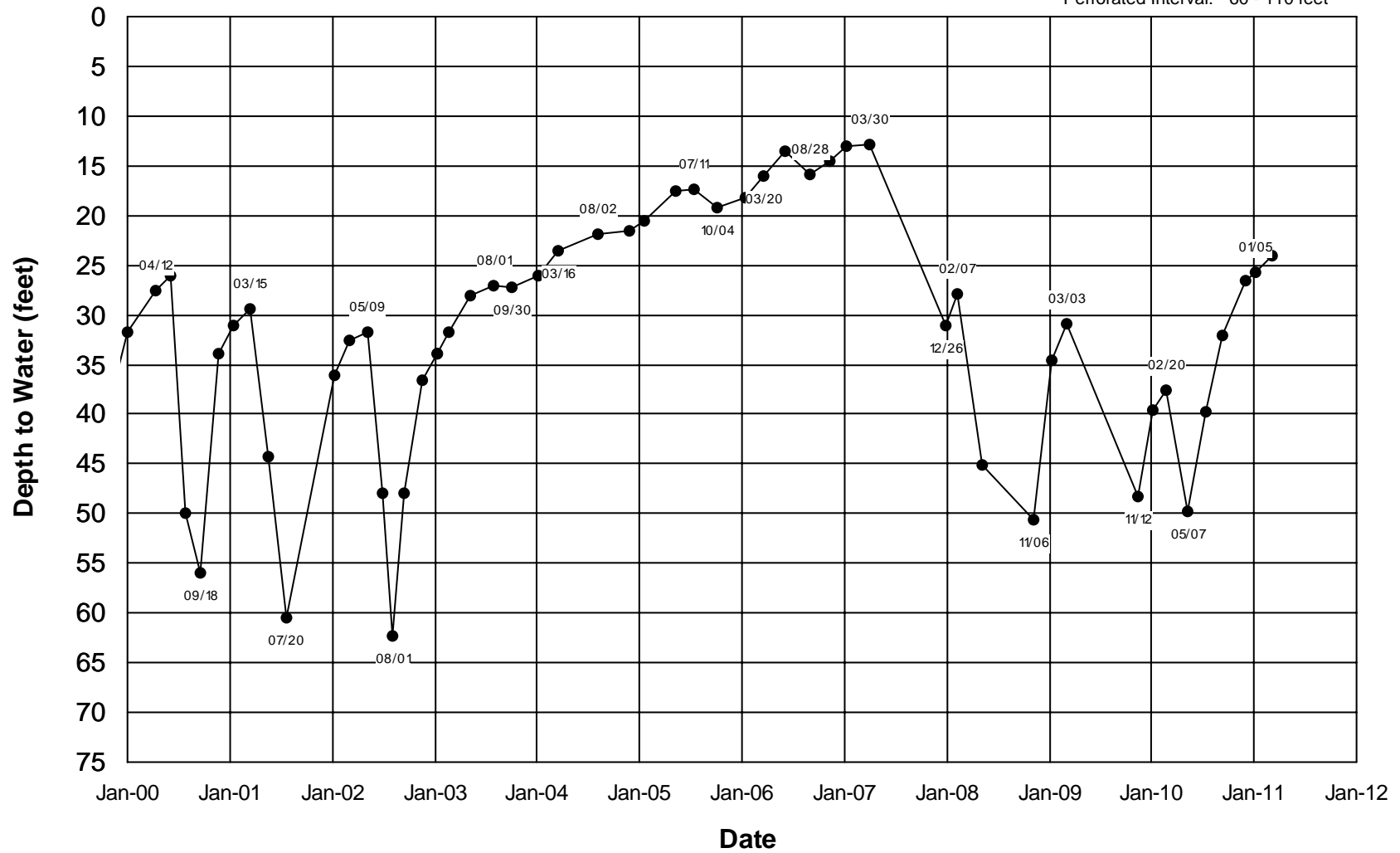
—●— Hand Measurement

Mendota Pool Group Hydrograph

Five Star FS-5

Reference Elevation: 155.81 feet msl

Perforated Interval: 60 - 110 feet

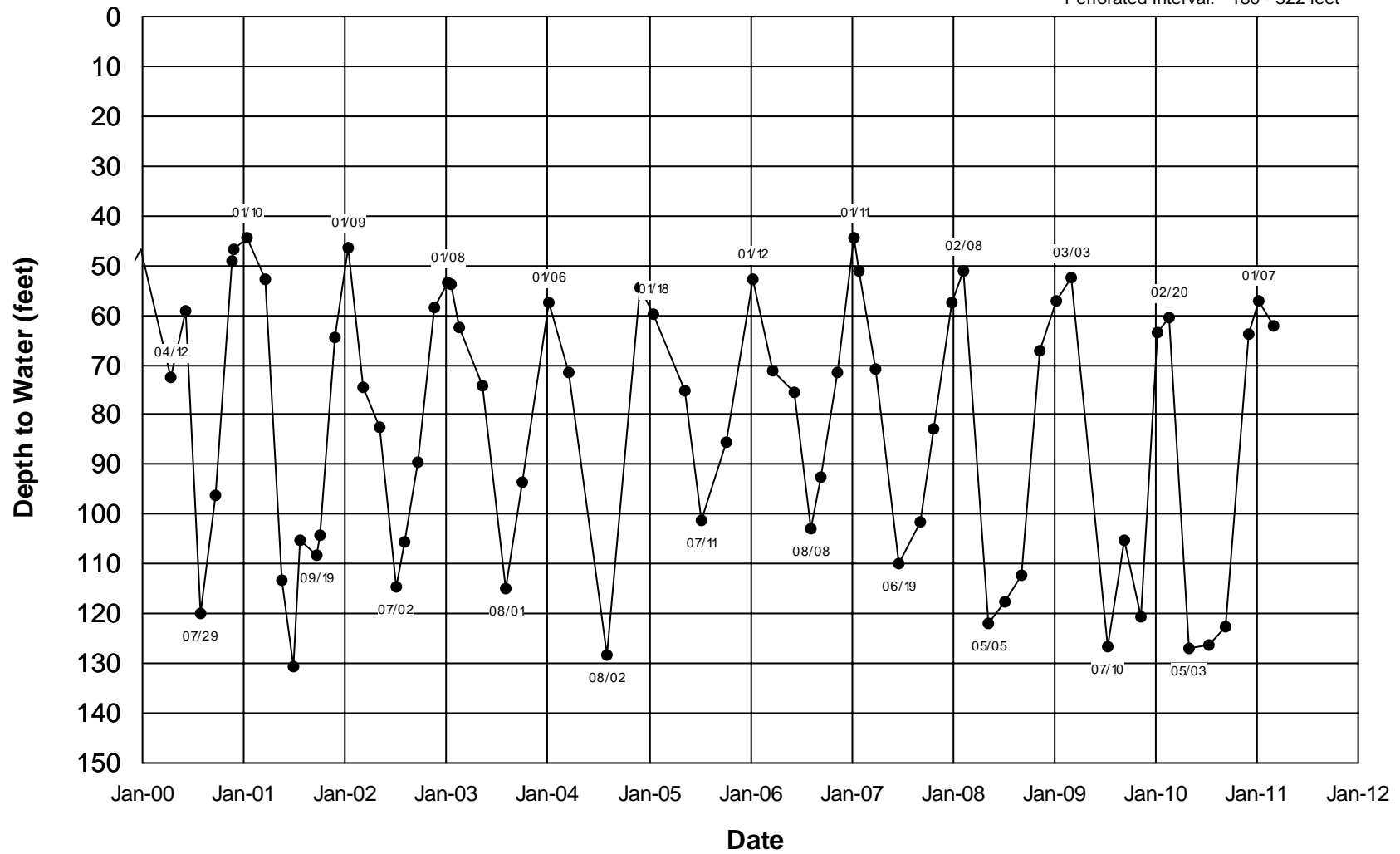


Mendota Pool Group Hydrograph

Farmers WD R-5

Reference Elevation: 164.3 feet msl

Perforated Interval: 180 - 322 feet



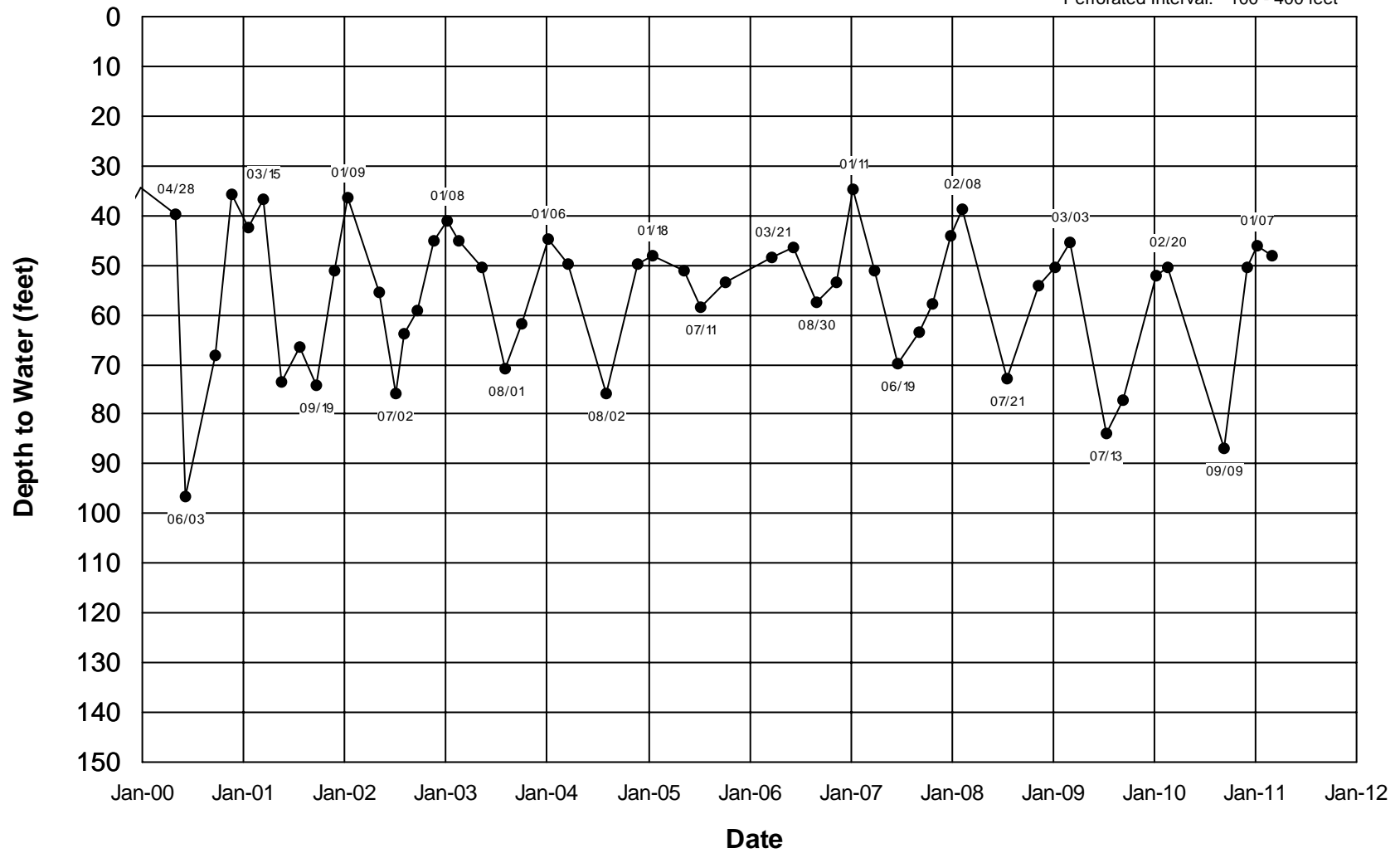
—●— Hand Measurement

Mendota Pool Group Hydrograph

Farmers WD R-7

Reference Elevation: 166.18 feet msl

Perforated Interval: 100 - 400 feet



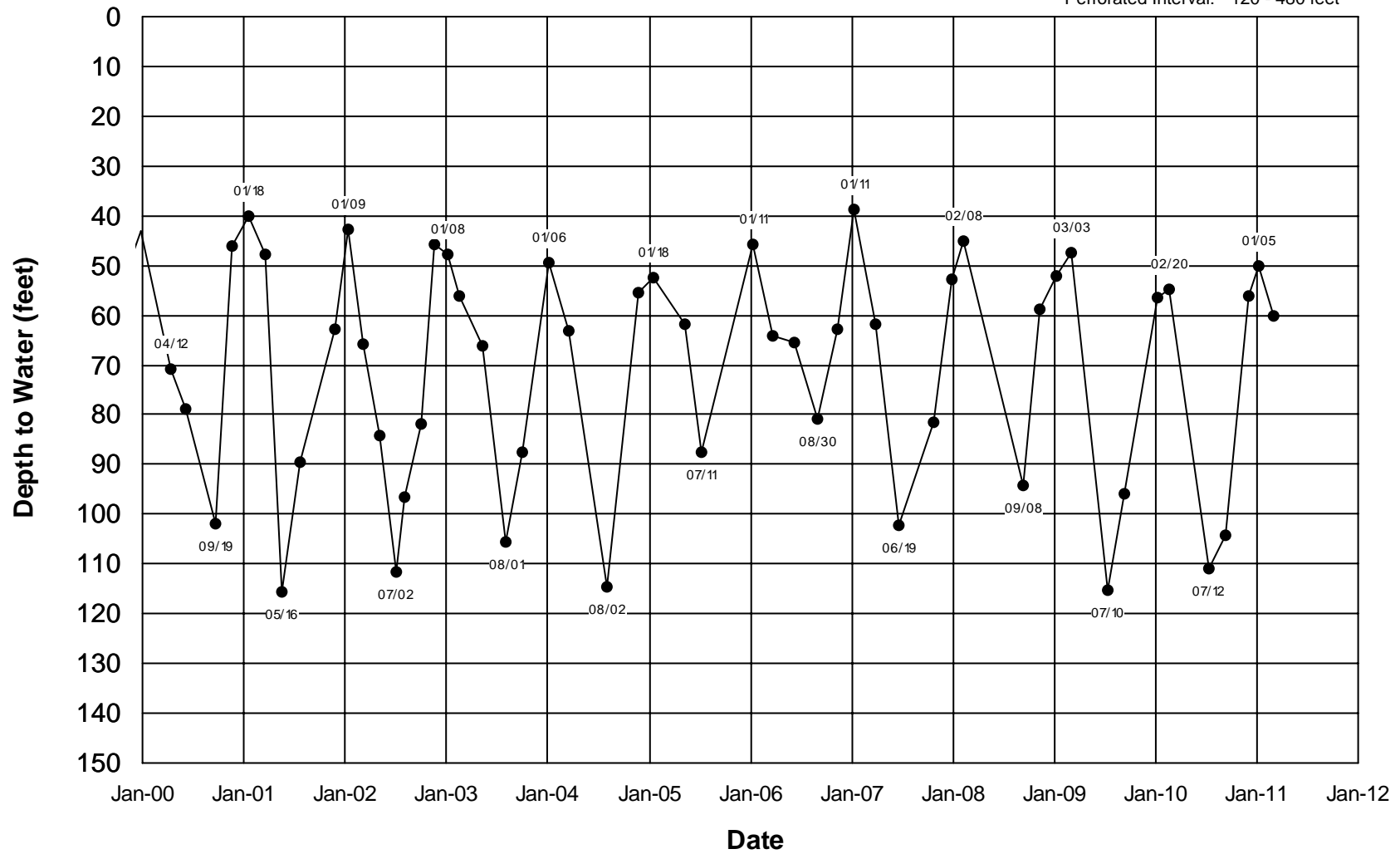
—●— Hand Measurement

Mendota Pool Group Hydrograph

Farmers WD R-8

Reference Elevation: 164.4 feet msl

Perforated Interval: 120 - 480 feet



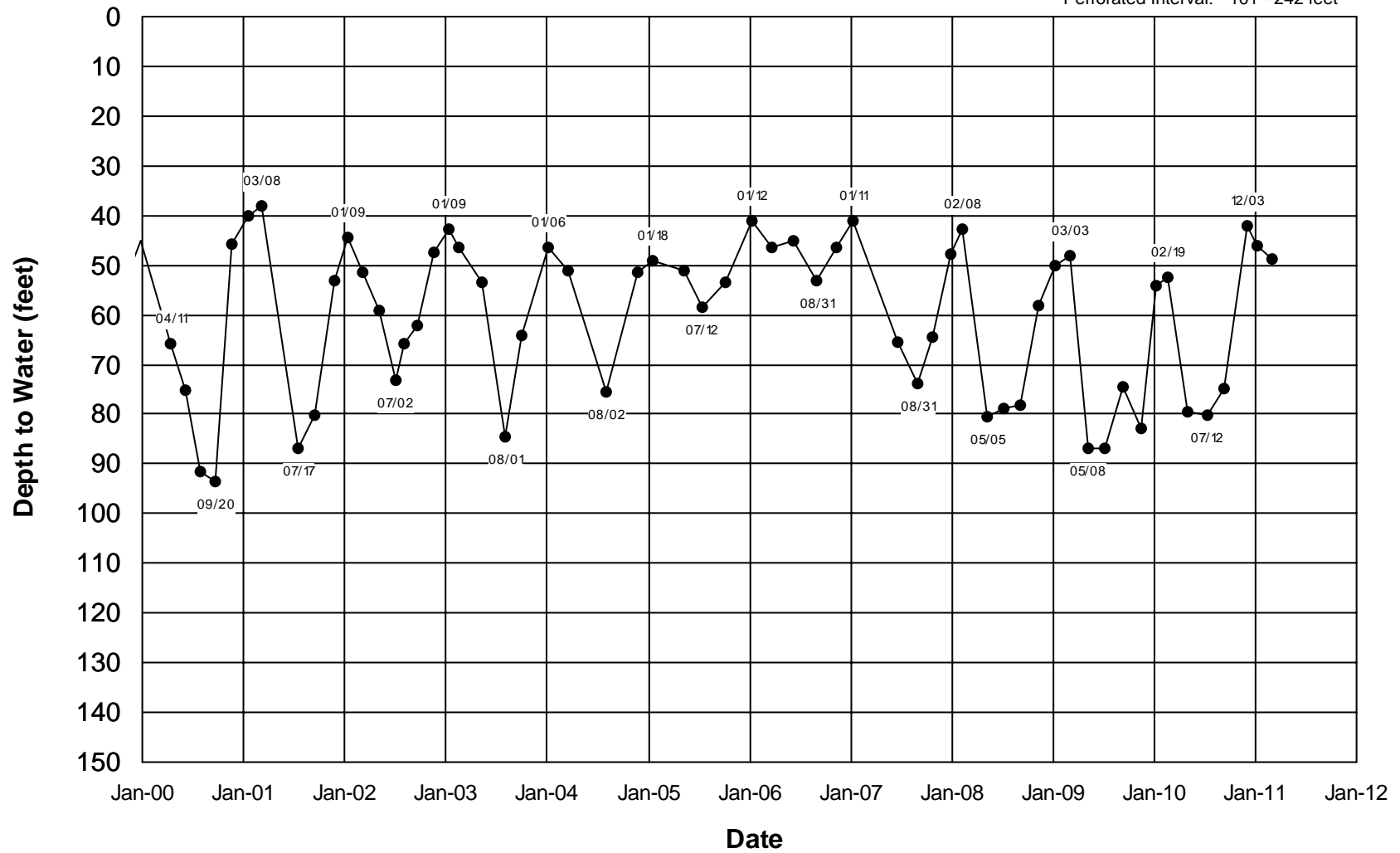
—●— Hand Measurement

Mendota Pool Group Hydrograph

Farmers WD WL-2

Reference Elevation: 170.23 feet msl

Perforated Interval: 101 - 242 feet

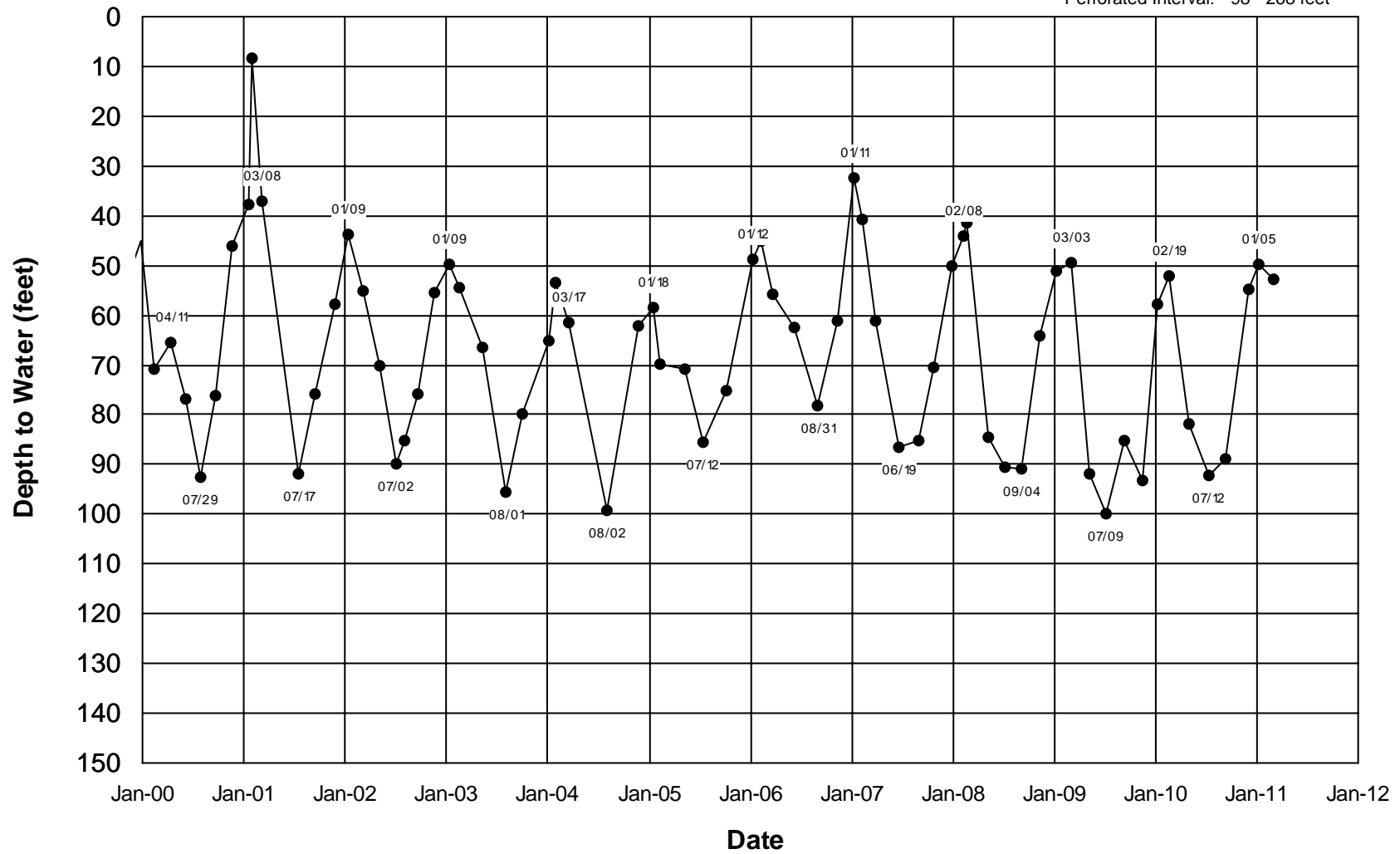


—●— Hand Measurement

Mendota Pool Group Hydrograph

Farmers WD EL-1

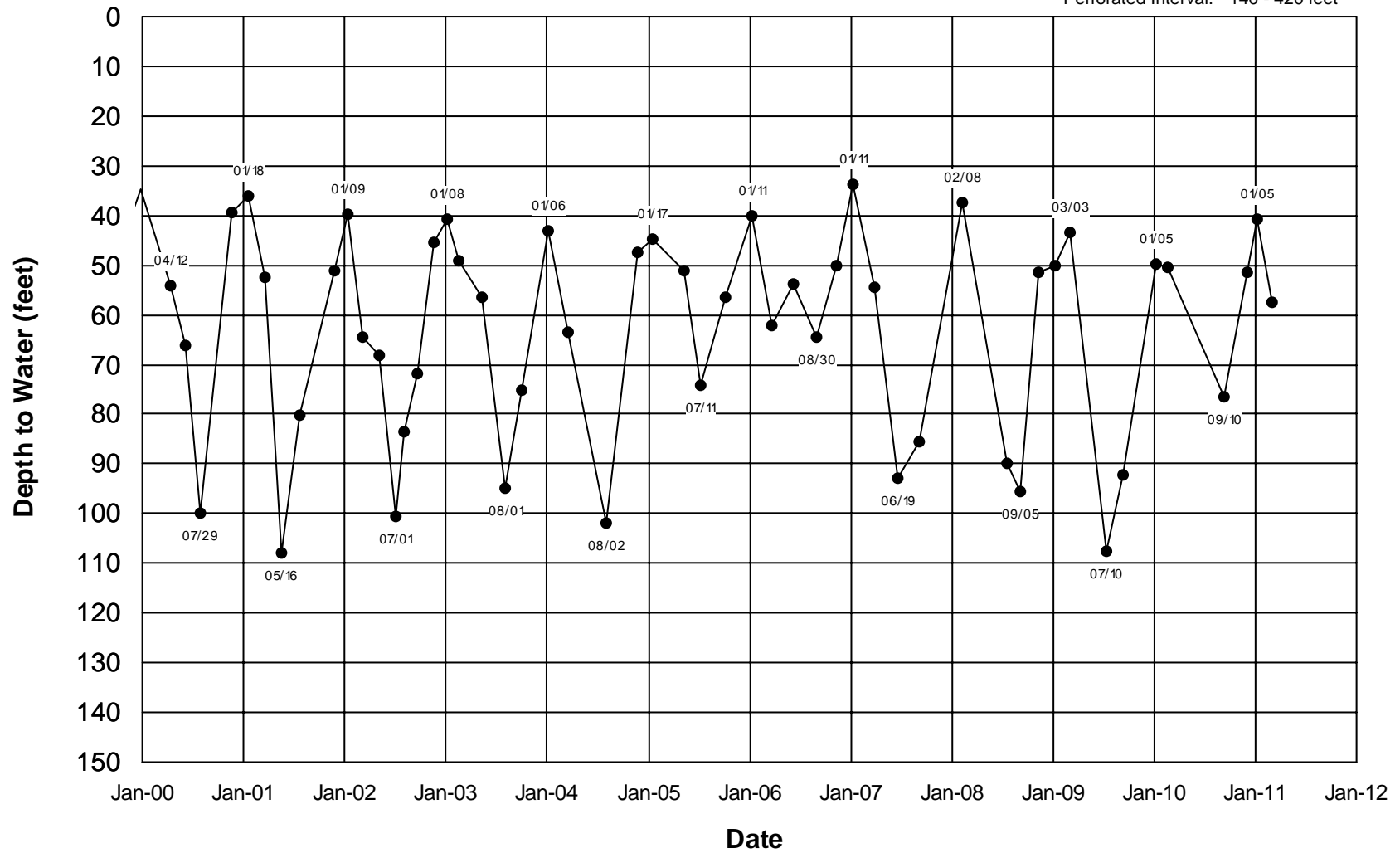
Reference Elevation: 170 feet msl
Perforated Interval: 98 - 268 feet



Mendota Pool Group Hydrograph

Baker Farming BF-2

Reference Elevation: 163 feet msl
Perforated Interval: 140 - 420 feet



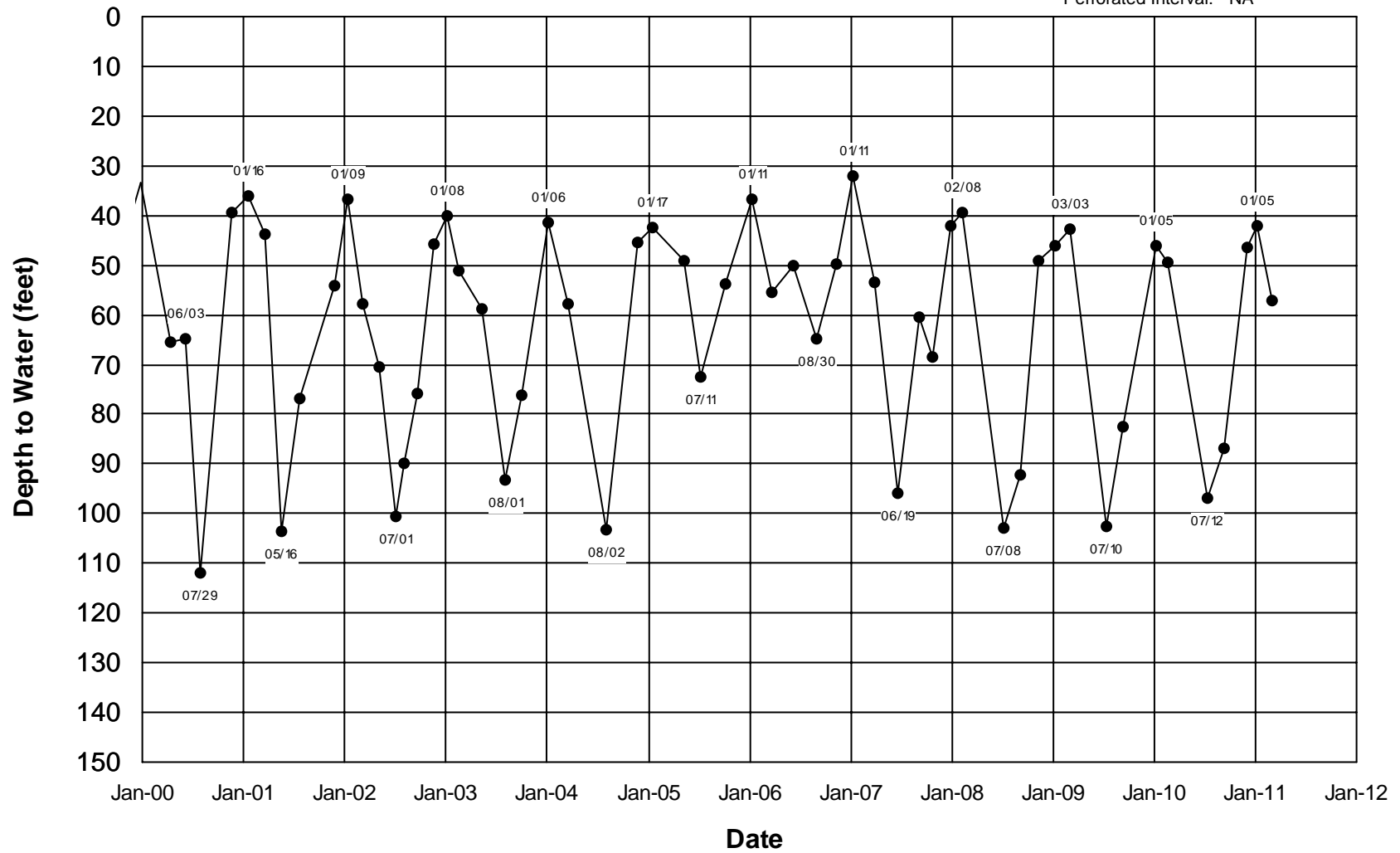
—●— Hand Measurement

Mendota Pool Group Hydrograph

Panoche Creek Farms PCF-1

Reference Elevation: 163 feet msl

Perforated Interval: NA



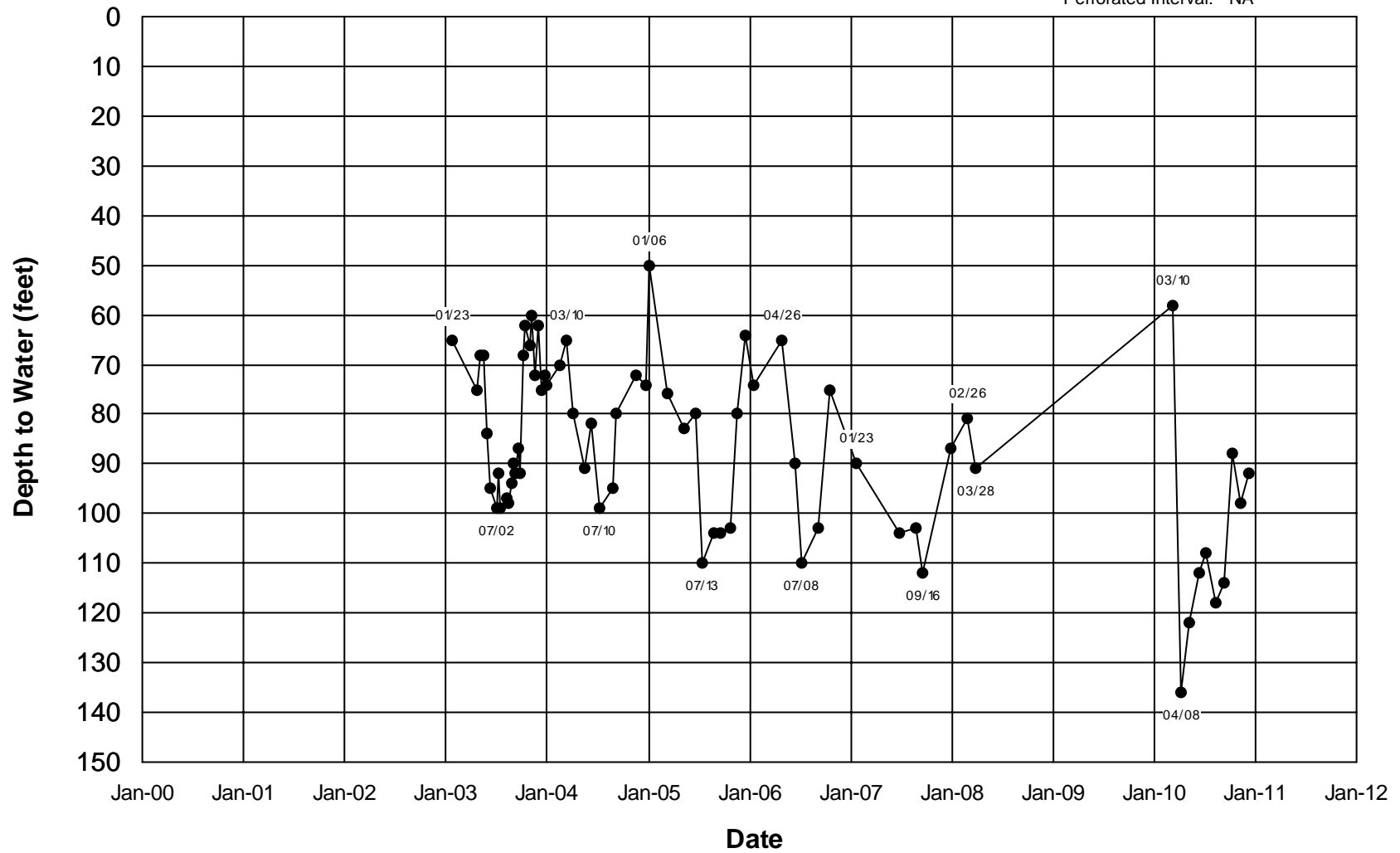
—●— Hand Measurement

Mendota Area Hydrograph

City of Mendota Well No. 7

Reference Elevation: NA

Perforated Interval: NA

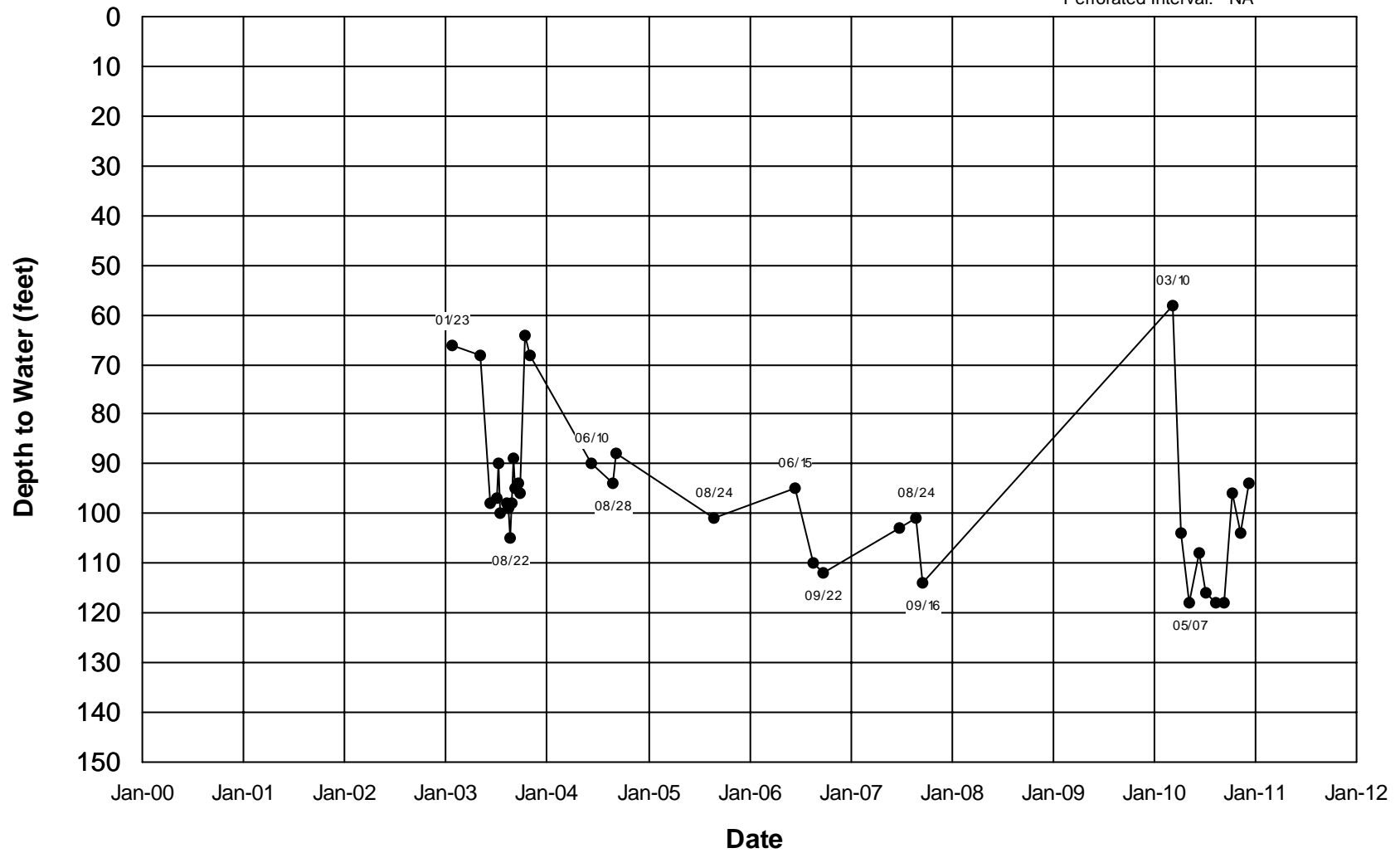


Mendota Area Hydrograph

City of Mendota Well No. 8

Reference Elevation: NA

Perforated Interval: NA



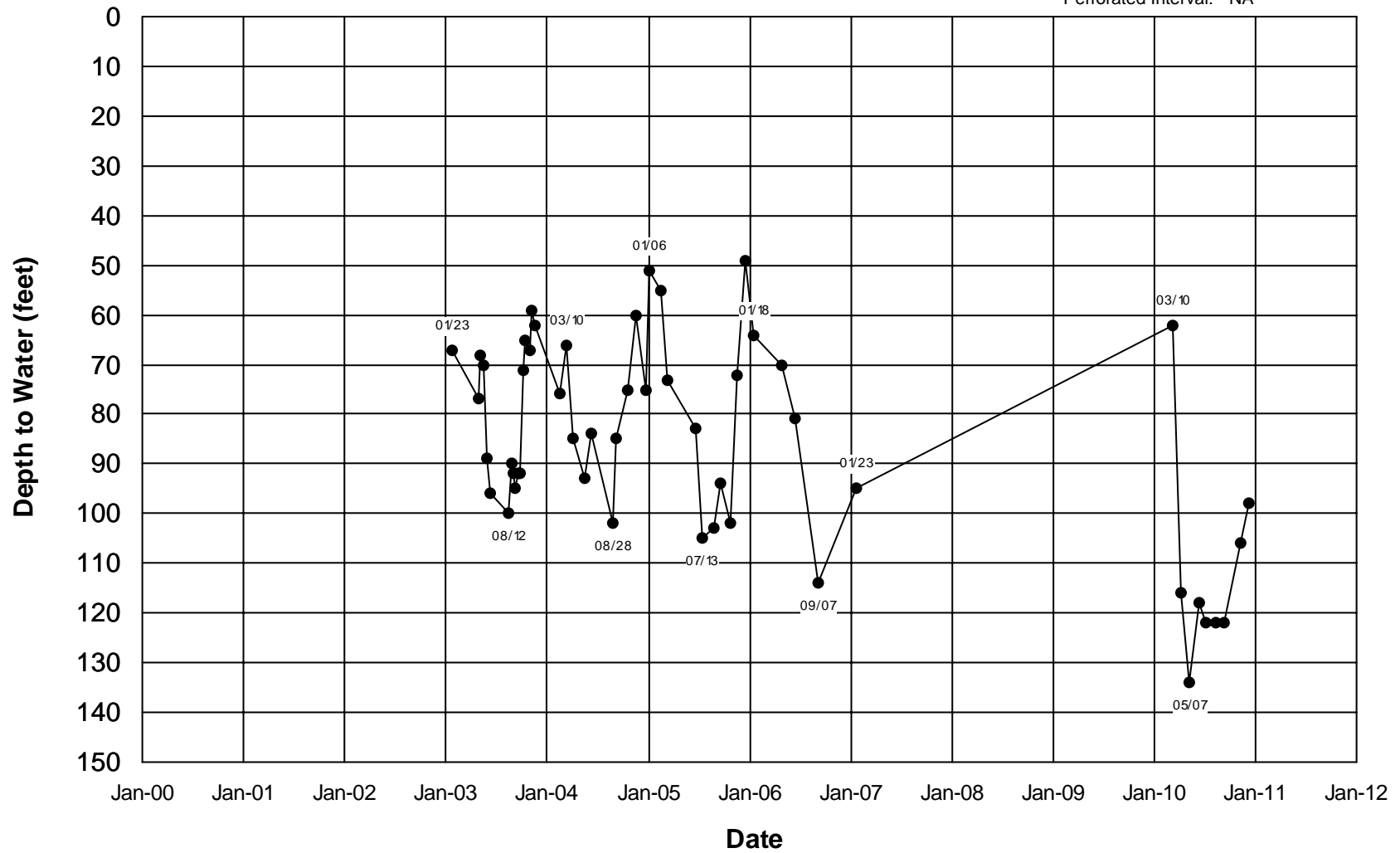
—●— Hand Measurement

Mendota Area Hydrograph

City of Mendota Well No. 9

Reference Elevation: NA

Perforated Interval: NA

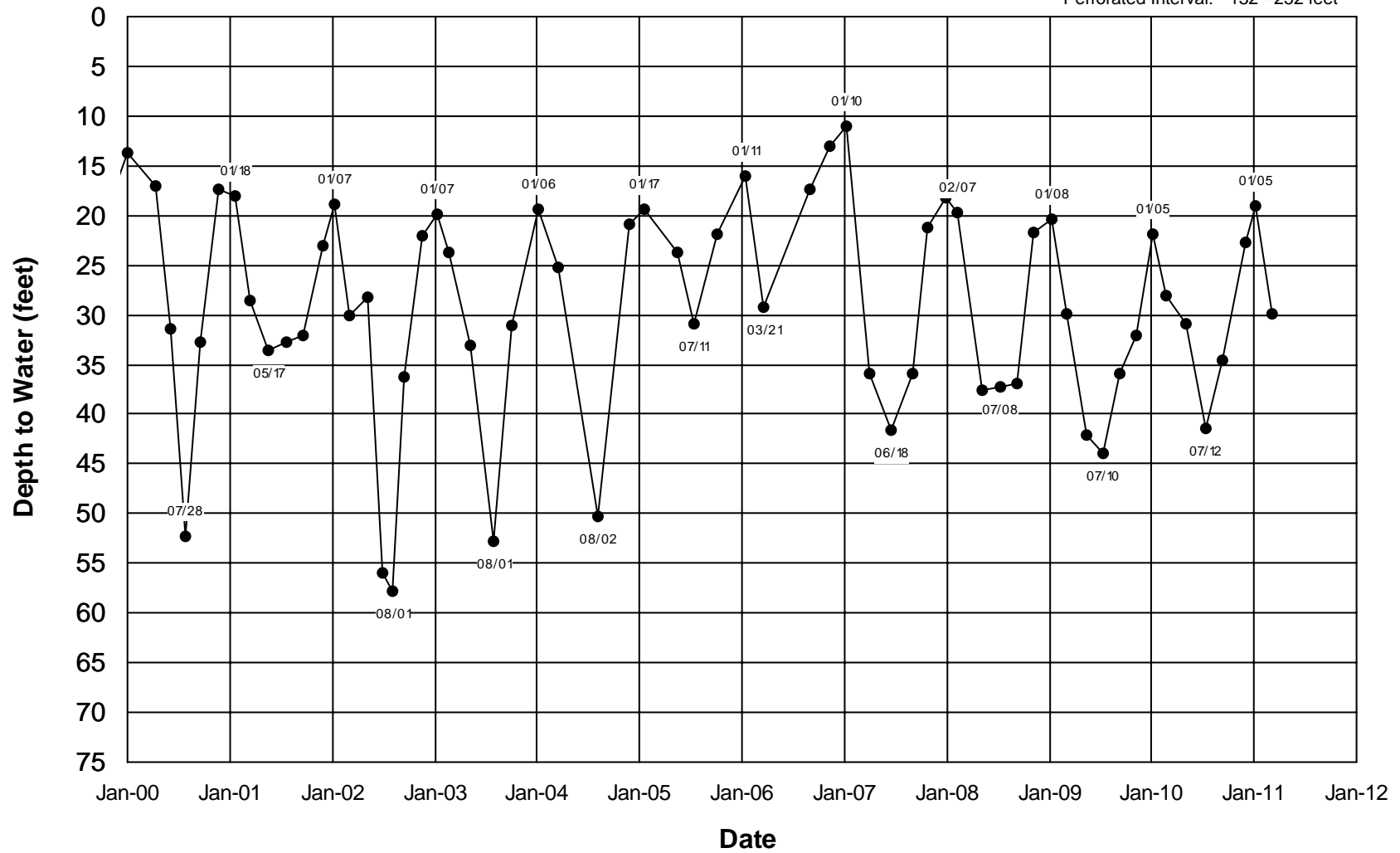


—●— Hand Measurement

Mendota Area Hydrograph

City of Mendota Well 18Q & 18Q North

Reference Elevation: NA
Perforated Interval: 132 - 252 feet

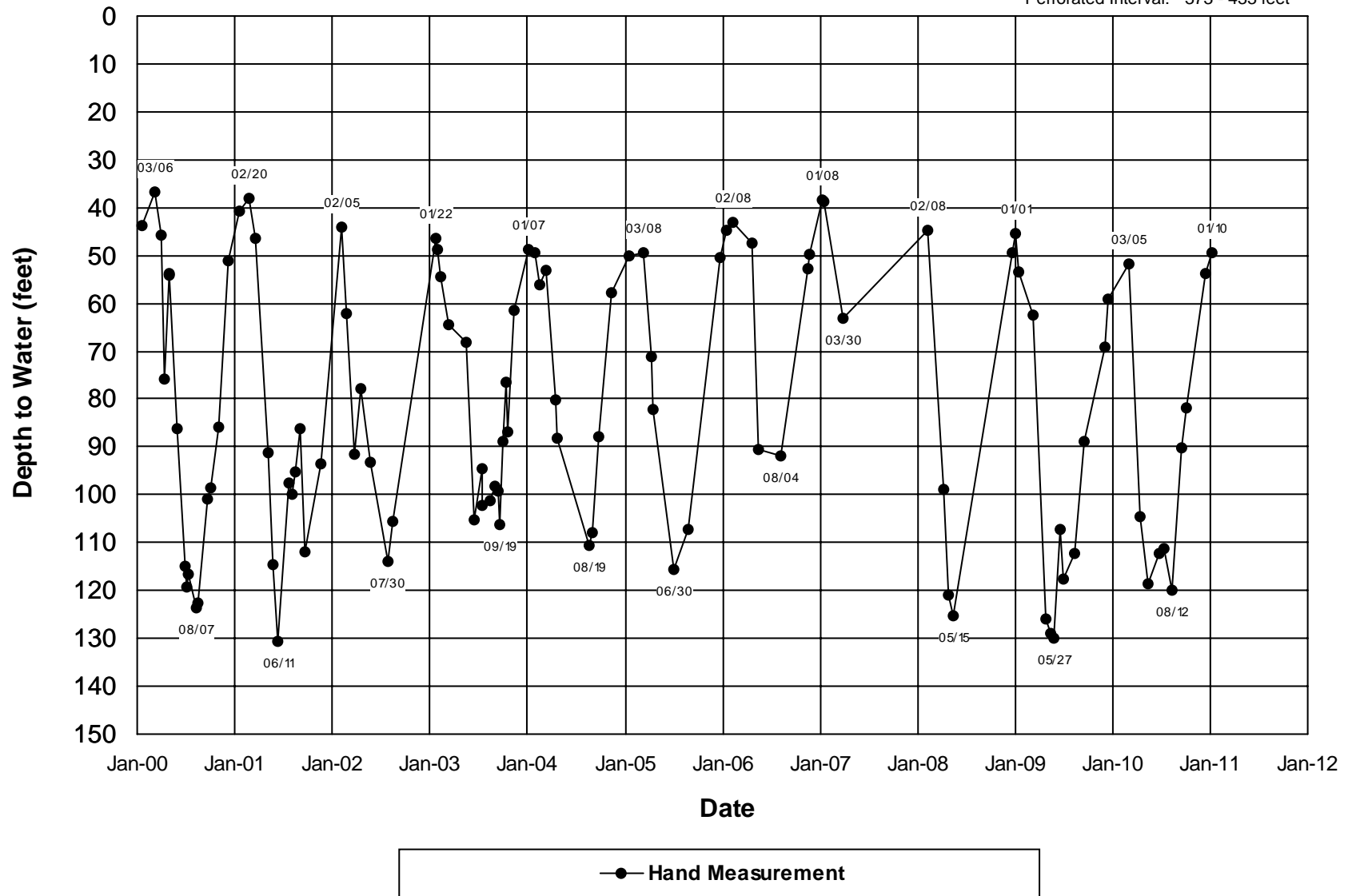


—●— Hand Measurement

Mendota Area Hydrograph

Yearout Ranch Extensometer: T13S/R15E-35D5

Reference Elevation: 167 feet msl
Perforated Interval: 373 - 433 feet

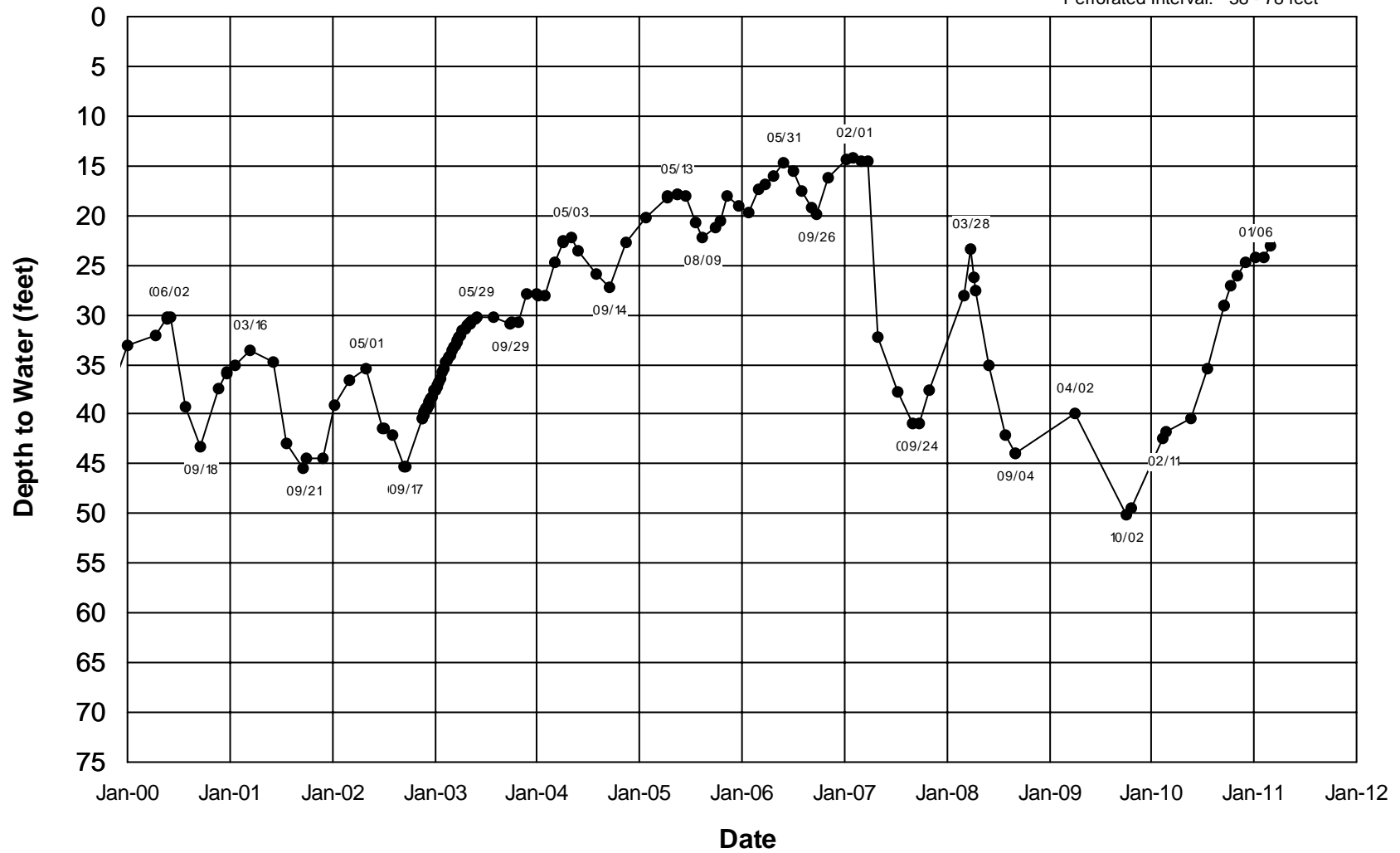


Mendota Area Hydrograph

Spreckels Sugar Co. MW-1

Reference Elevation: 163.64 feet msl

Perforated Interval: 38 - 78 feet



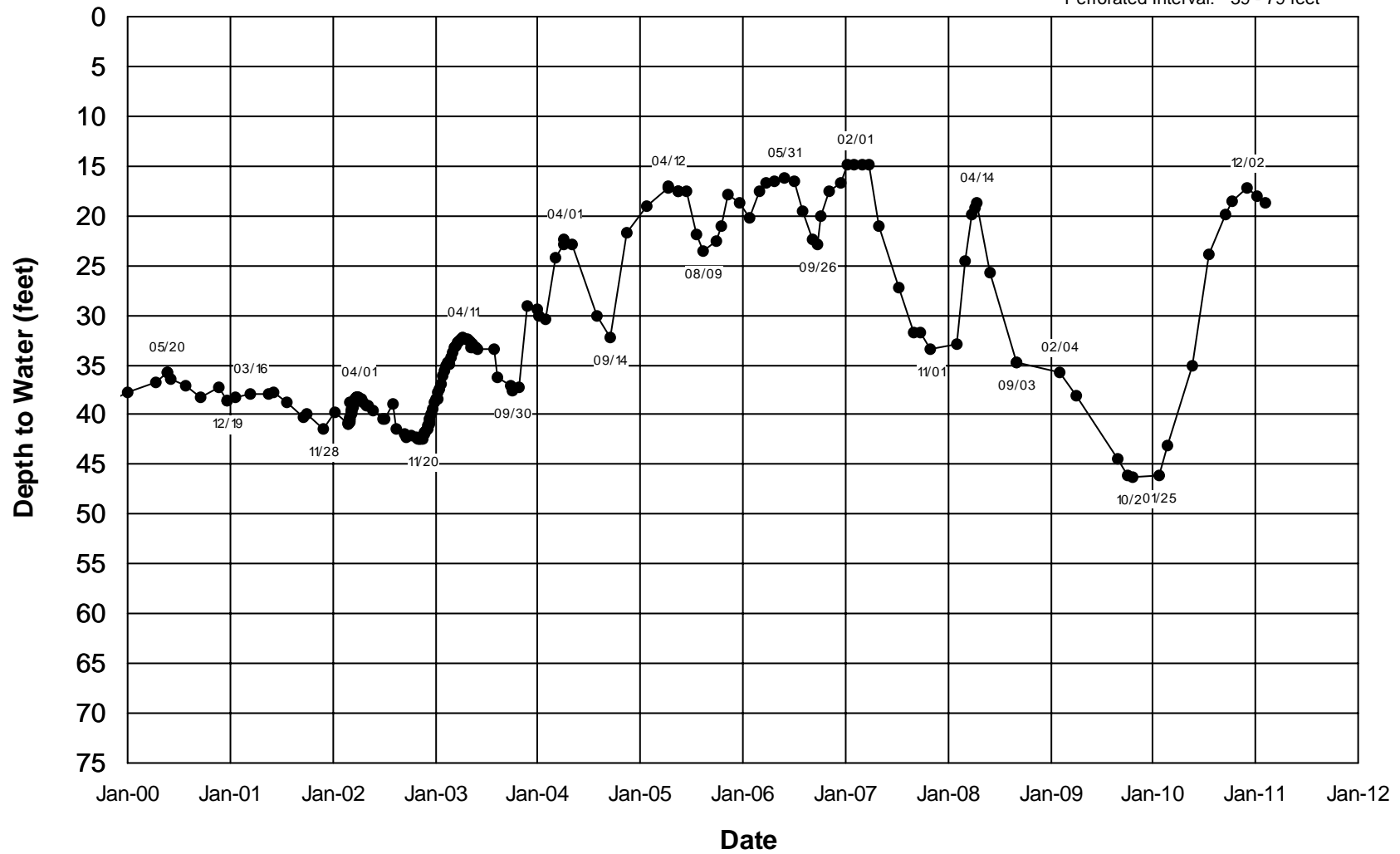
—●— Hand Measurement

Mendota Area Hydrograph

Spreckels Sugar Co. MW-3

Reference Elevation: 167 feet msl

Perforated Interval: 39 - 79 feet



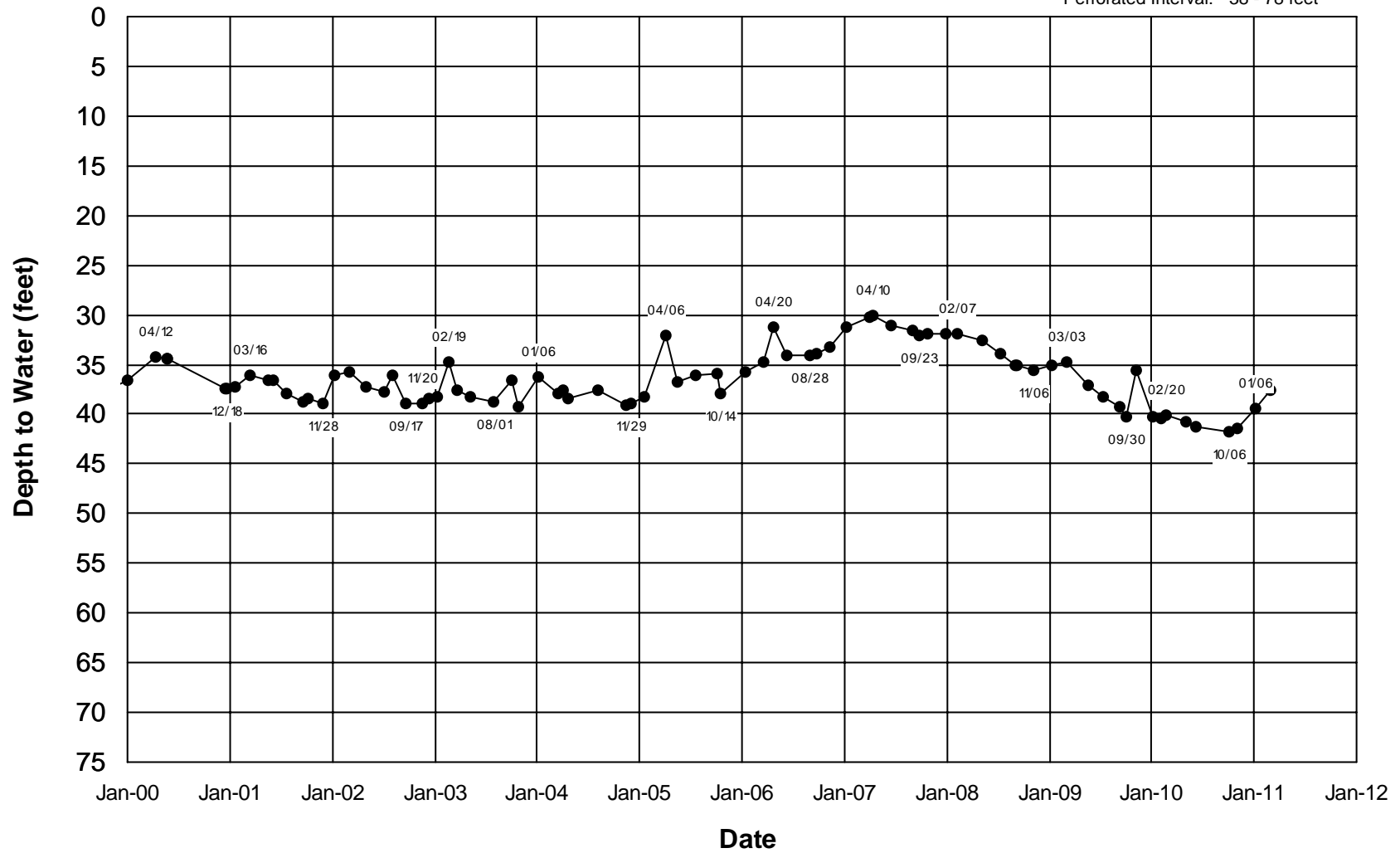
—●— Hand Measurement

Mendota Area Hydrograph

Spreckels Sugar Co. MW-6

Reference Elevation: 164 feet msl

Perforated Interval: 38 - 78 feet



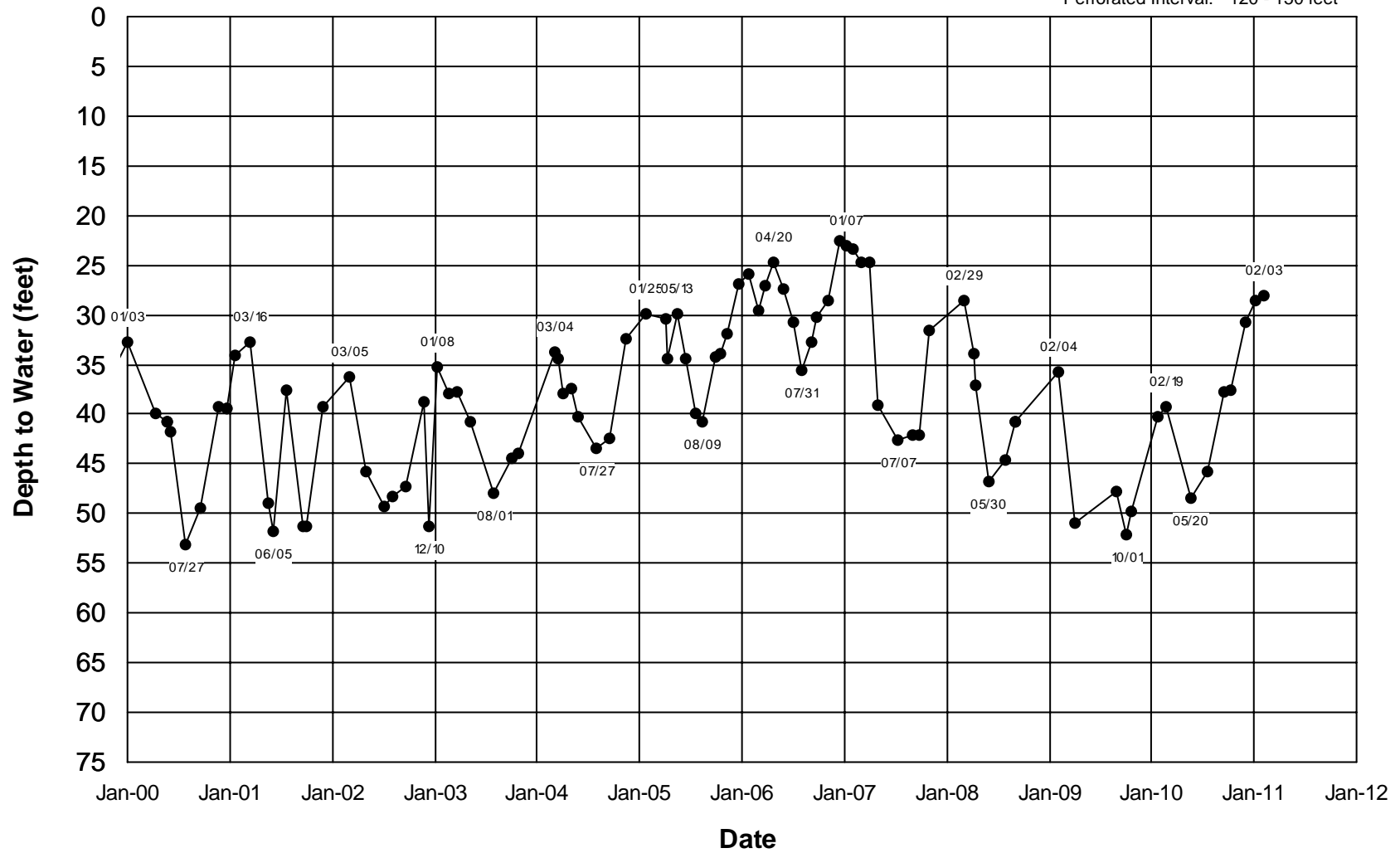
—●— Hand Measurement

Mendota Area Hydrograph

Spreckels Sugar Co. MW-10

Reference Elevation: 161.18 feet msl

Perforated Interval: 120 - 150 feet



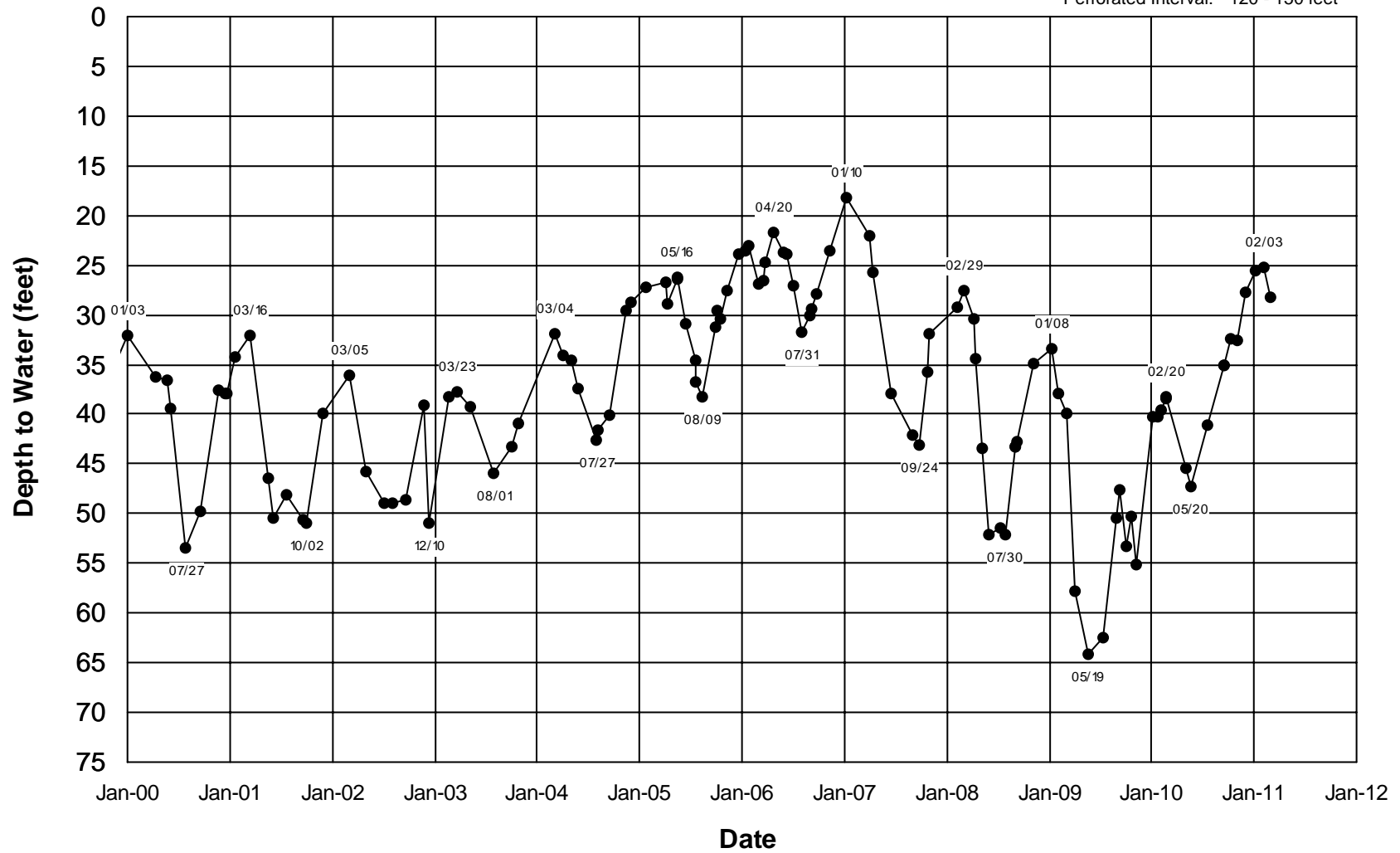
—●— Hand Measurement

Mendota Area Hydrograph

Spreckels Sugar Co. MW-11

Reference Elevation: 160.04 feet msl

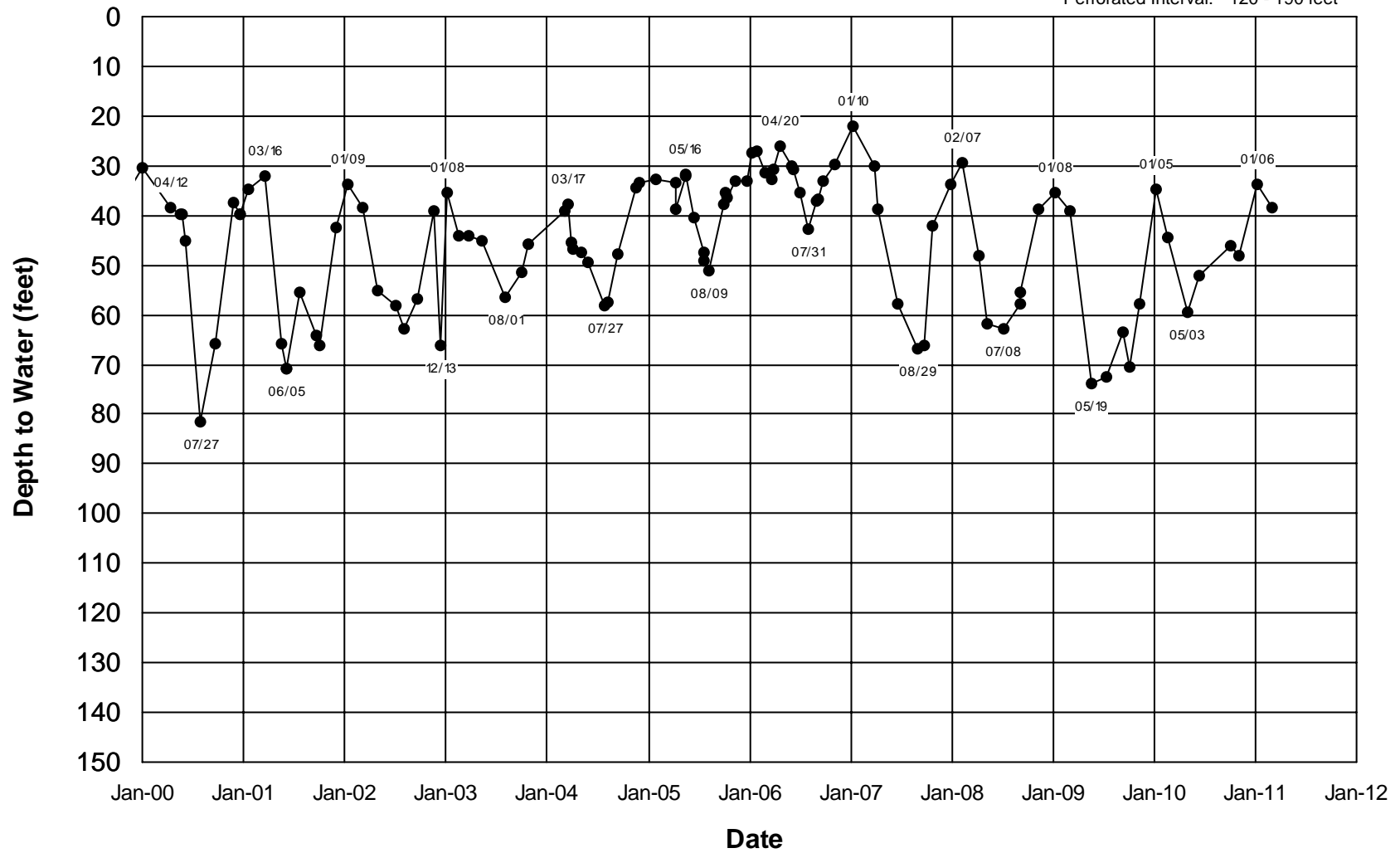
Perforated Interval: 120 - 150 feet



Mendota Area Hydrograph

Spreckels Sugar Co. MW-14

Reference Elevation: 156 feet msl
Perforated Interval: 120 - 190 feet



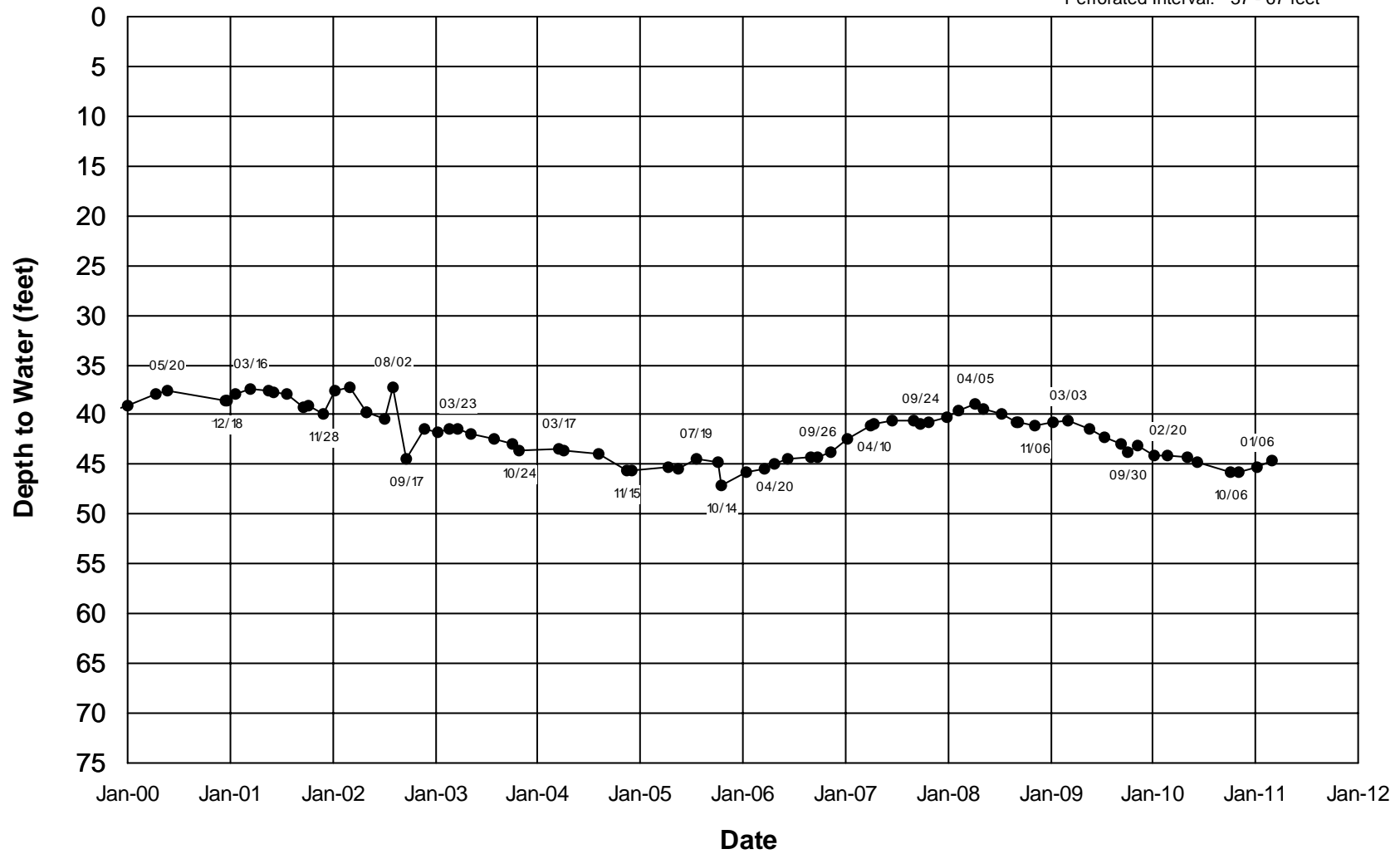
—●— Hand Measurement

Mendota Area Hydrograph

Spreckels Sugar Co. MW-32

Reference Elevation: 167 feet msl

Perforated Interval: 37 - 67 feet



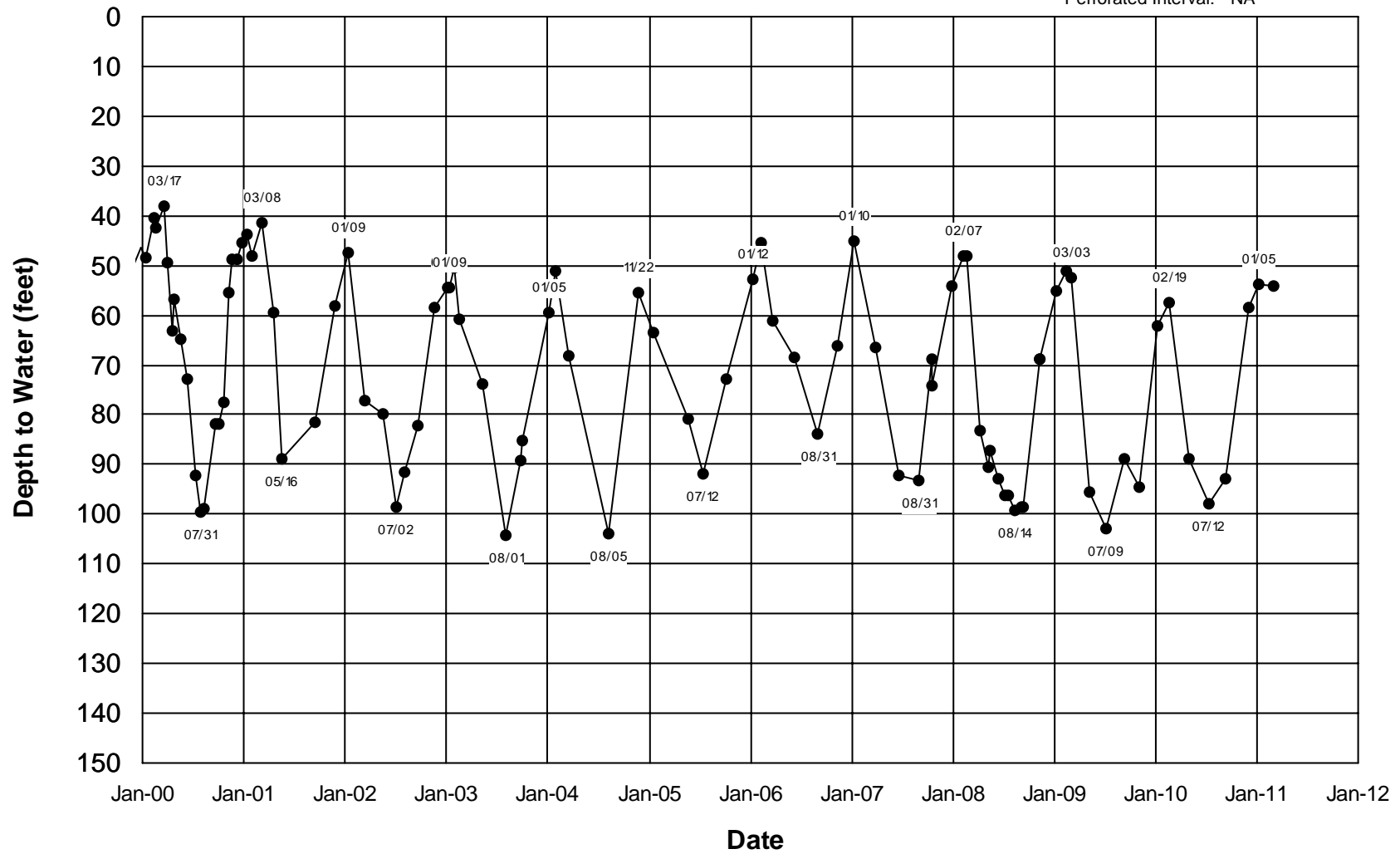
—●— Hand Measurement

Mendota Area Hydrograph

Columbia Canal Company Well CC-1

Reference Elevation: 175 feet msl

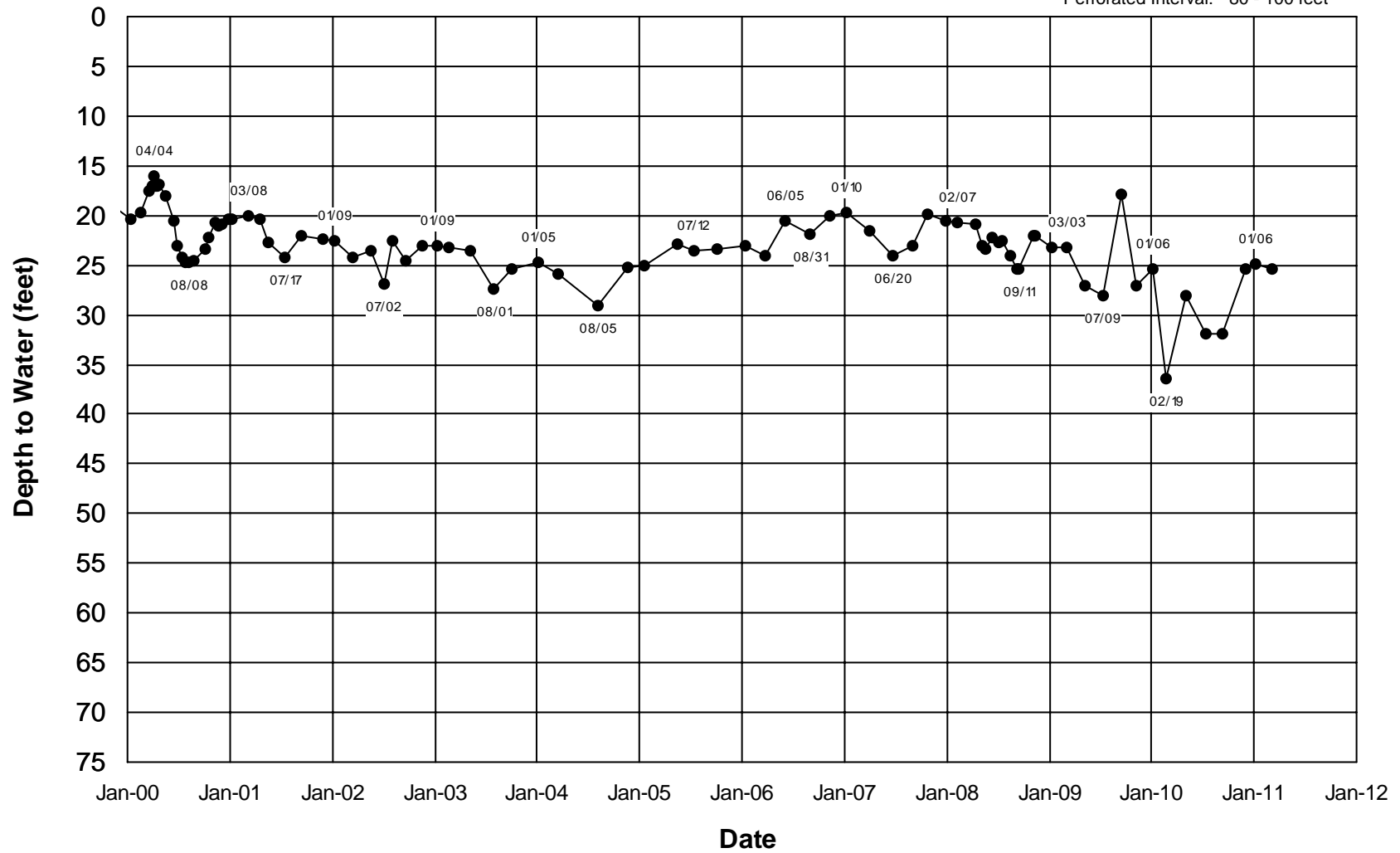
Perforated Interval: NA



Mendota Area Hydrograph

Columbia Canal Company Well Lopes-Obs.

Reference Elevation: 162 feet msl
Perforated Interval: 80 - 100 feet



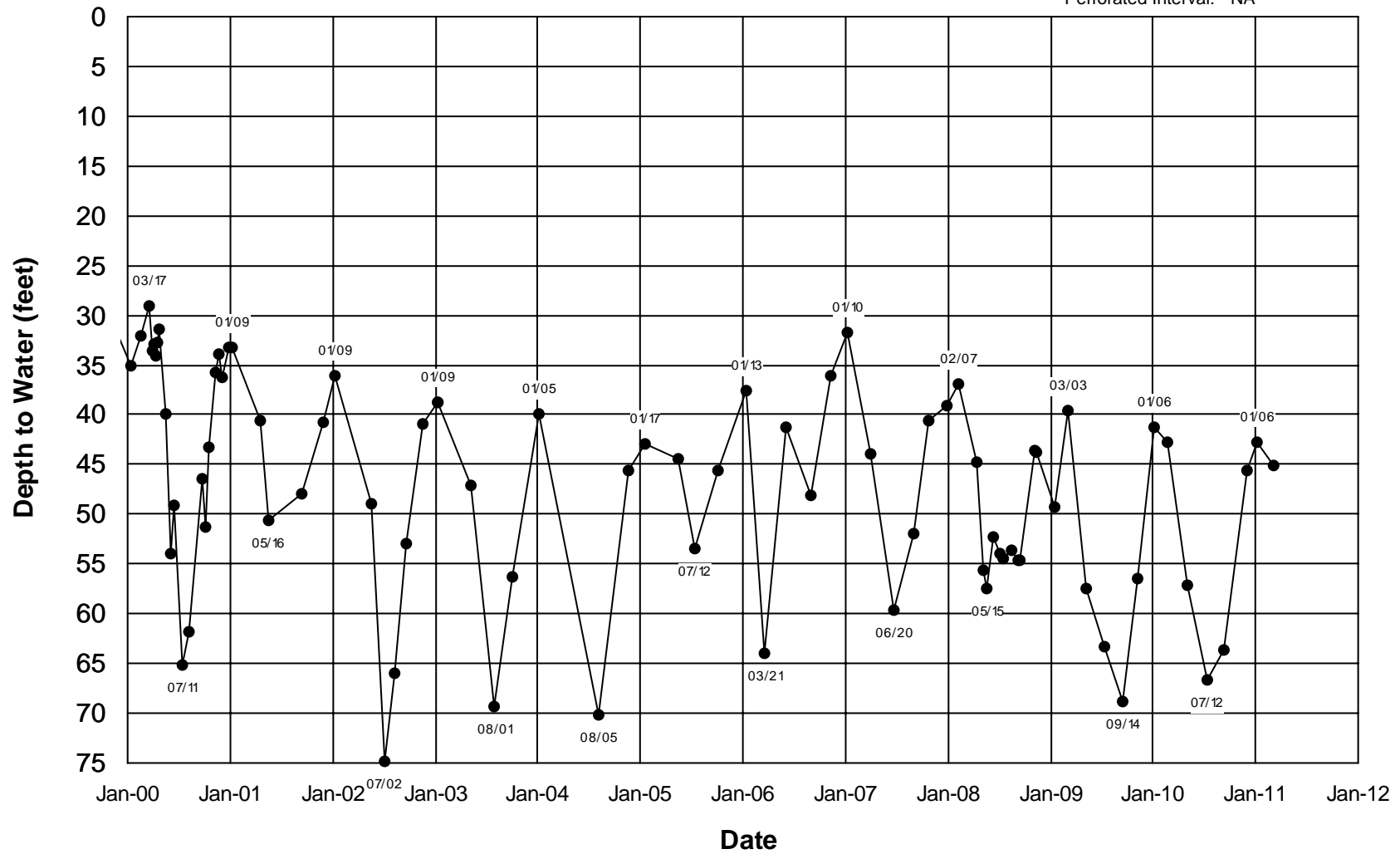
—●— Hand Measurement

Mendota Area Hydrograph

Columbia Canal Company Well Cardella-2 (Lopes 1)

Reference Elevation: 161 feet msl

Perforated Interval: NA



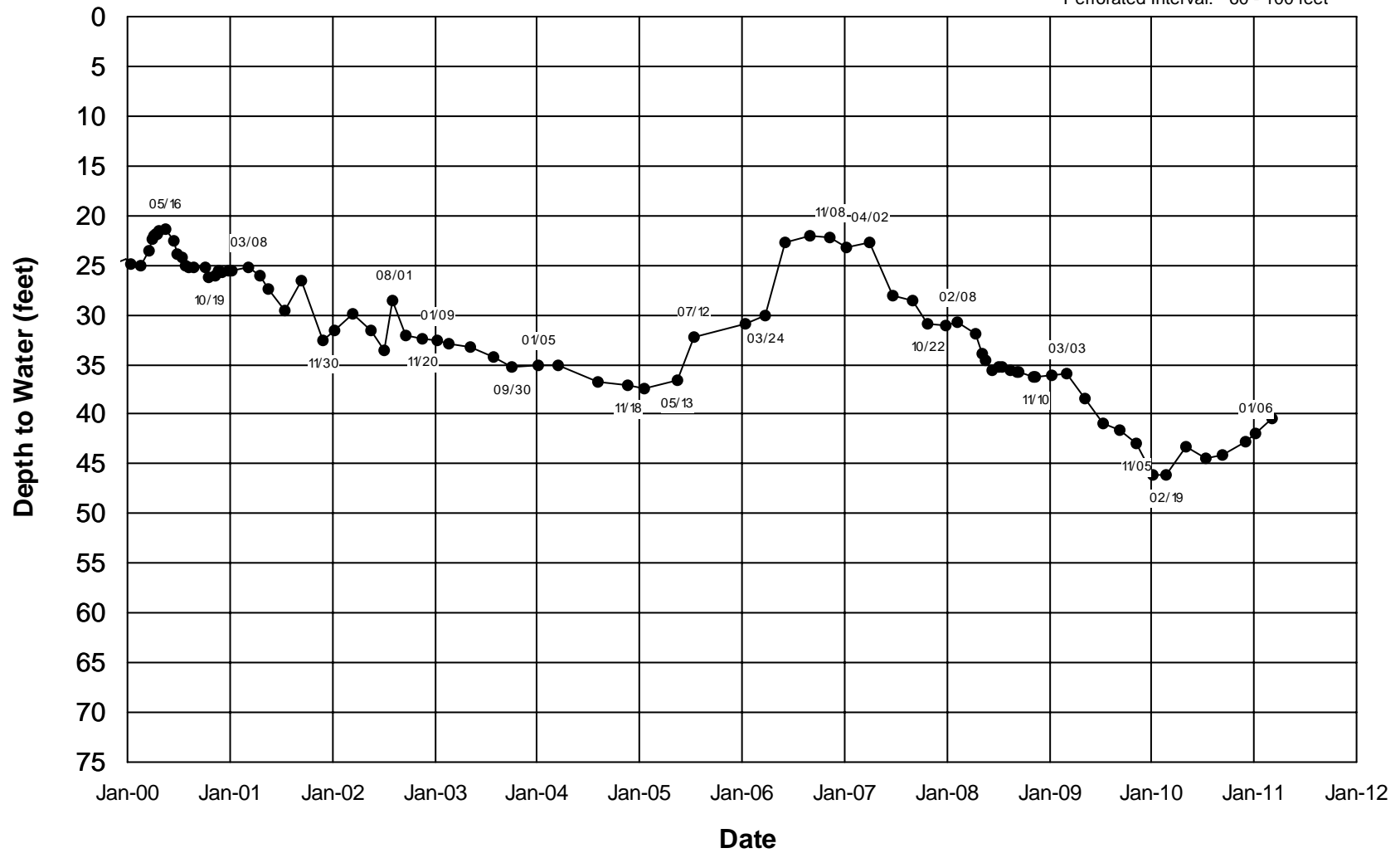
—●— Hand Measurement

Mendota Area Hydrograph

Columbia Canal Company Well USBR-4

Reference Elevation: 165.55 feet msl

Perforated Interval: 60 - 100 feet



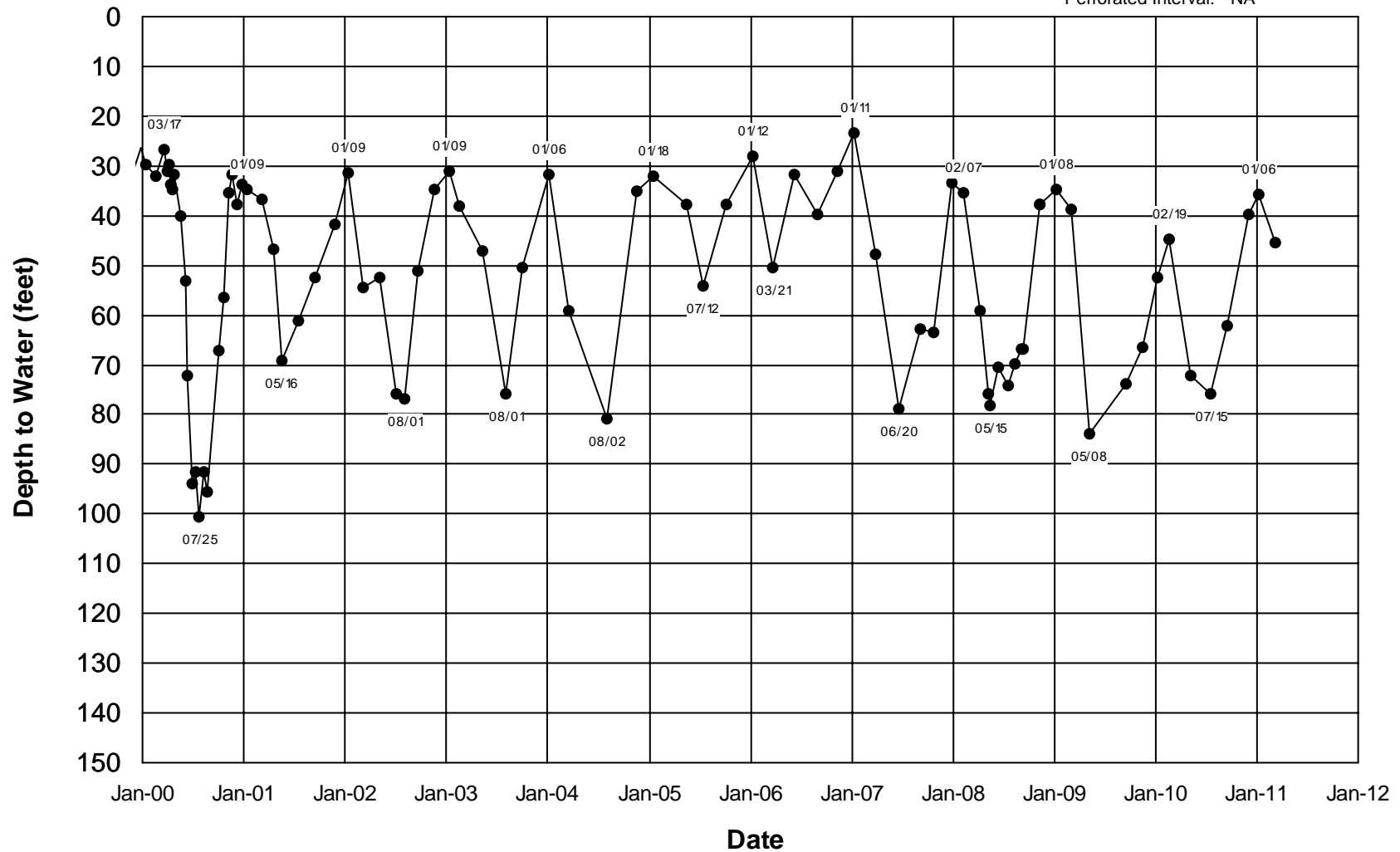
—●— Hand Measurement

Mendota Area Hydrograph

Columbia Canal Company MLT-West Well

Reference Elevation: 157.2 feet msl

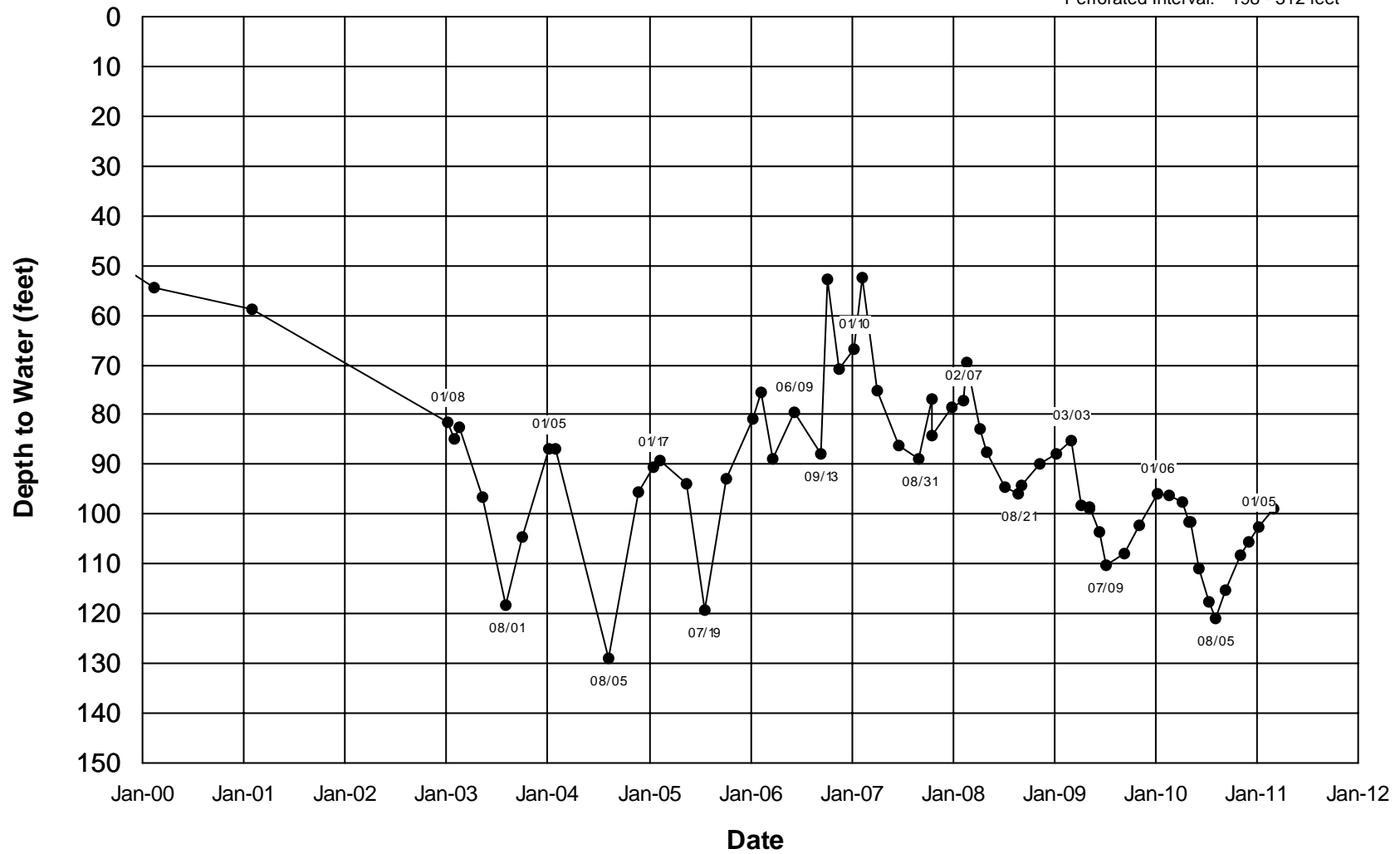
Perforated Interval: NA



Mendota Area Hydrograph

Paramount Farming Co. 3311-62 (W-8)

Reference Elevation: 166 feet msl
Perforated Interval: 198 - 312 feet

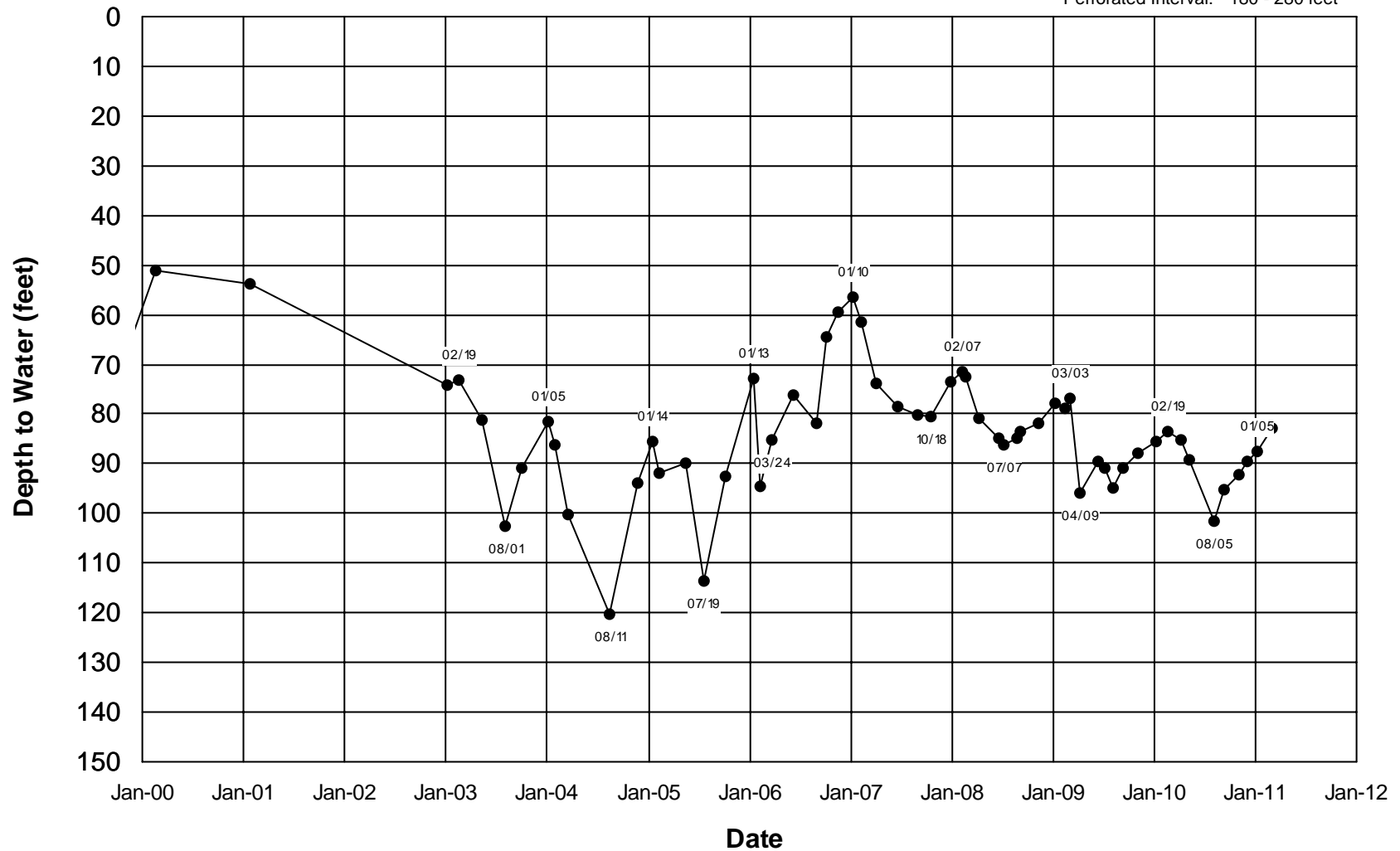


—●— Hand Measurement

Mendota Area Hydrograph

Paramount Farming Co. 3591-66 (W-11)

Reference Elevation: 167 feet msl
Perforated Interval: 180 - 280 feet

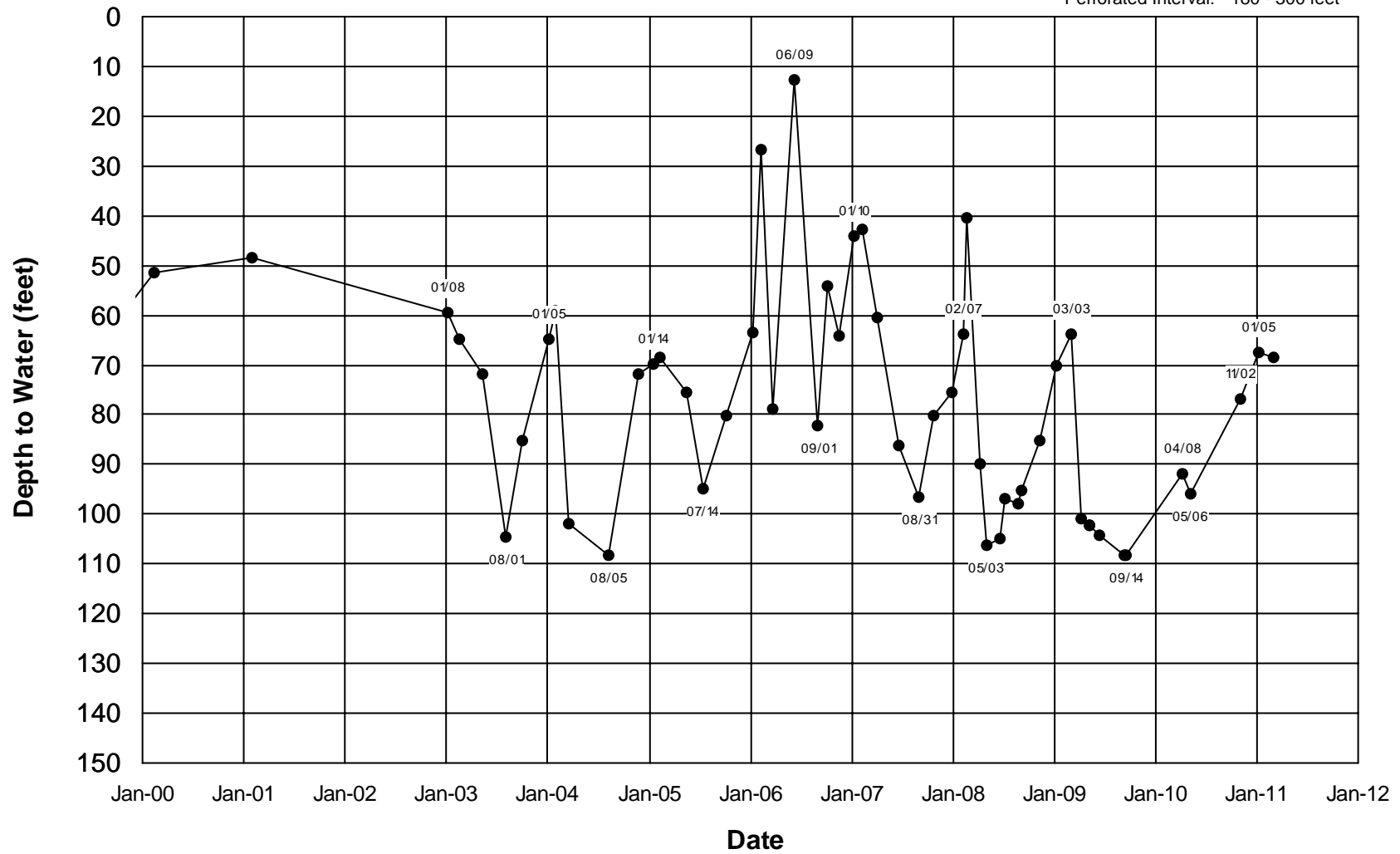


—●— Hand Measurement

Mendota Area Hydrograph

Paramount Farming Co. 3211-66 (W-15)

Reference Elevation: NA
Perforated Interval: 180 - 300 feet

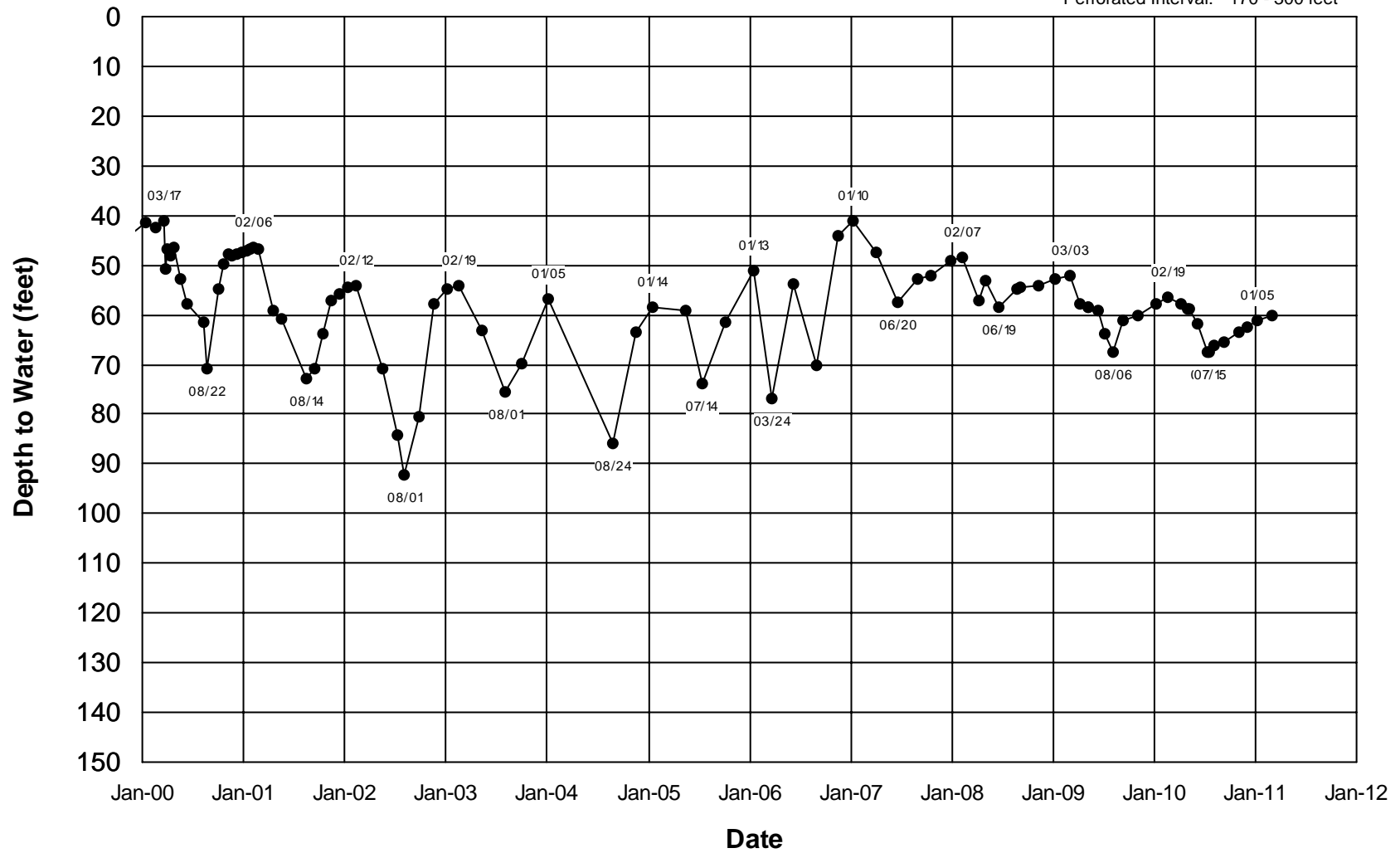


—●— Hand Measurement (Adjusted for oil)

Mendota Area Hydrograph

Paramount Farming Co. 3431-61 (W-32)

Reference Elevation: 160 feet msl
Perforated Interval: 170 - 300 feet



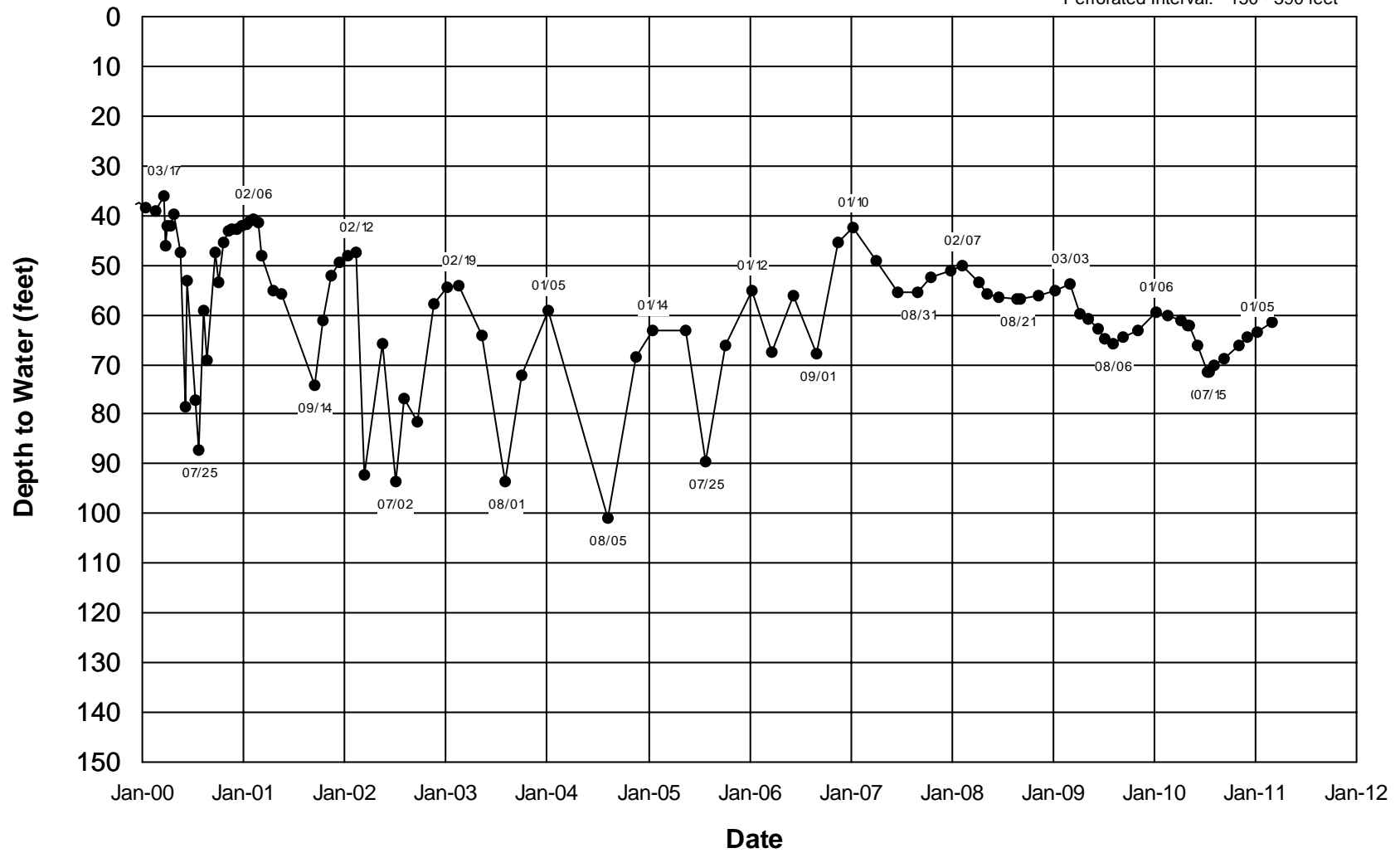
—●— Hand Measurement (Adjusted for oil)

Mendota Area Hydrograph

Paramount Farming Co. 2480-66 (W-42)

Reference Elevation: 158.39 feet msl

Perforated Interval: 150 - 390 feet

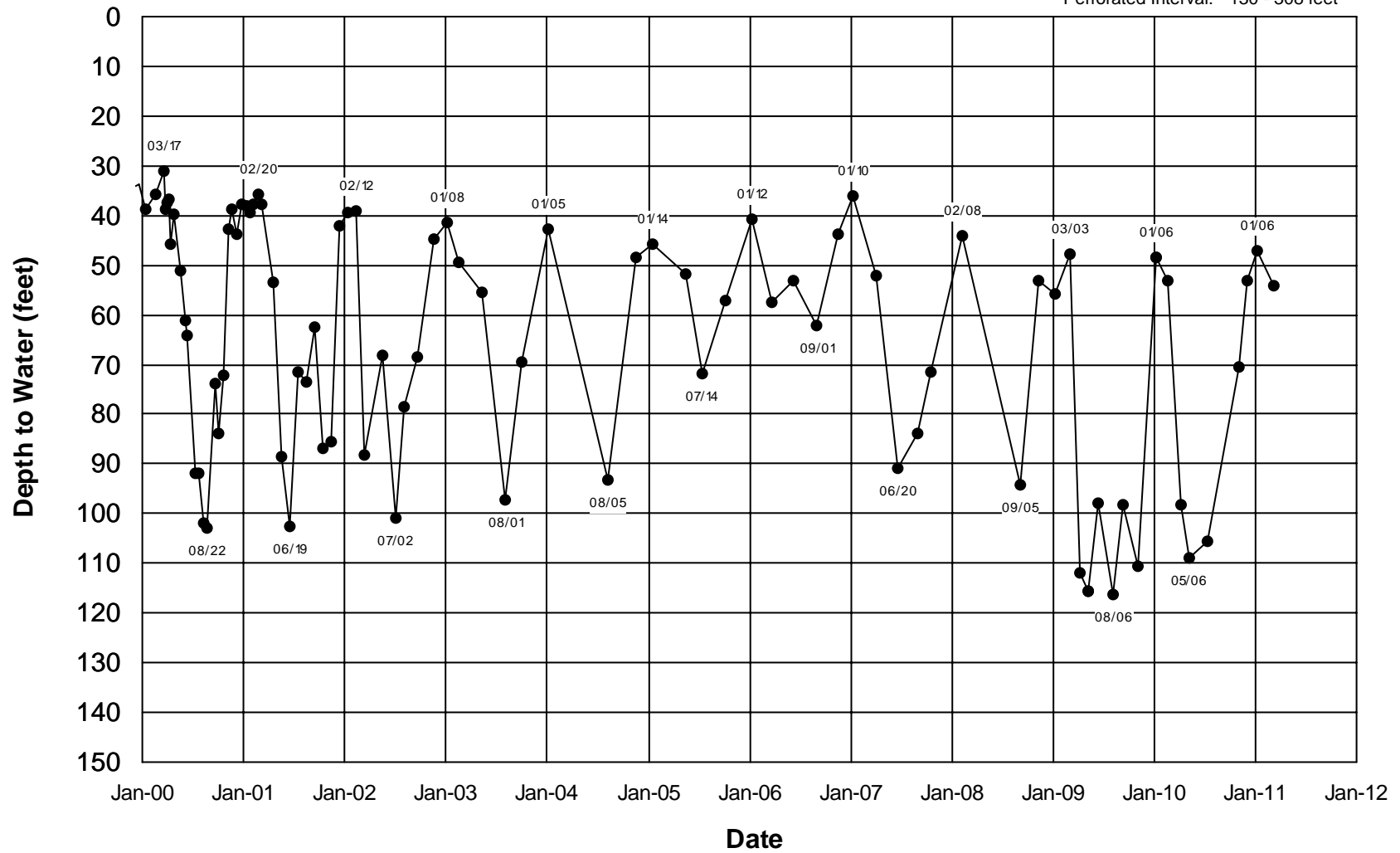


Mendota Area Hydrograph

Paramount Farming Co. 3730-65 (W-53)

Reference Elevation: 161.97 feet msl

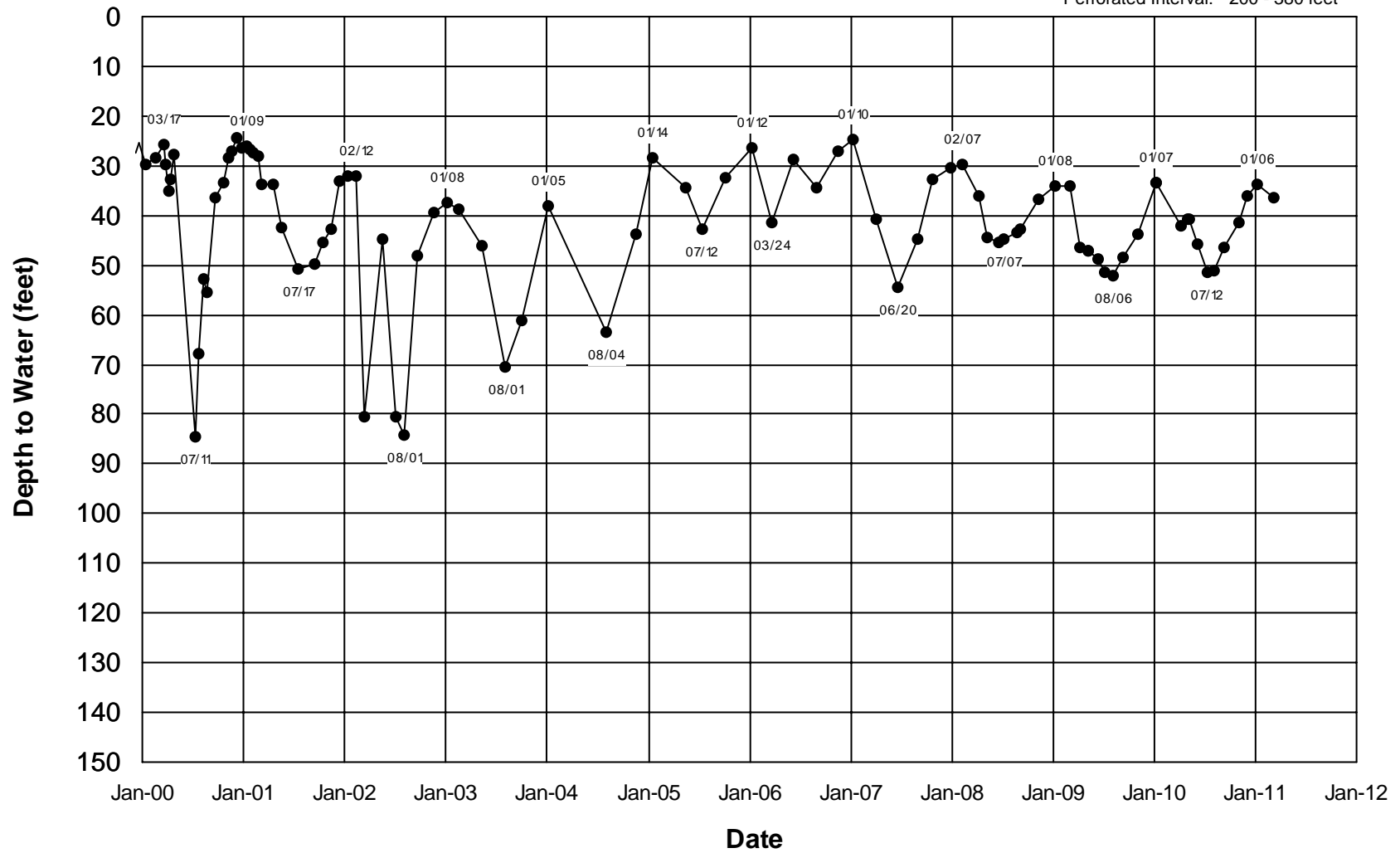
Perforated Interval: 130 - 308 feet



Mendota Area Hydrograph

Paramount Farming Co. 3421-62 (W-74)

Reference Elevation: 156 feet msl
Perforated Interval: 200 - 380 feet

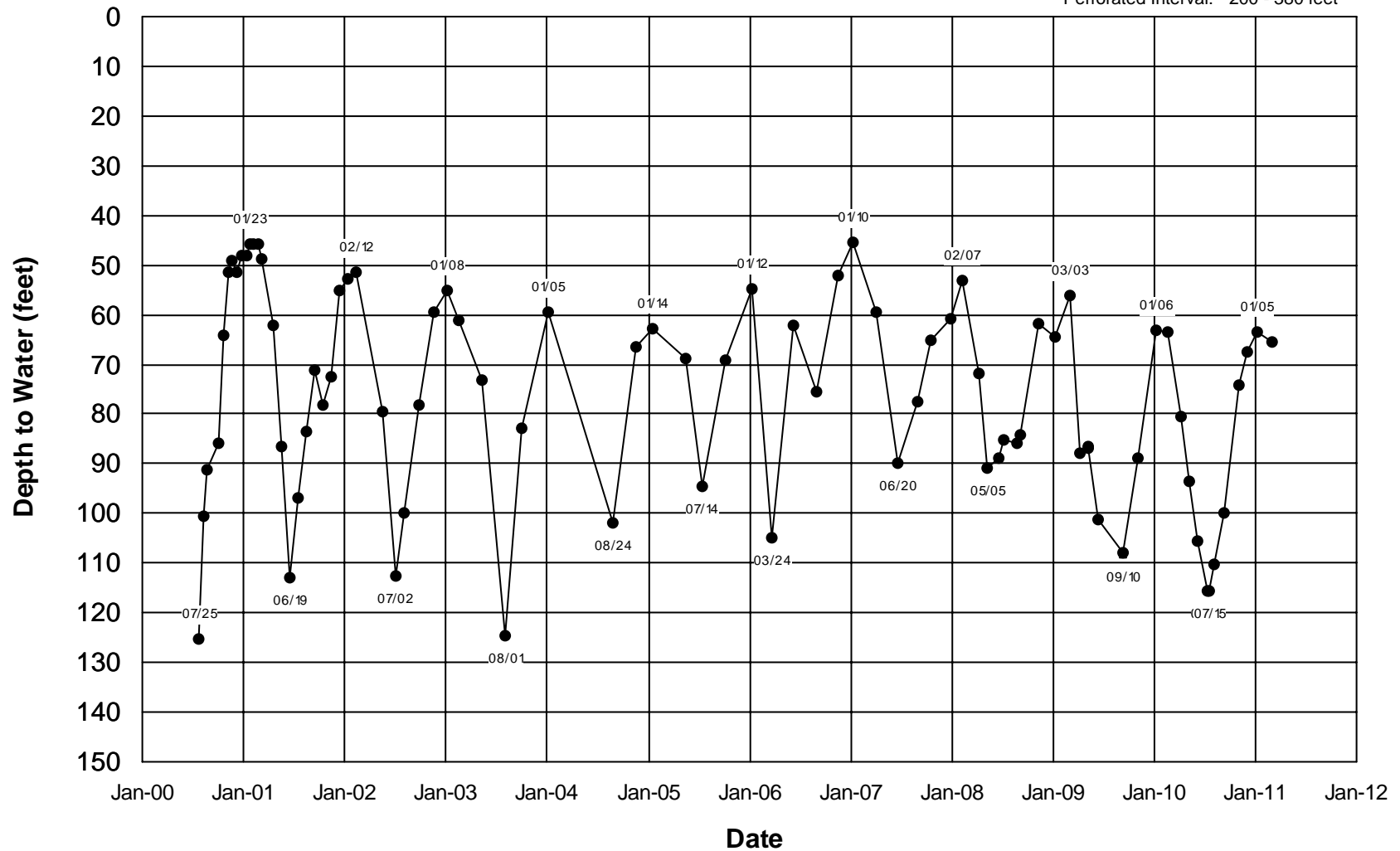


—●— Hand Measurement (Adjusted for oil)

Mendota Area Hydrograph

Paramount Farming Co. 3211-69 (W-77)

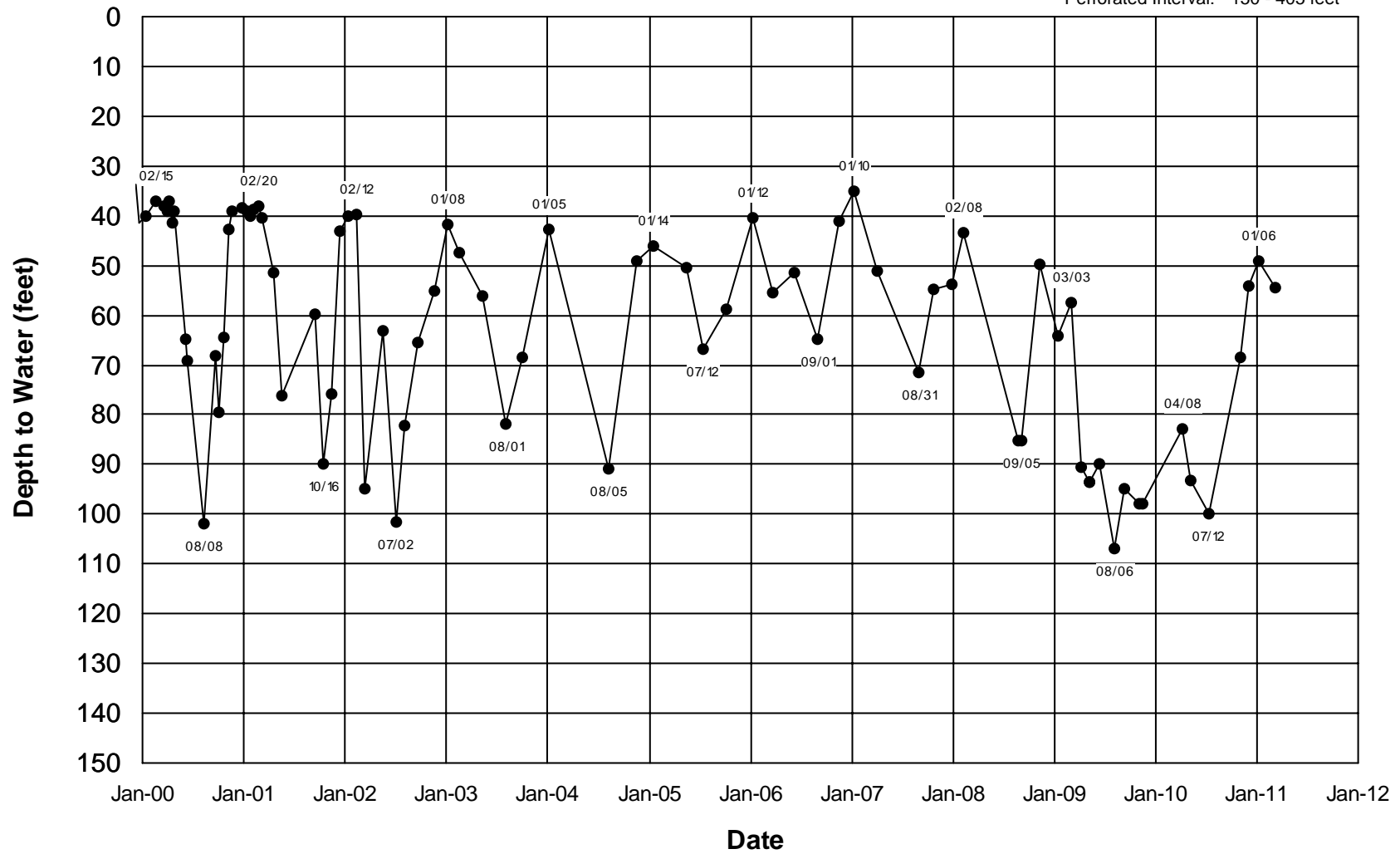
Reference Elevation: 164 feet msl
Perforated Interval: 200 - 380 feet



Mendota Area Hydrograph

Paramount Farming Co. 2630-61 (W-78)

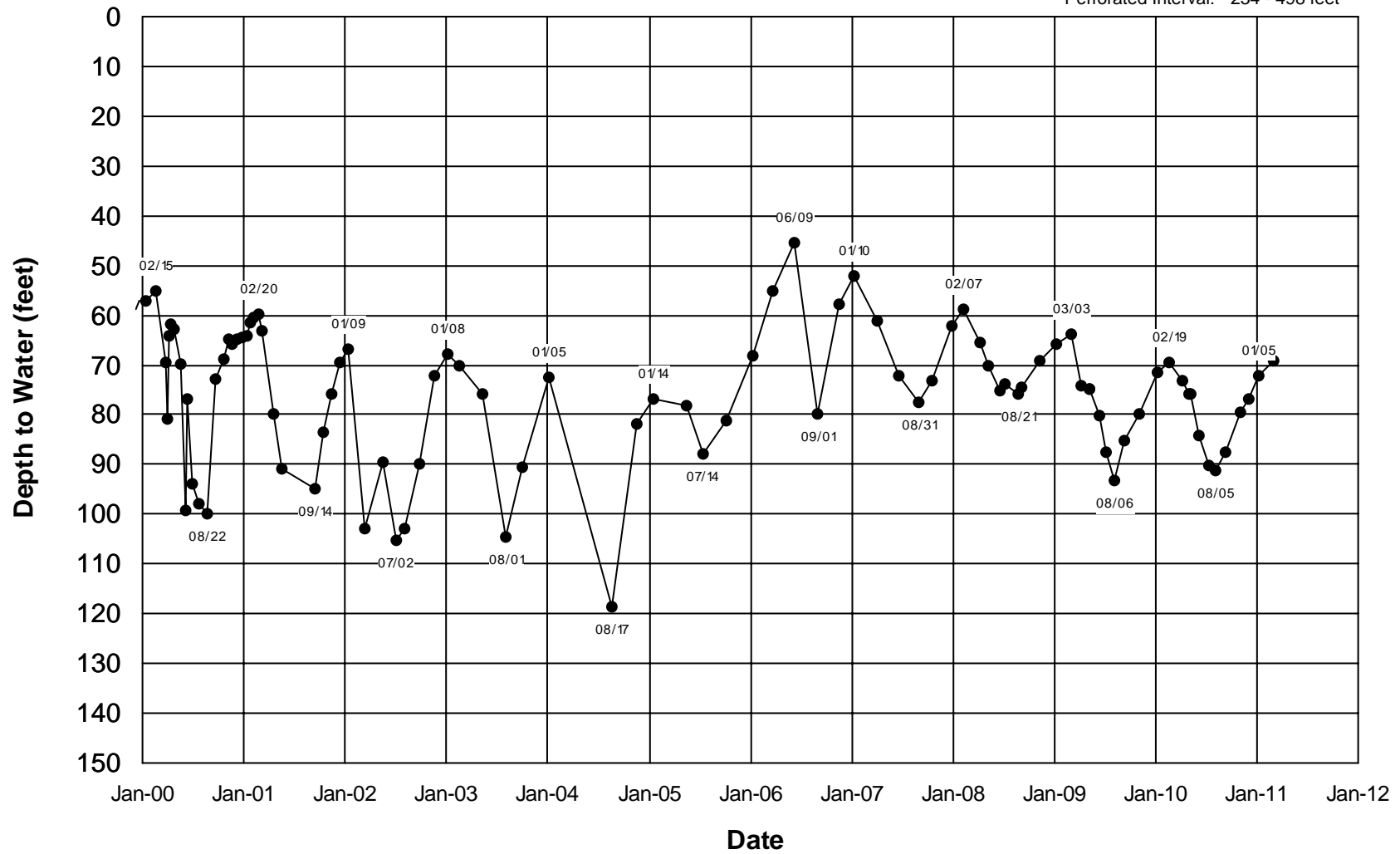
Reference Elevation: NA
Perforated Interval: 150 - 405 feet



Mendota Area Hydrograph

Paramount Farming Co. 3311-61 (W-89)

Reference Elevation: 163 feet msl
Perforated Interval: 234 - 498 feet

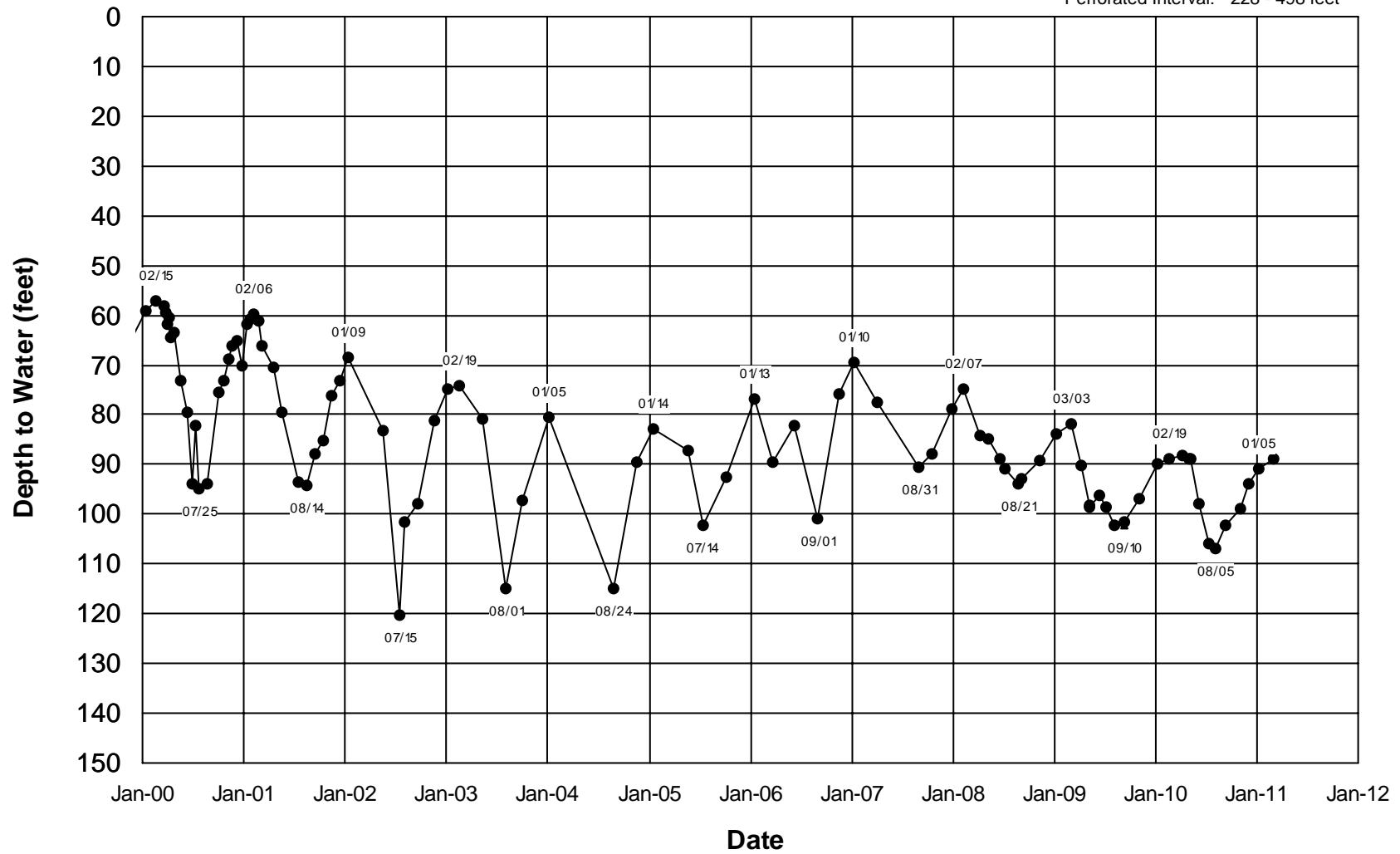


—●— Hand Measurement (Adjusted for oil)

Mendota Area Hydrograph

Paramount Farming Co. 3431-62 (W-91)

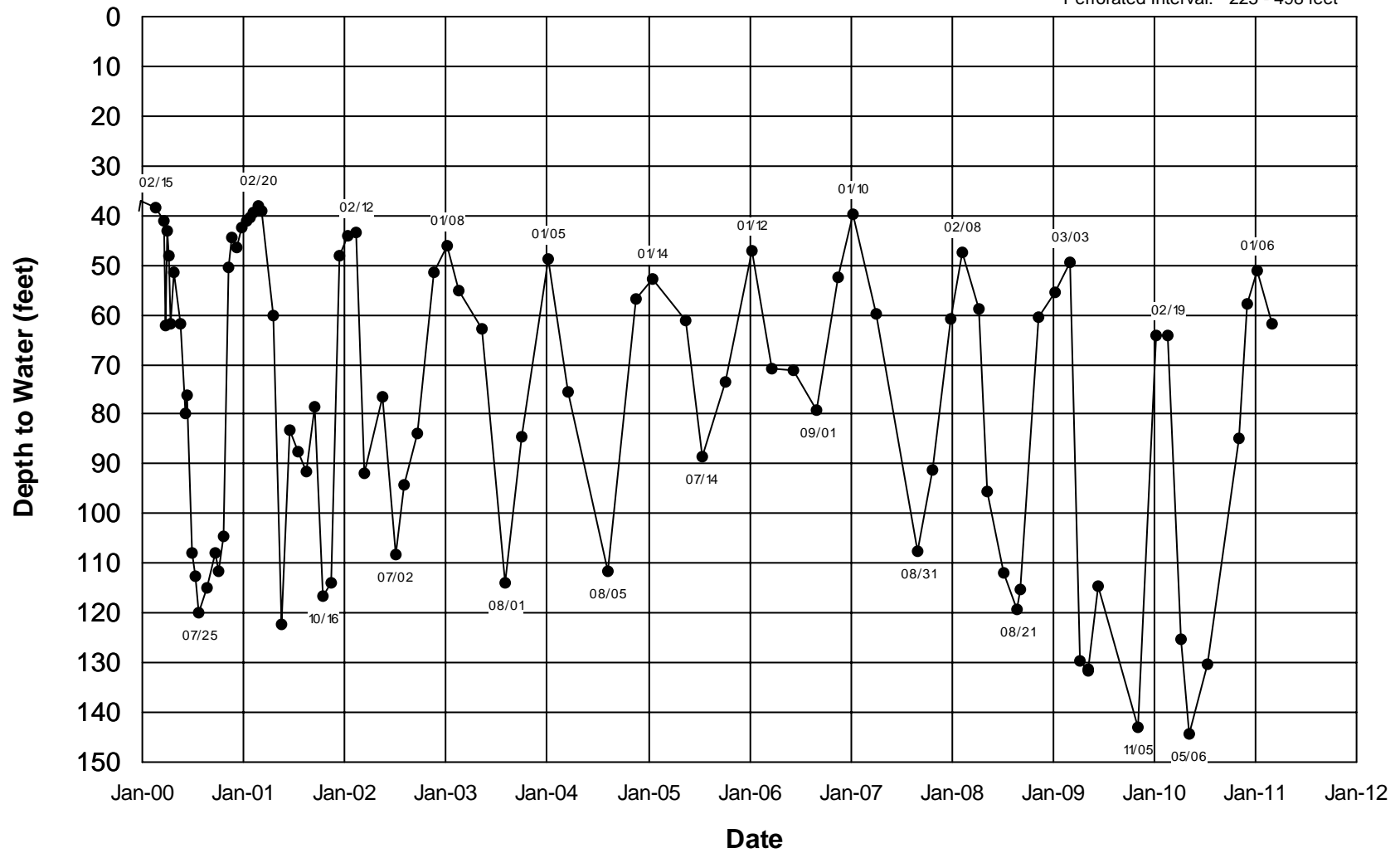
Reference Elevation: 157 feet msl
Perforated Interval: 228 - 498 feet



Mendota Area Hydrograph

Paramount Farming Co. 3730-62 (W-94)

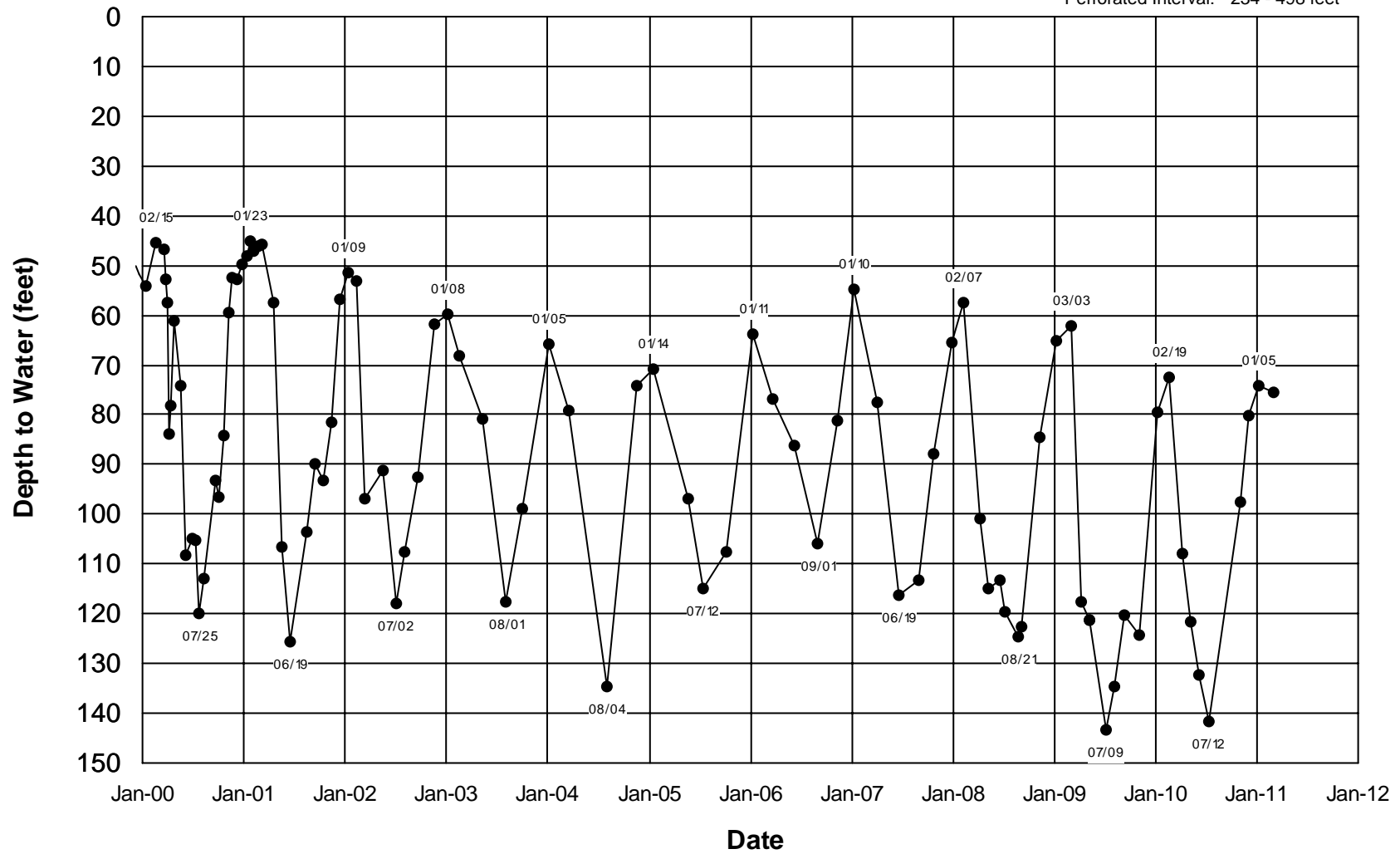
Reference Elevation: 166 feet msl
Perforated Interval: 225 - 498 feet



Mendota Area Hydrograph

Paramount Farming Co. 3730-61 (W-95)

Reference Elevation: 171 feet msl
Perforated Interval: 234 - 498 feet

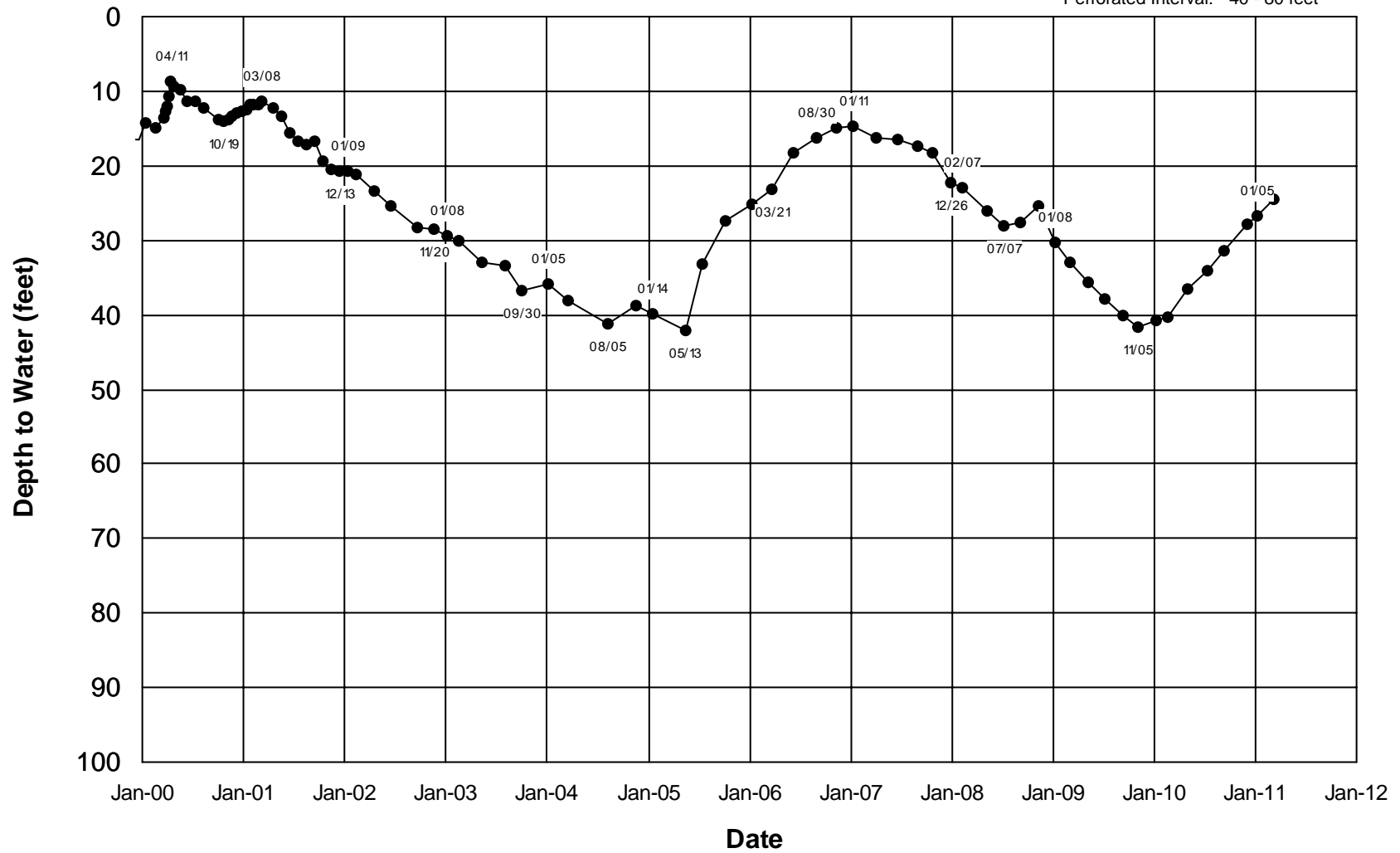


Mendota Area Hydrograph

Paramount Farming Co. MW-2

Reference Elevation: 166.82 feet msl

Perforated Interval: 40 - 80 feet



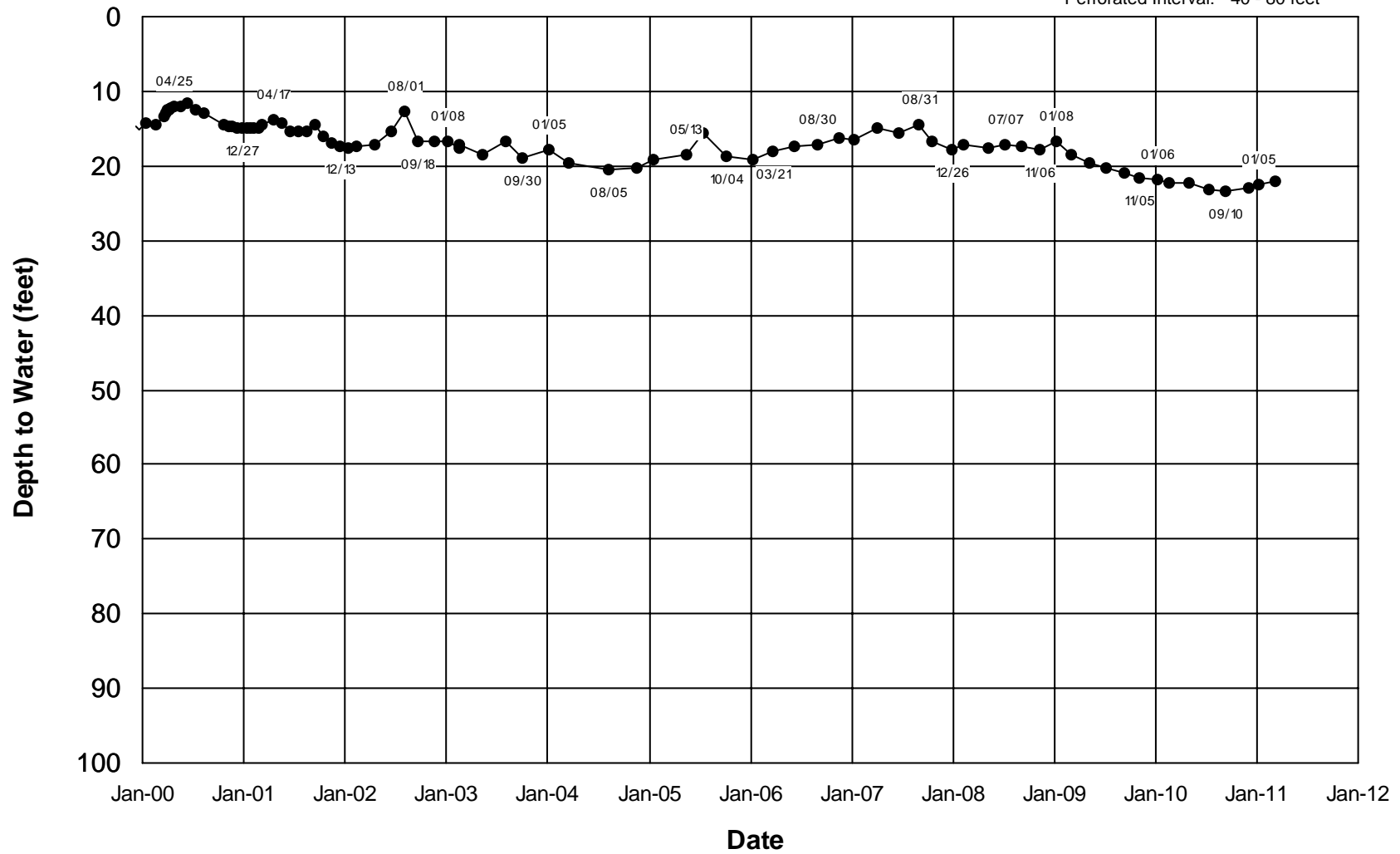
—●— Hand Measurement

Mendota Area Hydrograph

Paramount Farming Co. MW-3

Reference Elevation: 160.4 feet msl

Perforated Interval: 40 - 80 feet

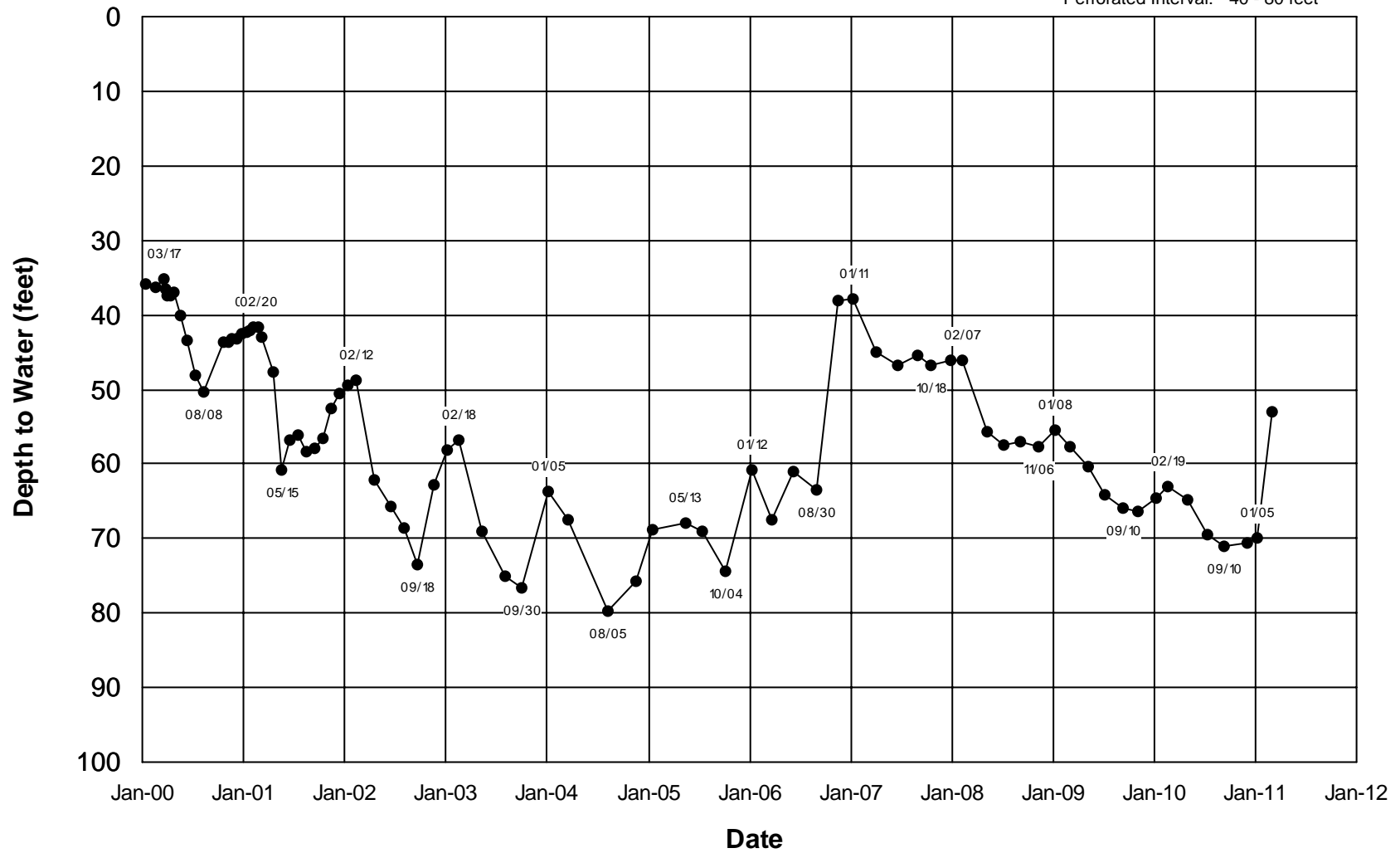


Mendota Area Hydrograph

Paramount Farming Co. MW-4

Reference Elevation: 159.03 feet msl

Perforated Interval: 40 - 80 feet

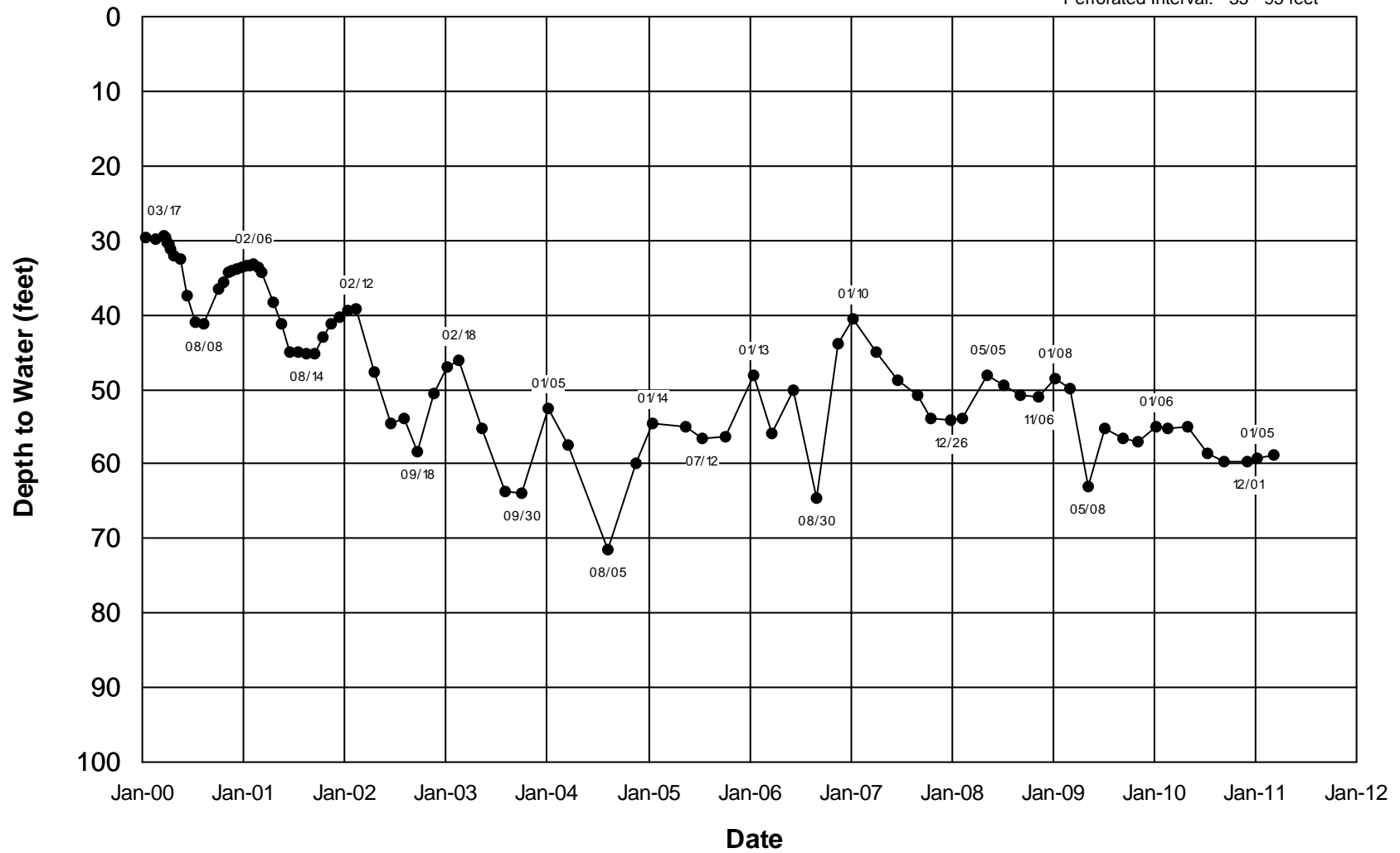


Mendota Area Hydrograph

Paramount Farming Co. MW-5

Reference Elevation: 156.19 feet msl

Perforated Interval: 35 - 95 feet



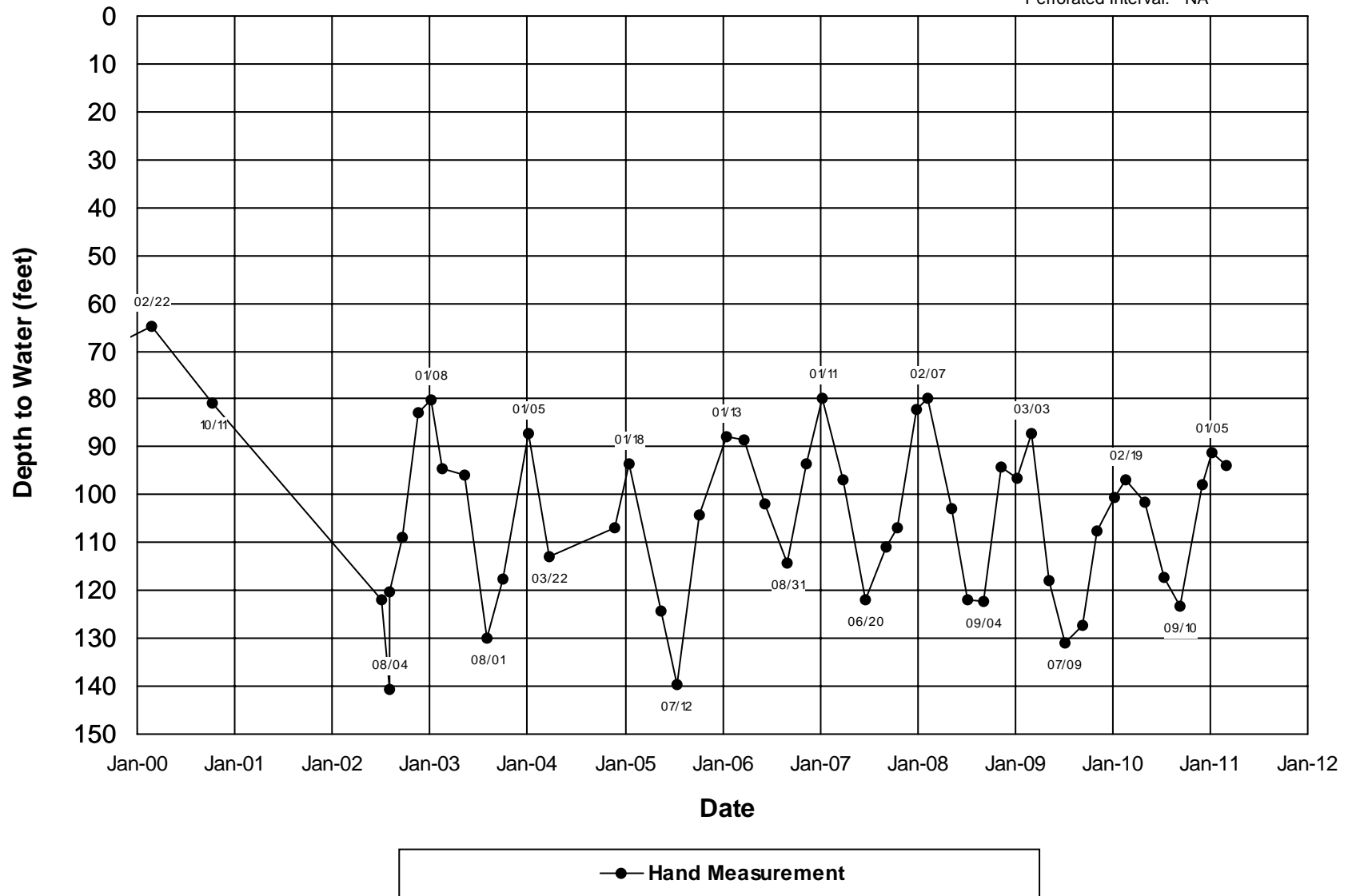
—●— Hand Measurement

Mendota Area Hydrograph

Aliso Water District - Woolf Enterprises T13S/R16E-18H1

Reference Elevation: 175 feet msl

Perforated Interval: NA

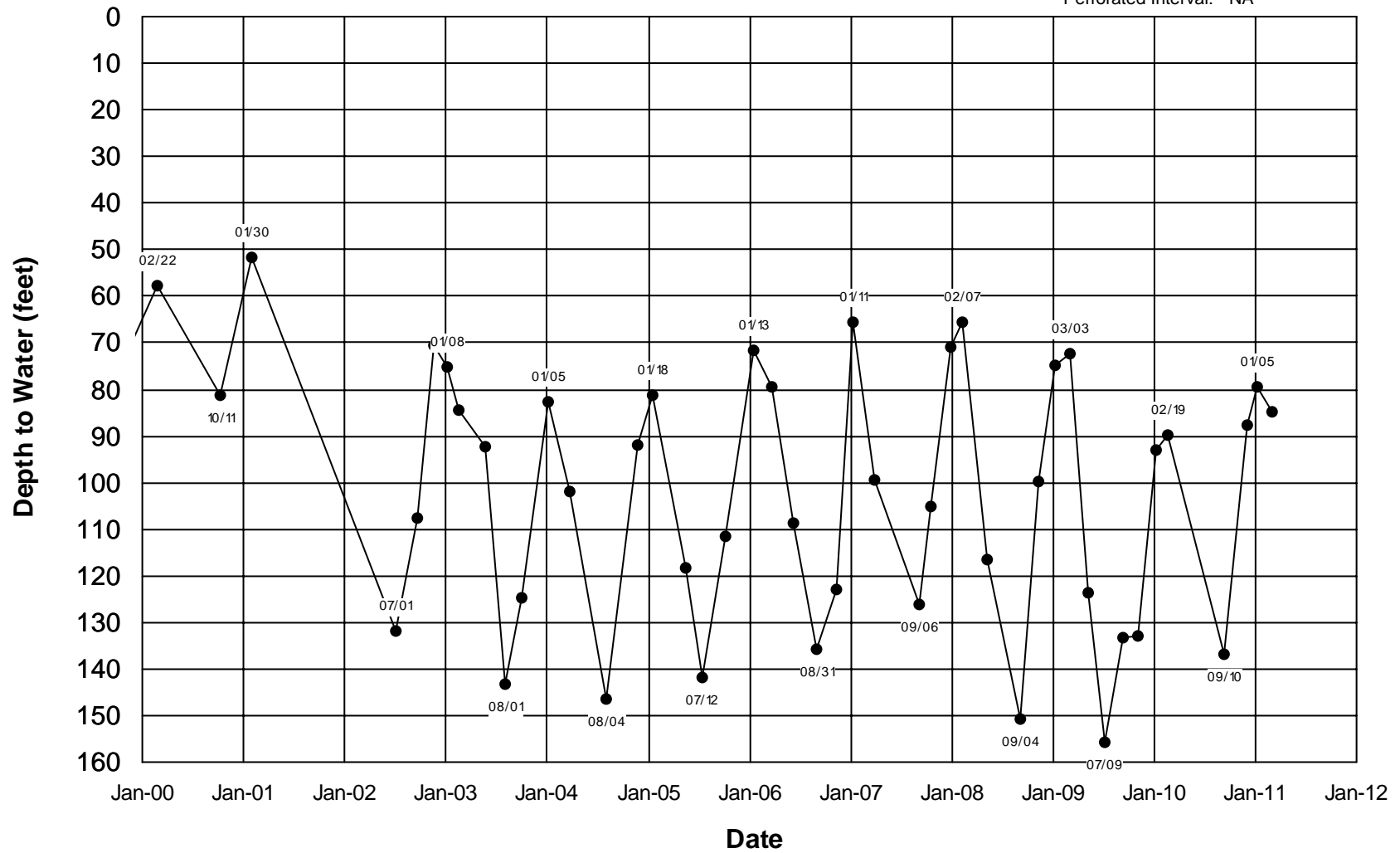


Mendota Area Hydrograph

Aliso Water District - Woolf Enterprises T13S/R16E-19K1

Reference Elevation: 175 feet msl

Perforated Interval: NA

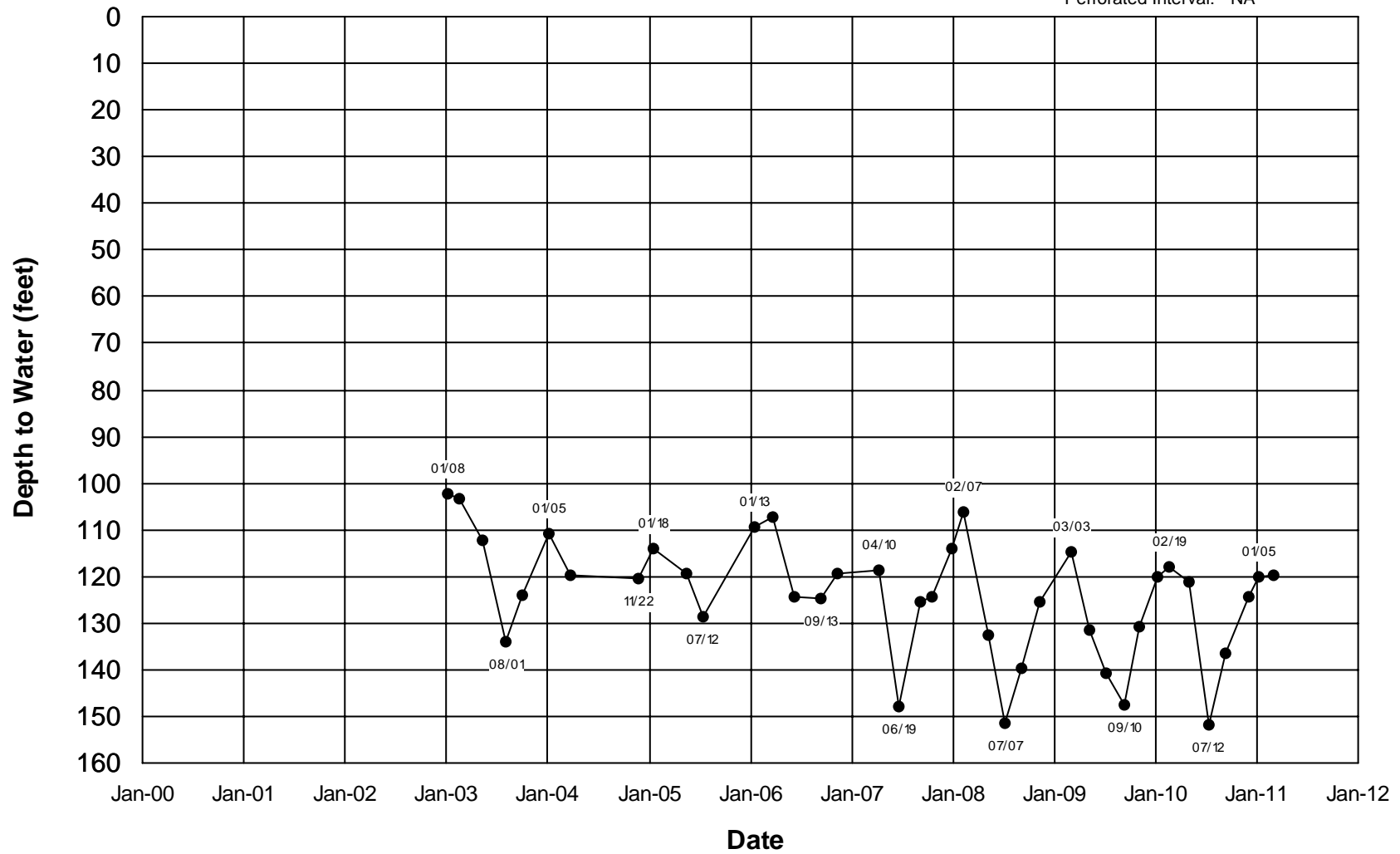


Mendota Area Hydrograph

Aliso Water District - Prosperi T12S/R16E-31G1

Reference Elevation: 180 feet msl

Perforated Interval: NA

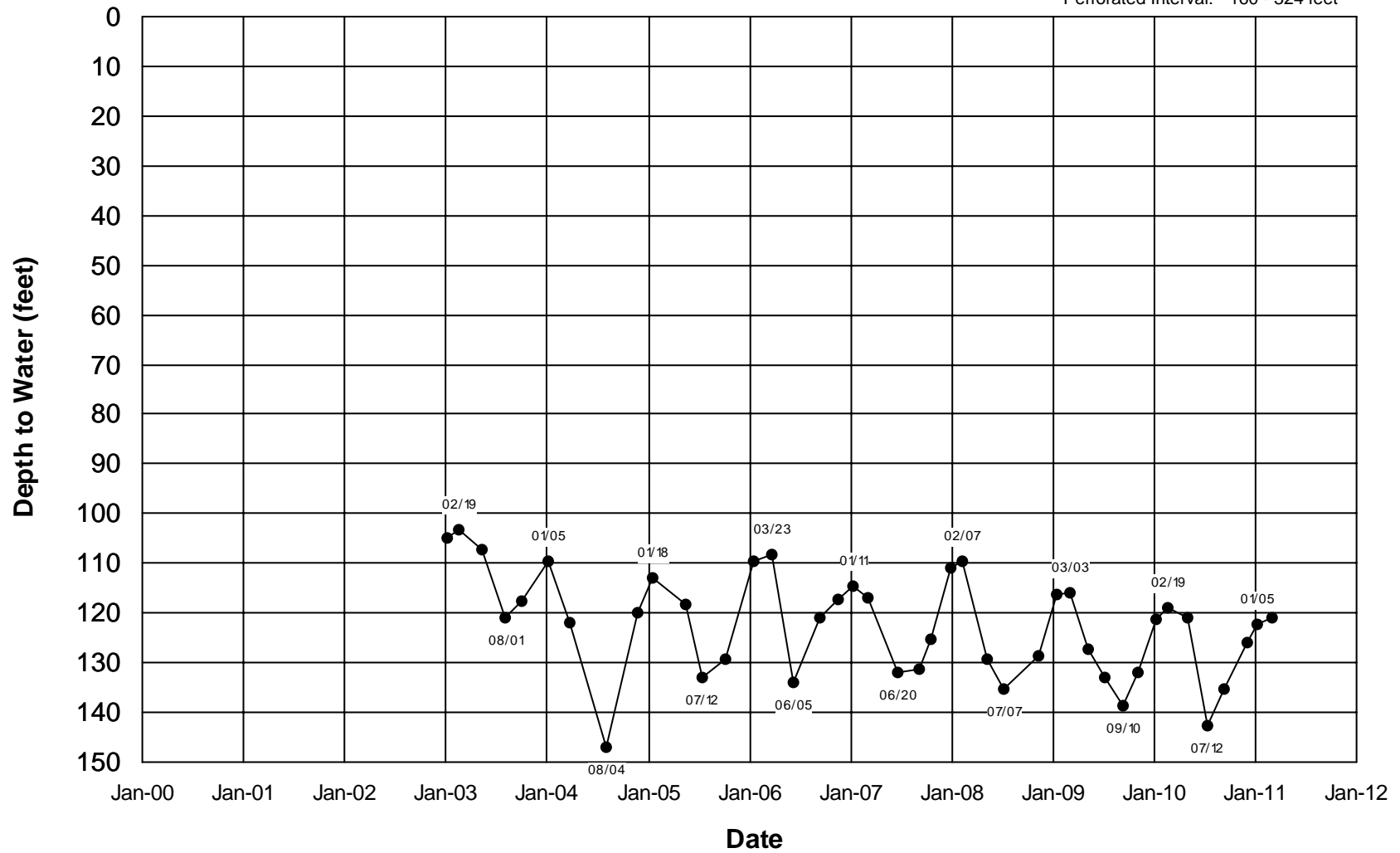


—●— Hand Measurement

Mendota Area Hydrograph

Aliso Water District - Prosperi T12S/R16E-31A

Reference Elevation: 180 feet msl
Perforated Interval: 160 - 324 feet

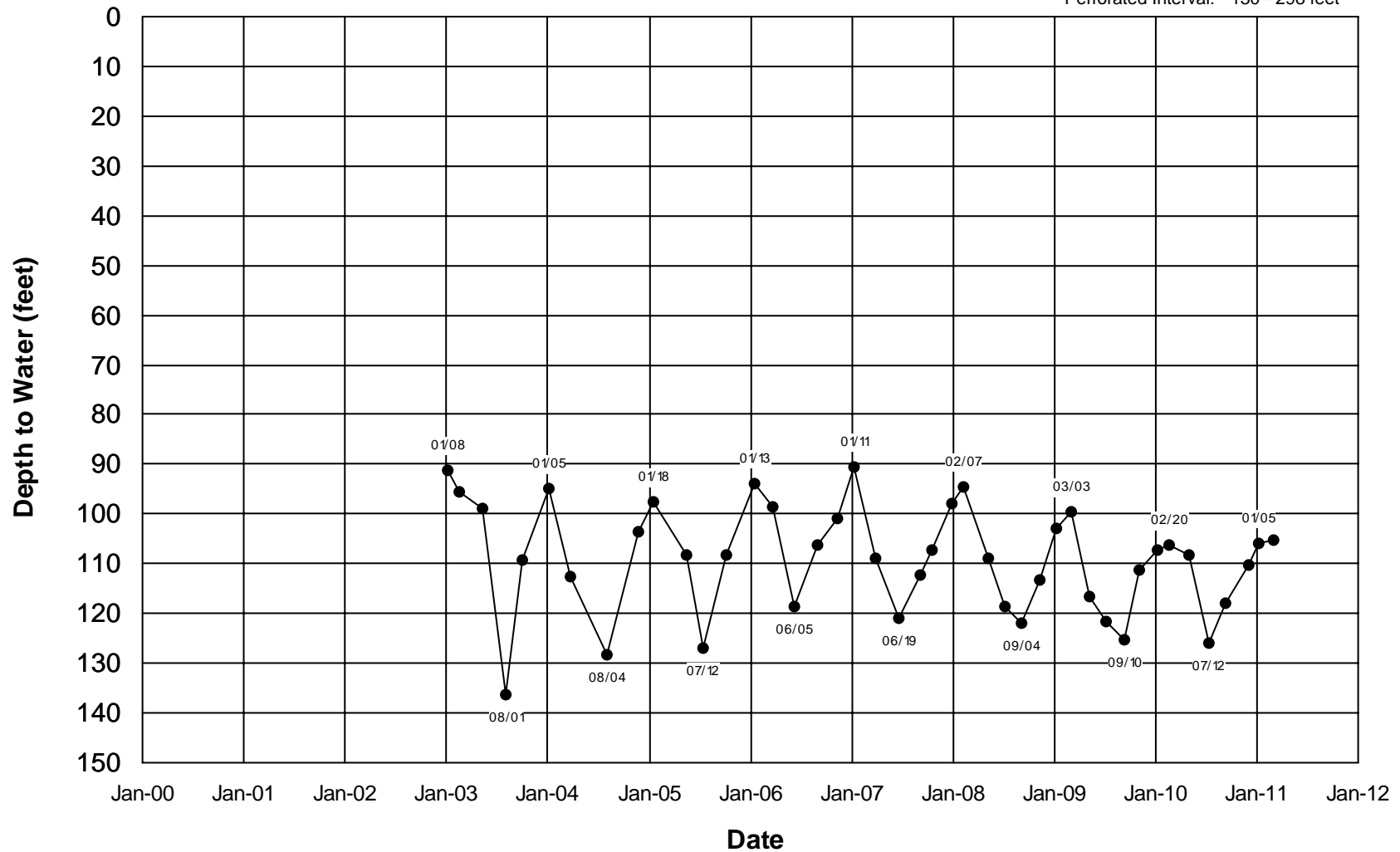


—●— Hand Measurement

Mendota Area Hydrograph

Undistricted (Madera County) - Simpson T12S/R16E-26H01

Reference Elevation: 202 feet msl
Perforated Interval: 130 - 298 feet

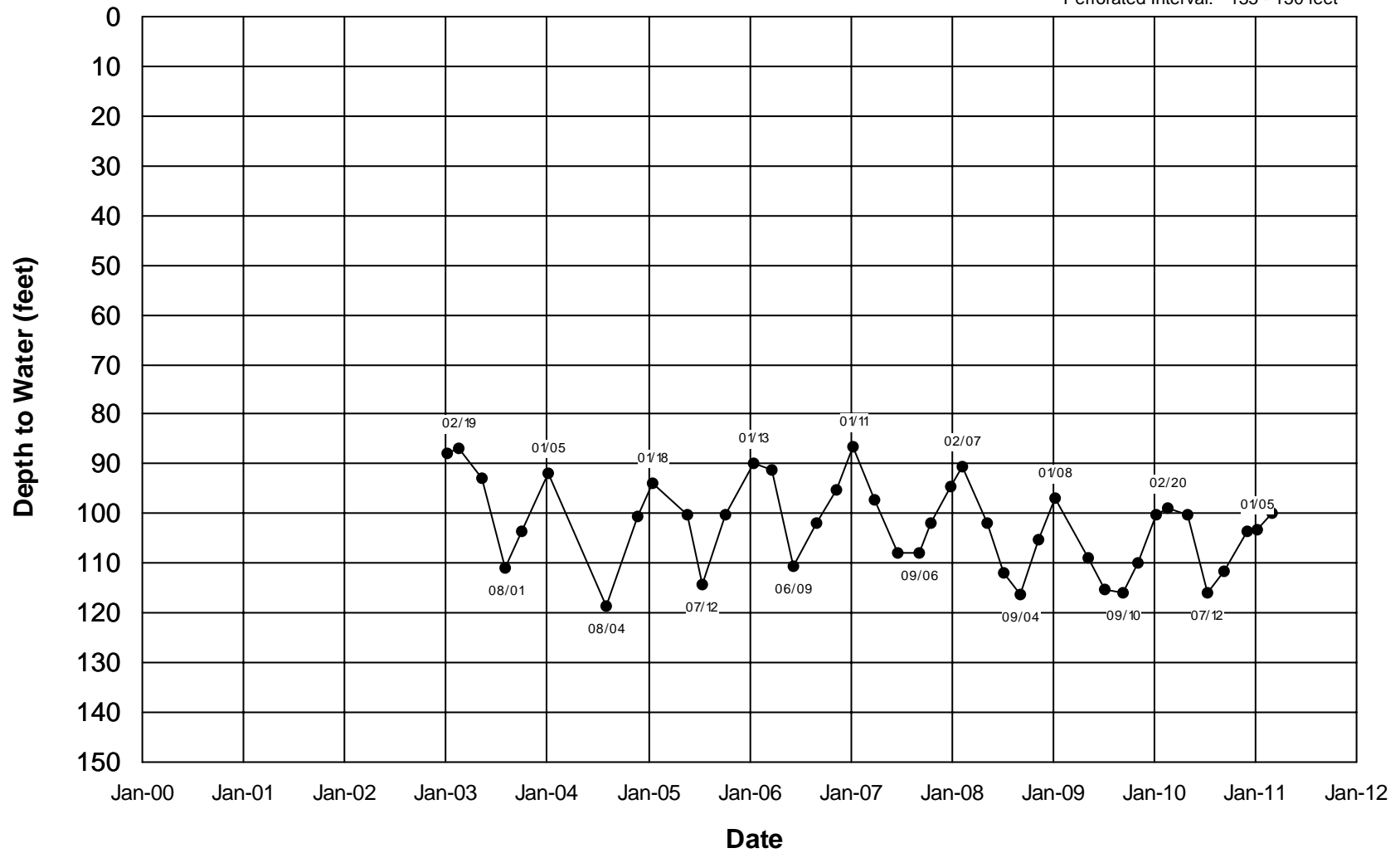


—●— Hand Measurement

Mendota Area Hydrograph

Undistricted (Madera County) - Simpson T12S/R16E-25A1

Reference Elevation: 209 feet msl
Perforated Interval: 135 - 150 feet

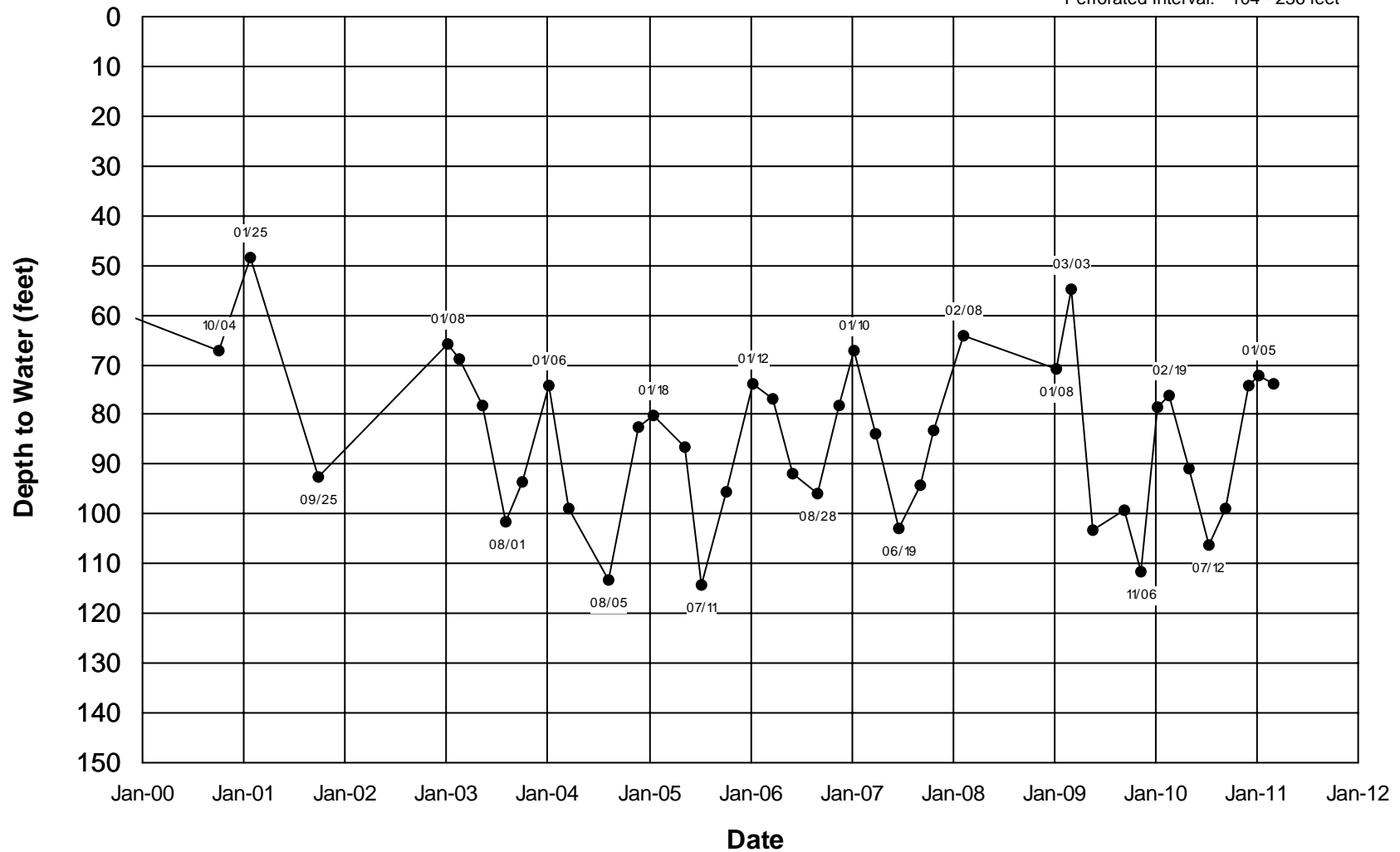


—●— Hand Measurement

Mendota Area Hydrograph

Undistricted (Fresno County) - Horner T13S/R16E-34C1

Reference Elevation: 183 feet msl
Perforated Interval: 104 - 236 feet



—●— Hand Measurement

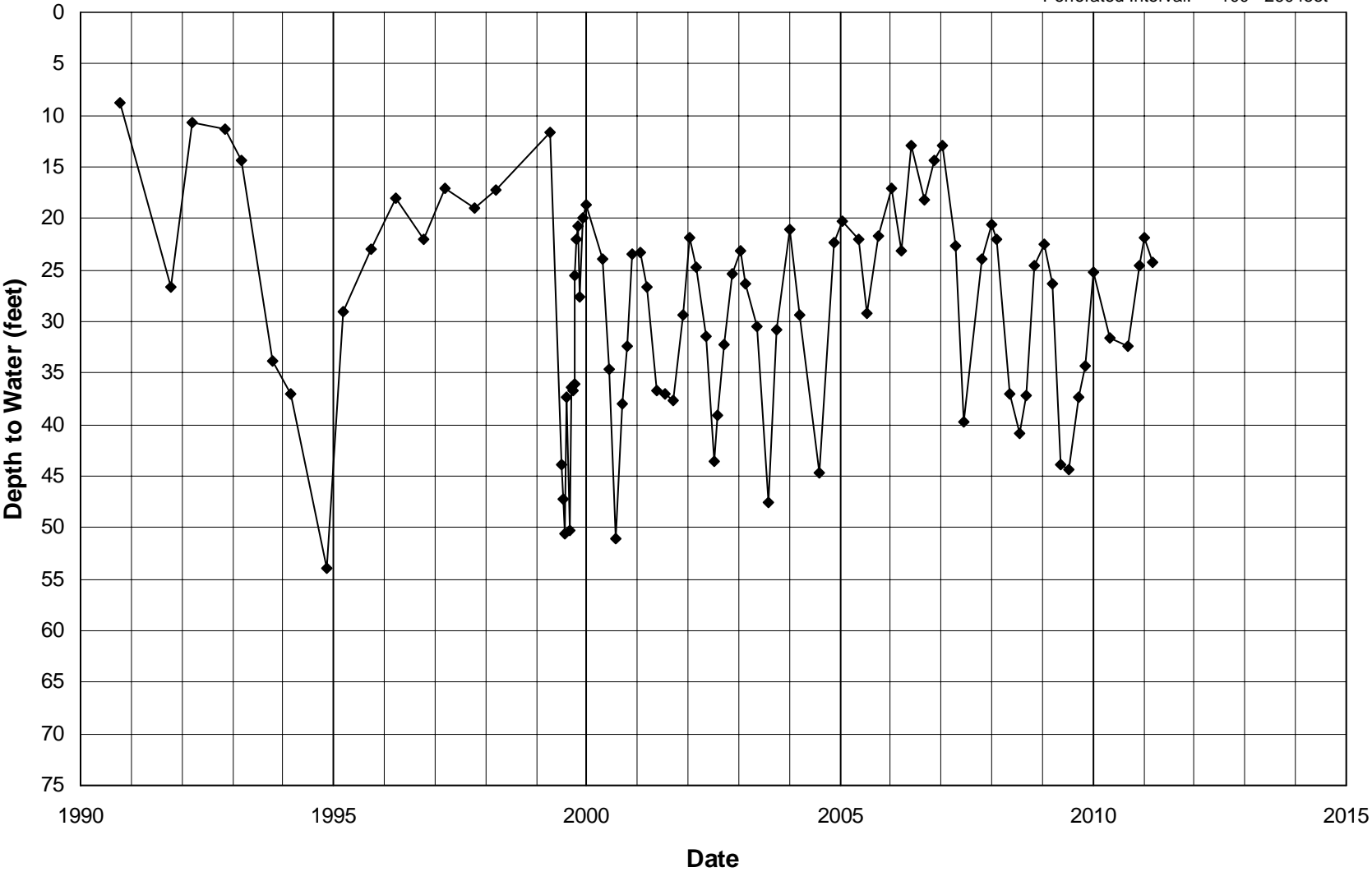
Appendix C

Long-Term Water Level Hydrographs

CCID Well No. 5A

Reference Elevation: 153.14 feet msl

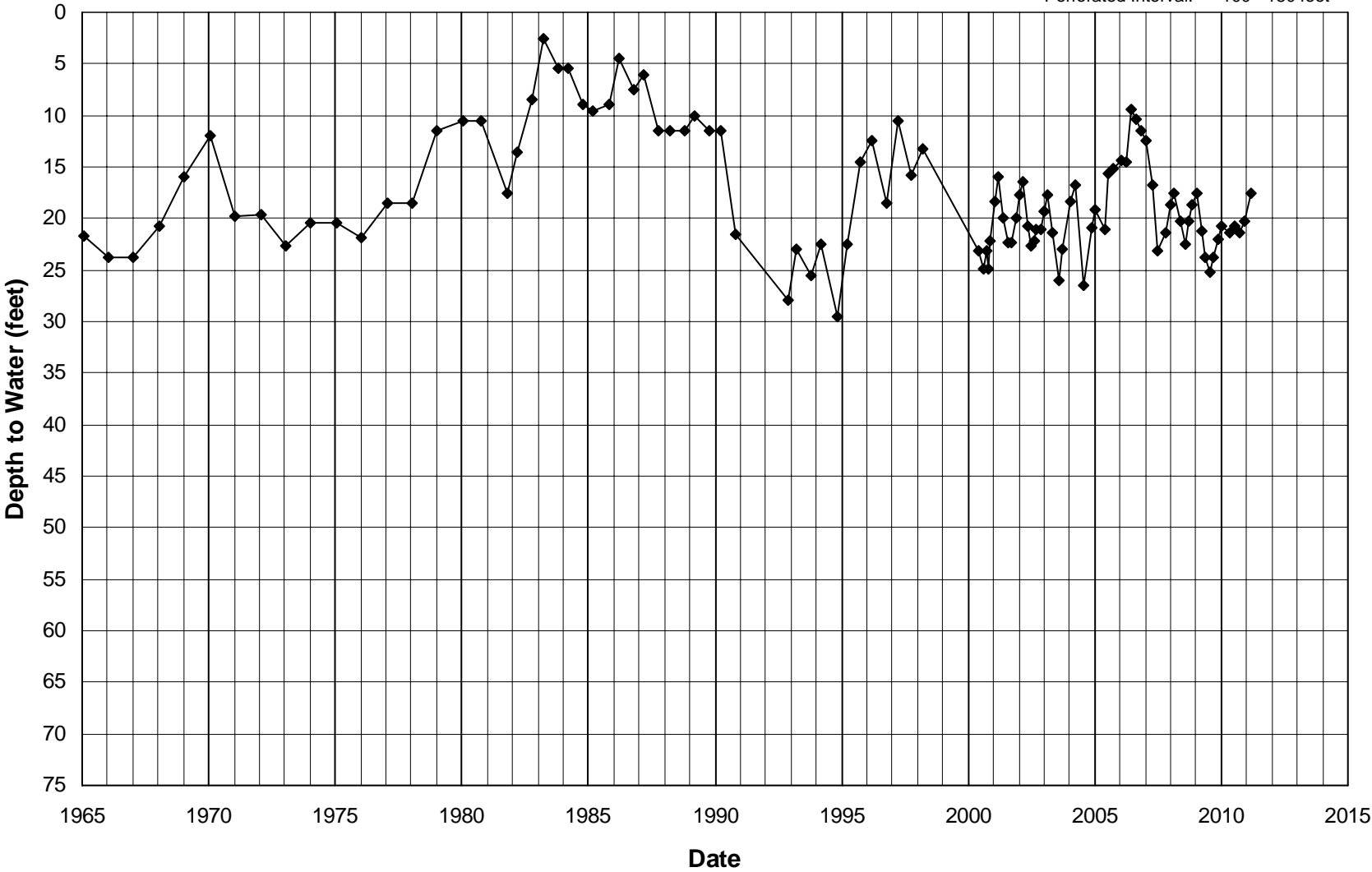
Perforated Interval: 100 - 260 feet



—◆— Hand Measurement

CCID Well No. 15 & 15A & 15B

Reference Elevation: 150.06 feet msl
Perforated Interval: 100 - 180 feet

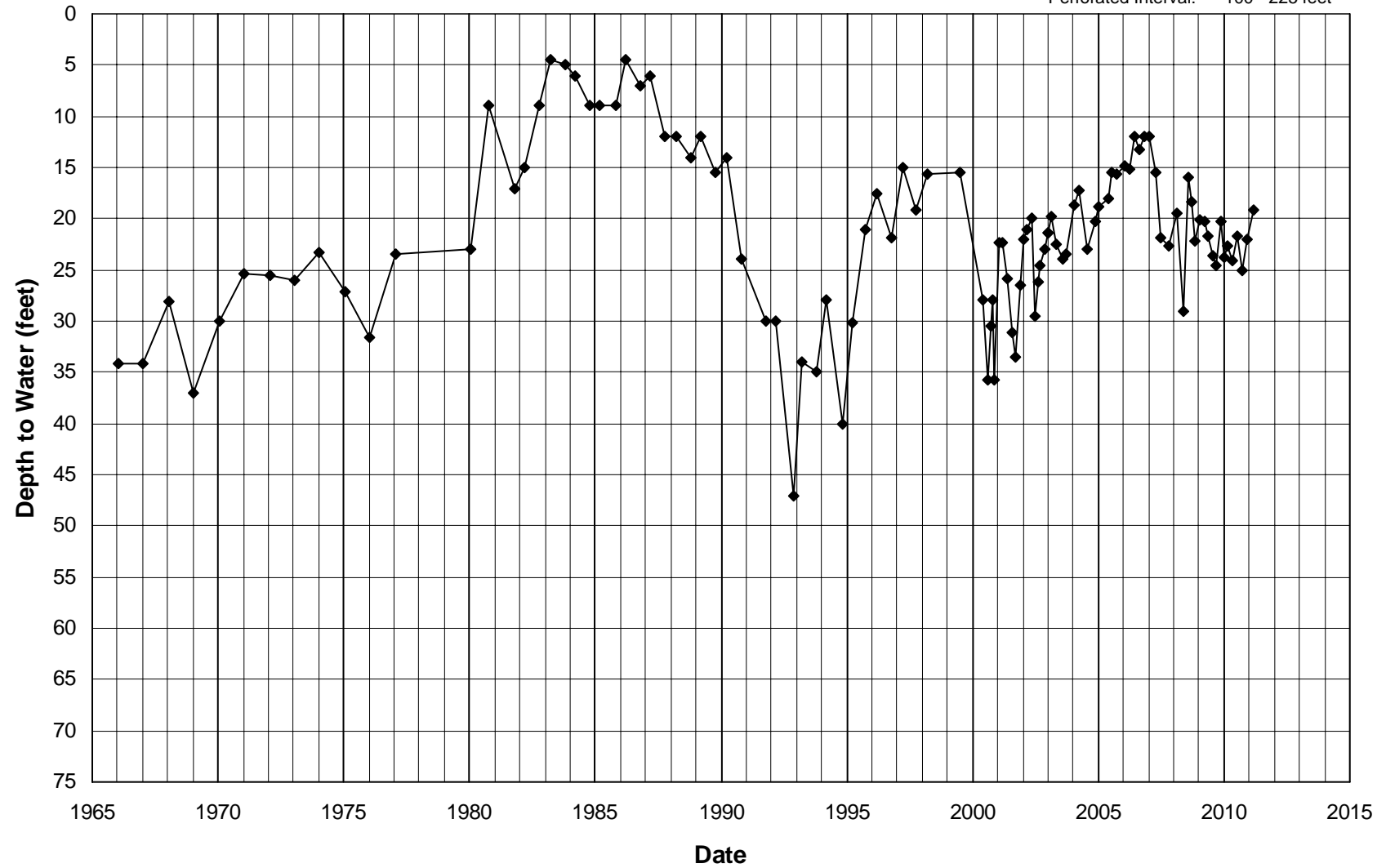


—◆— Hand Measurement

CCID Well No. 32 & 32A & 32B & 32C

Reference Elevation: 152.8 feet msl

Perforated Interval: 100 - 225 feet

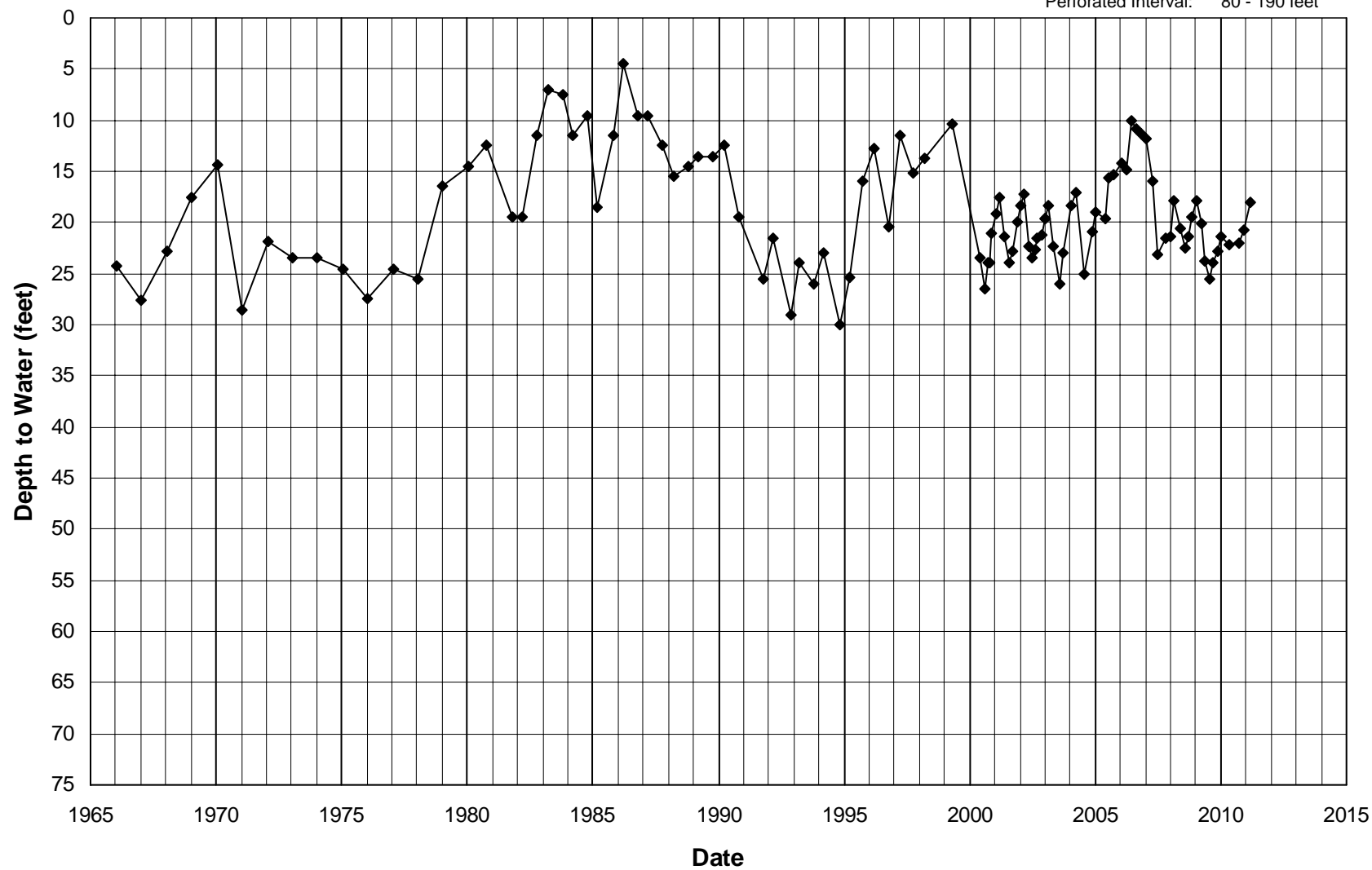


—◆— Hand Measurement

CCID Well No. 35 & 35A

Reference Elevation: 151.11 feet msl

Perforated Interval: 80 - 190 feet

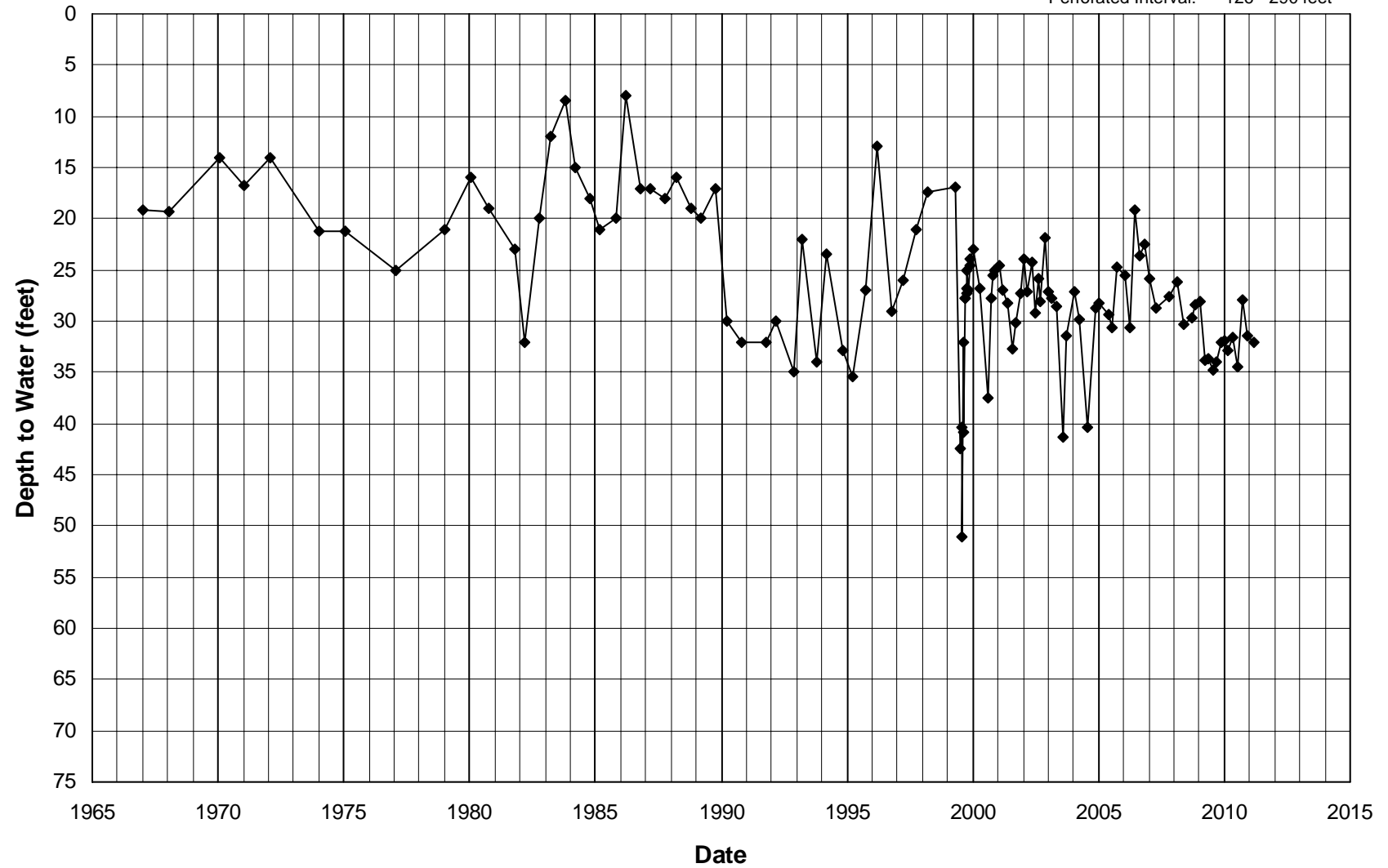


—◆— Hand Measurement

CCID Well No. 38A

Reference Elevation: 153.08 feet msl

Perforated Interval: 126 - 290 feet

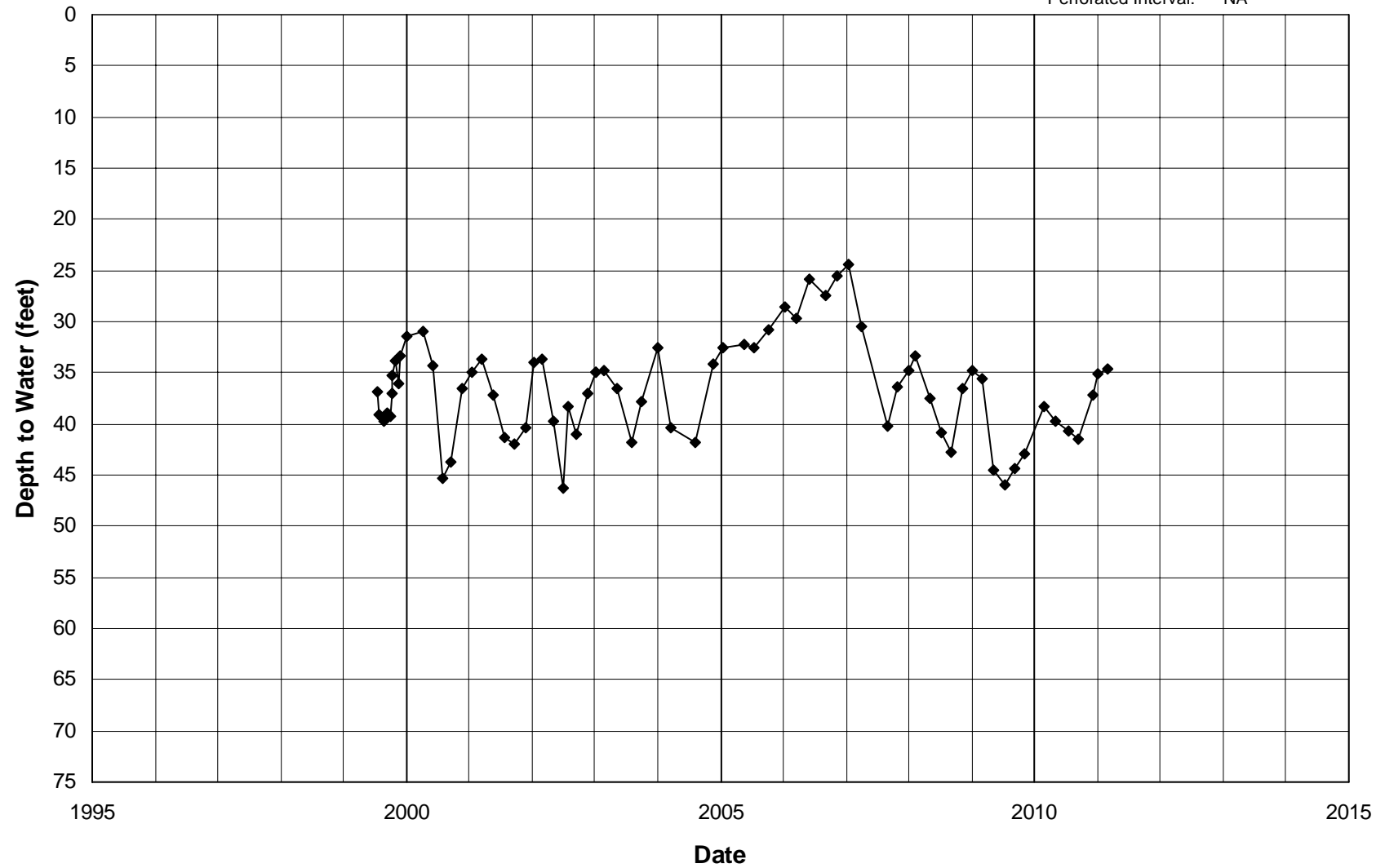


—◆— Hand Measurement

Firebaugh Canal W.D. Well No. 25D2

Reference Elevation: 167 feet msl

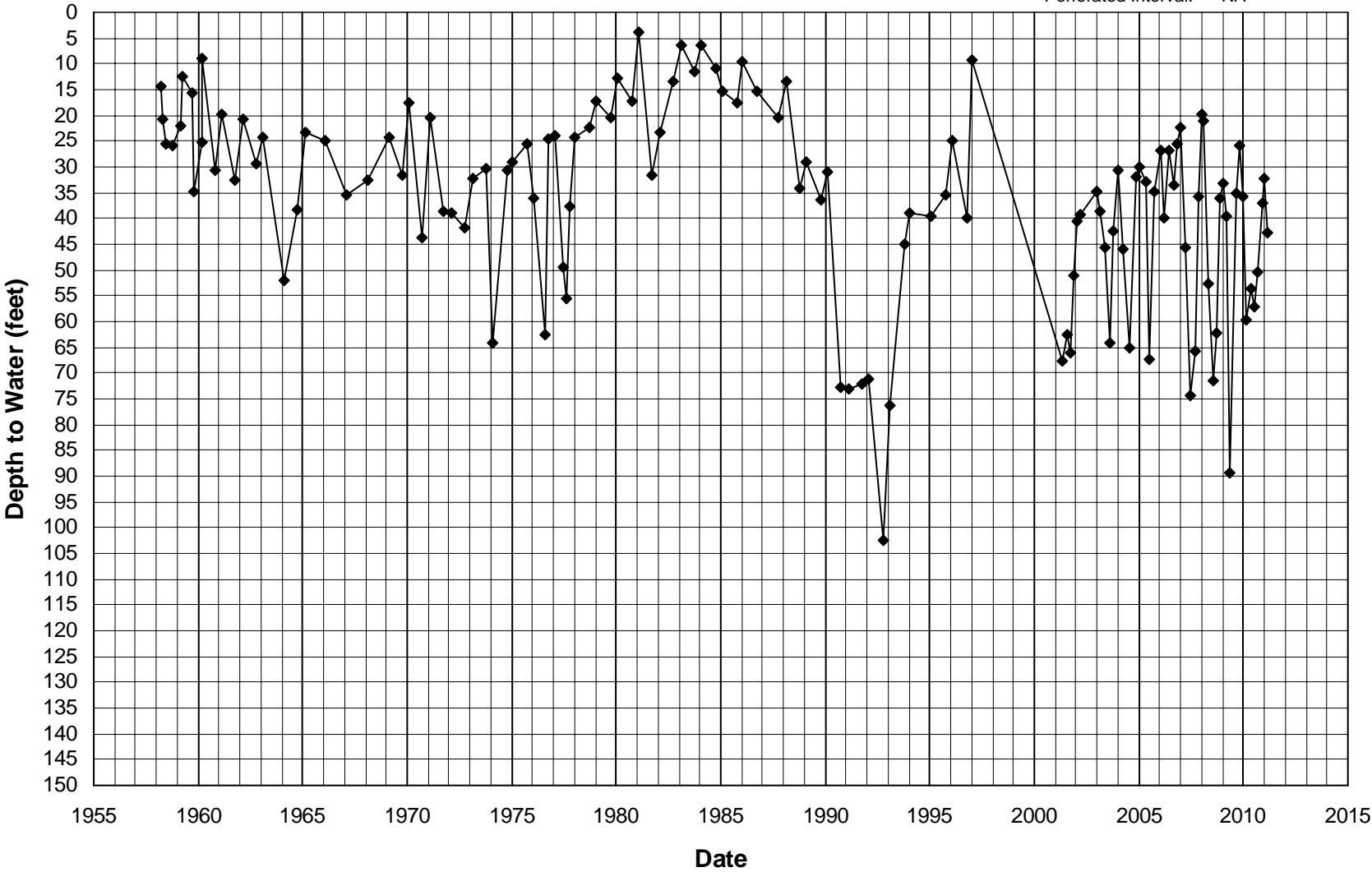
Perforated Interval: NA



—◆— Hand Measurement

USBR Well No. T13S/R15E-19R1

Reference Elevation: 165 feet msl
Perforated Interval: NA

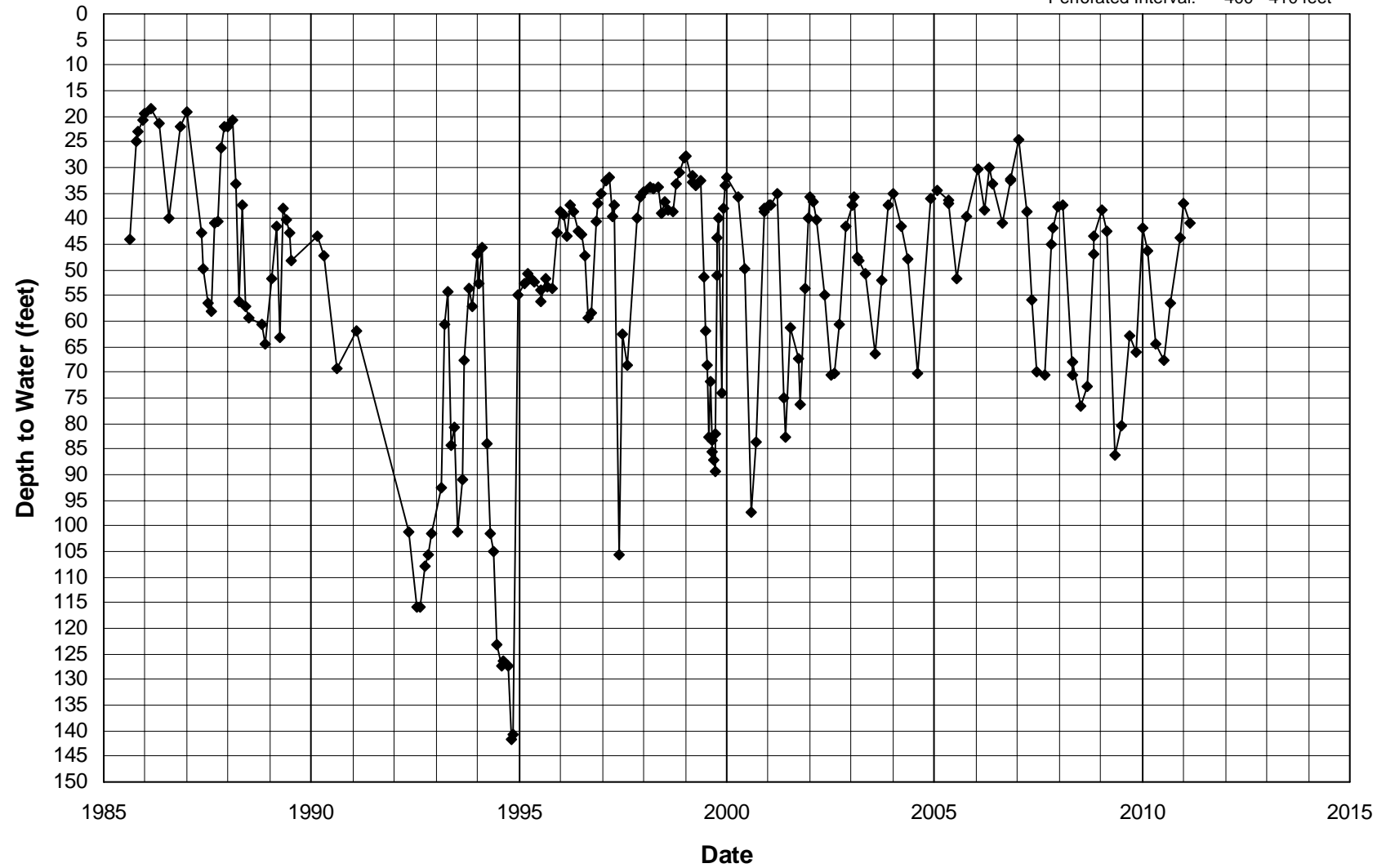


—◆— Hand Measurement

USGS Monitoring Well No. T13S/R15E-31J3

Reference Elevation: 152 feet msl

Perforated Interval: 400 - 410 feet

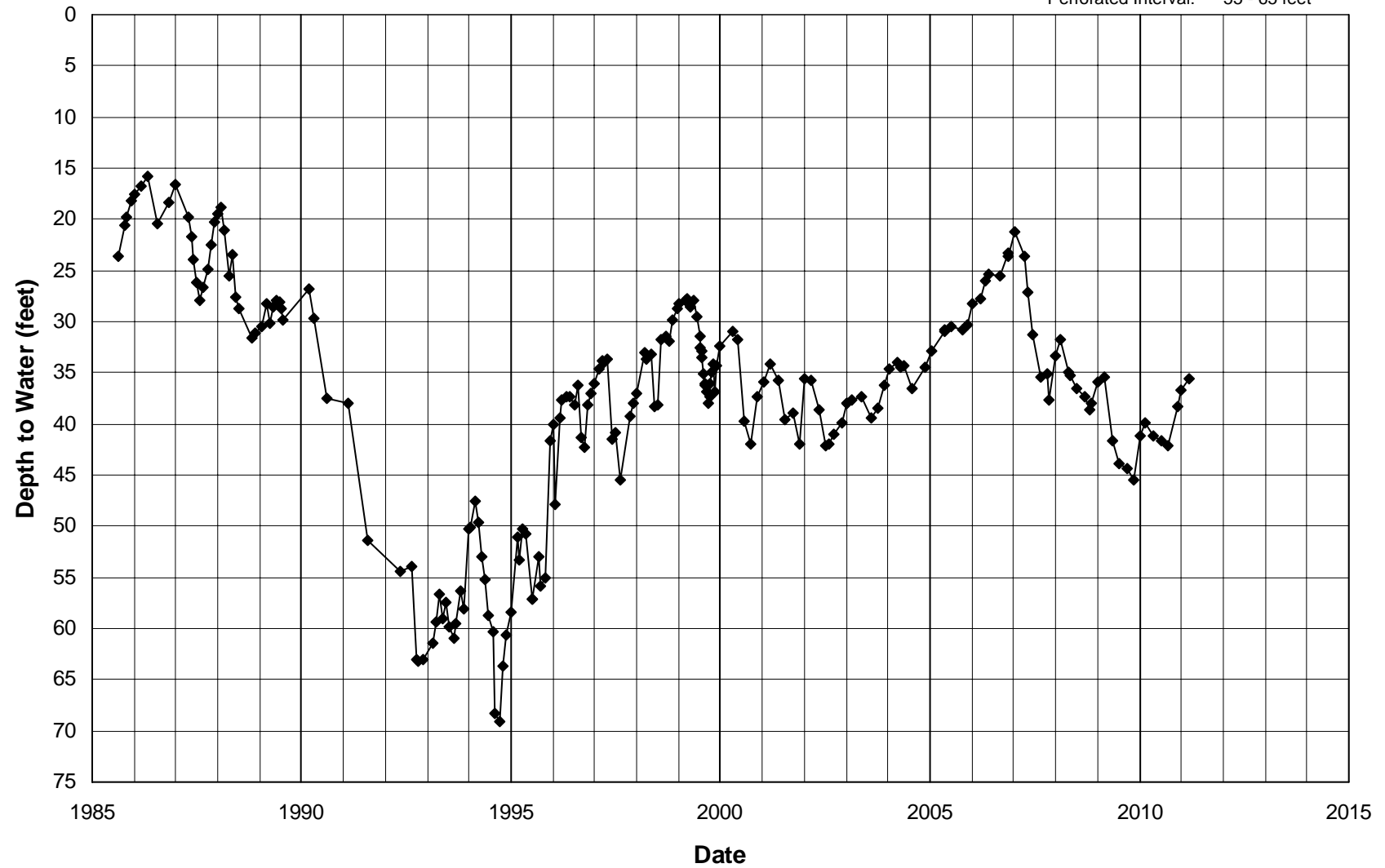


—◆— Hand Measurement

USGS Monitoring Well No. T13S/R15E-31J4

Reference Elevation: 153 feet msl

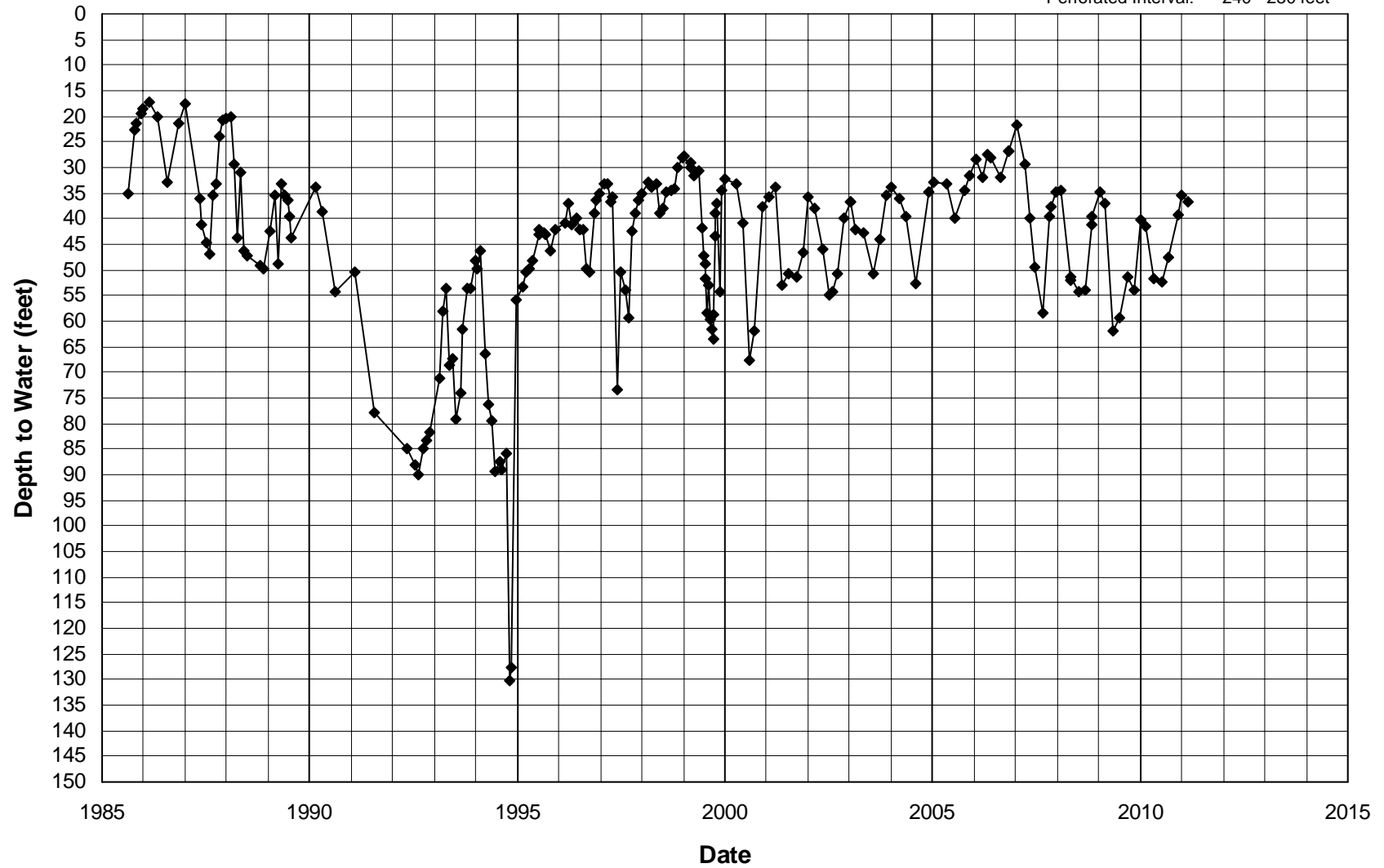
Perforated Interval: 55 - 65 feet



—◆— Hand Measurement

USGS Monitoring Well No. T13S/R15E-31J5

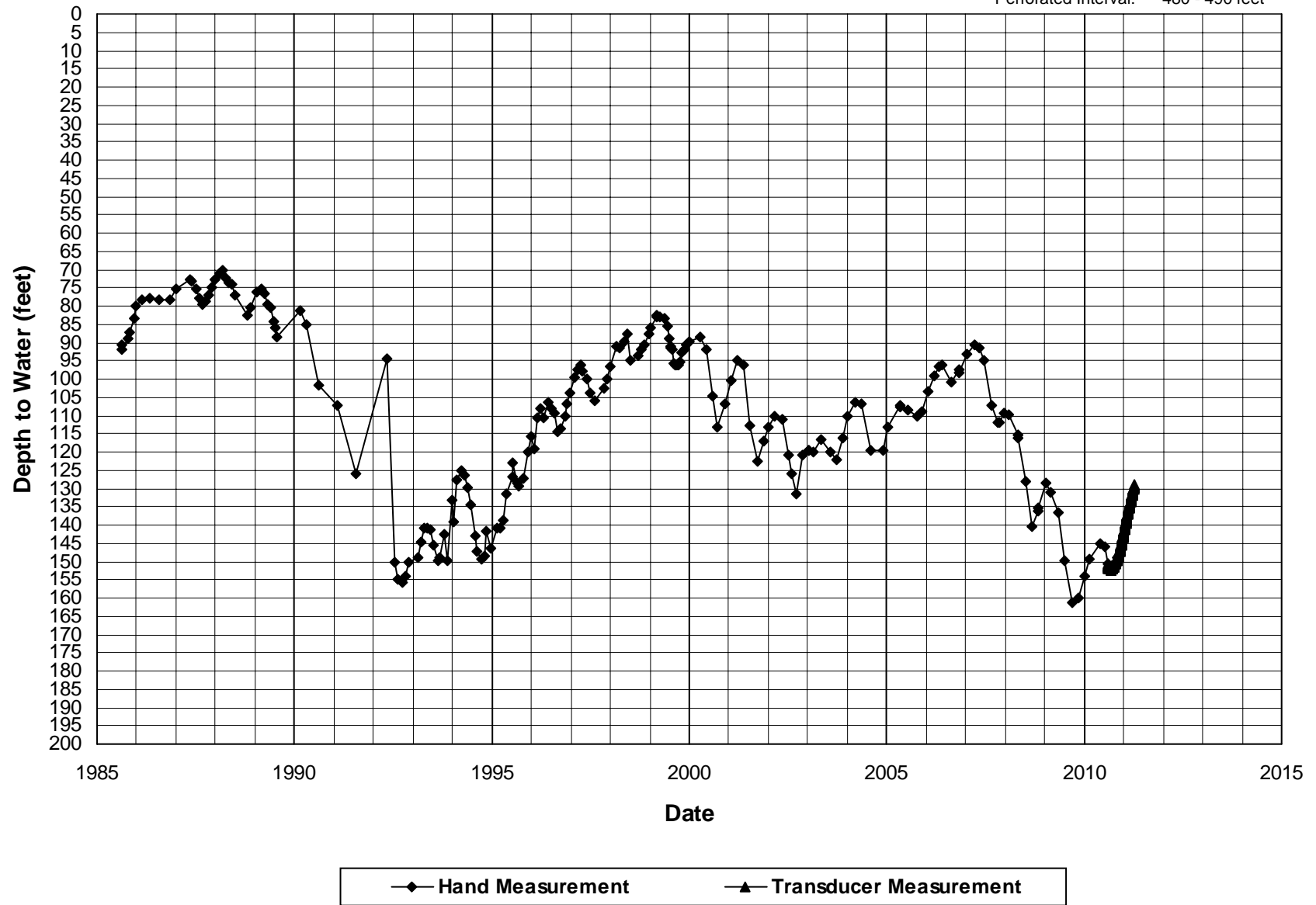
Reference Elevation: 153 feet msl
Perforated Interval: 240 - 250 feet



—◆— Hand Measurement

USGS Monitoring Well No. T13S/R15E-31J6

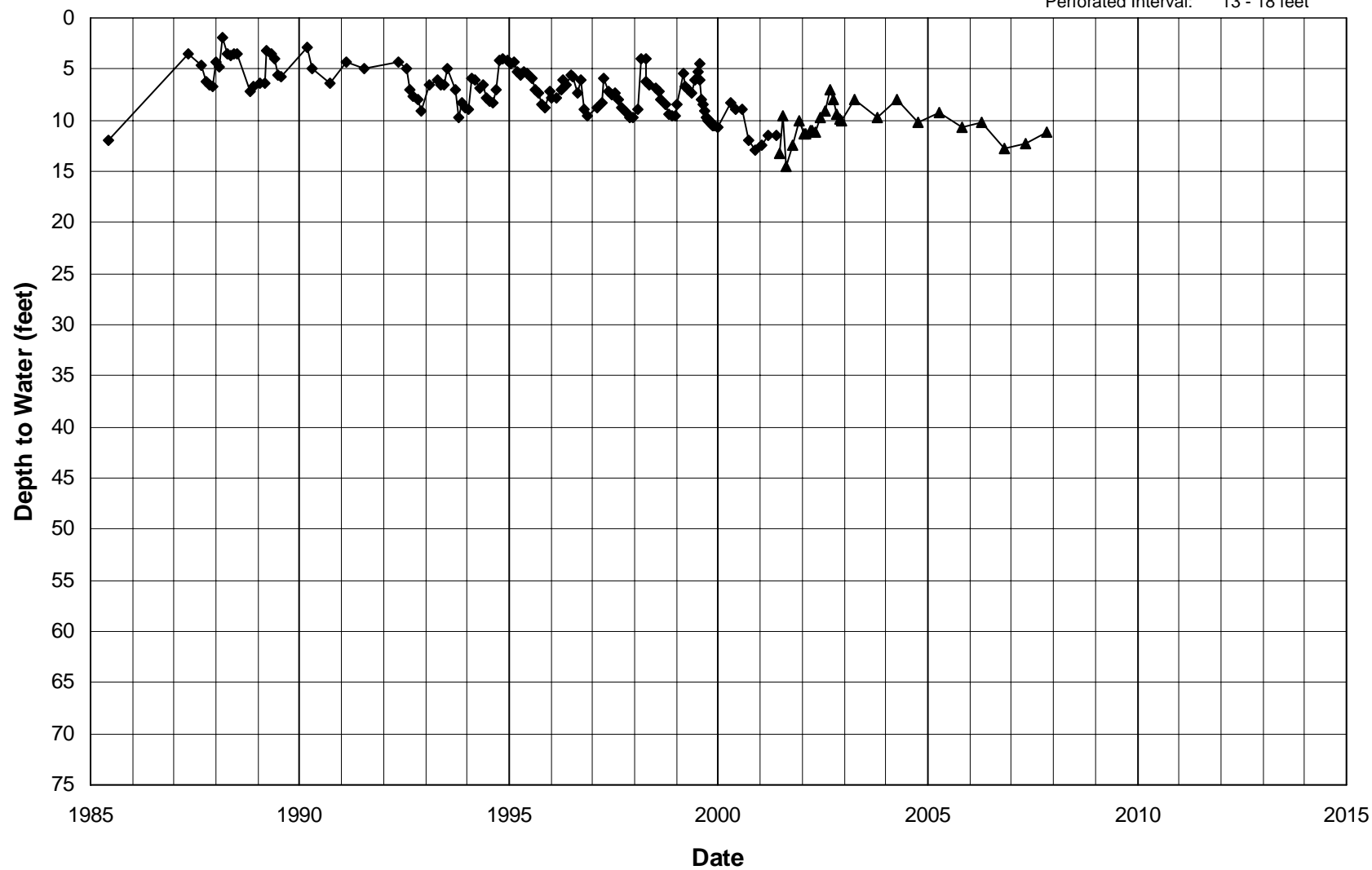
Reference Elevation: 152 feet msl
Perforated Interval: 480 - 490 feet



USGS Monitoring Well No. T14S/R14E-10A1

Reference Elevation: 202.2 feet msl

Perforated Interval: 13 - 18 feet



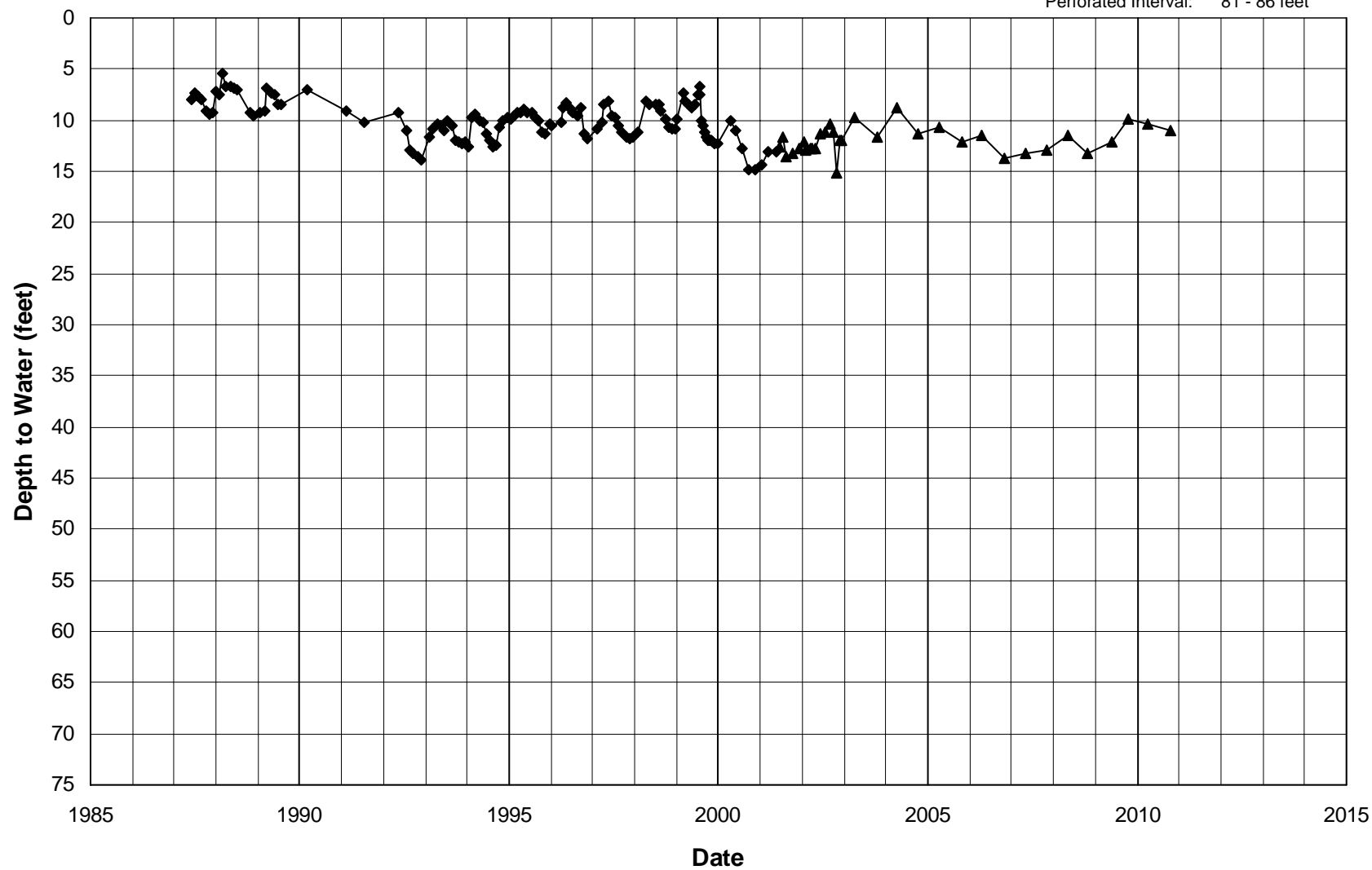
—◆— Hand Measurement

—▲— Measured with Sonic Sounder

USGS Monitoring Well No. T14S/R14E-10A2

Reference Elevation: 201 feet msl

Perforated Interval: 81 - 86 feet



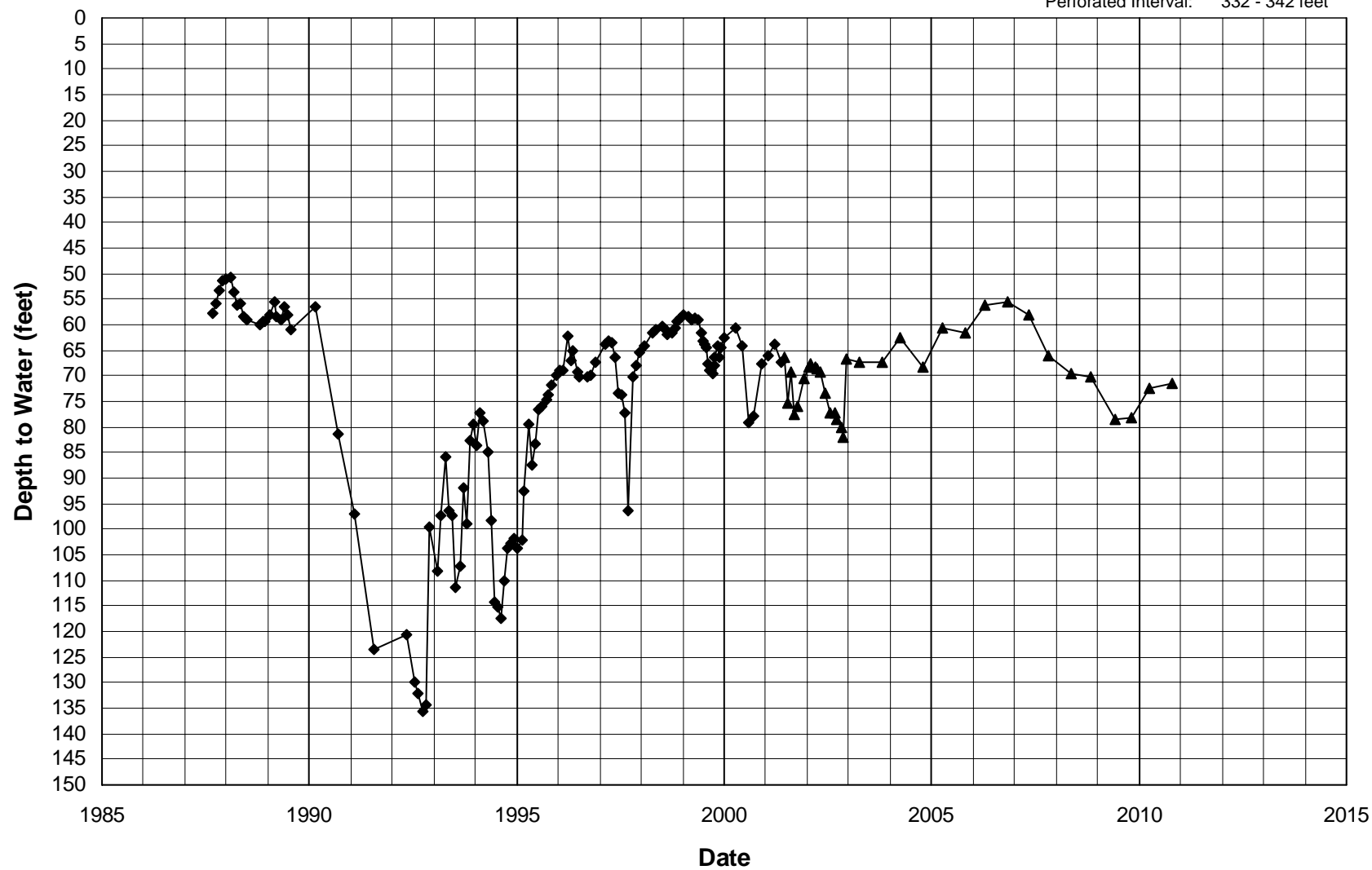
◆ Hand Measurement

▲ Measured with Sonic Sounder

USGS Monitoring Well No. T14S/R14E-10A3

Reference Elevation: 202.5 feet msl

Perforated Interval: 332 - 342 feet

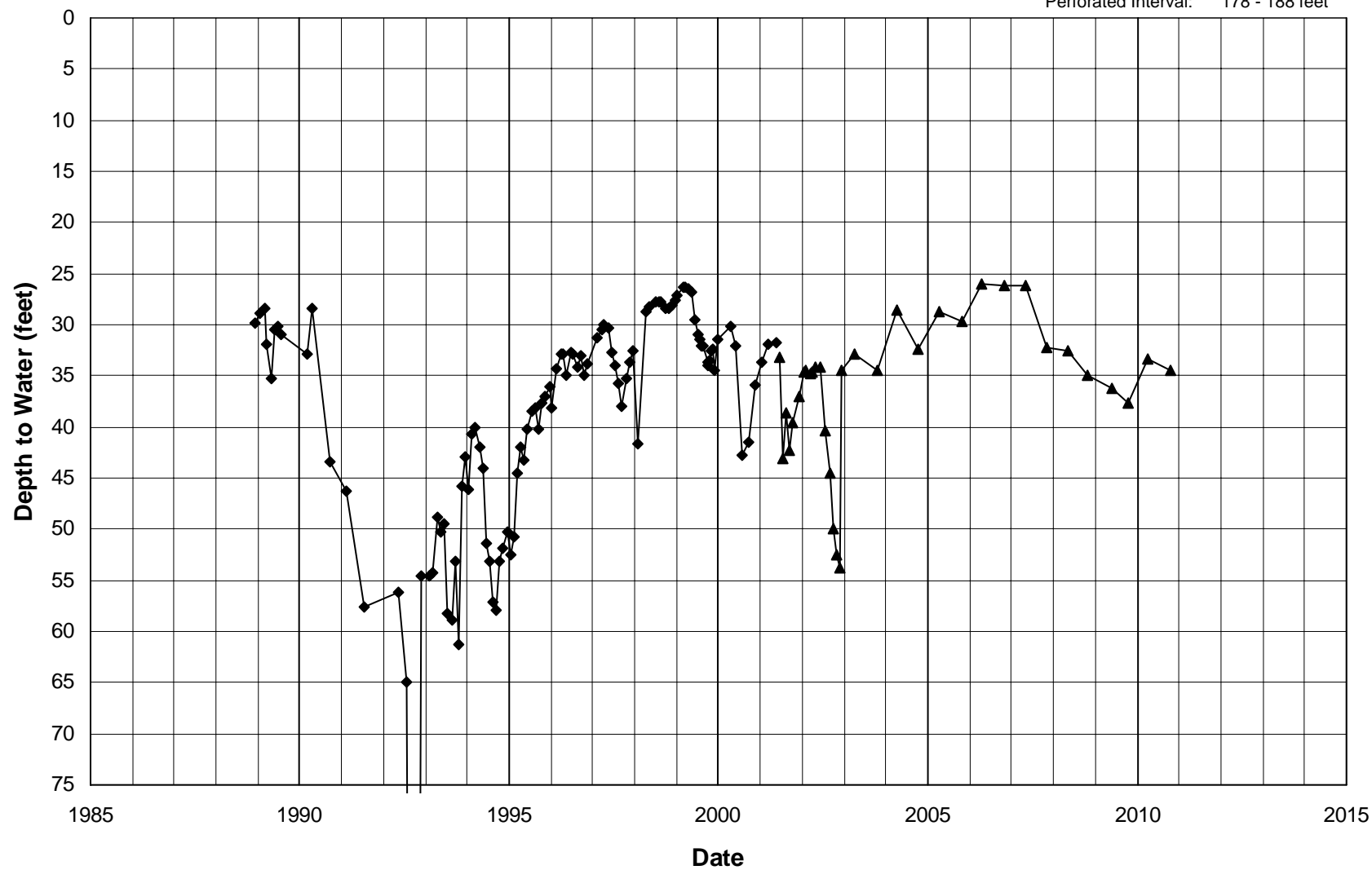


—◆— Hand Measurement —▲— Measured with Sonic Sounder

USGS Monitoring Well No. T14S/R14E-10A4

Reference Elevation: 201.8 feet msl

Perforated Interval: 178 - 188 feet

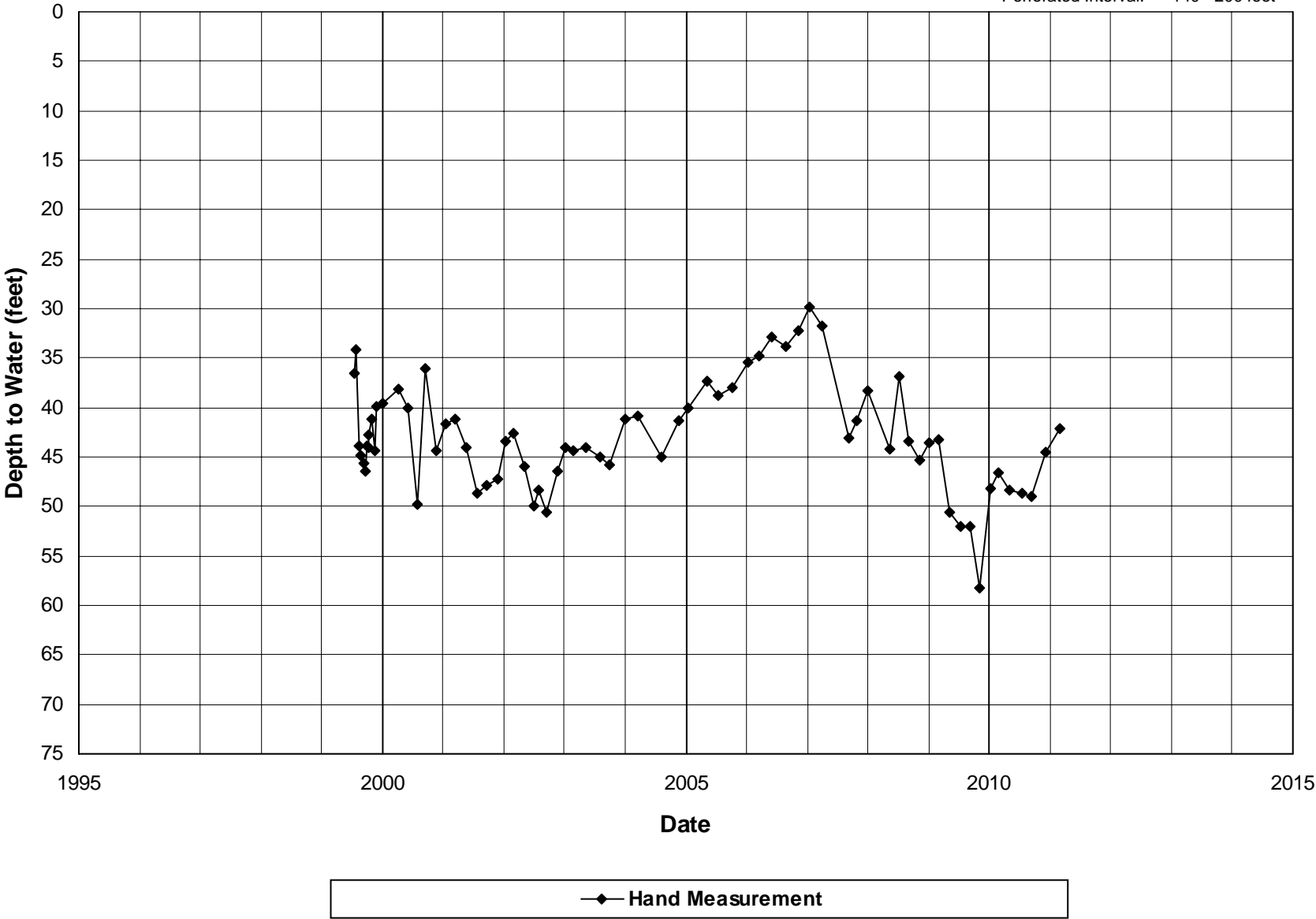


◆ Hand Measurement

▲ Measured with Sonic Sounder

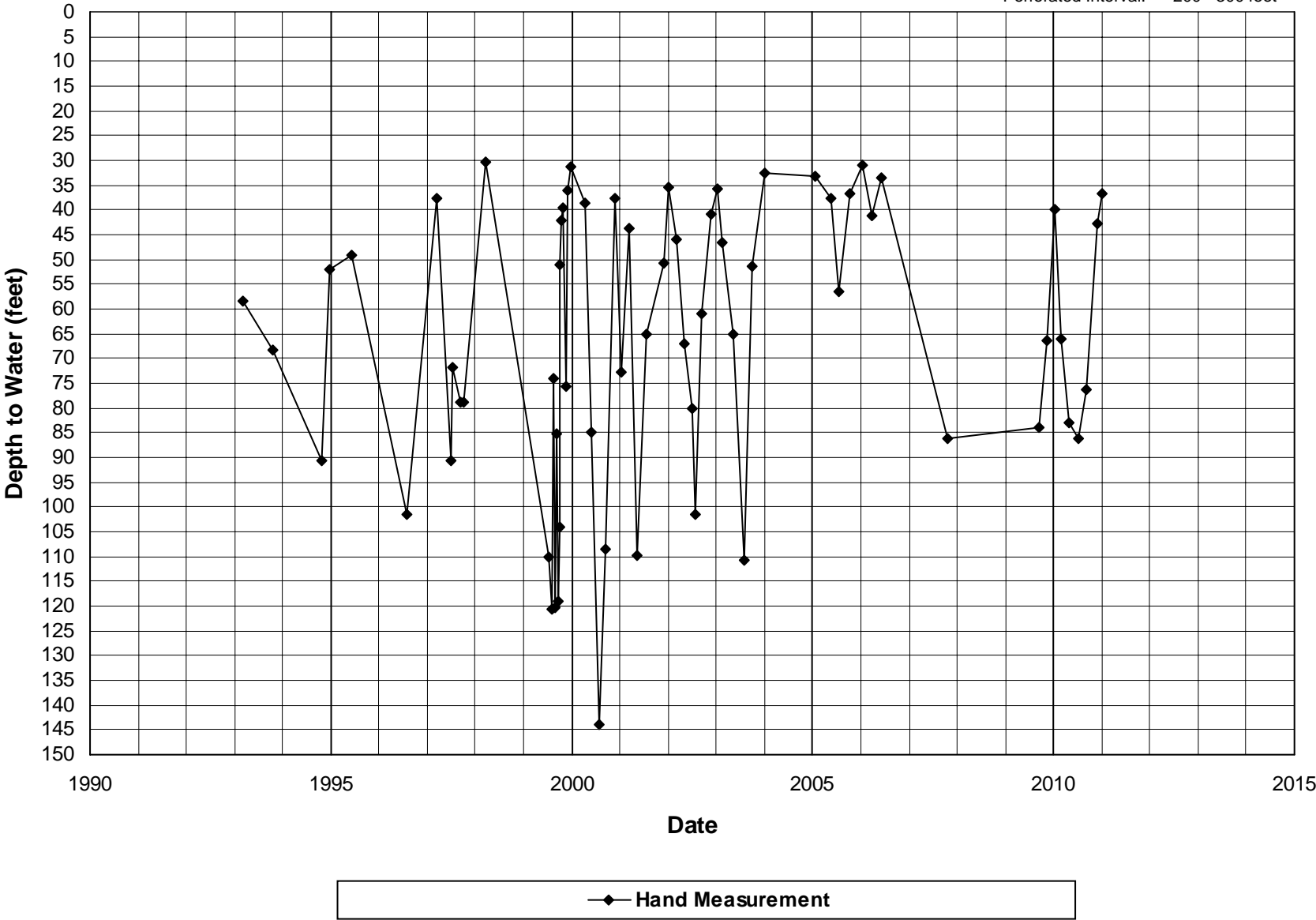
Hansen Farms Well No. T14S/R15E-7C1

Reference Elevation: 170 feet msl
Perforated Interval: 140 - 200 feet



Fordel M-1

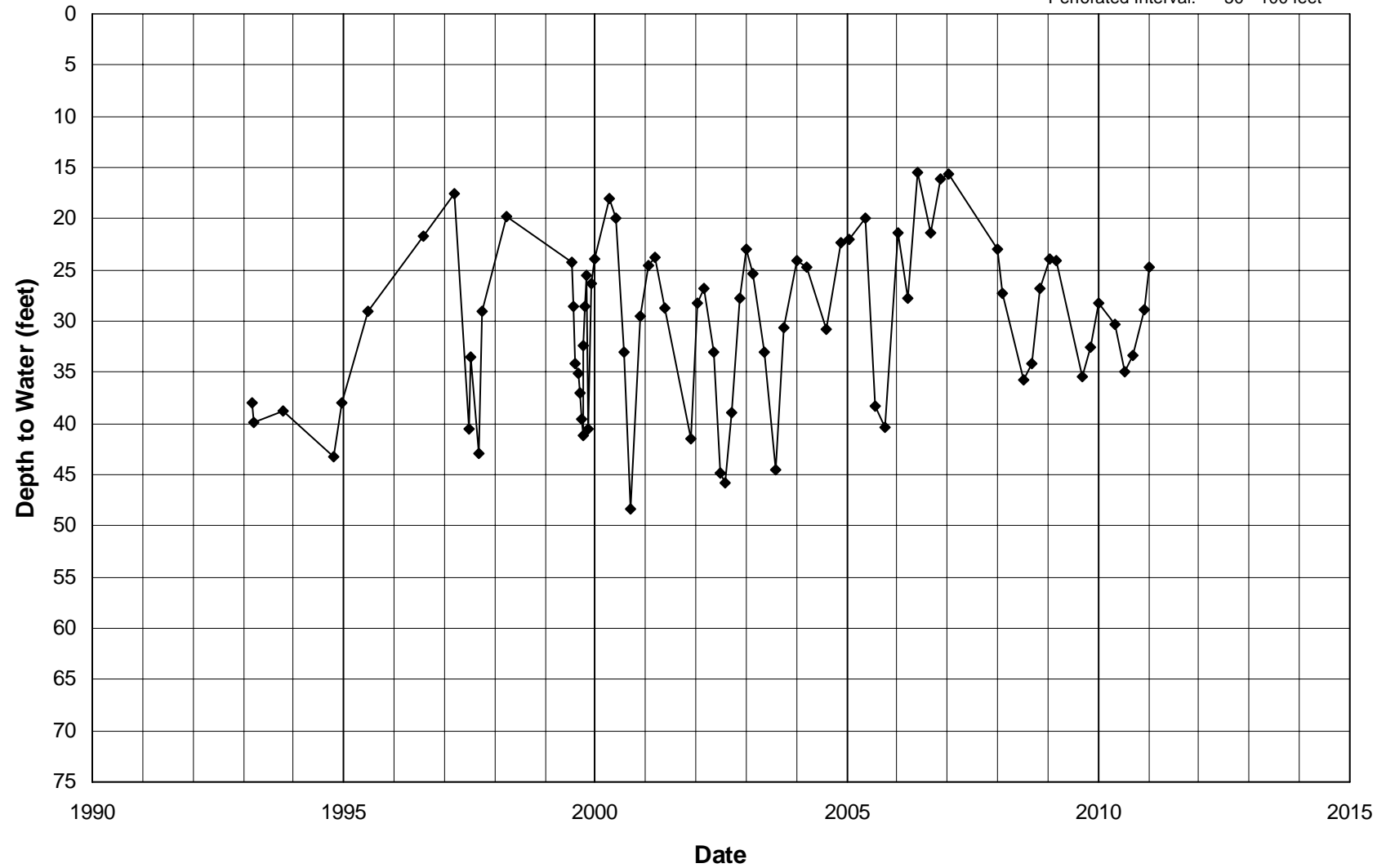
Reference Elevation: 159.61 feet msl
Perforated Interval: 200 - 300 feet



Fordel M-2

Reference Elevation: 159.06 feet msl

Perforated Interval: 50 - 100 feet

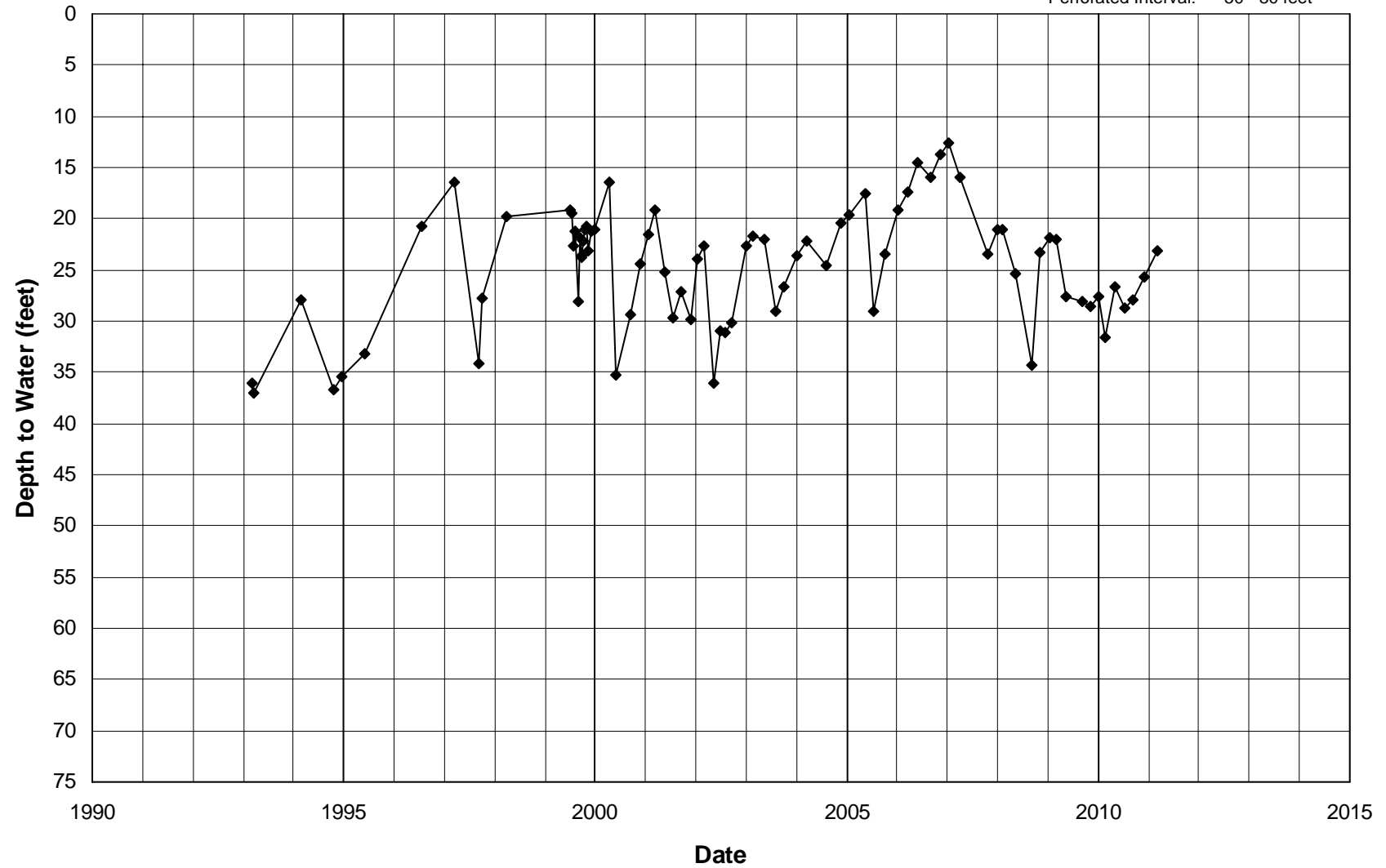


—◆— Hand Measurement

Terra Linda TLF-9s (10A)

Reference Elevation: 156.1 feet msl

Perforated Interval: 50 - 80 feet

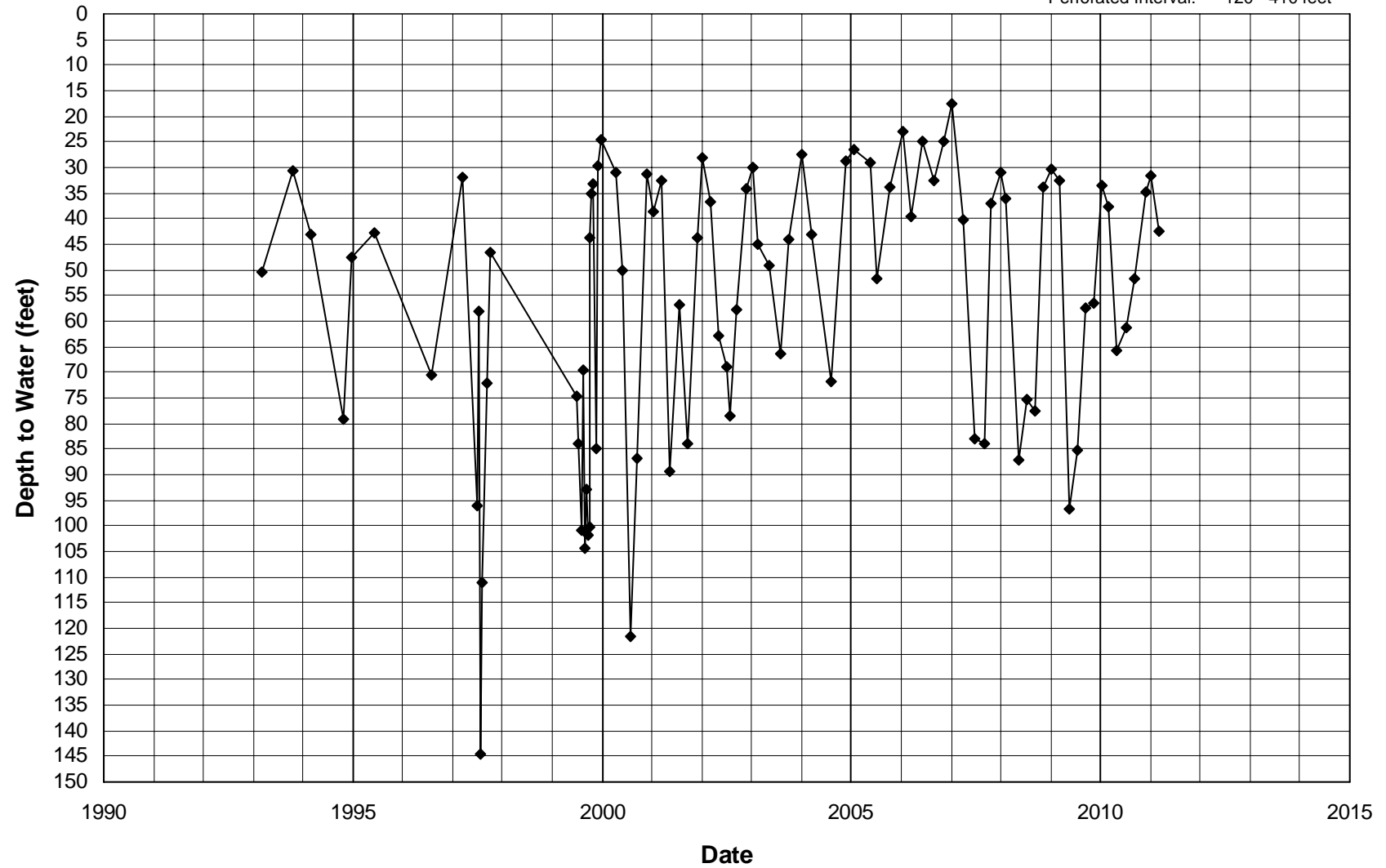


—◆— Hand Measurement

Terra Linda HS-3

Reference Elevation: 154.03 feet msl

Perforated Interval: 120 - 410 feet

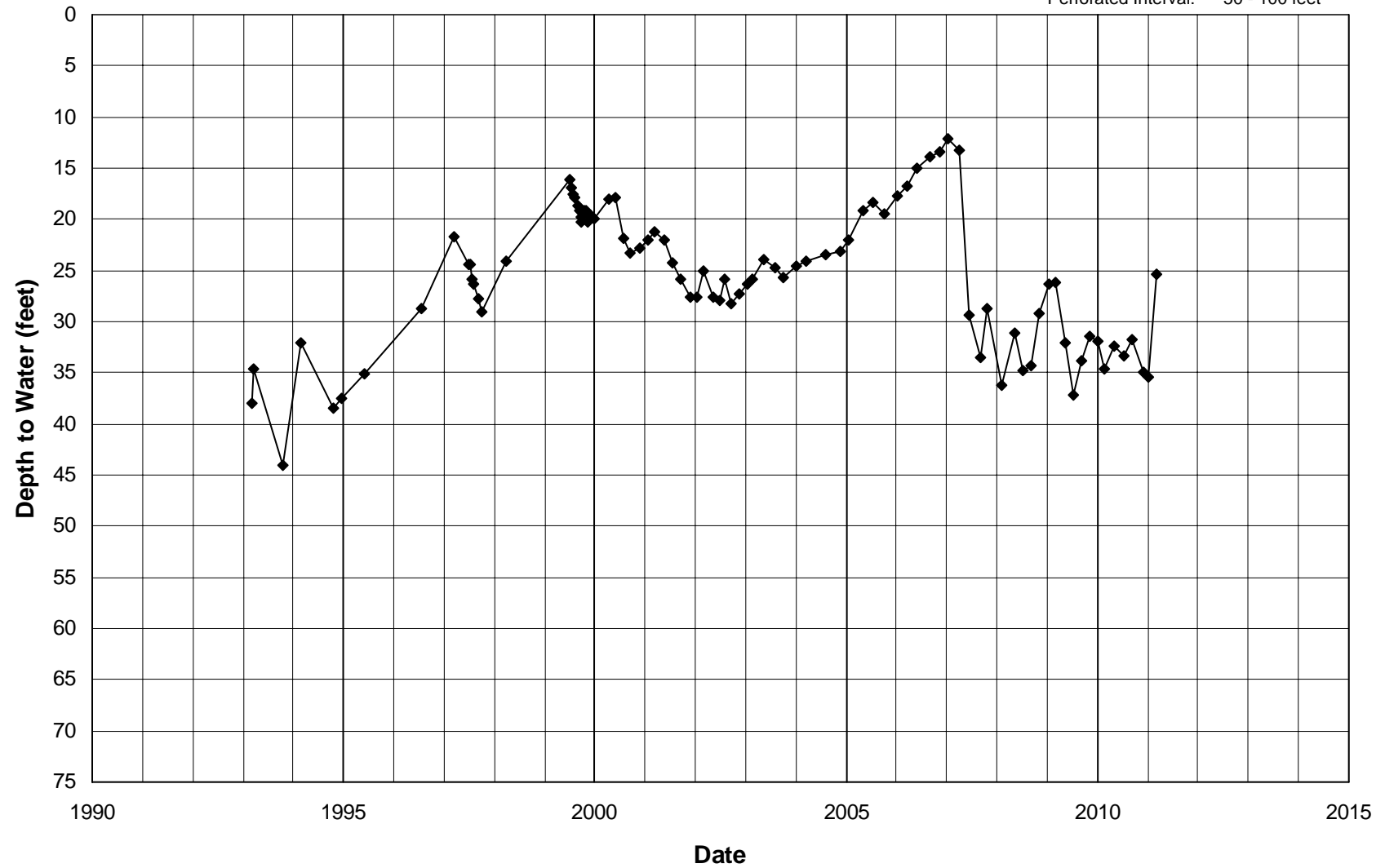


—◆— Hand Measurement

Etchegoinberry No. 2

Reference Elevation: 151.26 feet msl

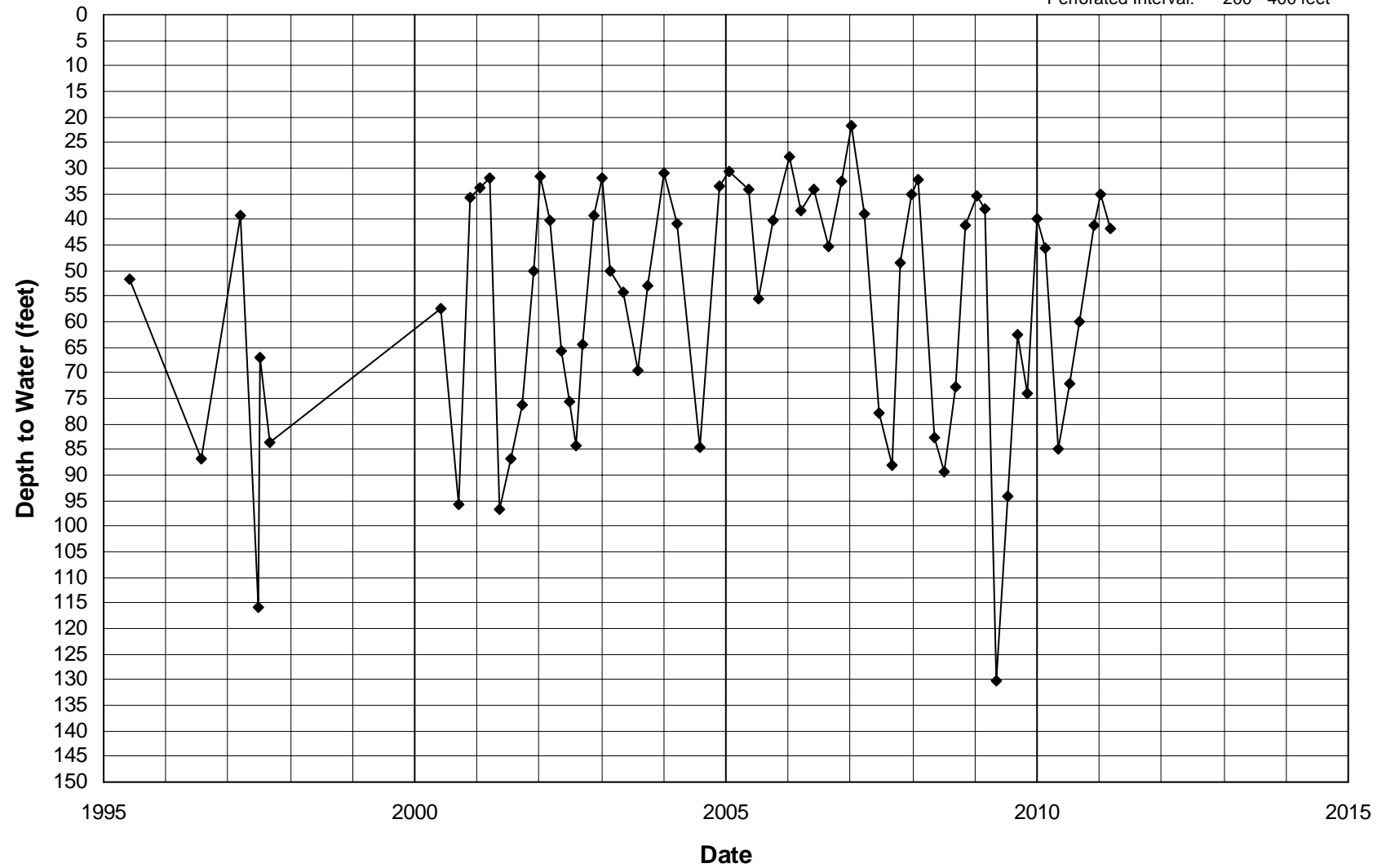
Perforated Interval: 50 - 100 feet



—◆— Hand Measurement

Coelho/Coelho/Fordel CCF-2

Reference Elevation: 157 feet msl
Perforated Interval: 200 - 400 feet

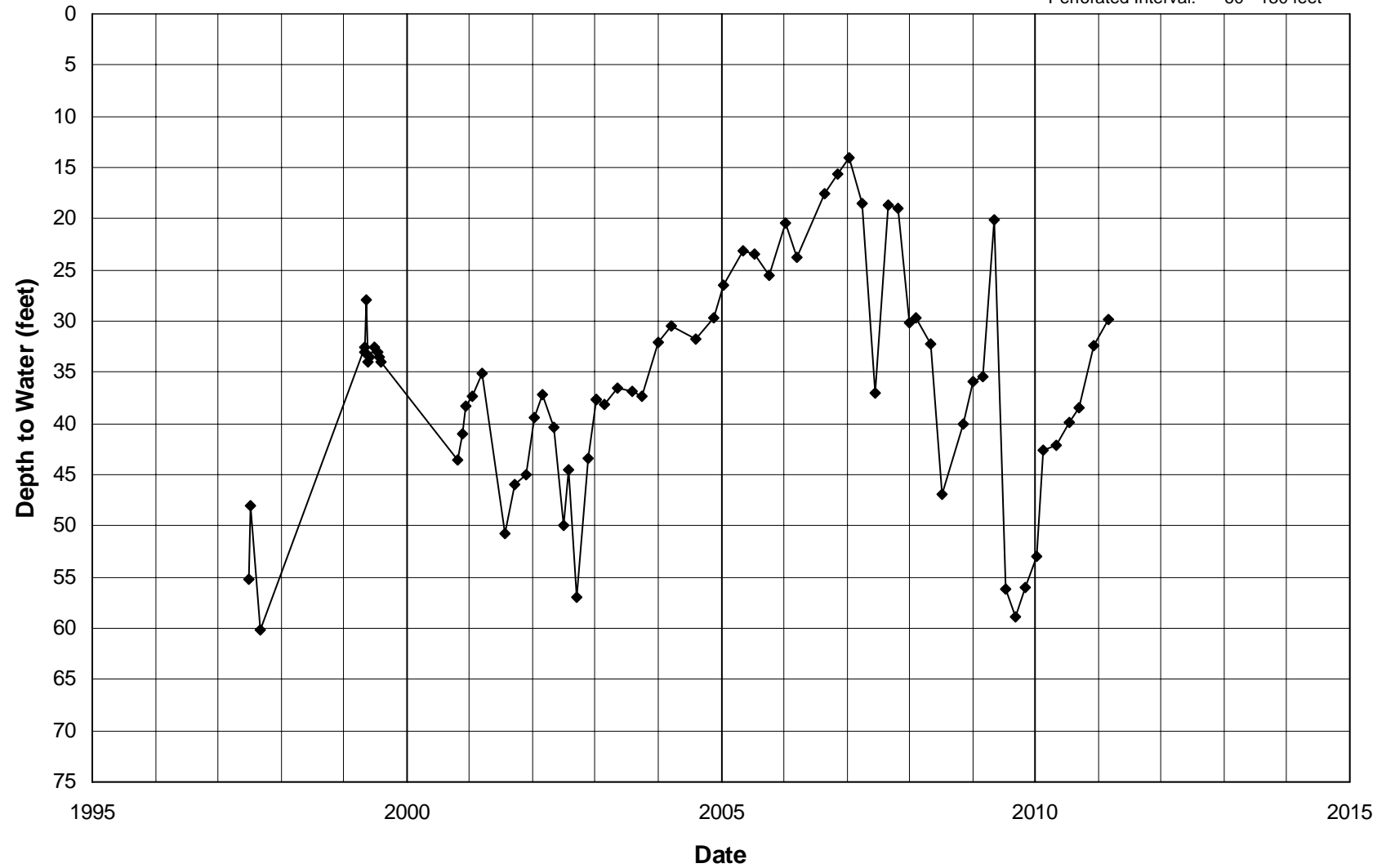


—◆— Hand Measurement

Meyers Farming MS-4

Reference Elevation: 156 feet msl

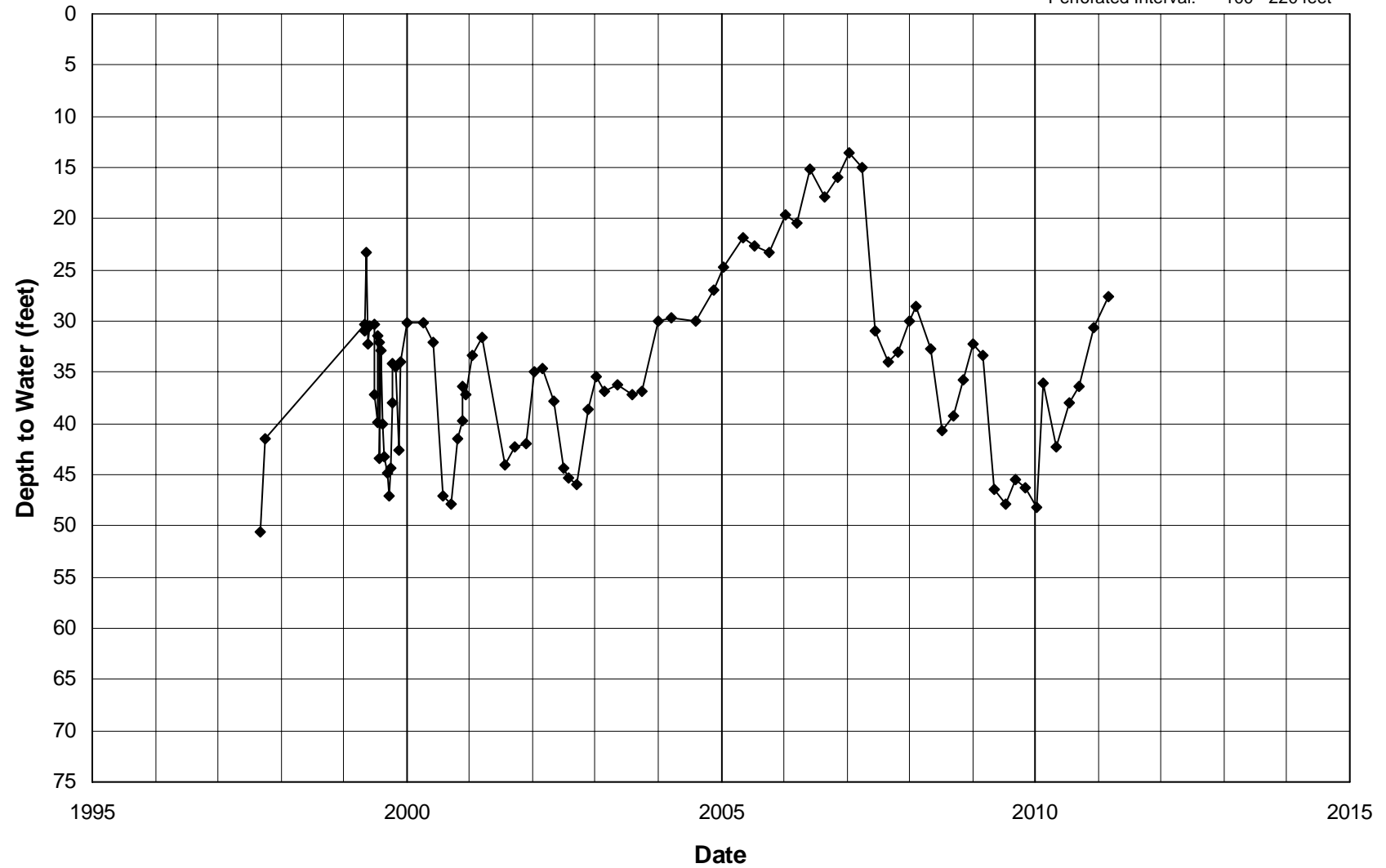
Perforated Interval: 60 - 130 feet



—◆— Hand Measurement

Meyers Farming MS-5

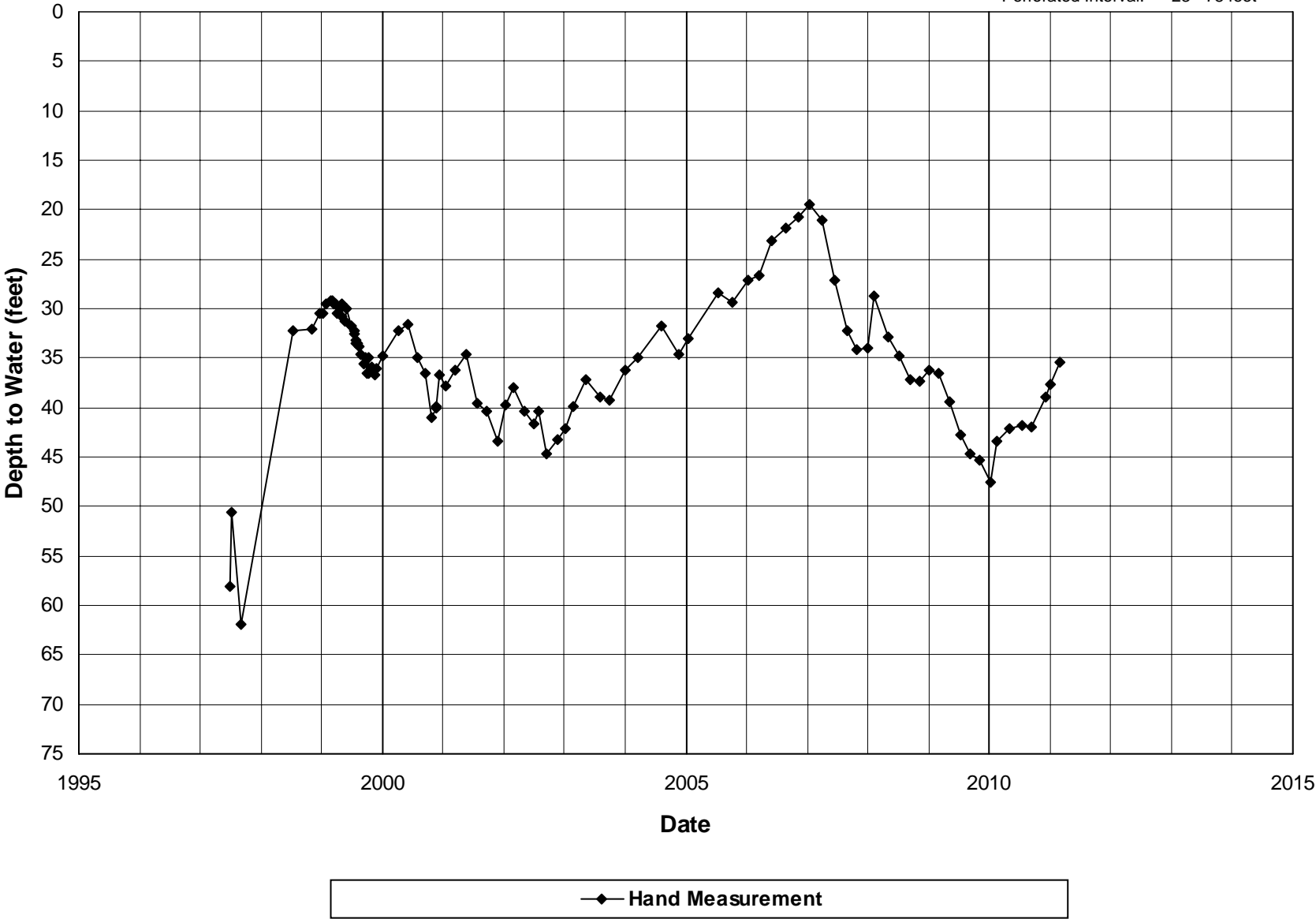
Reference Elevation: 156 feet msl
Perforated Interval: 100 - 220 feet



—◆— Hand Measurement

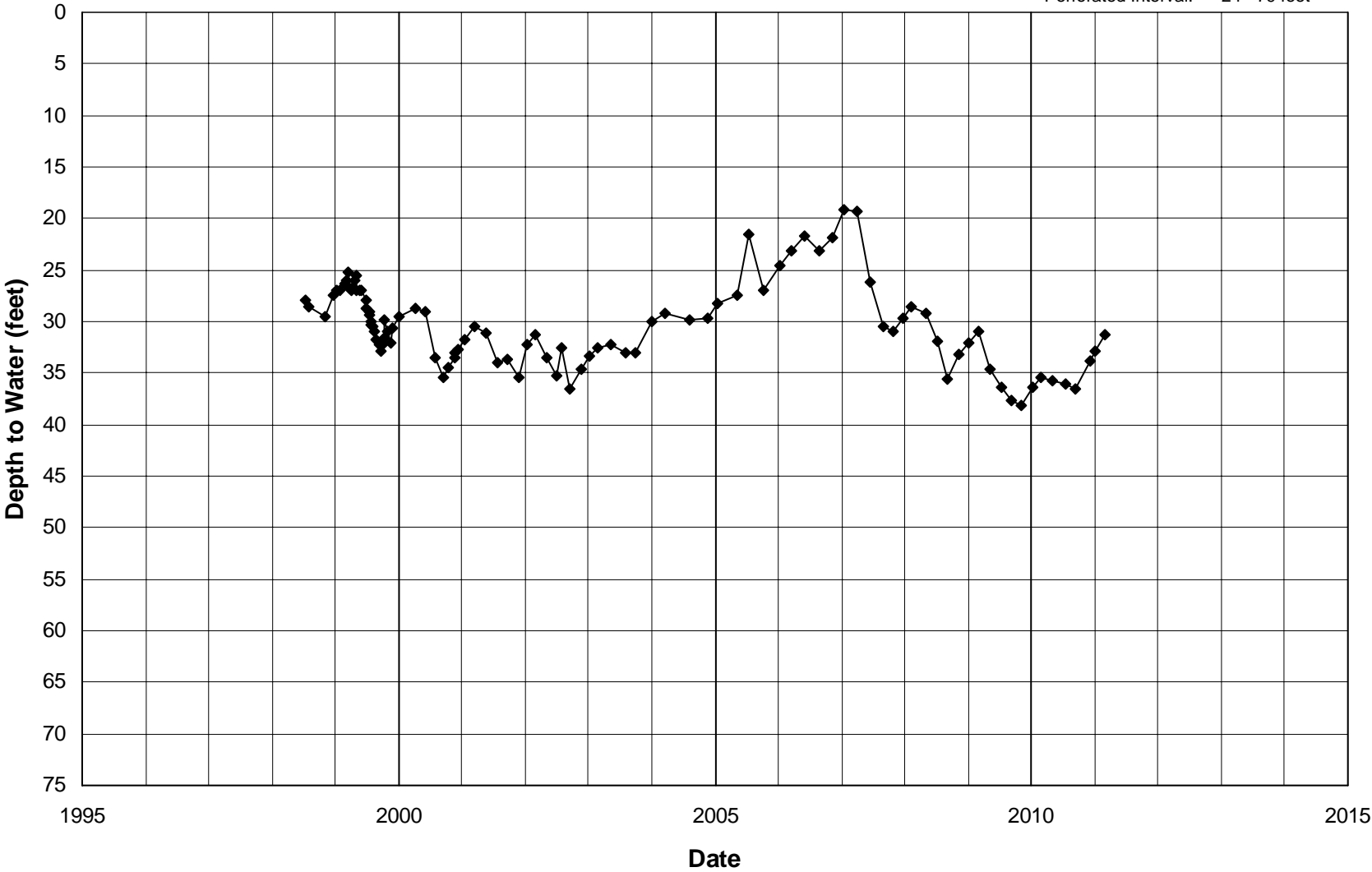
Meyers Farm Monitoring Well S-2

Reference Elevation: 162.34 feet msl
Perforated Interval: 23 - 78 feet



Meyers Farm Monitoring Well P-6

Reference Elevation: 161.08 feet msl
Perforated Interval: 24 - 79 feet

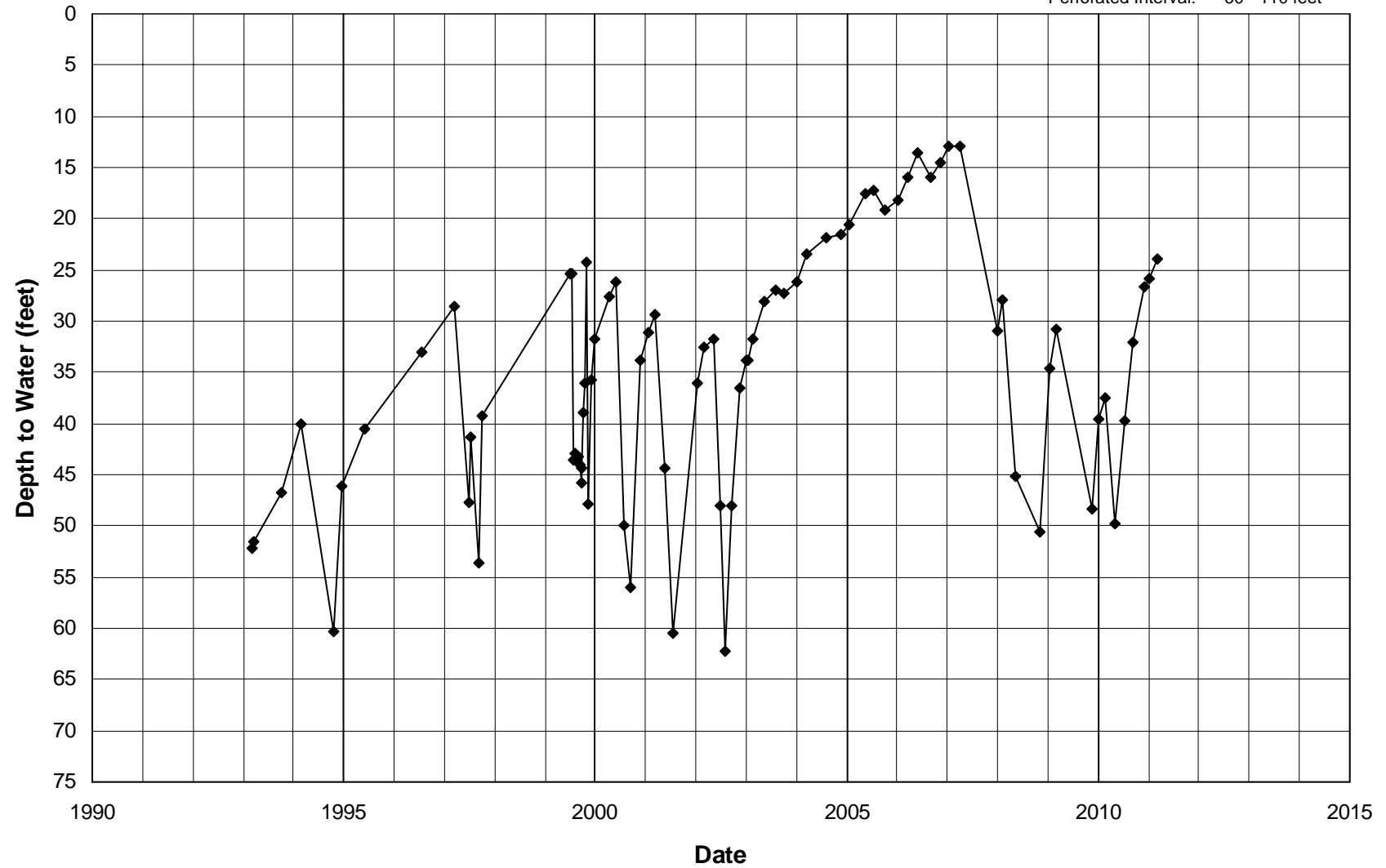


—◆— Hand Measurement

Five Star FS-5

Reference Elevation: 155.81 feet msl

Perforated Interval: 60 - 110 feet

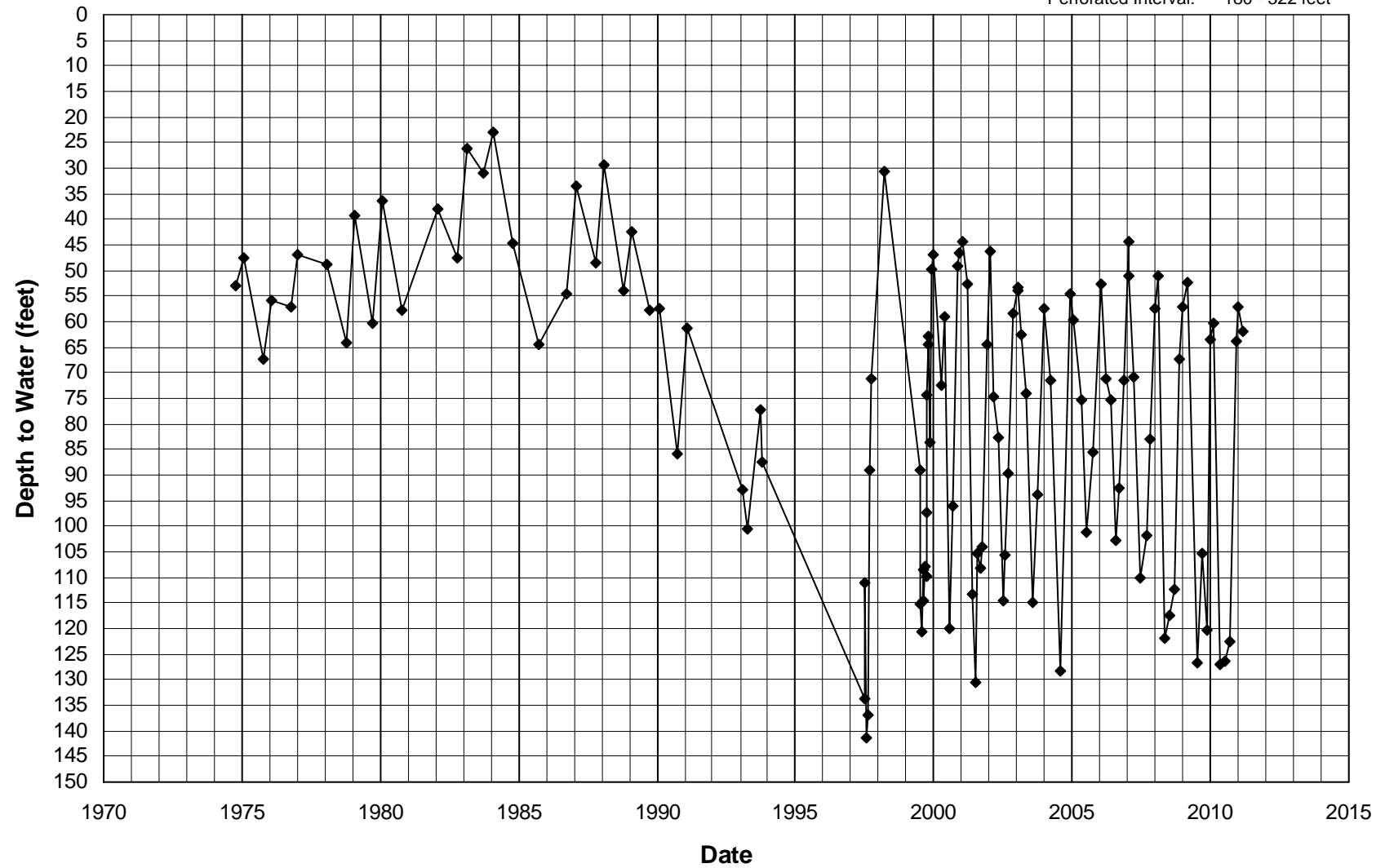


—◆— Hand Measurement

Farmers WD R-5

Reference Elevation: 164.3 feet msl

Perforated Interval: 180 - 322 feet

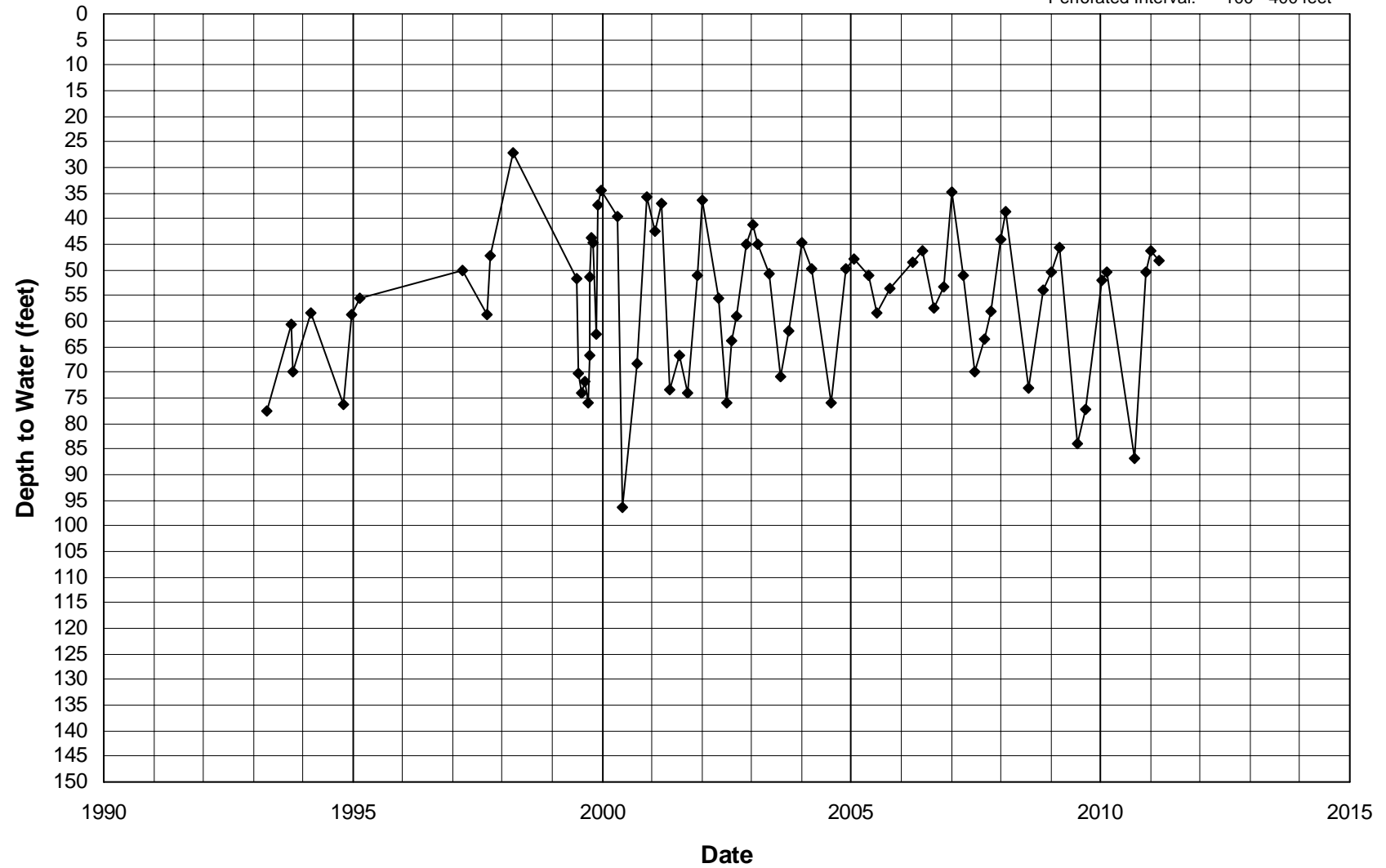


—◆— Hand Measurement

Farmers WD R-7

Reference Elevation: 166.18 feet msl

Perforated Interval: 100 - 400 feet

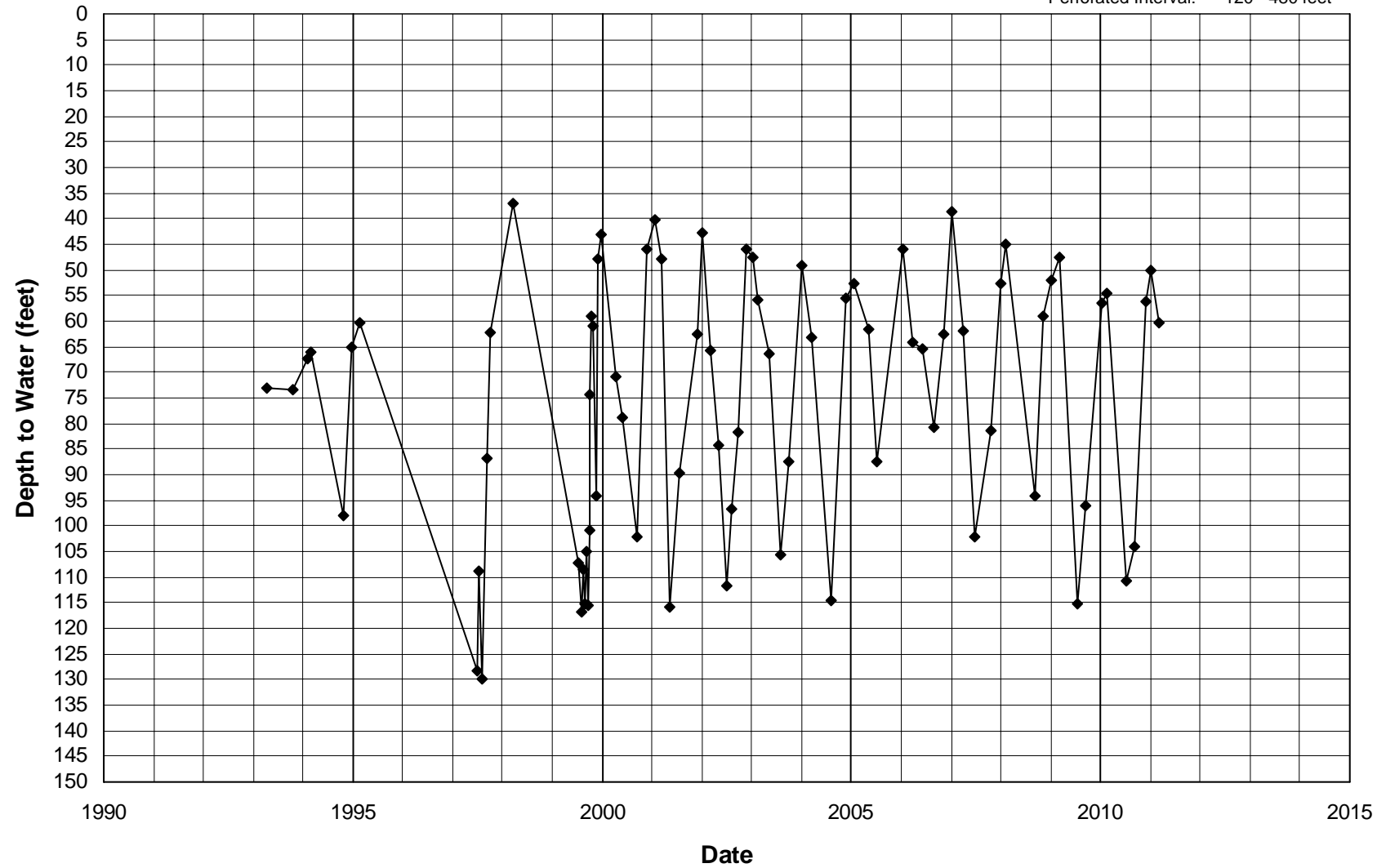


—◆— Hand Measurement

Farmers WD R-8

Reference Elevation: 164.4 feet msl

Perforated Interval: 120 - 480 feet

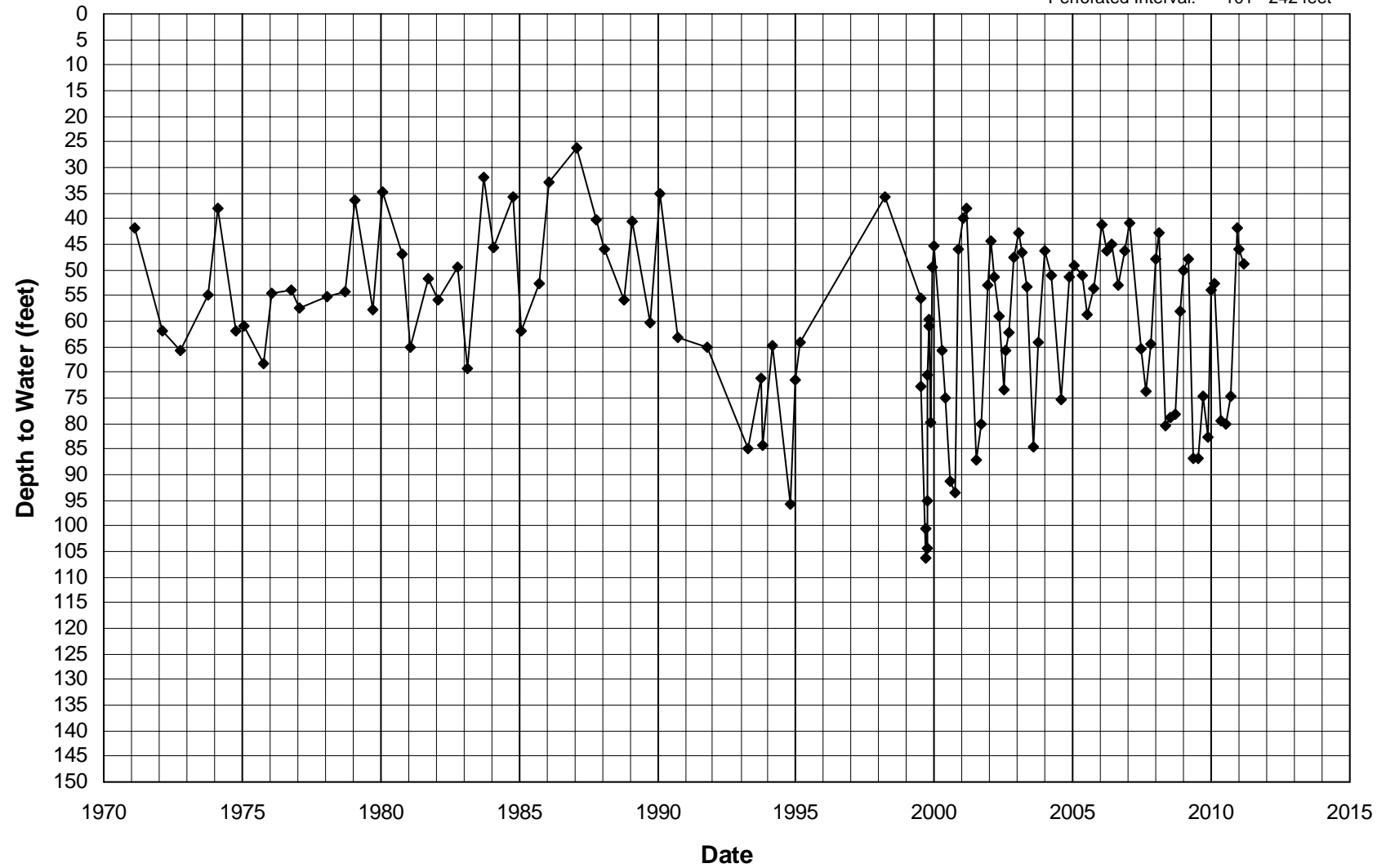


—◆— Hand Measurement

Farmers WD WL-2

Reference Elevation: 170.23 feet msl

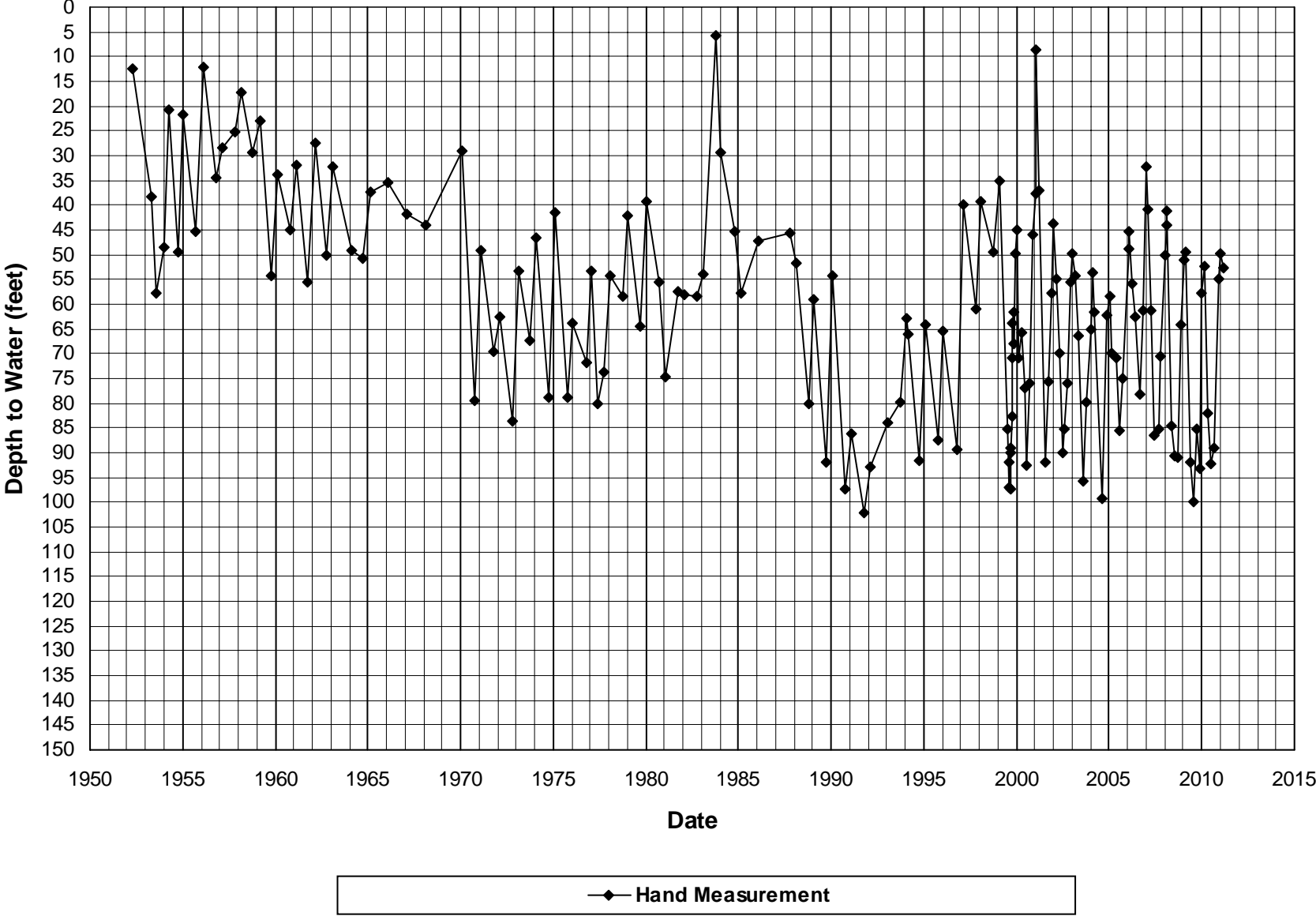
Perforated Interval: 101 - 242 feet



—◆— Hand Measurement

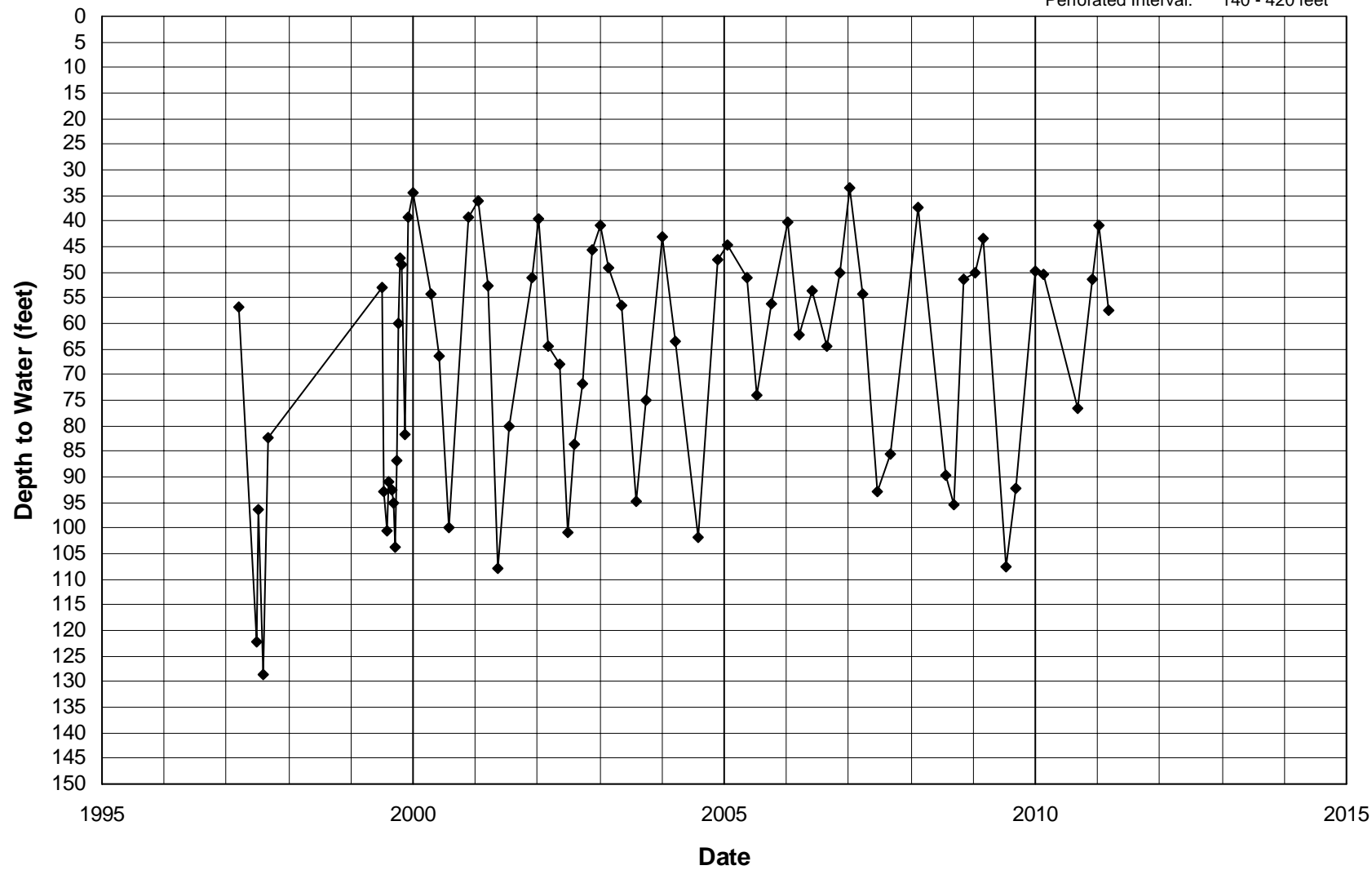
Farmers WD EL-1

Reference Elevation: 170 feet msl
Perforated Interval: 98 - 268 feet



Baker Farming BF-2

Reference Elevation: 163 feet msl
Perforated Interval: 140 - 420 feet

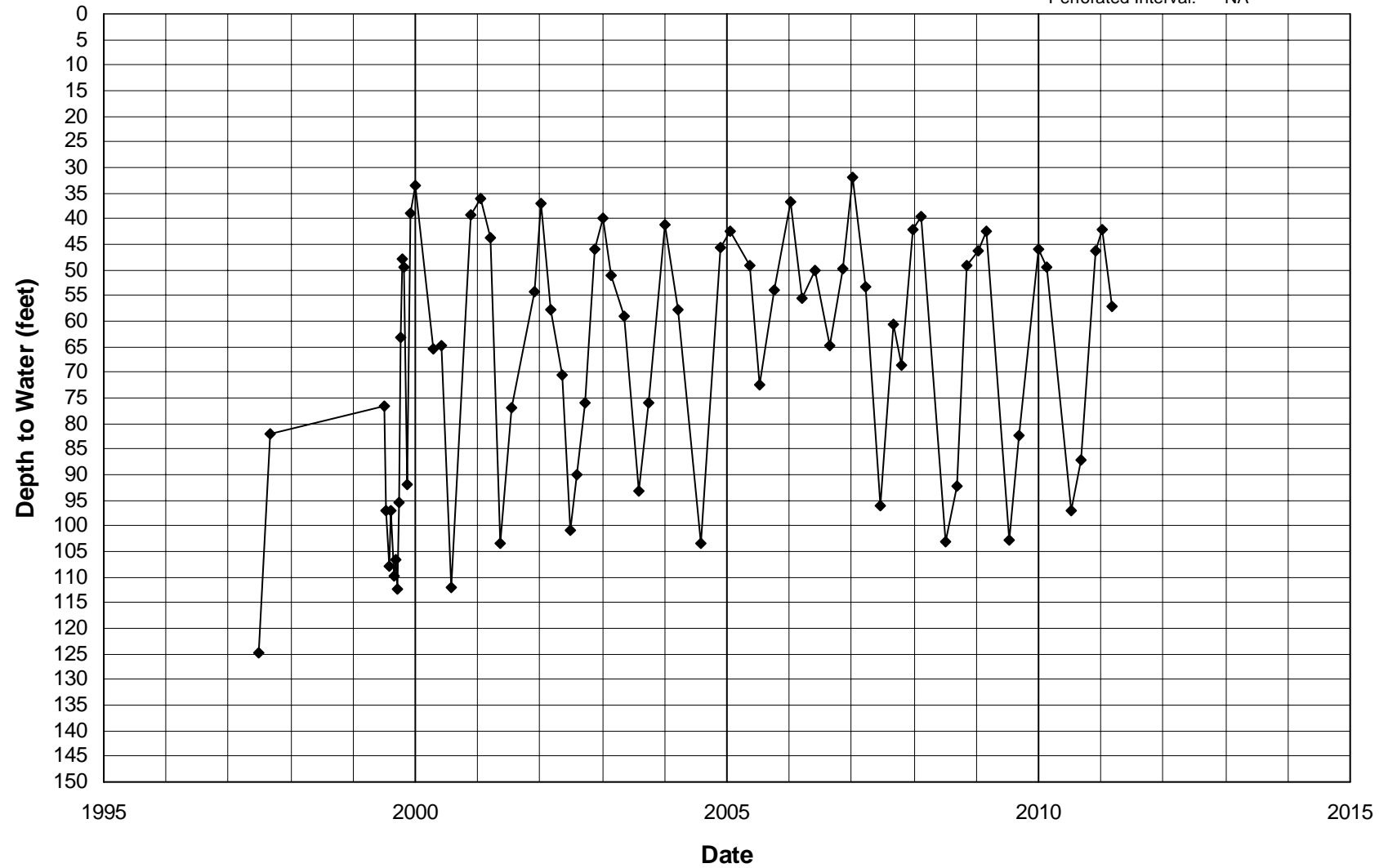


—◆— Hand Measurement

Panoche Creek Farms PCF-1

Reference Elevation: 163 feet msl

Perforated Interval: NA

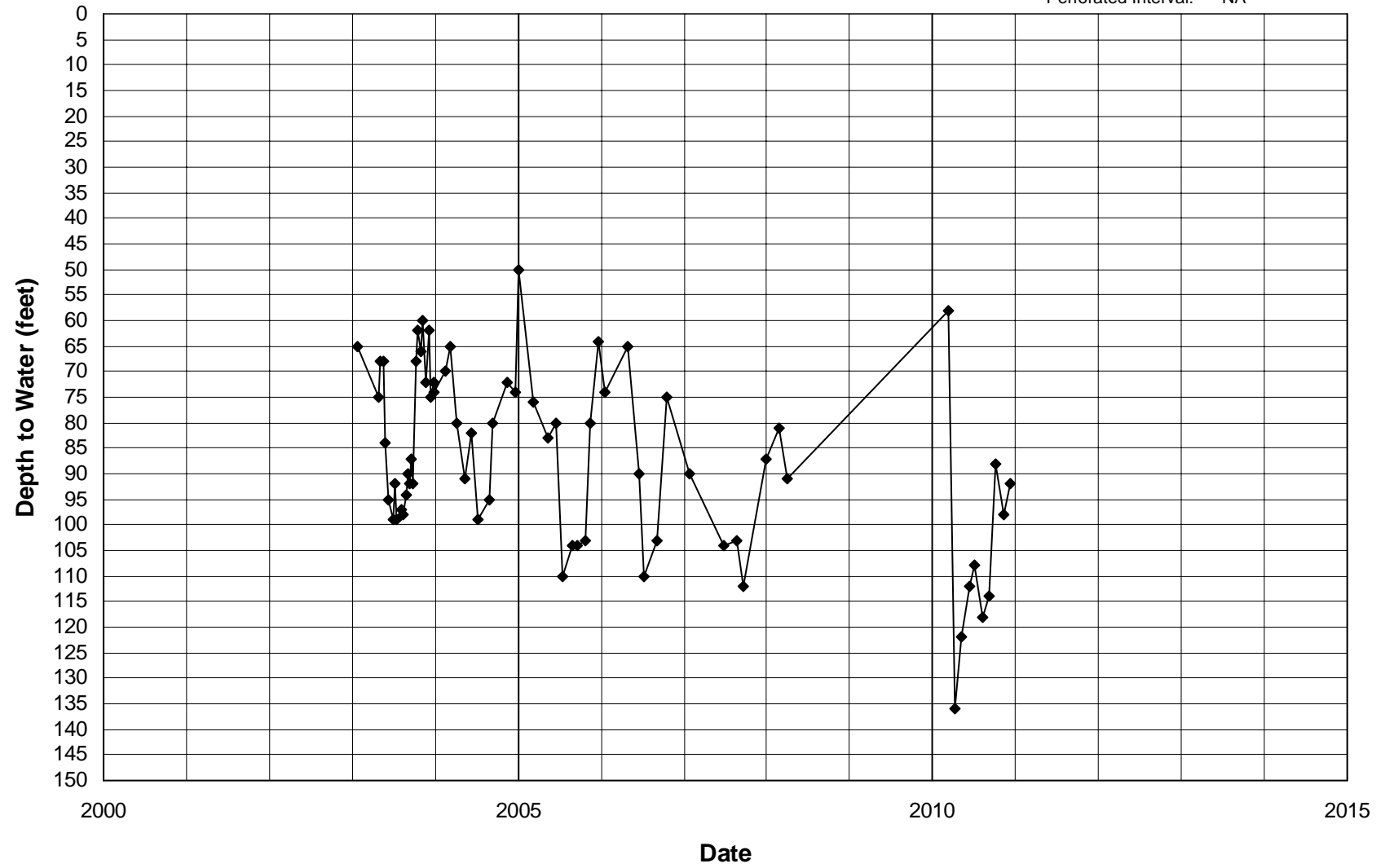


—◆— Hand Measurement

City of Mendota Well No. 7

Reference Elevation: NA

Perforated Interval: NA

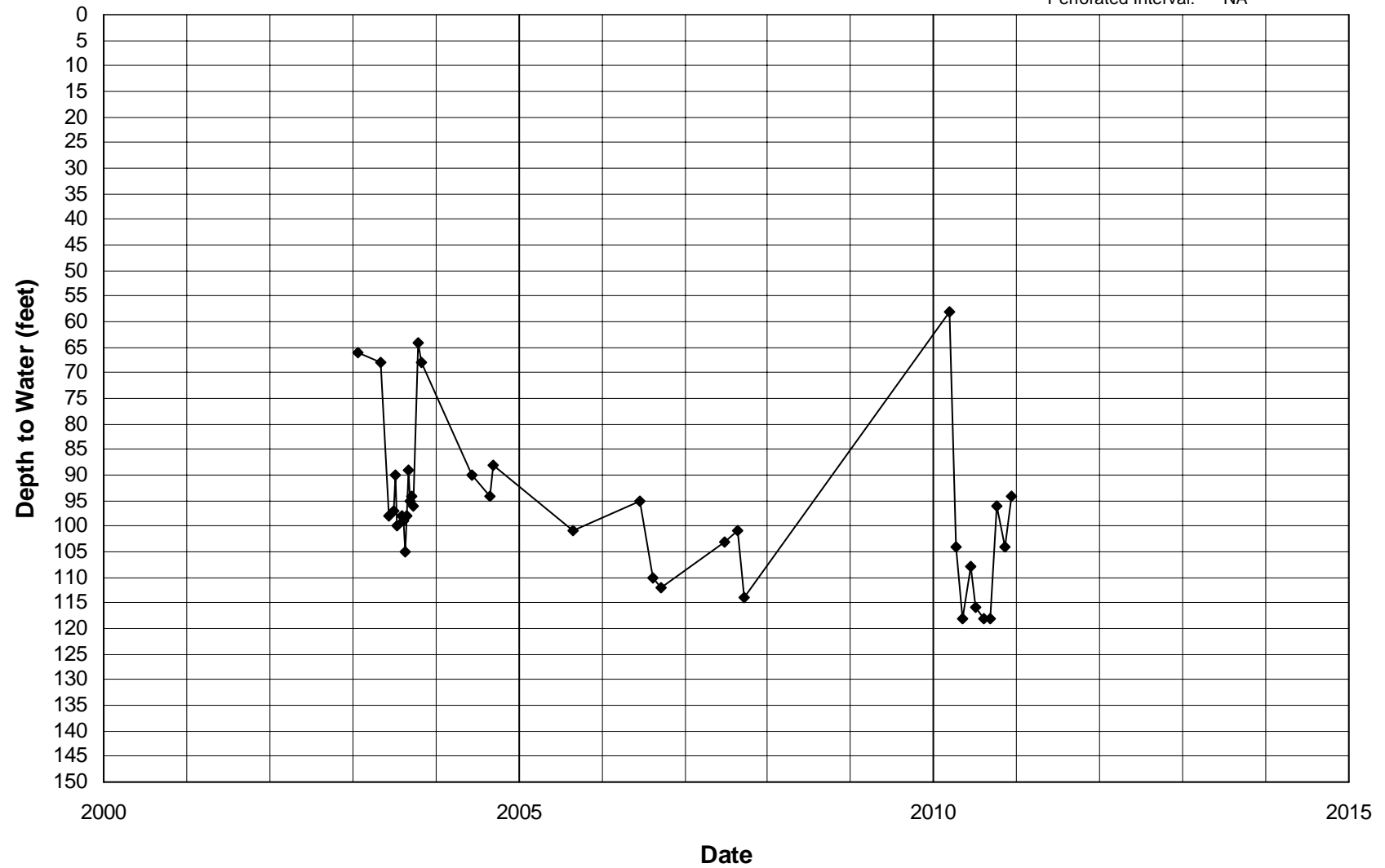


—◆— Hand Measurement

City of Mendota Well No. 8

Reference Elevation: NA

Perforated Interval: NA

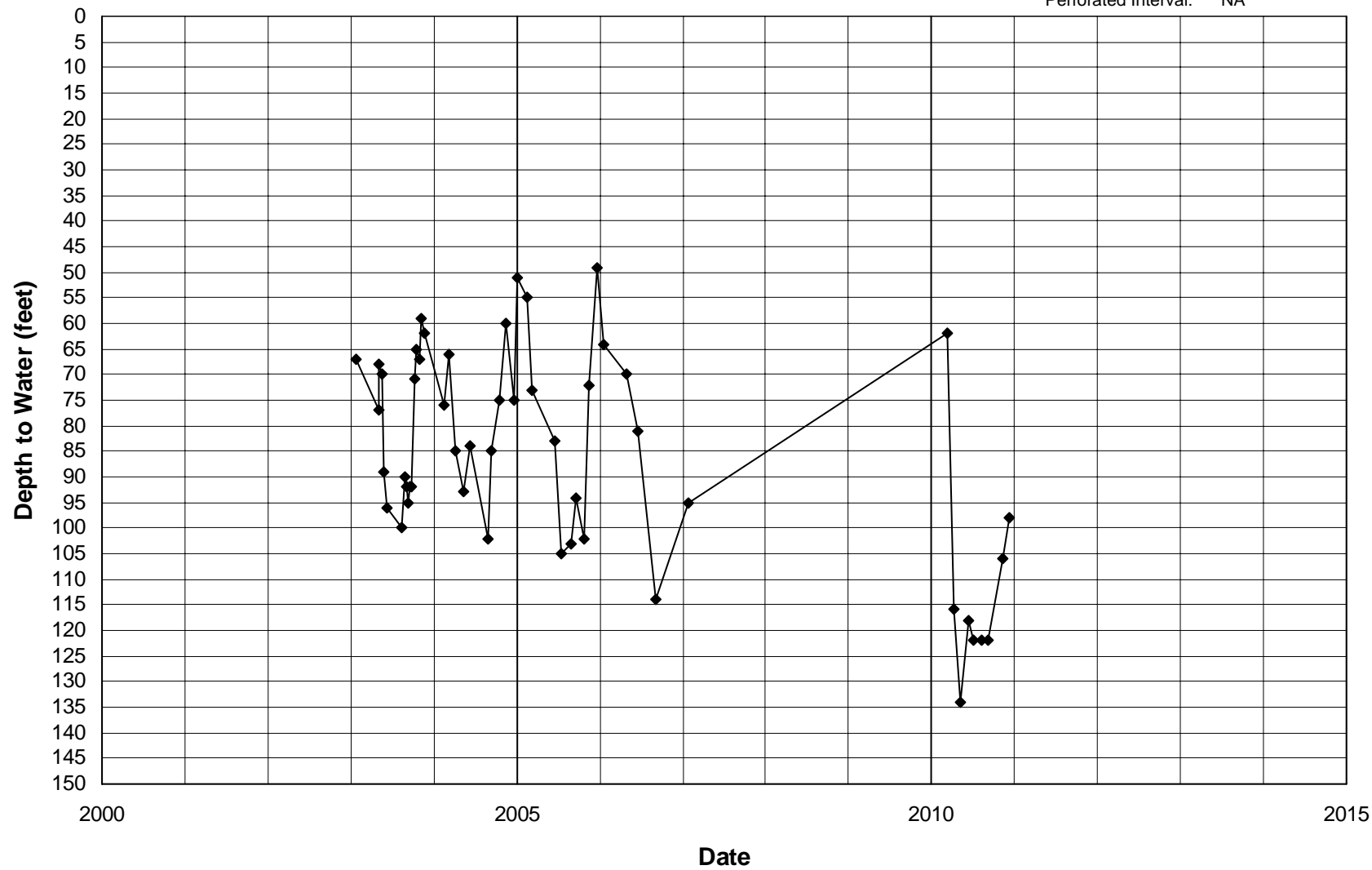


—◆— Hand Measurement

City of Mendota Well No. 9

Reference Elevation: NA

Perforated Interval: NA

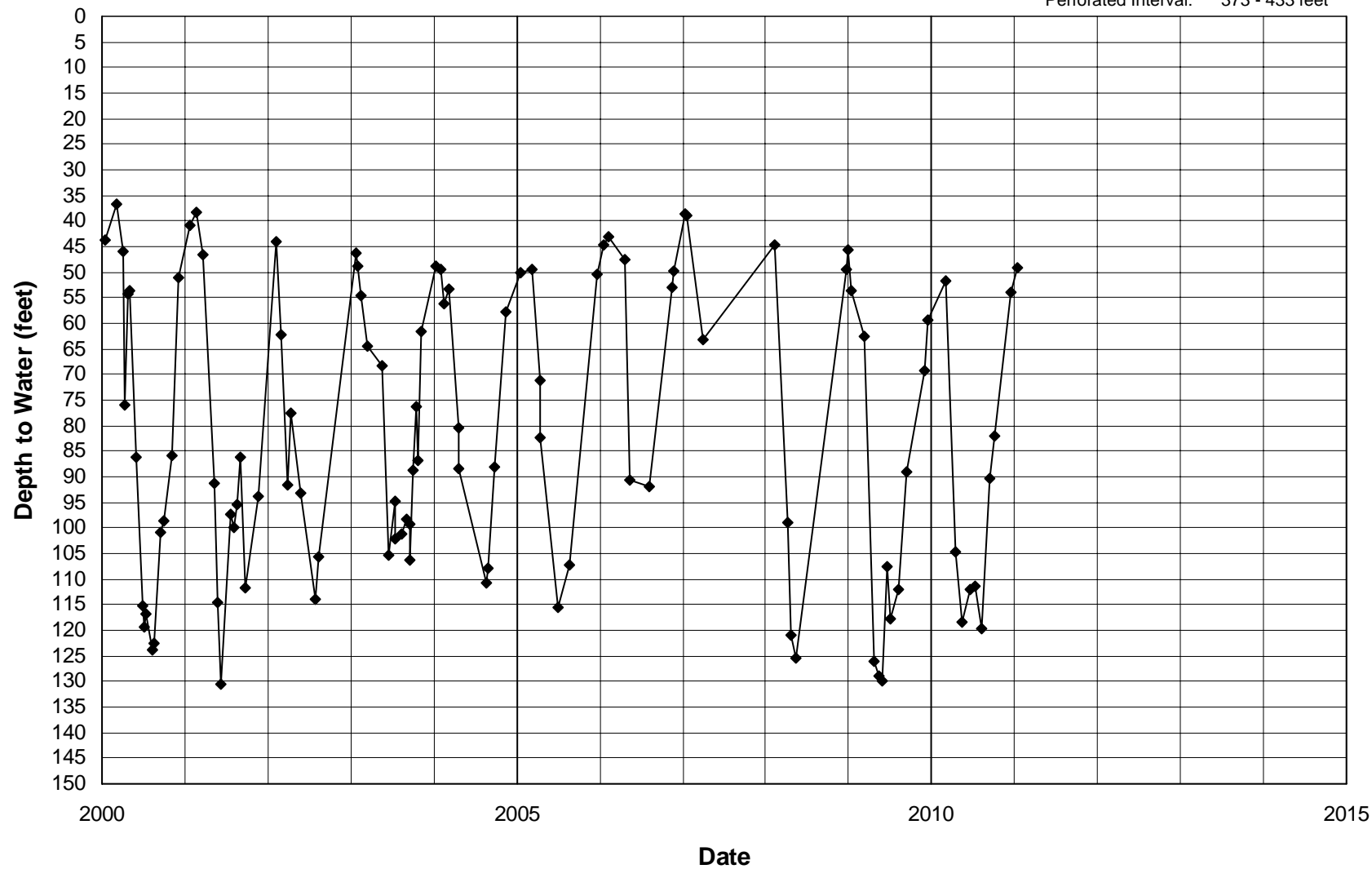


—◆— Hand Measurement

Yearout Ranch Extensometer: T13S/R15E-35D5

Reference Elevation: 167 feet msl

Perforated Interval: 373 - 433 feet

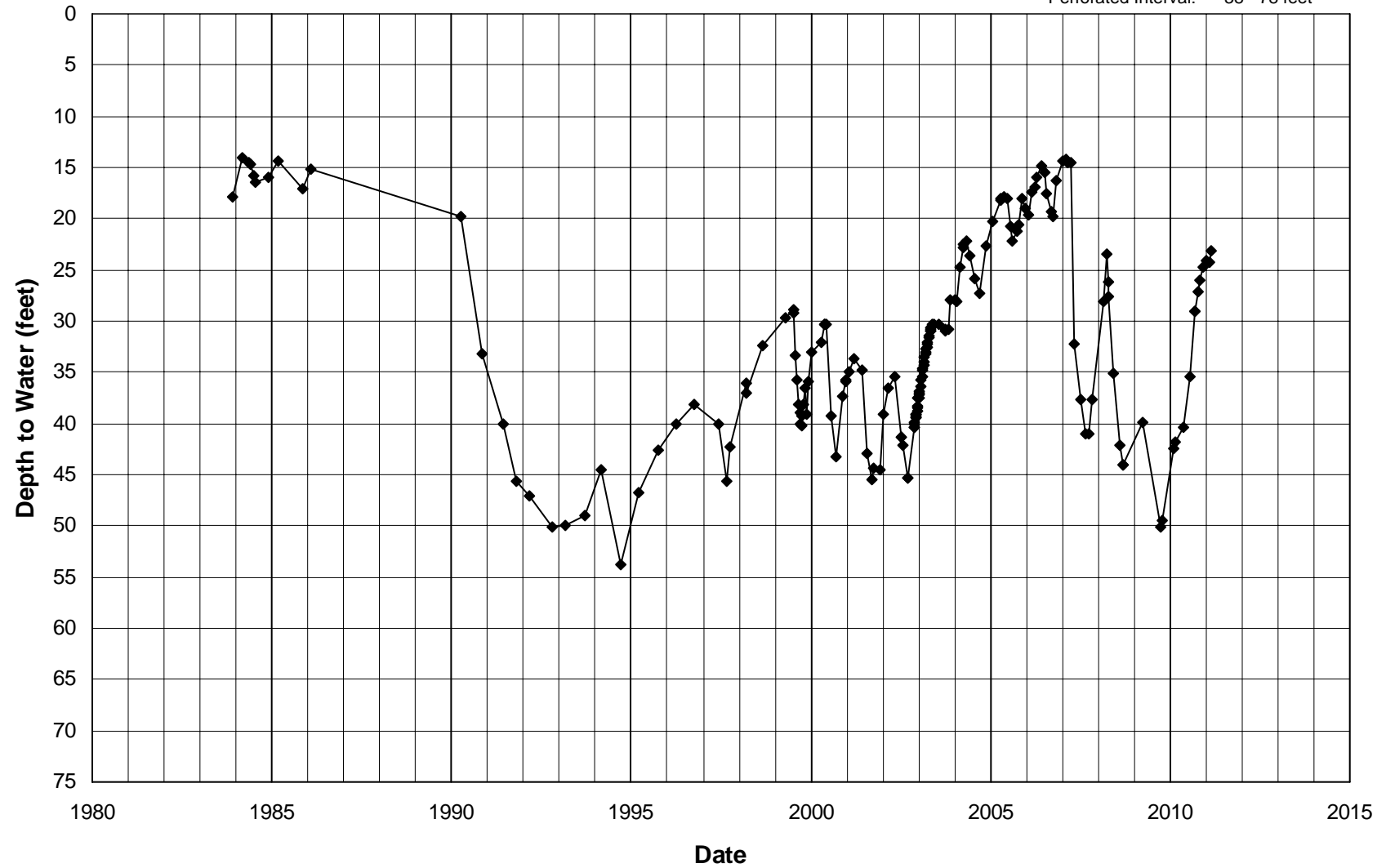


—◆— Hand Measurement

Spreckels Sugar Co. MW-1

Reference Elevation: 163.64 feet msl

Perforated Interval: 38 - 78 feet

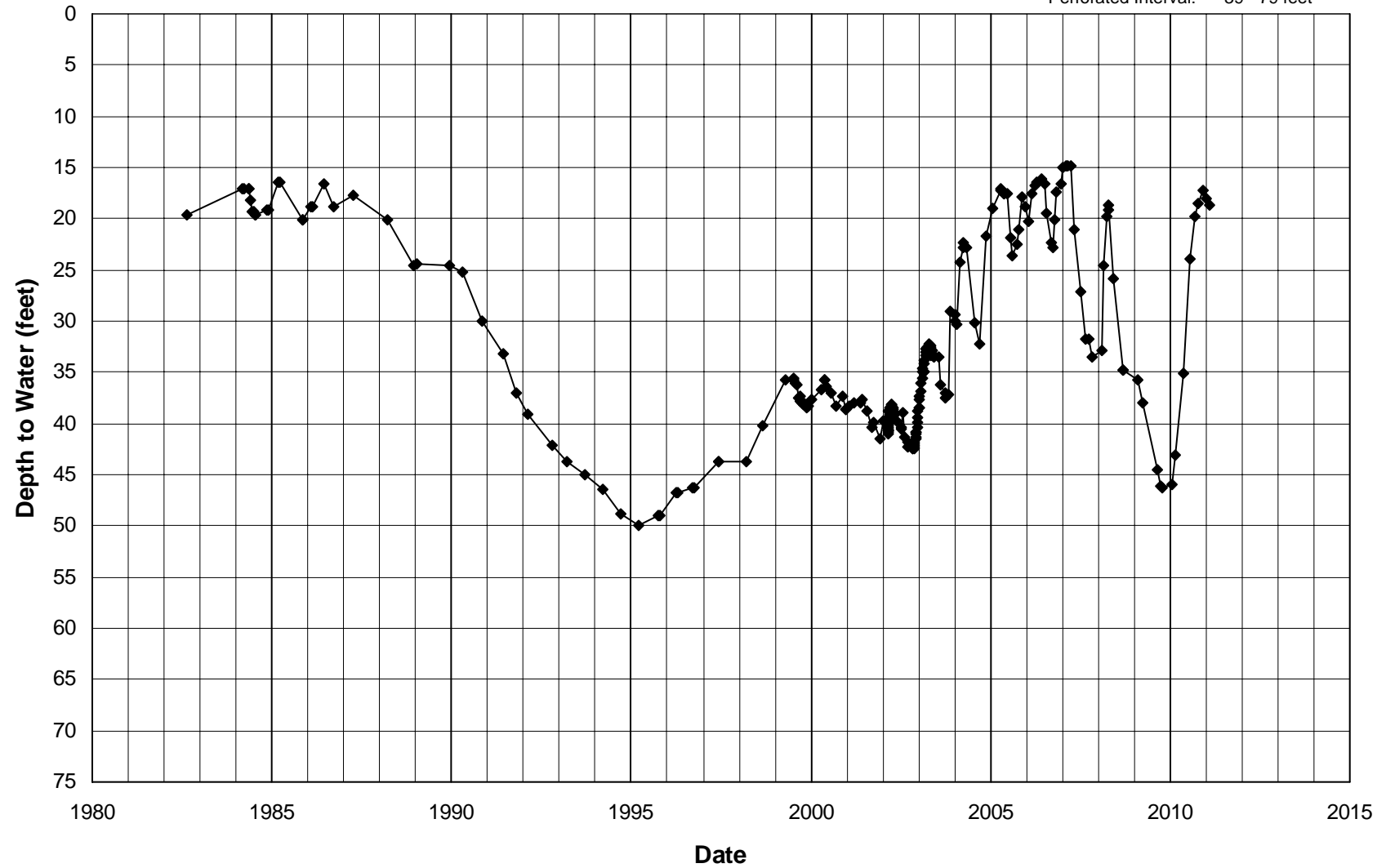


—◆— Hand Measurement

Spreckels Sugar Co. MW-3

Reference Elevation: 167 feet msl

Perforated Interval: 39 - 79 feet

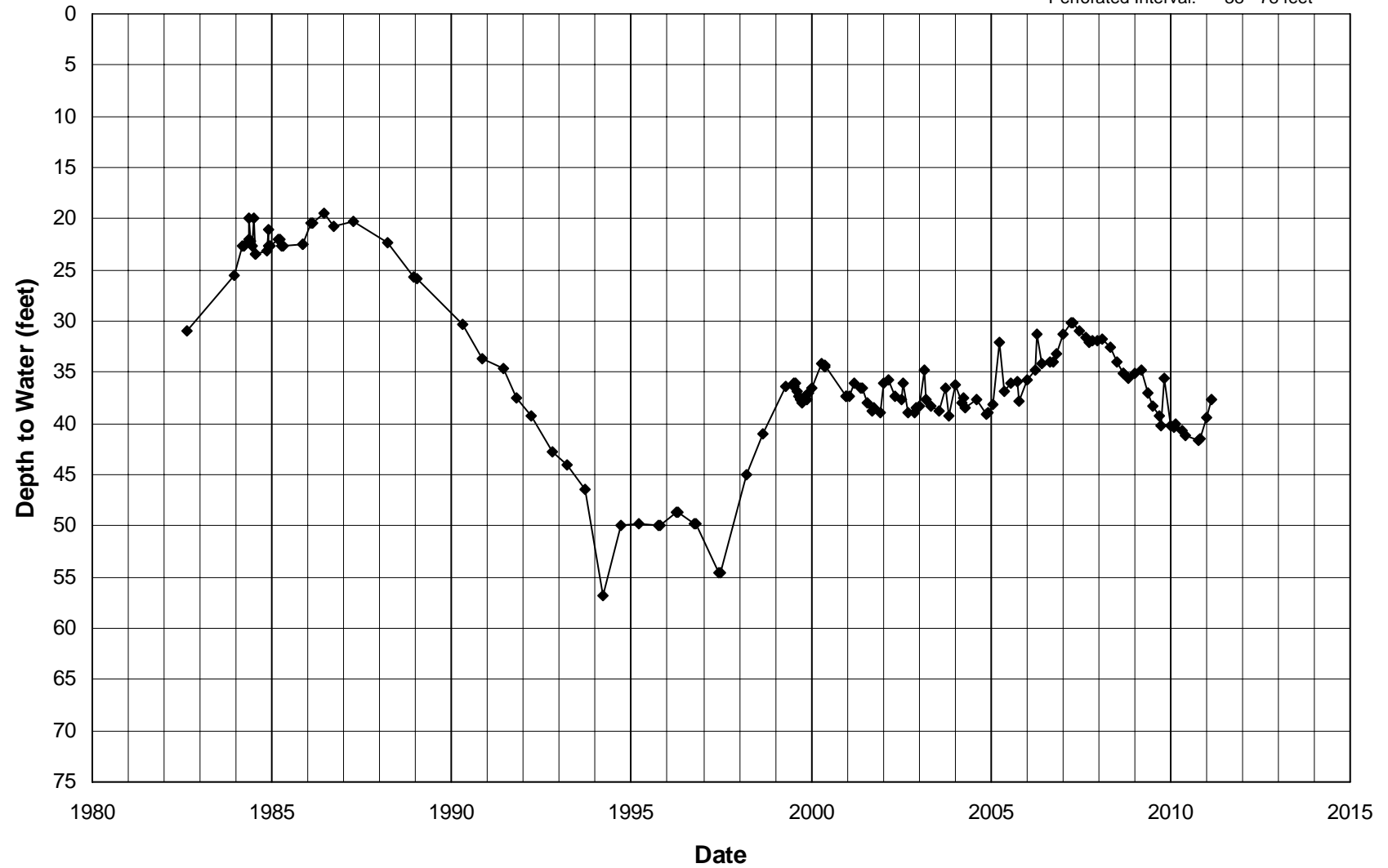


—◆— Hand Measurement

Spreckels Sugar Co. MW-6

Reference Elevation: 164 feet msl

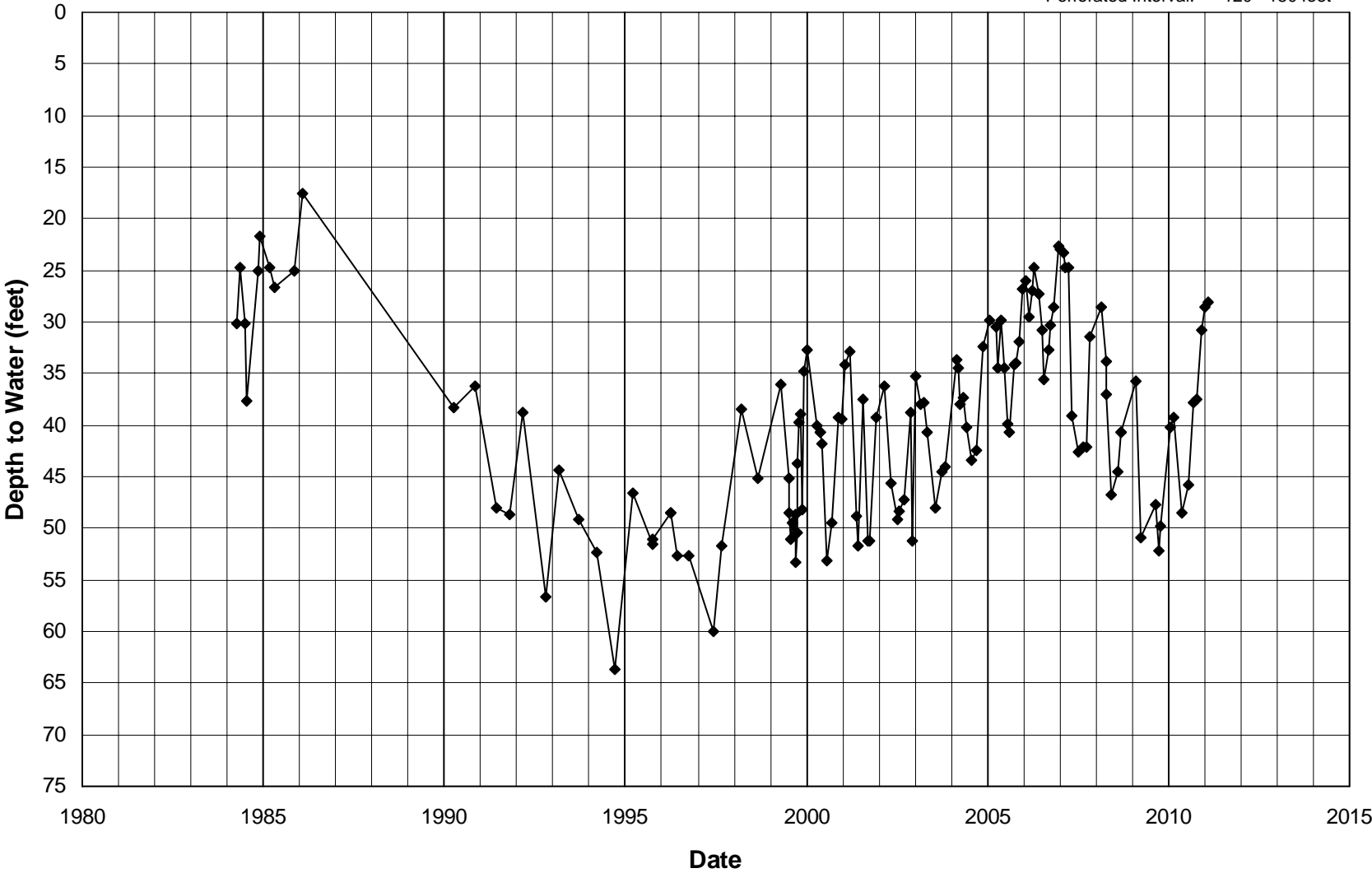
Perforated Interval: 38 - 78 feet



—◆— Hand Measurement

Spreckels Sugar Co. MW-10

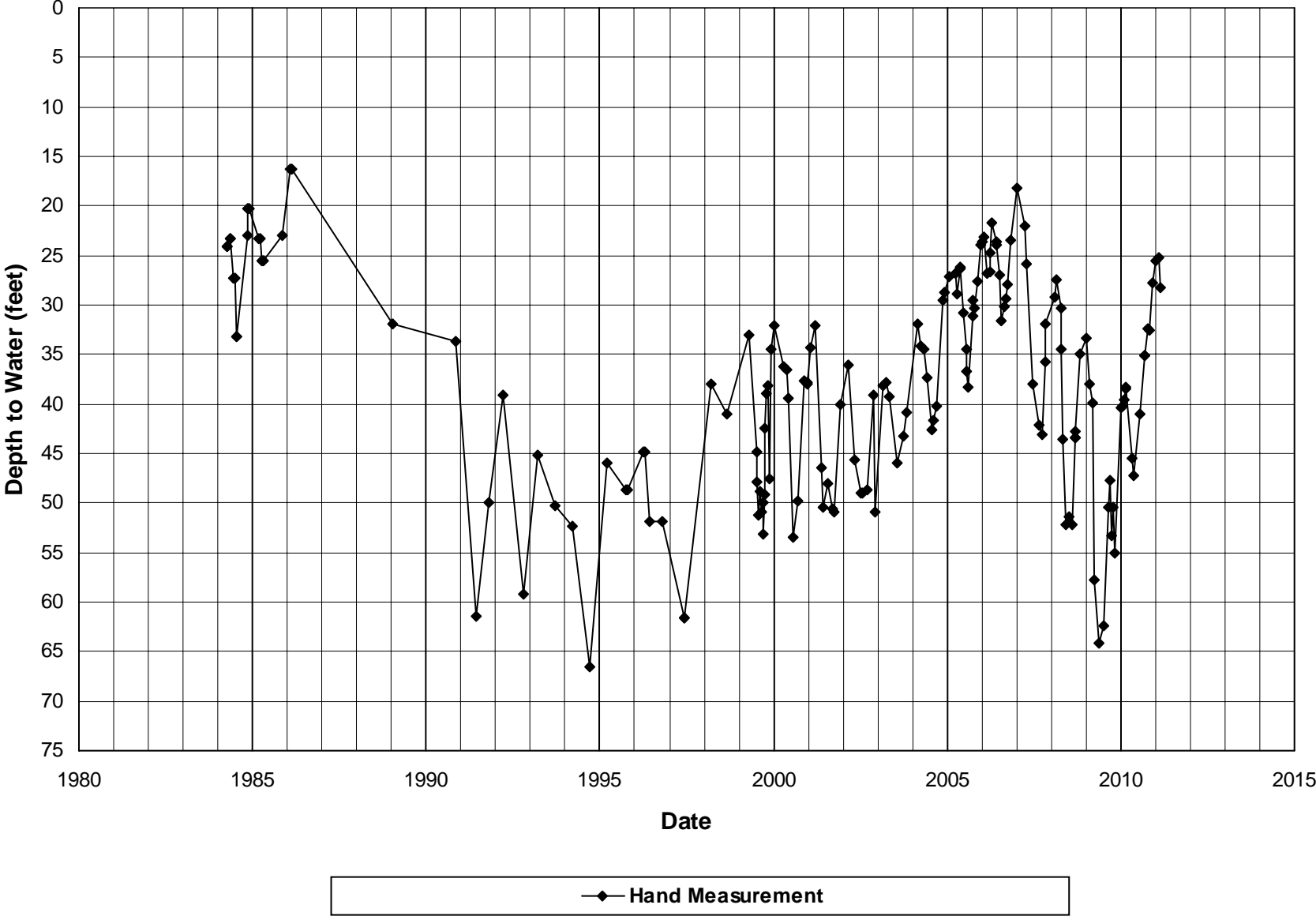
Reference Elevation: 161.18 feet msl
Perforated Interval: 120 - 150 feet



—◆— Hand Measurement

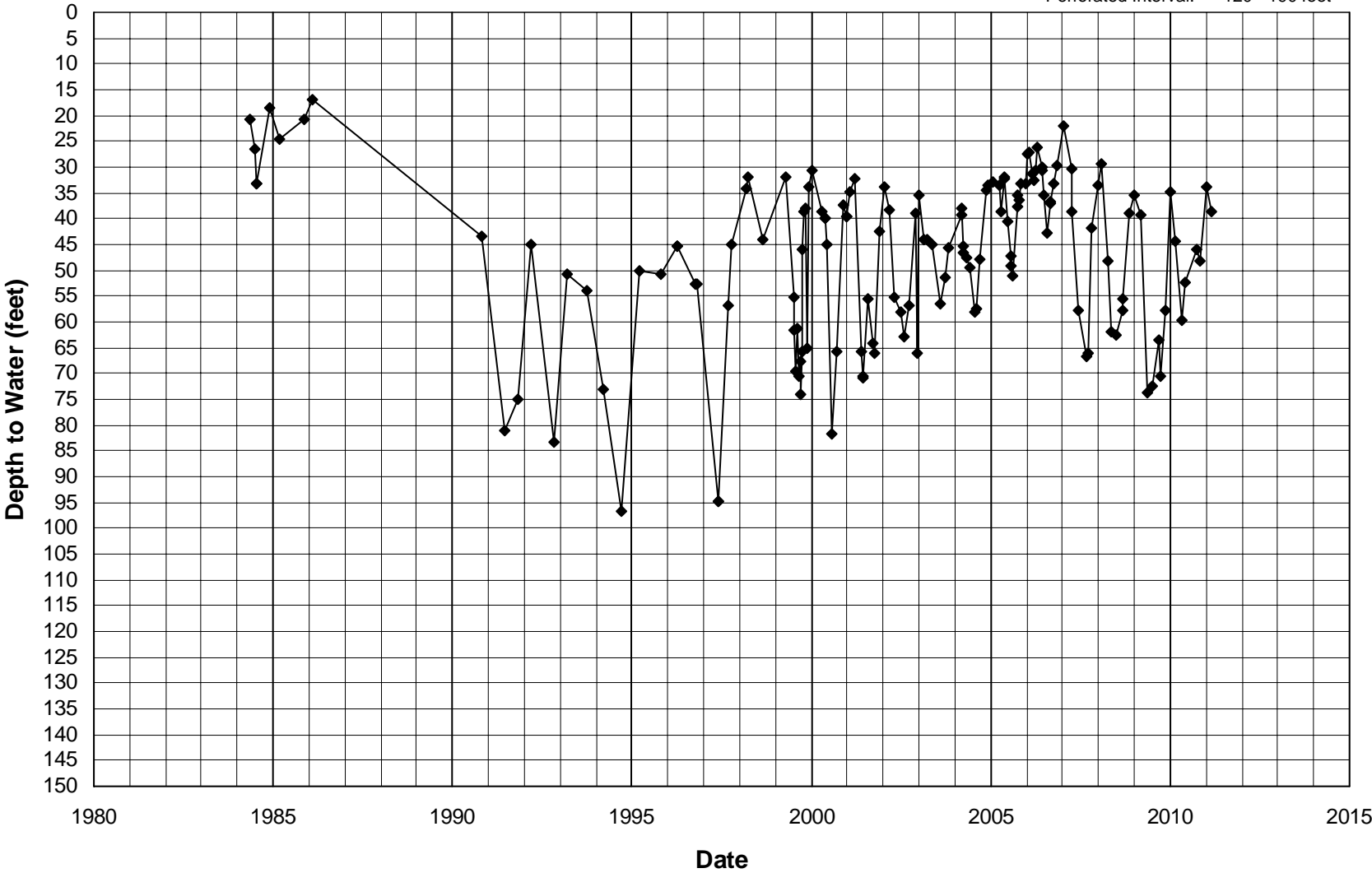
Spreckels Sugar Co. MW-11

Reference Elevation: 160.04 feet msl
Perforated Interval: 120 - 150 feet



Spreckels Sugar Co. MW-14

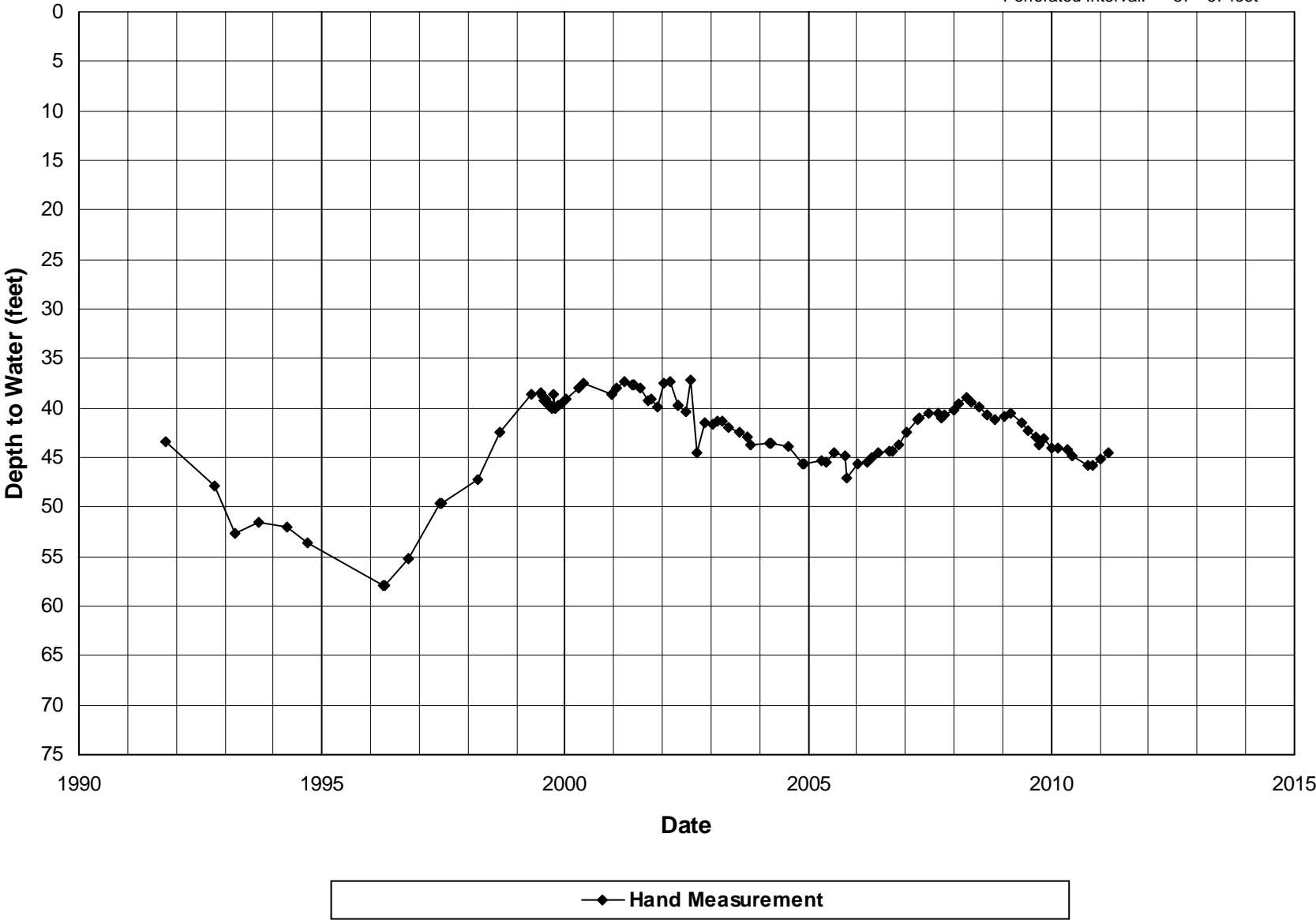
Reference Elevation: 156 feet msl
Perforated Interval: 120 - 190 feet



—◆— Hand Measurement

Spreckels Sugar Co. MW-32

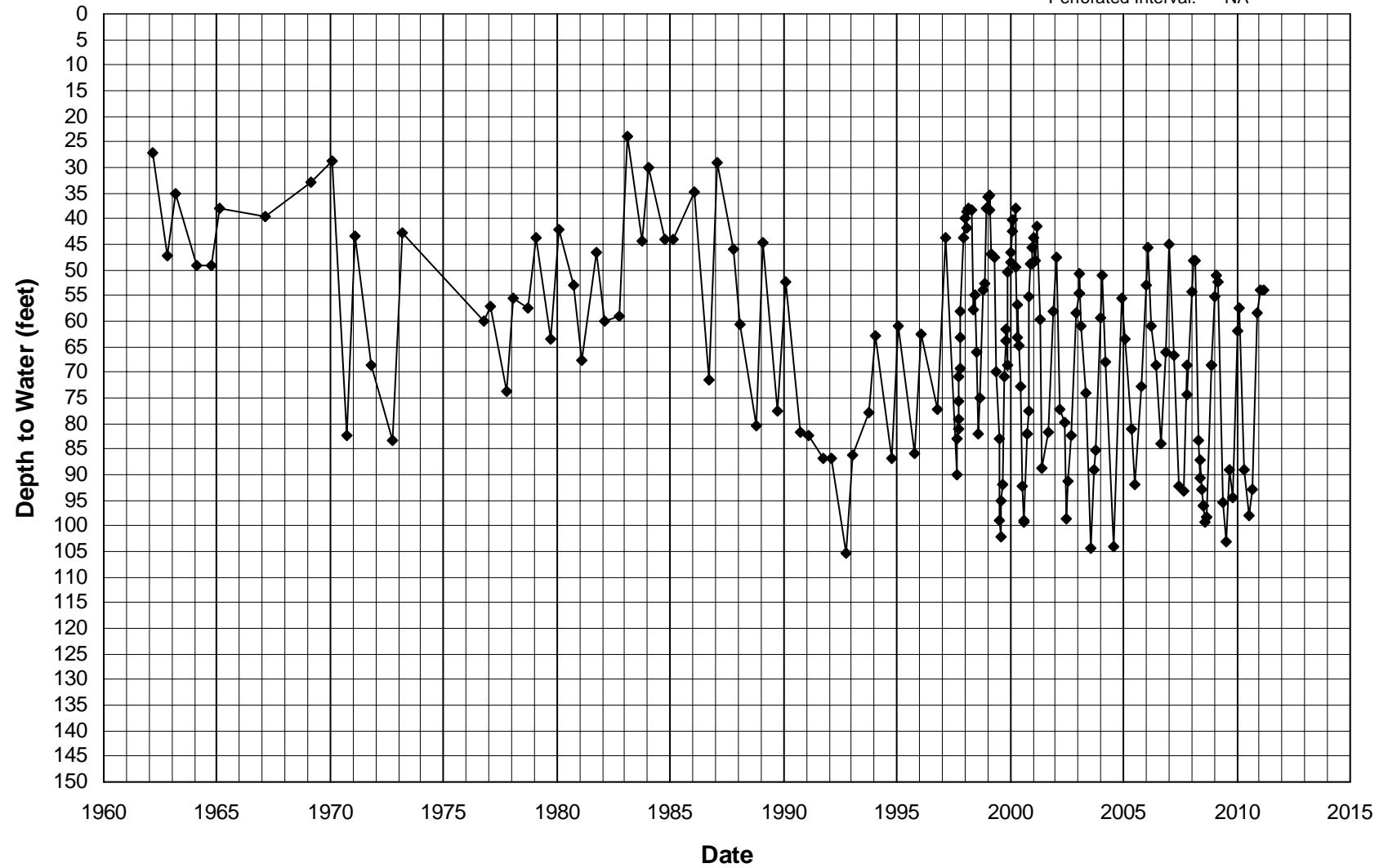
Reference Elevation: 167 feet msl
Perforated Interval: 37 - 67 feet



Columbia Canal Company Well CC-1

Reference Elevation: 175 feet msl

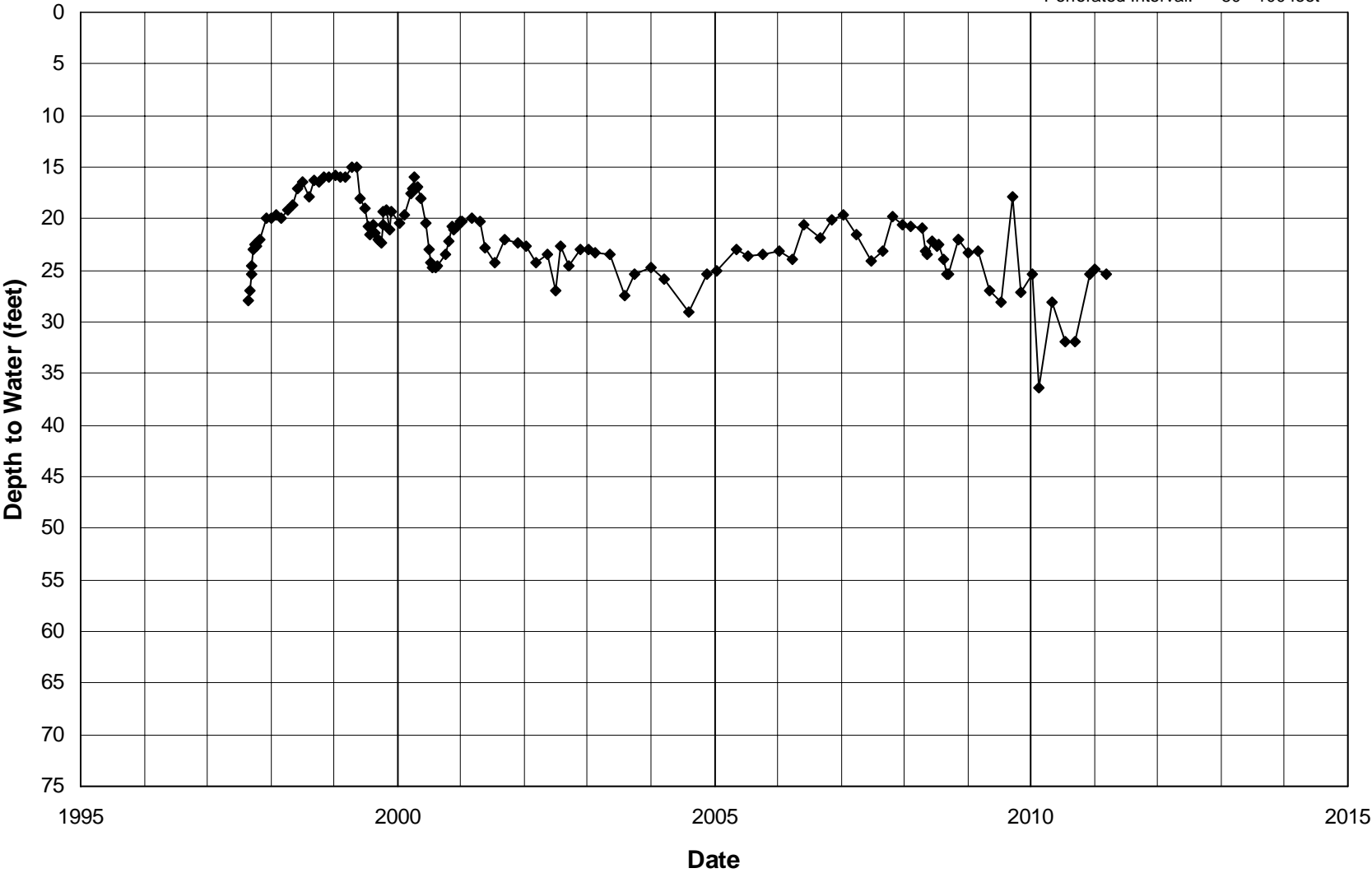
Perforated Interval: NA



—◆— Hand Measurement

Columbia Canal Company Well Lopes-Obs.

Reference Elevation: 162 feet msl
Perforated Interval: 80 - 100 feet

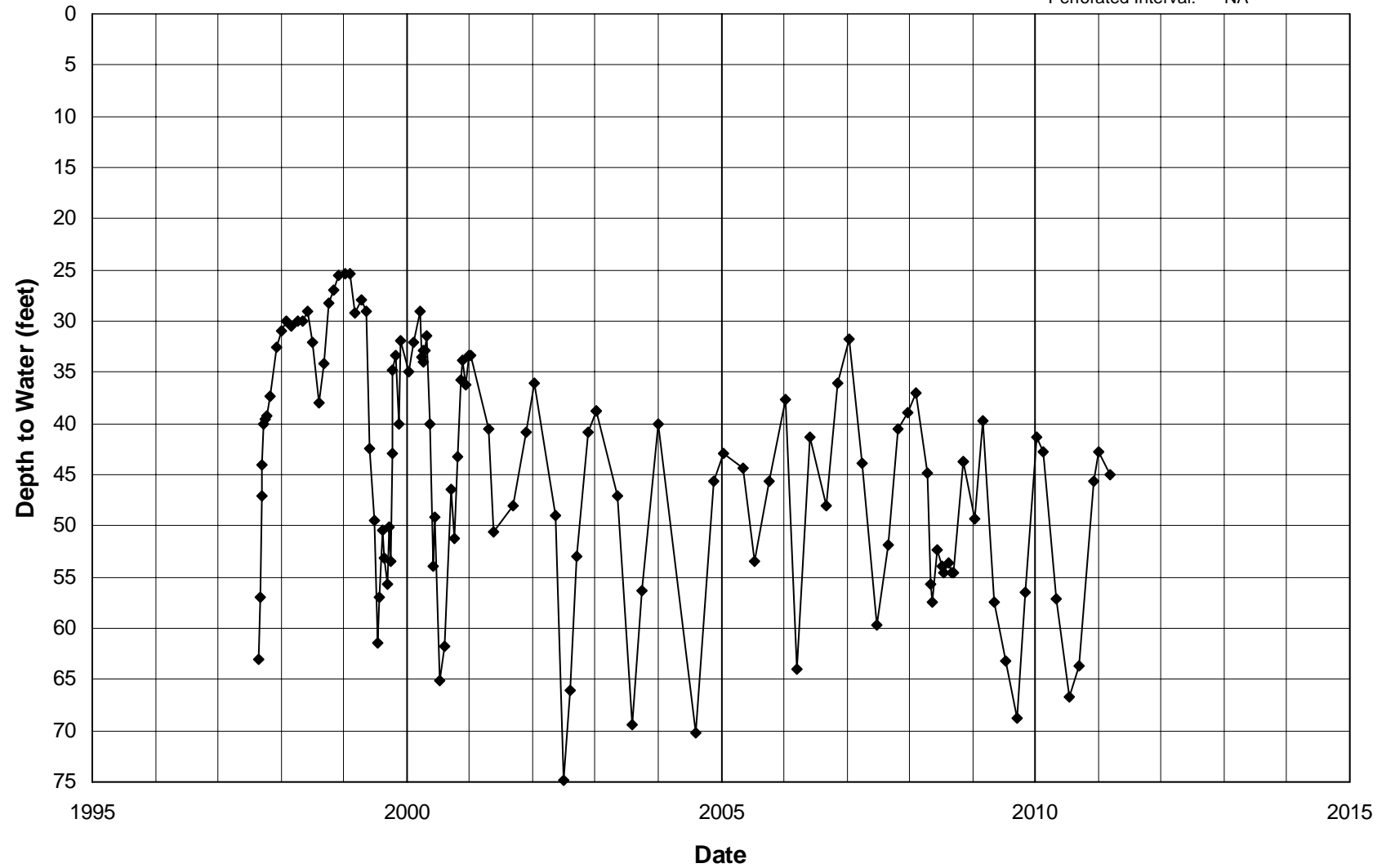


—◆— Hand Measurement

Columbia Canal Company Well Cardella-2 (Lopes 1)

Reference Elevation: 161 feet msl

Perforated Interval: NA

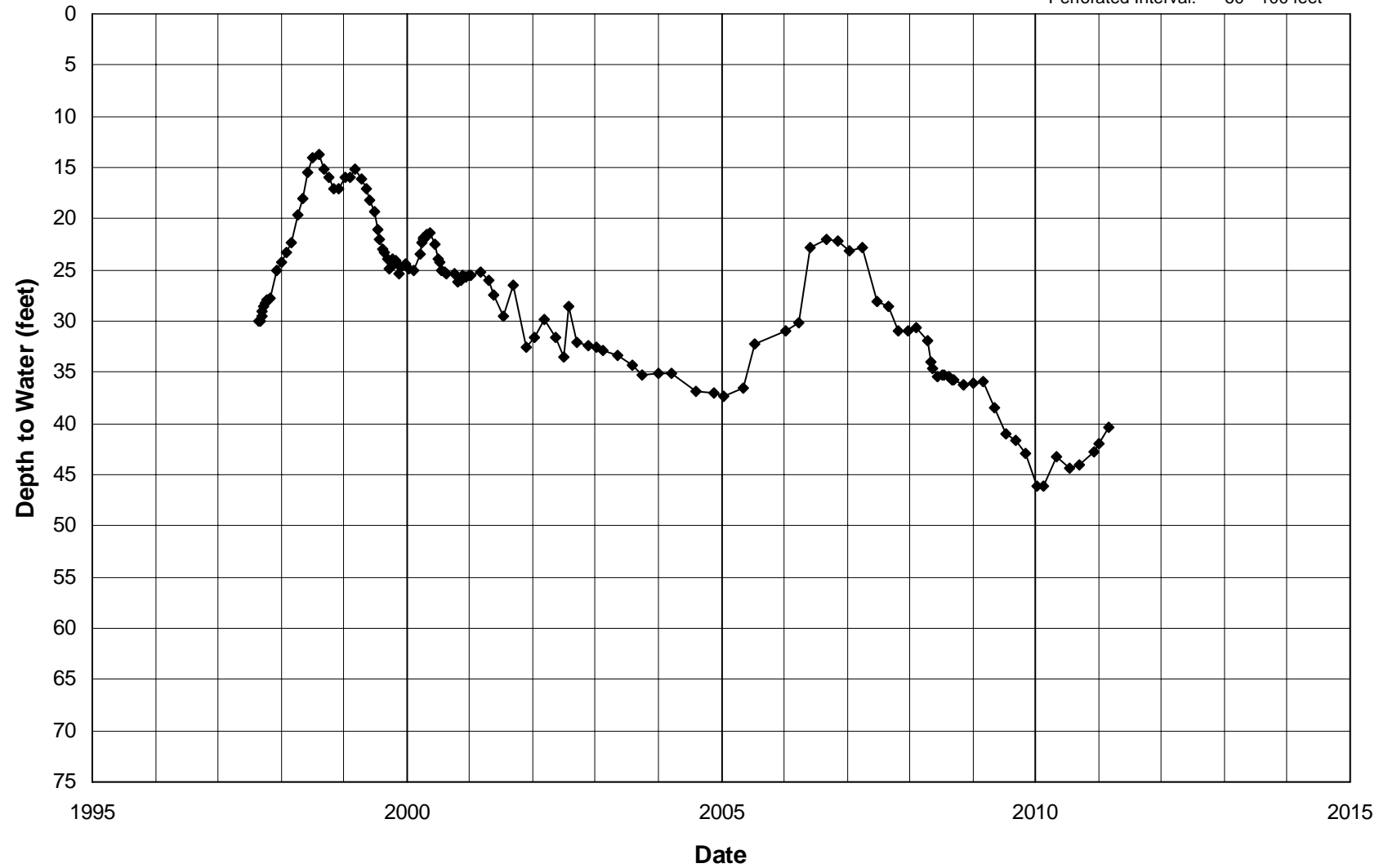


—◆— Hand Measurement

Columbia Canal Company Well USBR-4

Reference Elevation: 165.55 feet msl

Perforated Interval: 60 - 100 feet

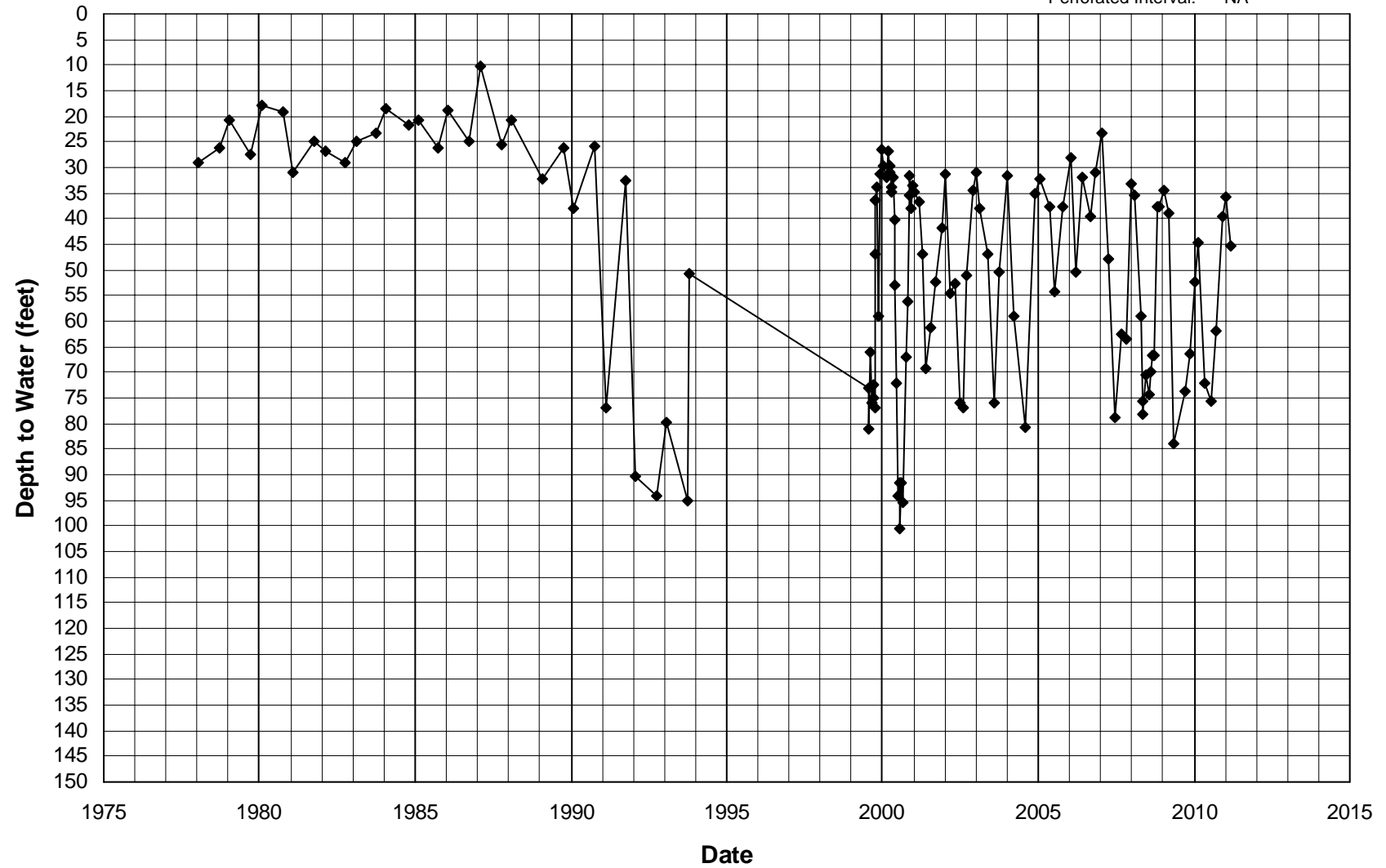


—◆— Hand Measurement

Columbia Canal Company MLT-West Well

Reference Elevation: 157.2 feet msl

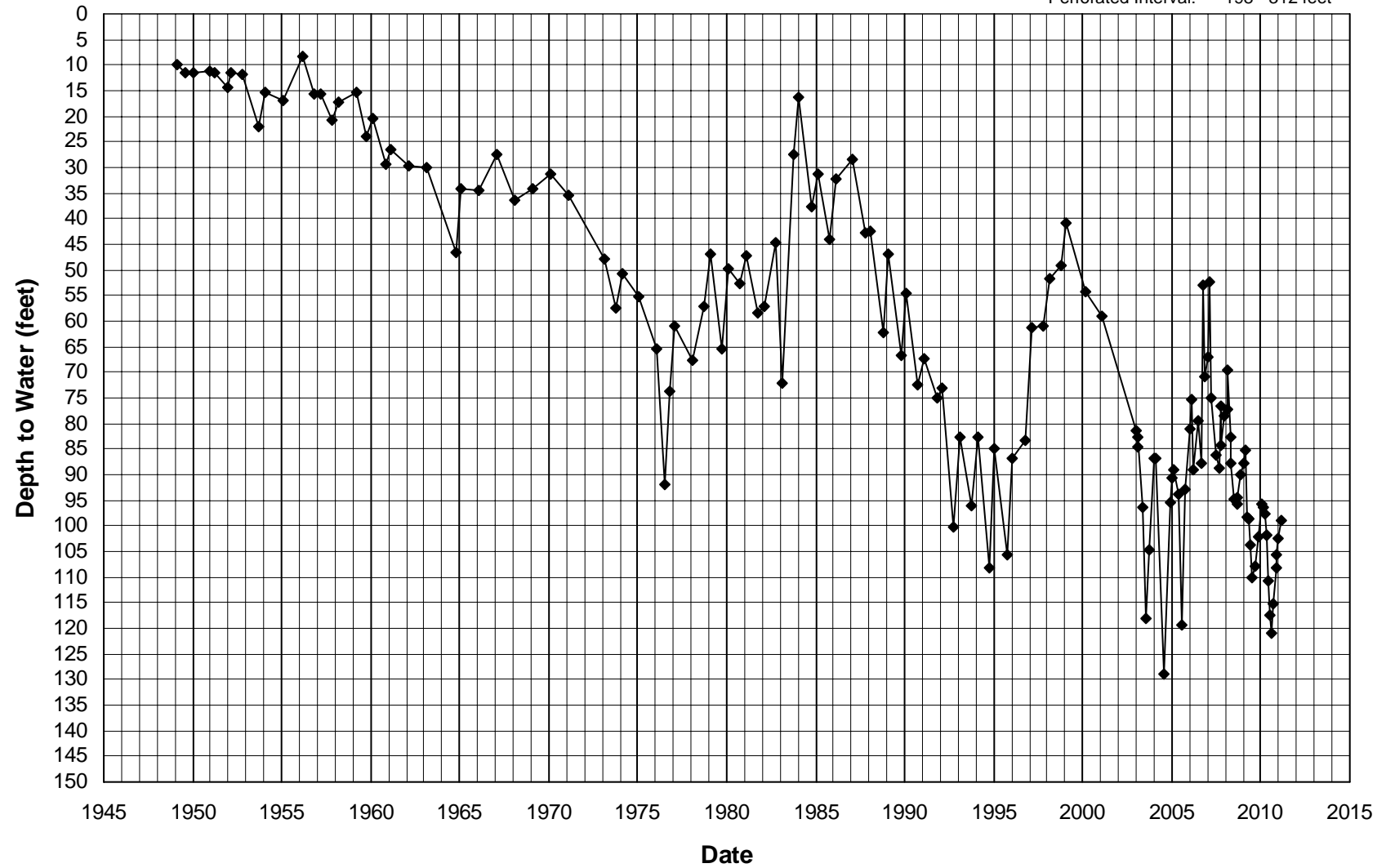
Perforated Interval: NA



—◆— Hand Measurement

Paramount Farming Co. 3311-62 (W-8)

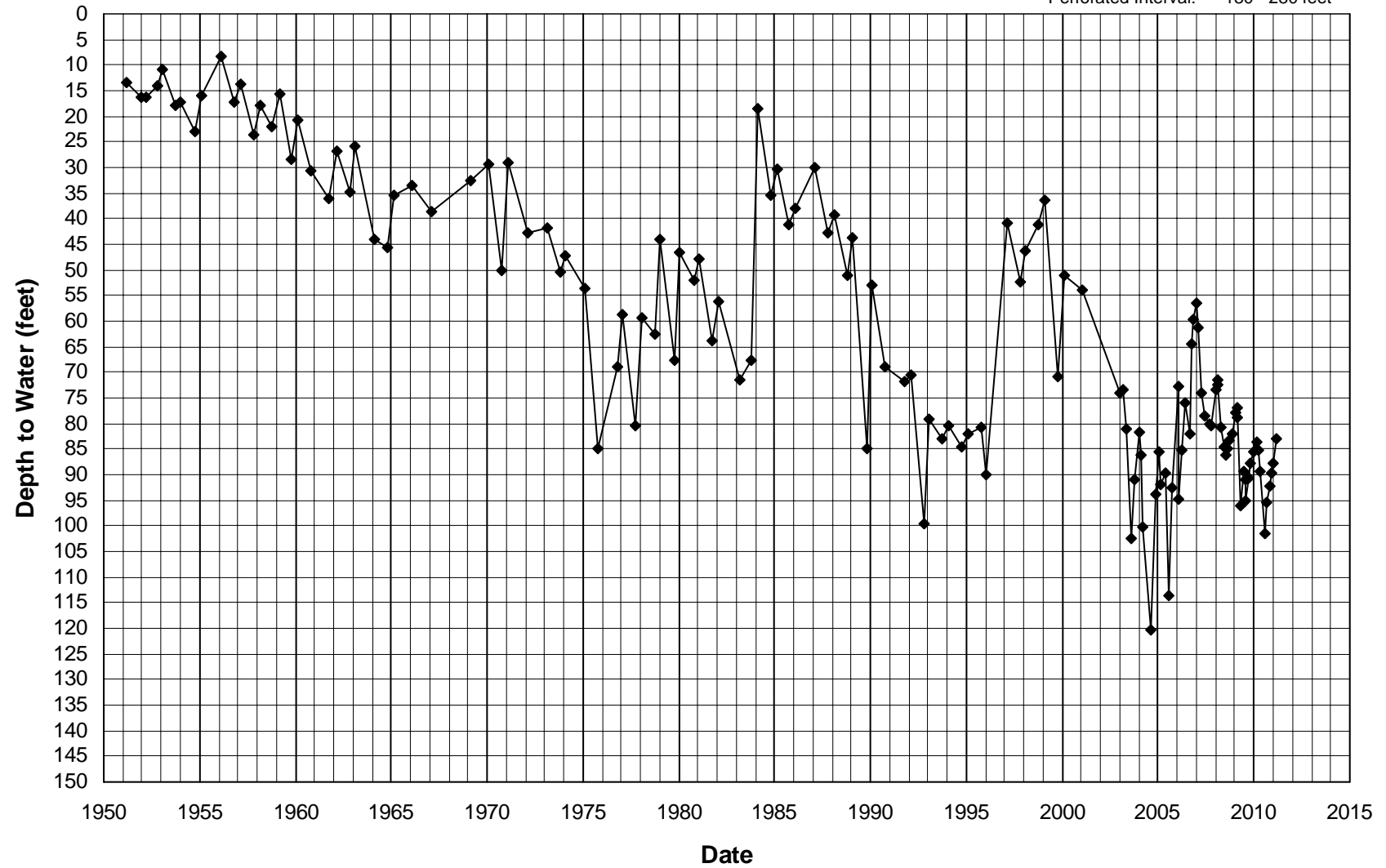
Reference Elevation: 166 feet msl
Perforated Interval: 198 - 312 feet



—◆— Hand Measurement

Paramount Farming Co. 3591-66 (W-11)

Reference Elevation: 167 feet msl
Perforated Interval: 180 - 280 feet

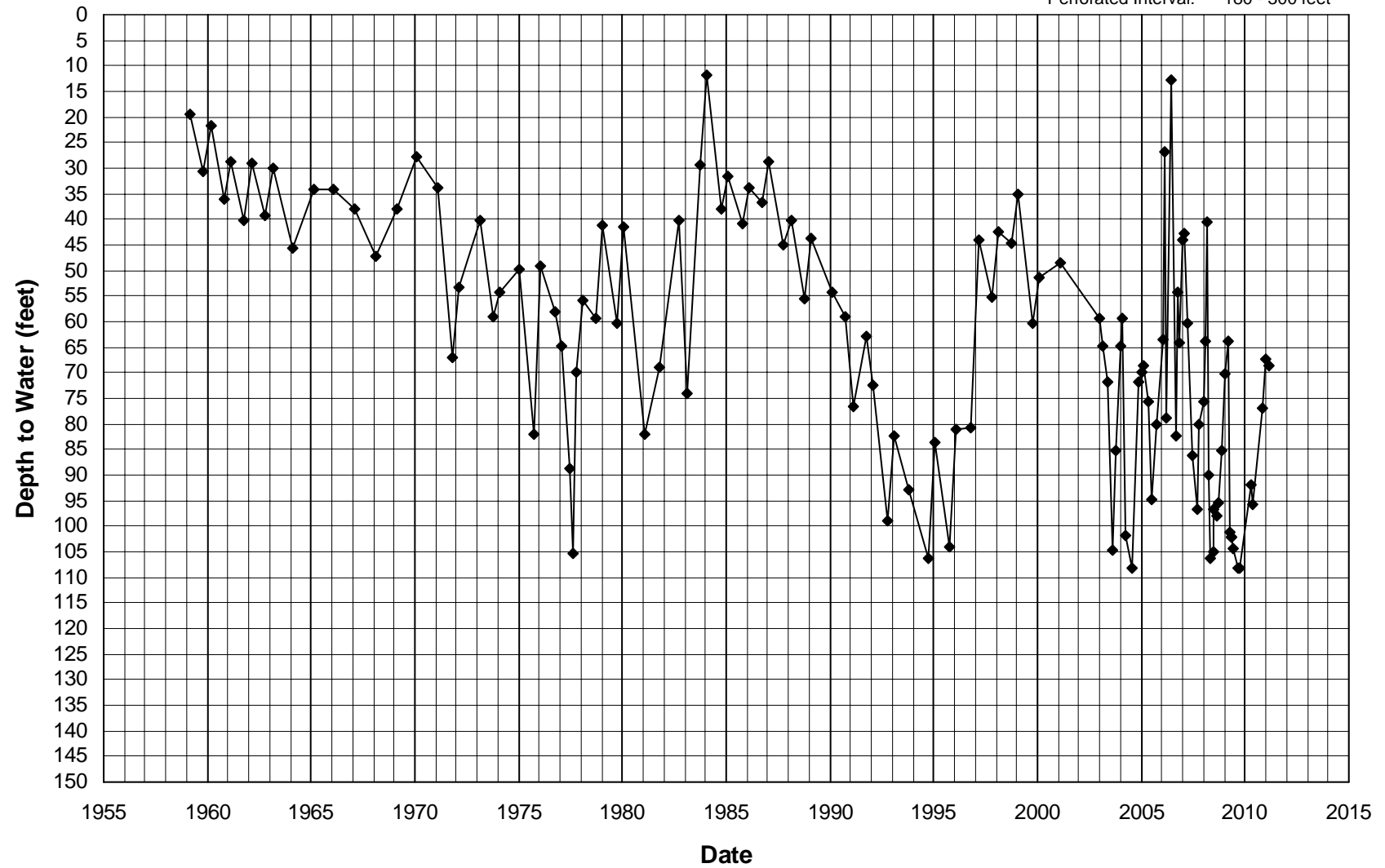


—◆— Hand Measurement

Paramount Farming Co. 3211-66 (W-15)

Reference Elevation: NA

Perforated Interval: 180 - 300 feet

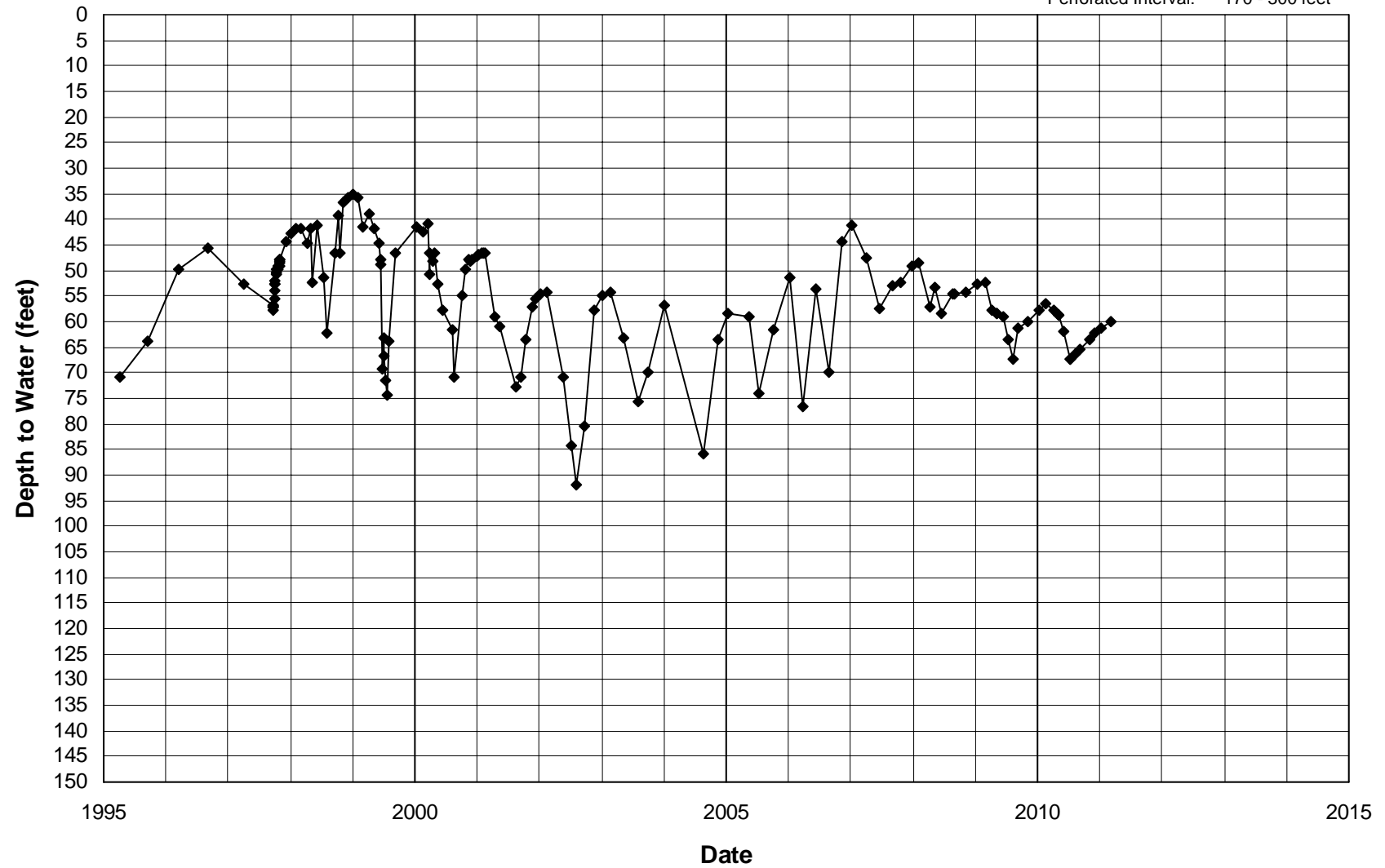


—◆— Hand Measurement (Adjusted for oil)

Paramount Farming Co. 3431-61 (W-32)

Reference Elevation: 160 feet msl

Perforated Interval: 170 - 300 feet

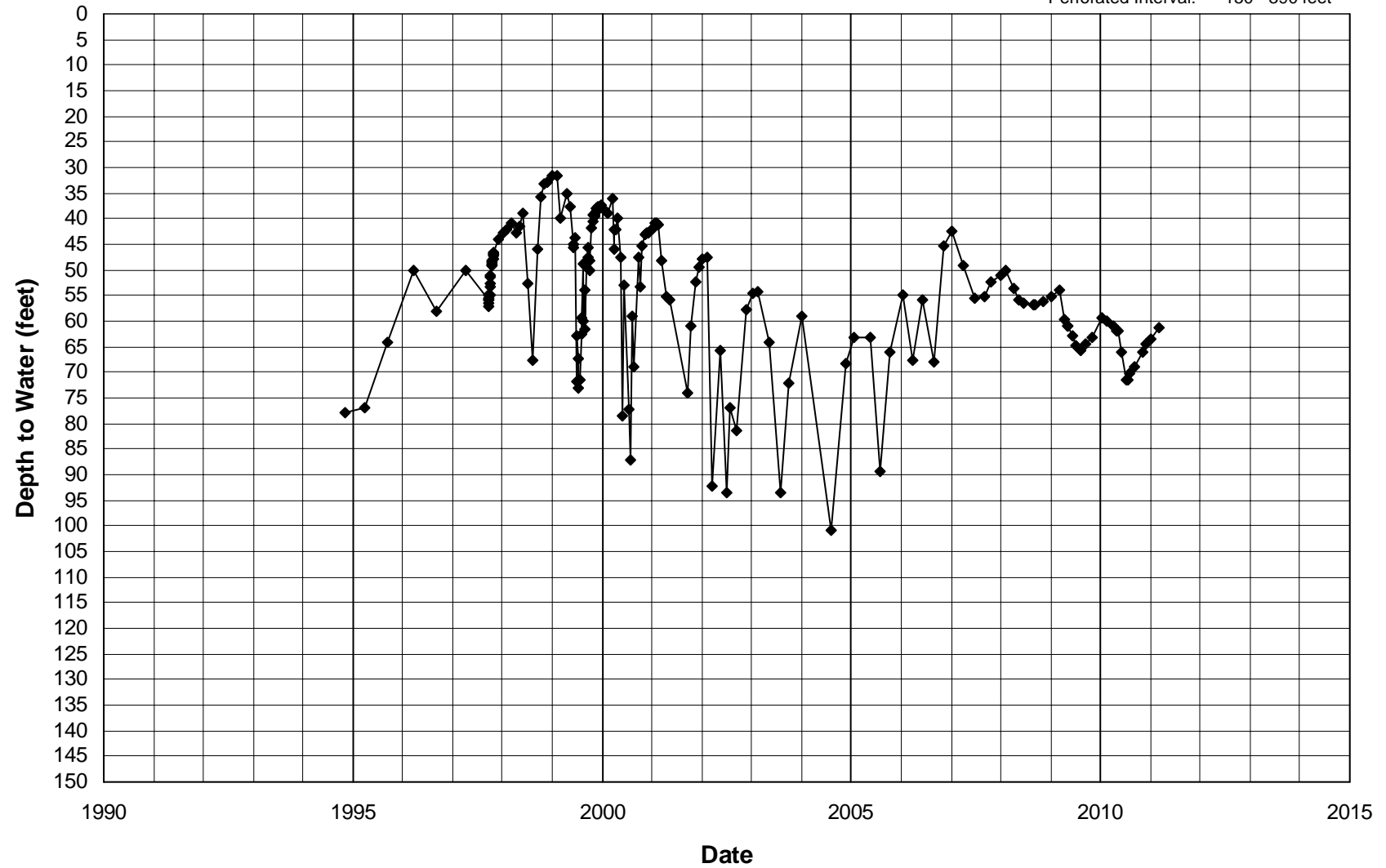


—◆— Hand Measurement (Adjusted for oil)

Paramount Farming Co. 2480-66 (W-42)

Reference Elevation: 158.39 feet msl

Perforated Interval: 150 - 390 feet

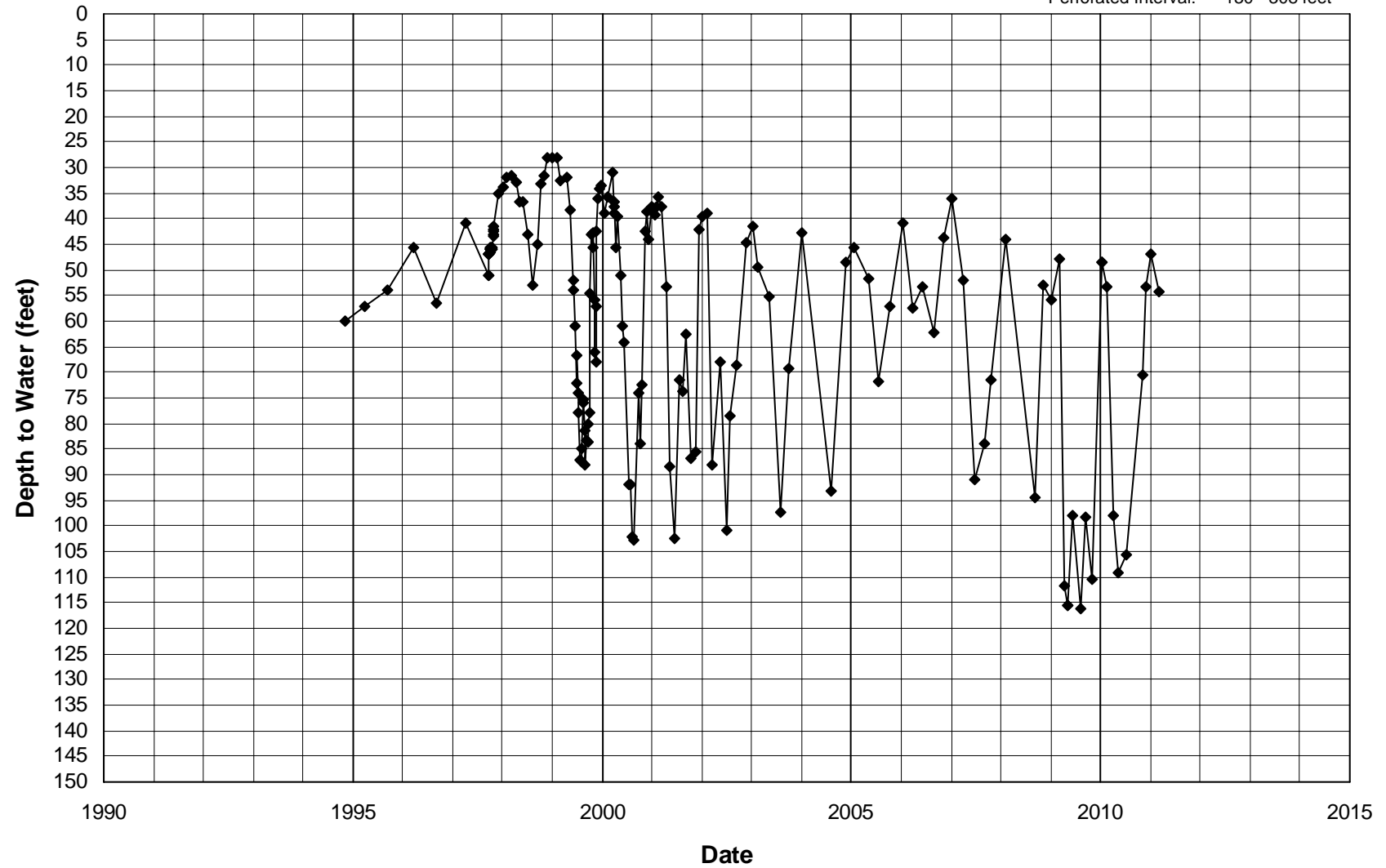


—◆— Hand Measurement

Paramount Farming Co. 3730-65 (W-53)

Reference Elevation: 161.97 feet msl

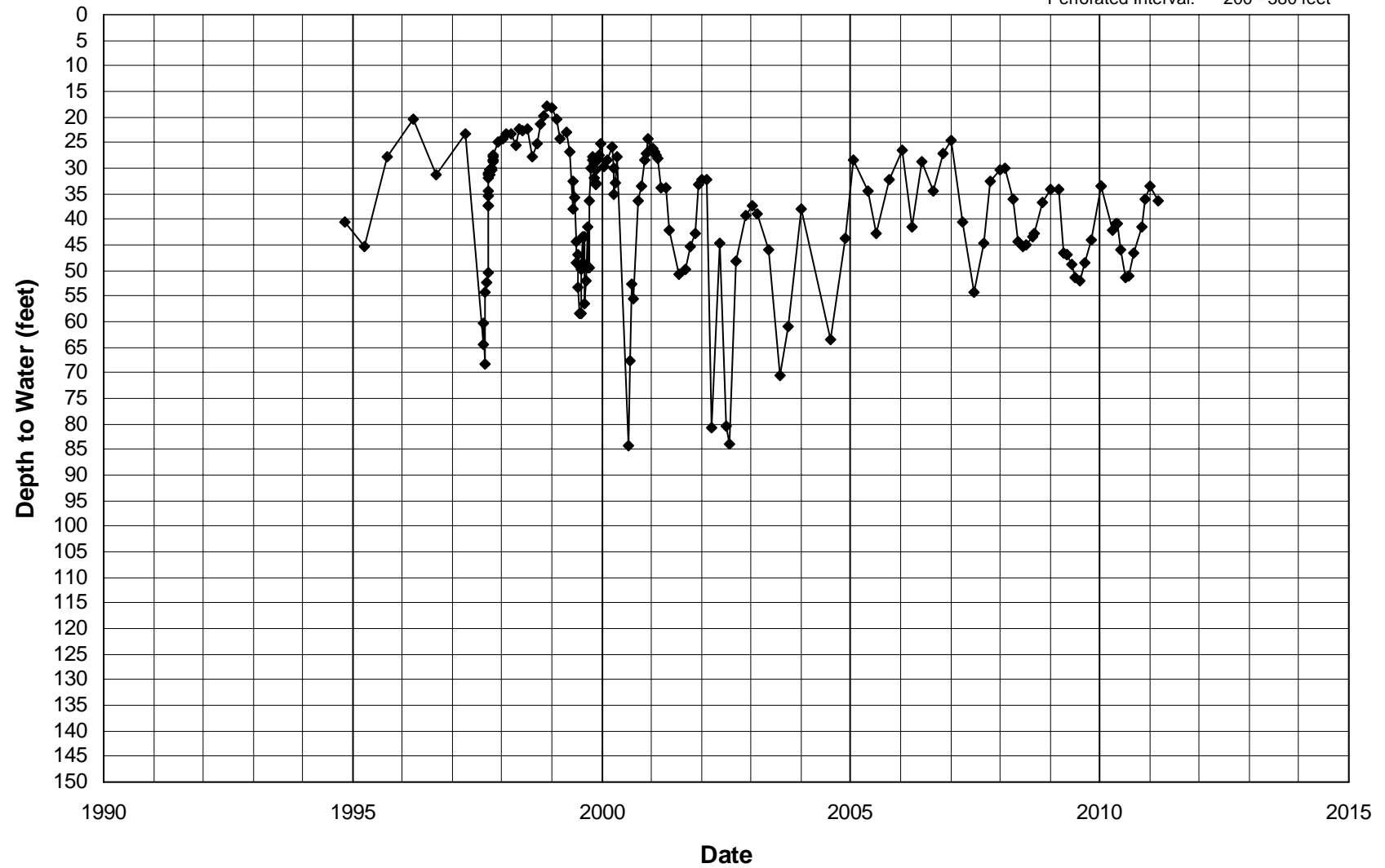
Perforated Interval: 130 - 308 feet



—◆— Hand Measurement

Paramount Farming Co. 3421-62 (W-74)

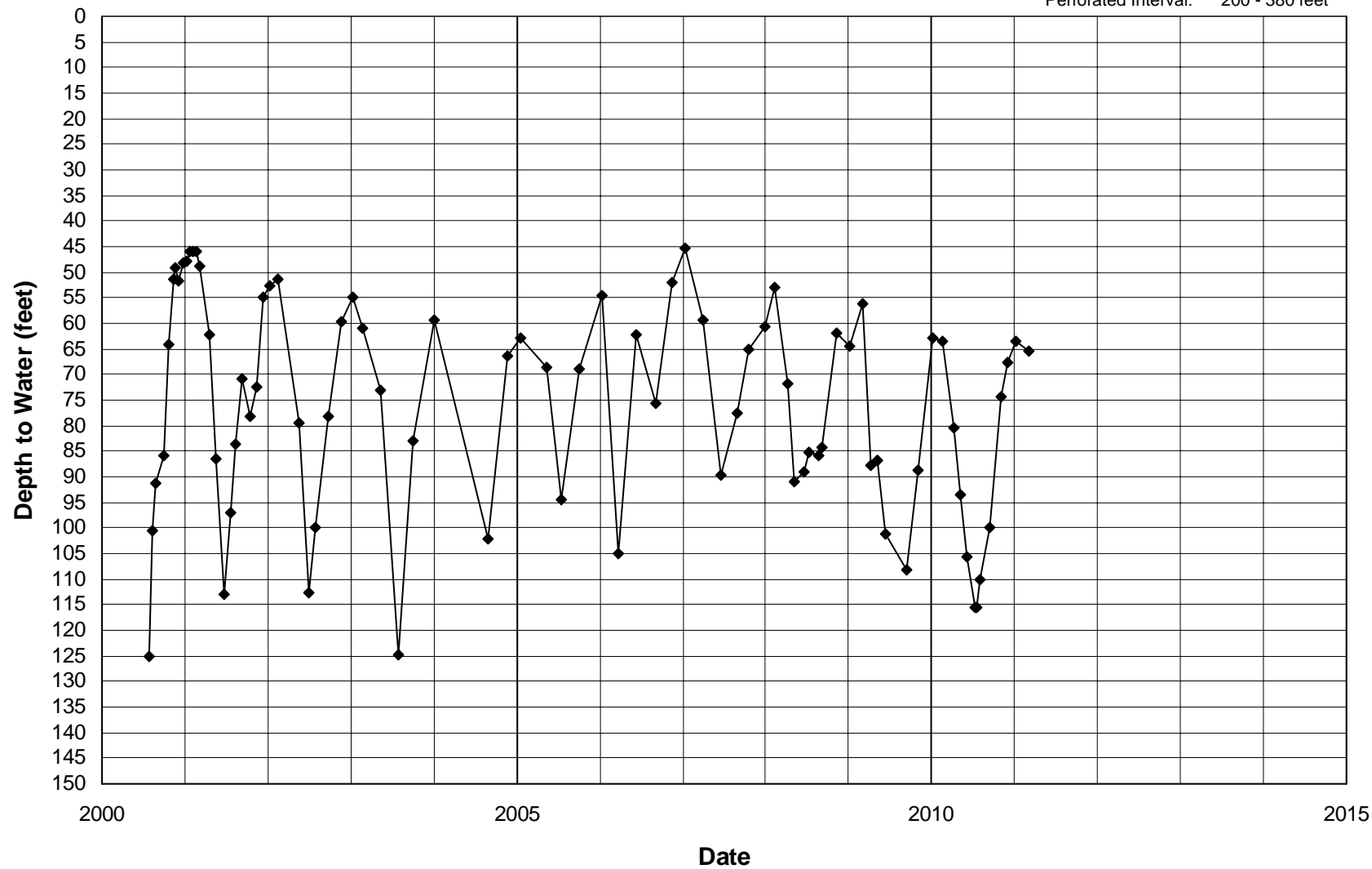
Reference Elevation: 156 feet msl
Perforated Interval: 200 - 380 feet



—◆— Hand Measurement (Adjusted for oil)

Paramount Farming Co. 3211-69 (W-77)

Reference Elevation: 164 feet msl
Perforated Interval: 200 - 380 feet

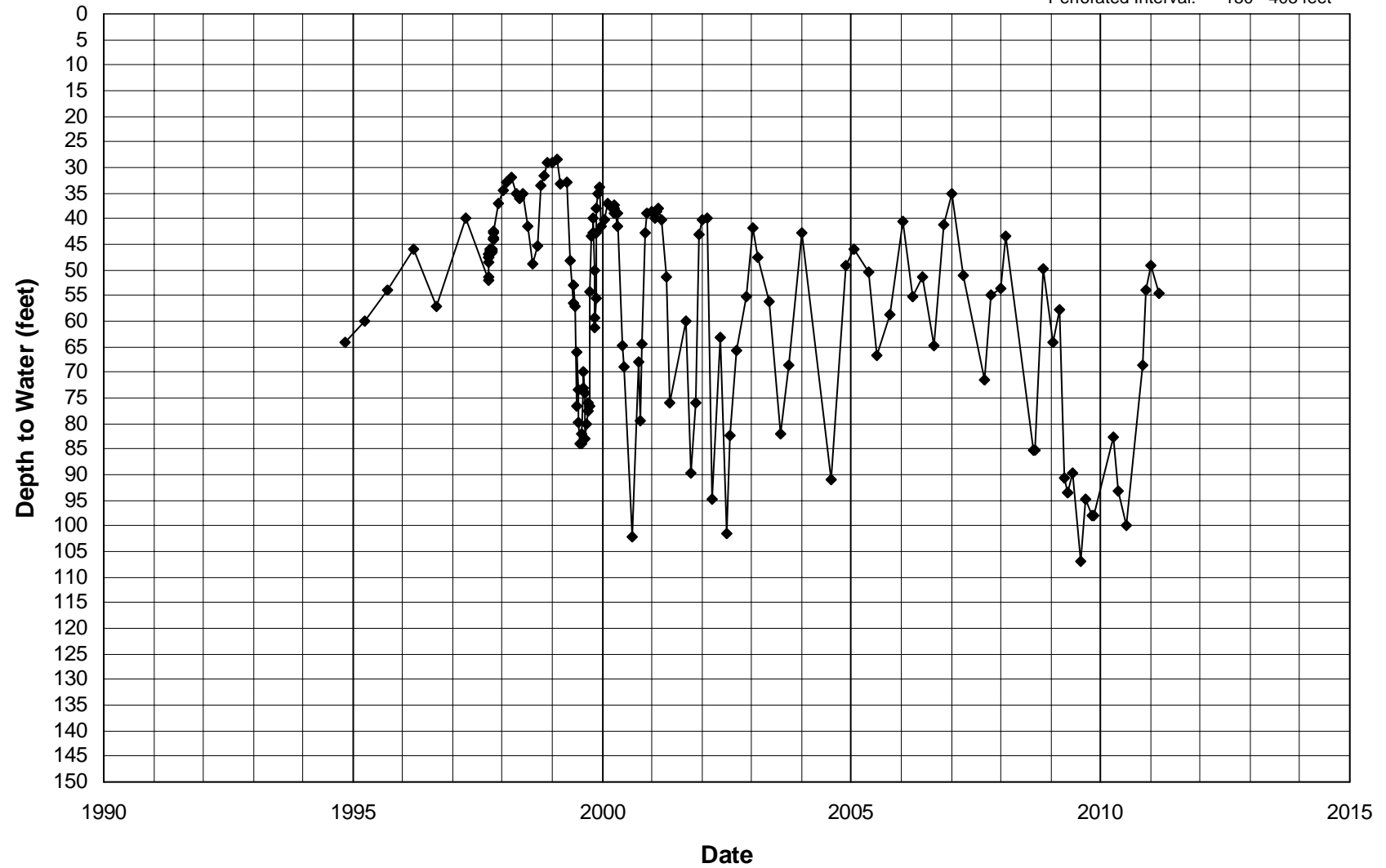


—◆— Hand Measurement

Paramount Farming Co. 2630-61 (W-78)

Reference Elevation: NA

Perforated Interval: 150 - 405 feet

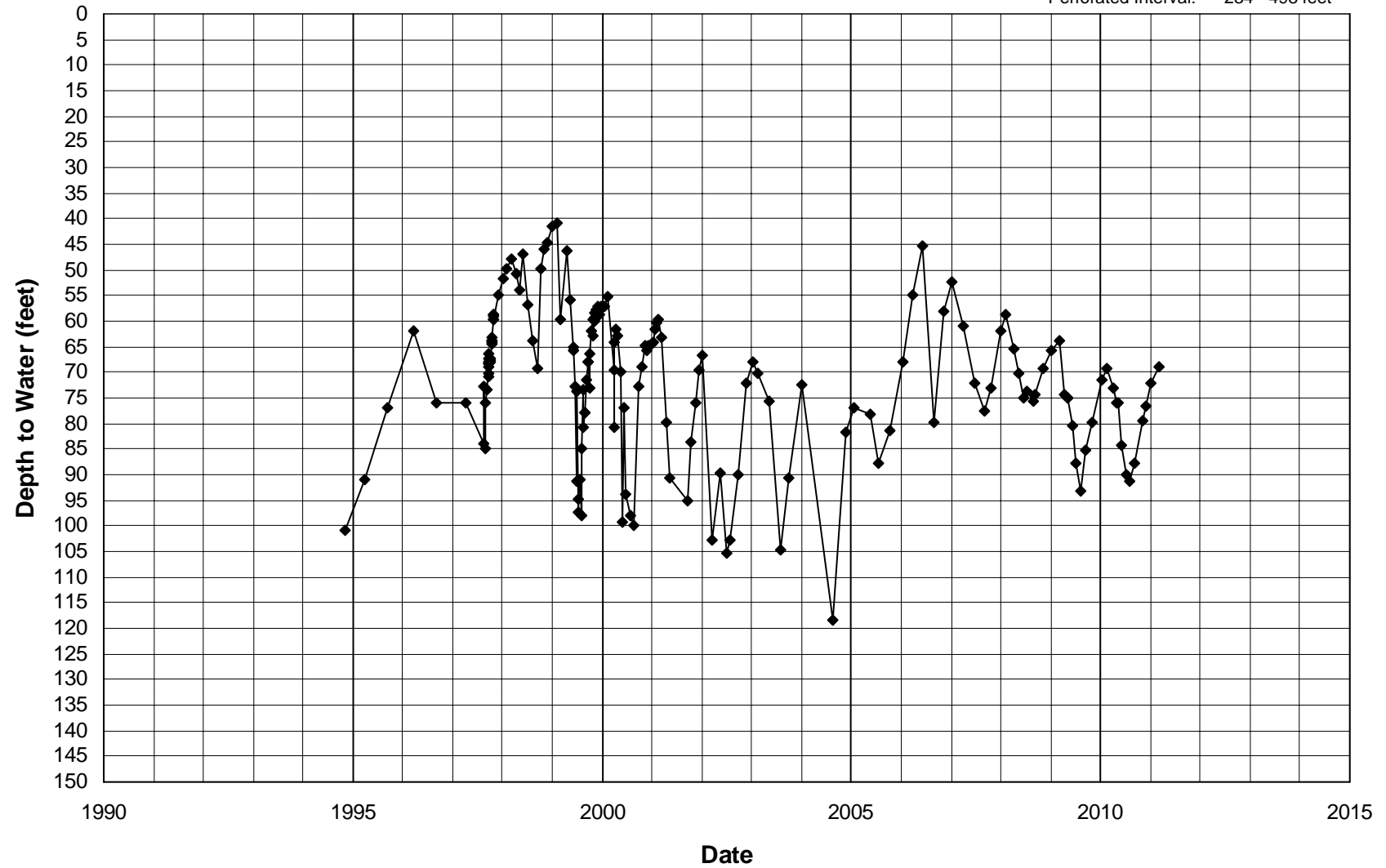


—◆— Hand Measurement

Paramount Farming Co. 3311-61 (W-89)

Reference Elevation: 163 feet msl

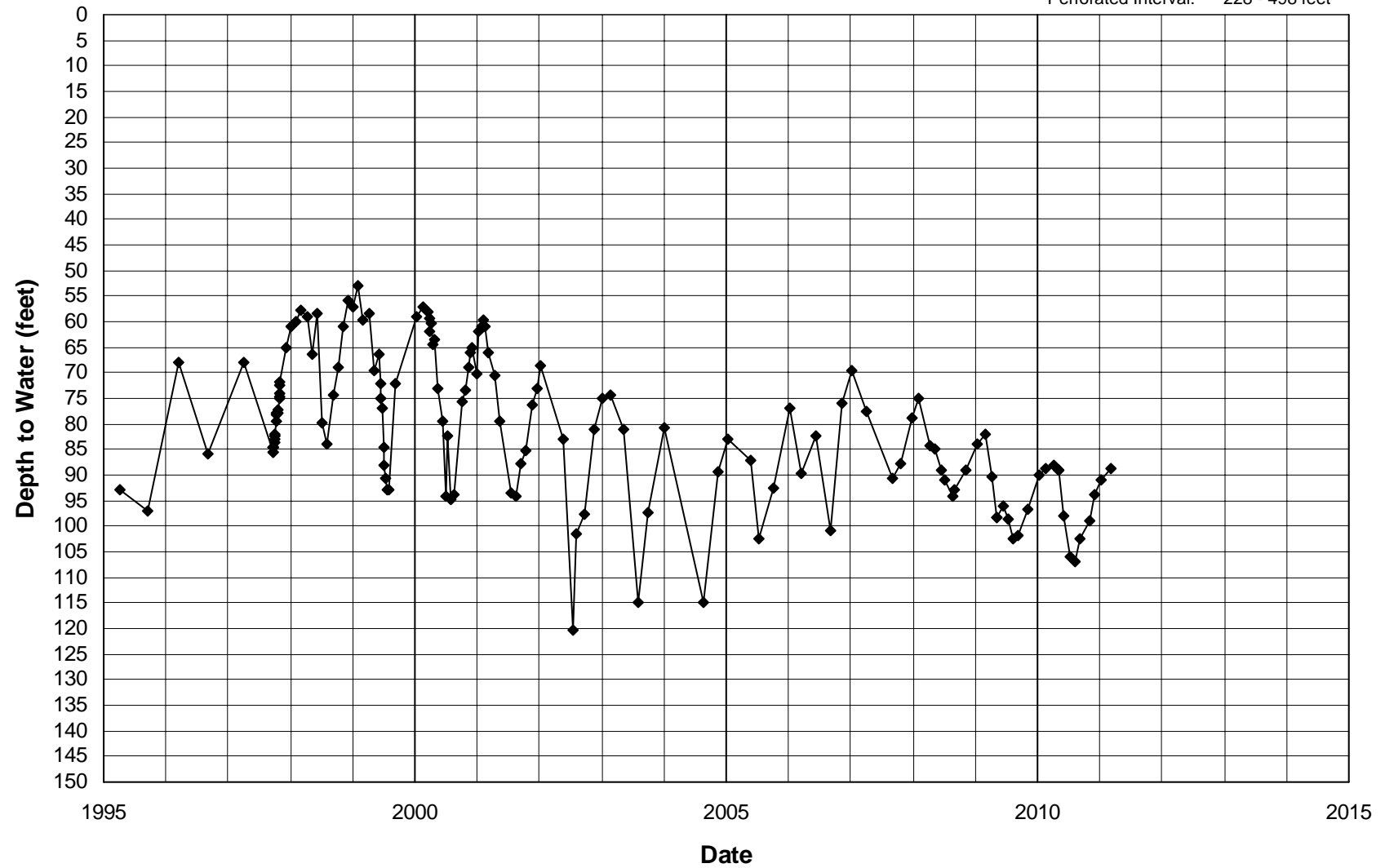
Perforated Interval: 234 - 498 feet



—◆— Hand Measurement (Adjusted for oil)

Paramount Farming Co. 3431-62 (W-91)

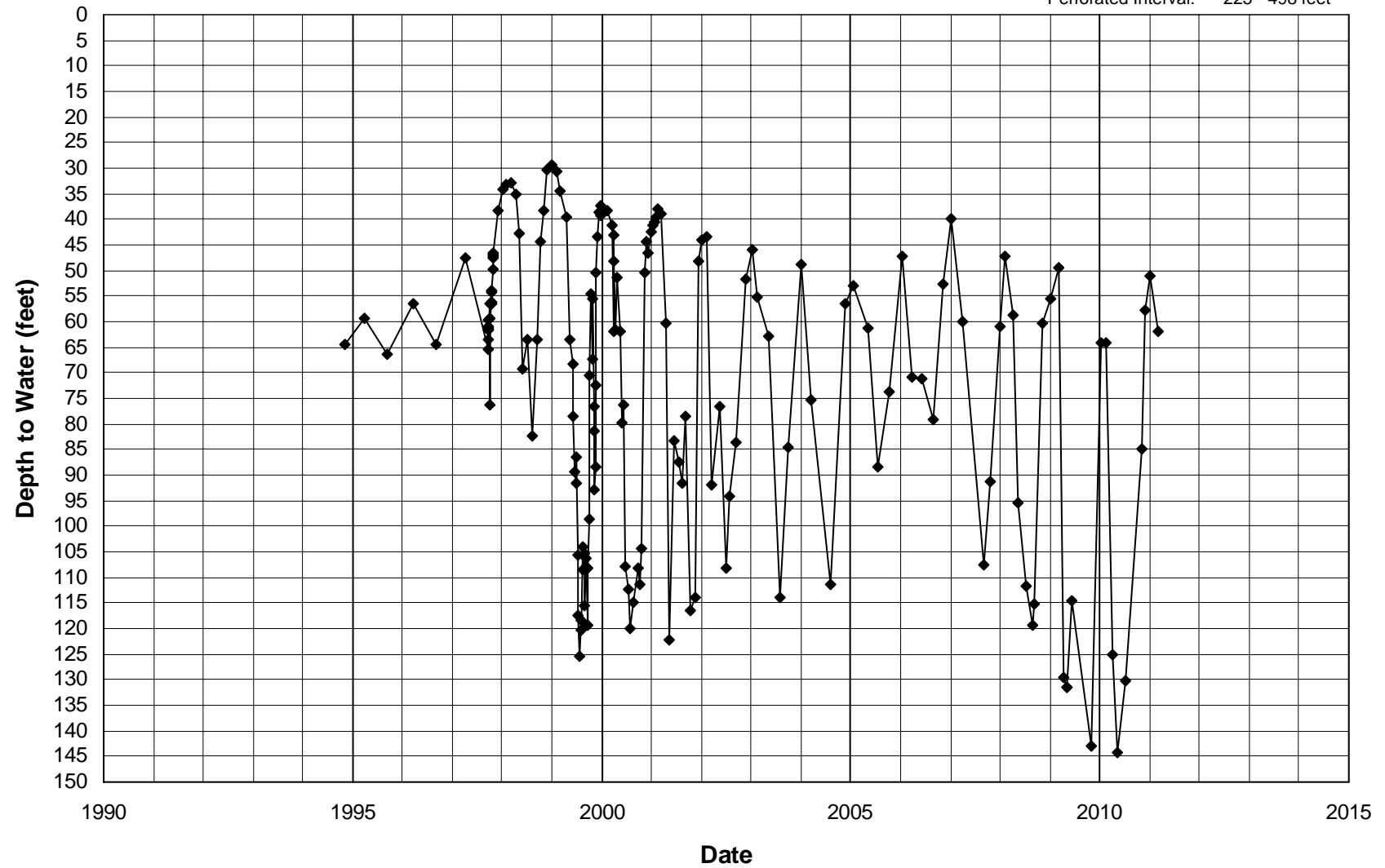
Reference Elevation: 157 feet msl
Perforated Interval: 228 - 498 feet



—◆— Hand Measurement

Paramount Farming Co. 3730-62 (W-94)

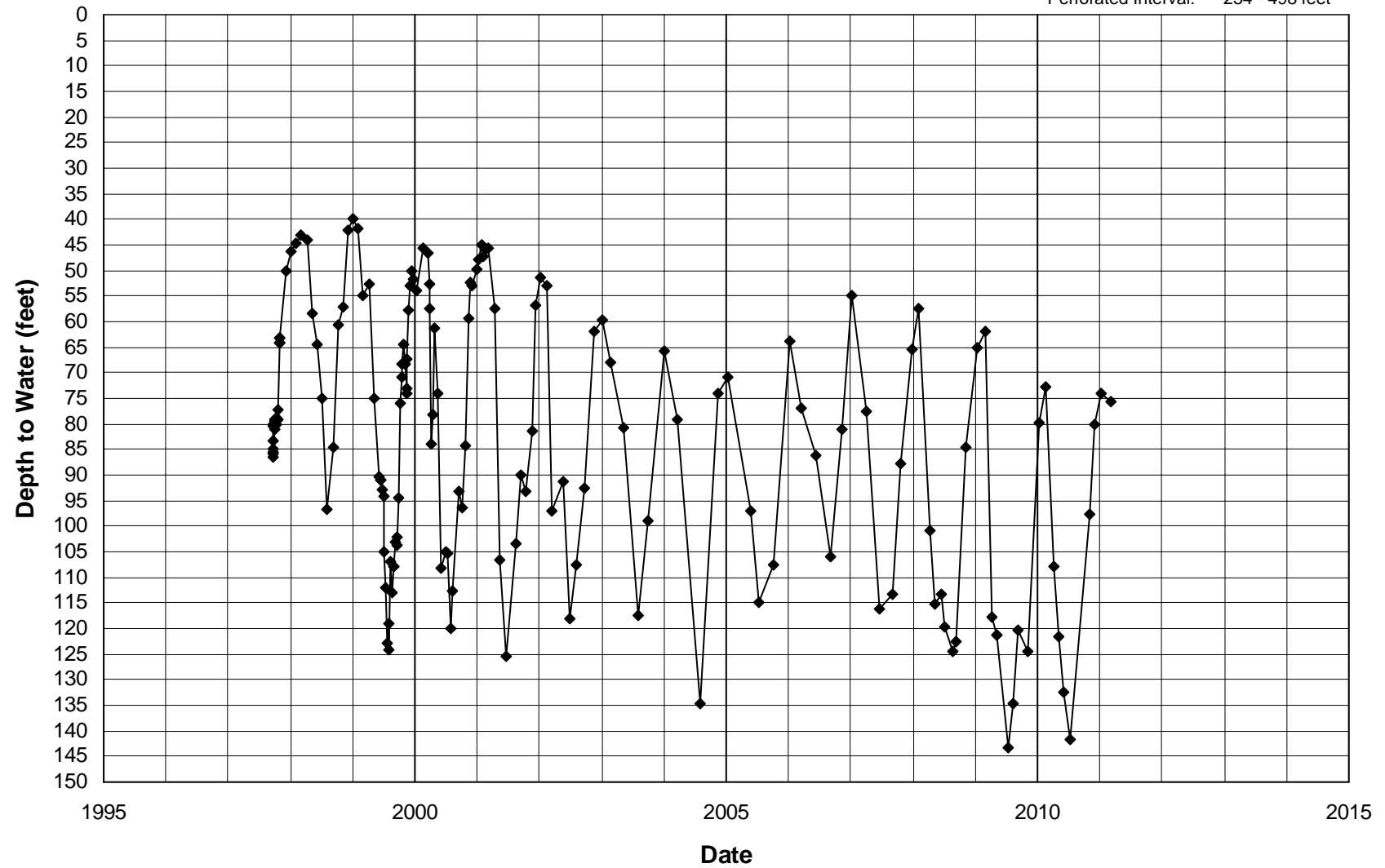
Reference Elevation: 166 feet msl
Perforated Interval: 225 - 498 feet



—◆— Hand Measurement (Adjusted for oil)

Paramount Farming Co. 3730-61 (W-95)

Reference Elevation: 171 feet msl
Perforated Interval: 234 - 498 feet

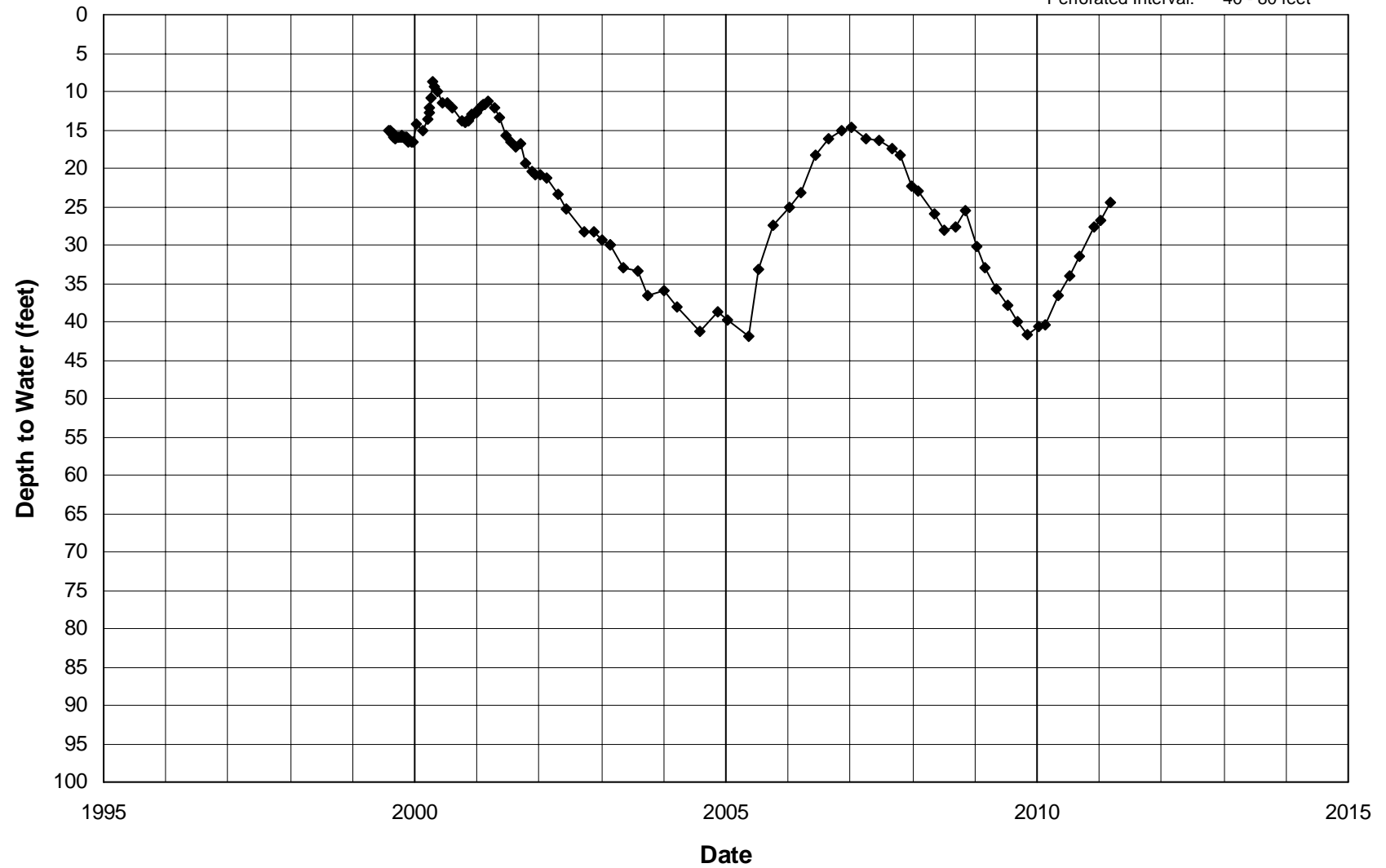


—◆— Hand Measurement

Paramount Farming Co. MW-2

Reference Elevation: 166.82 feet msl

Perforated Interval: 40 - 80 feet

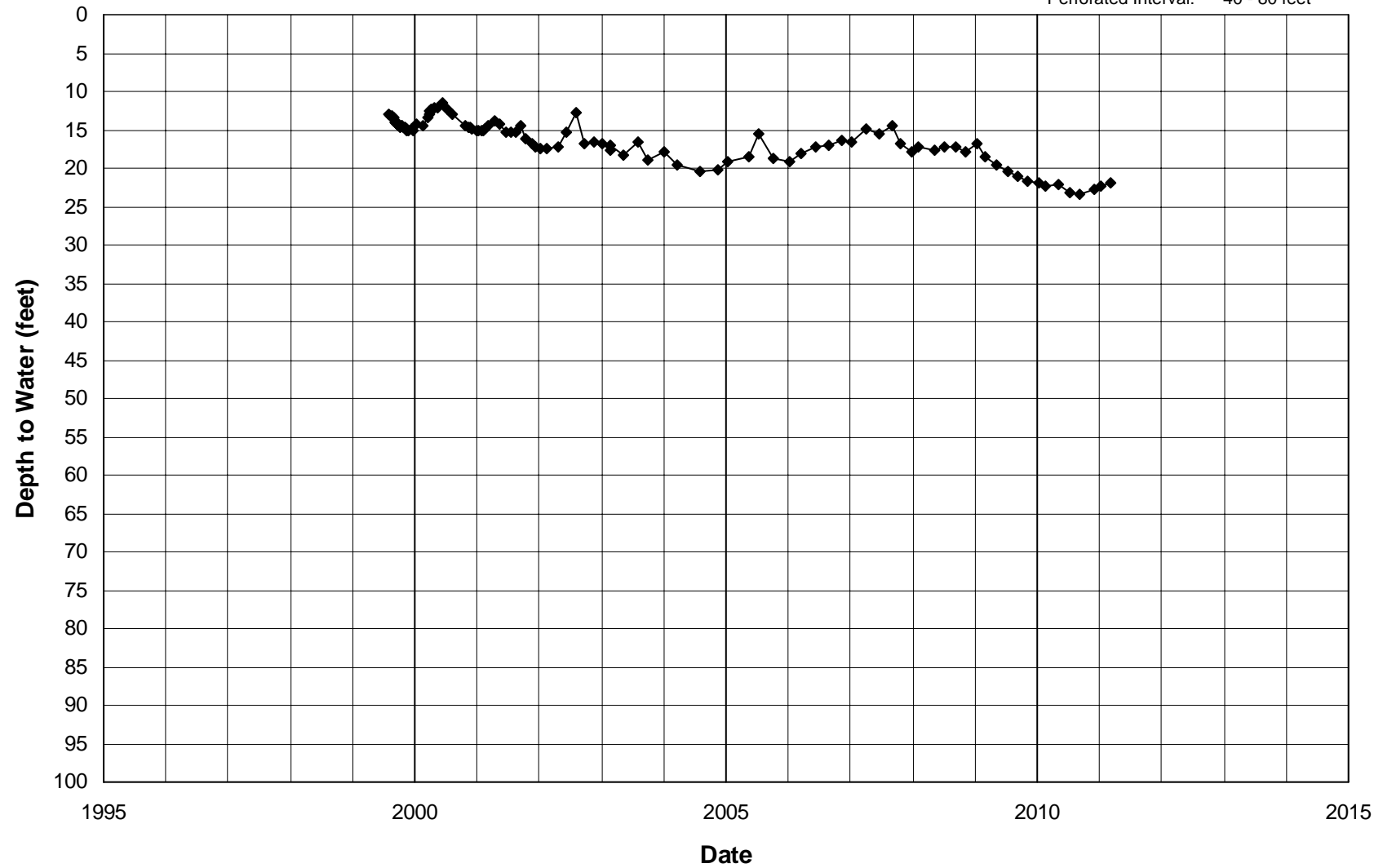


—◆— Hand Measurement

Paramount Farming Co. MW-3

Reference Elevation: 160.4 feet msl

Perforated Interval: 40 - 80 feet

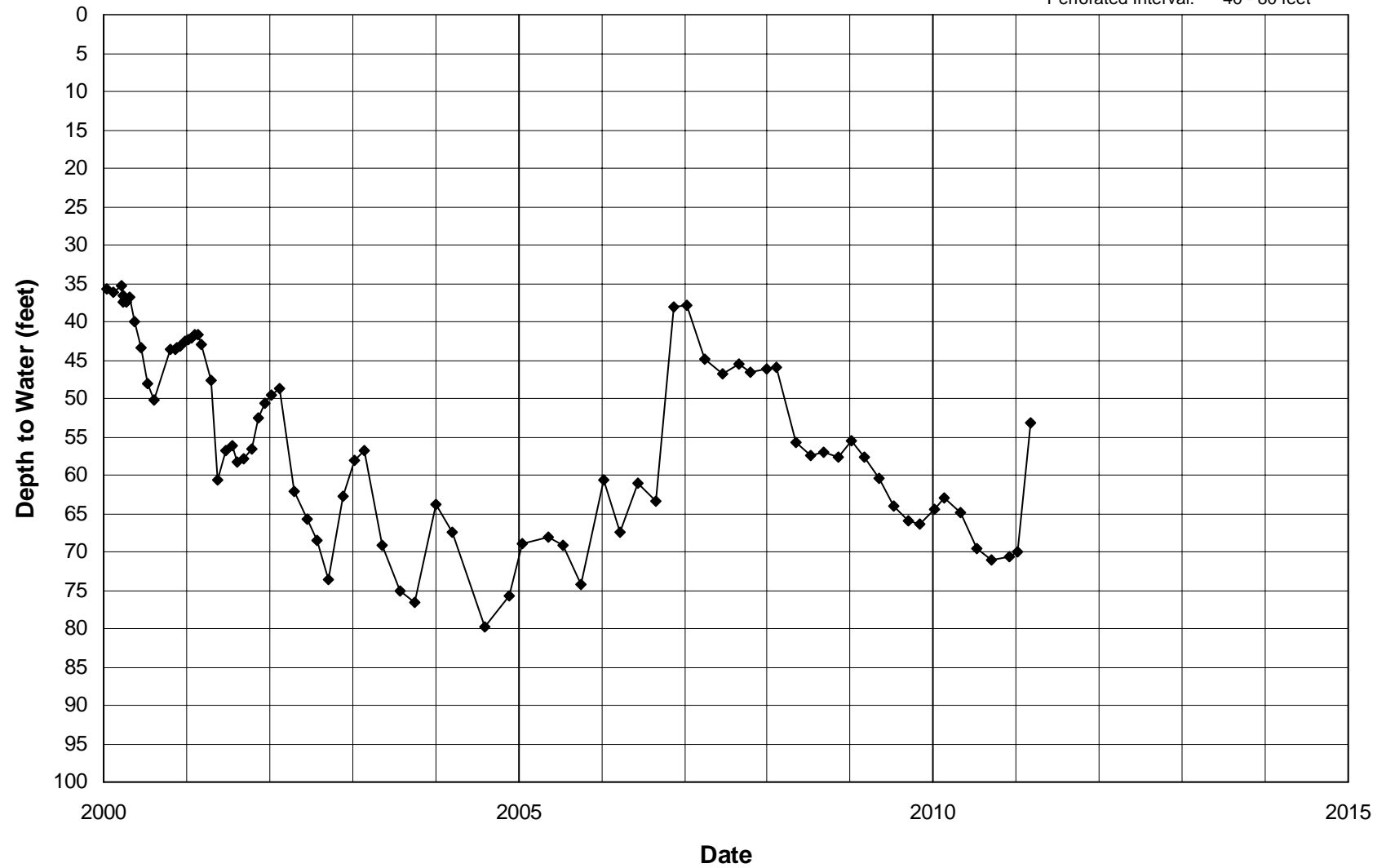


—◆— Hand Measurement

Paramount Farming Co. MW-4

Reference Elevation: 159.03 feet msl

Perforated Interval: 40 - 80 feet

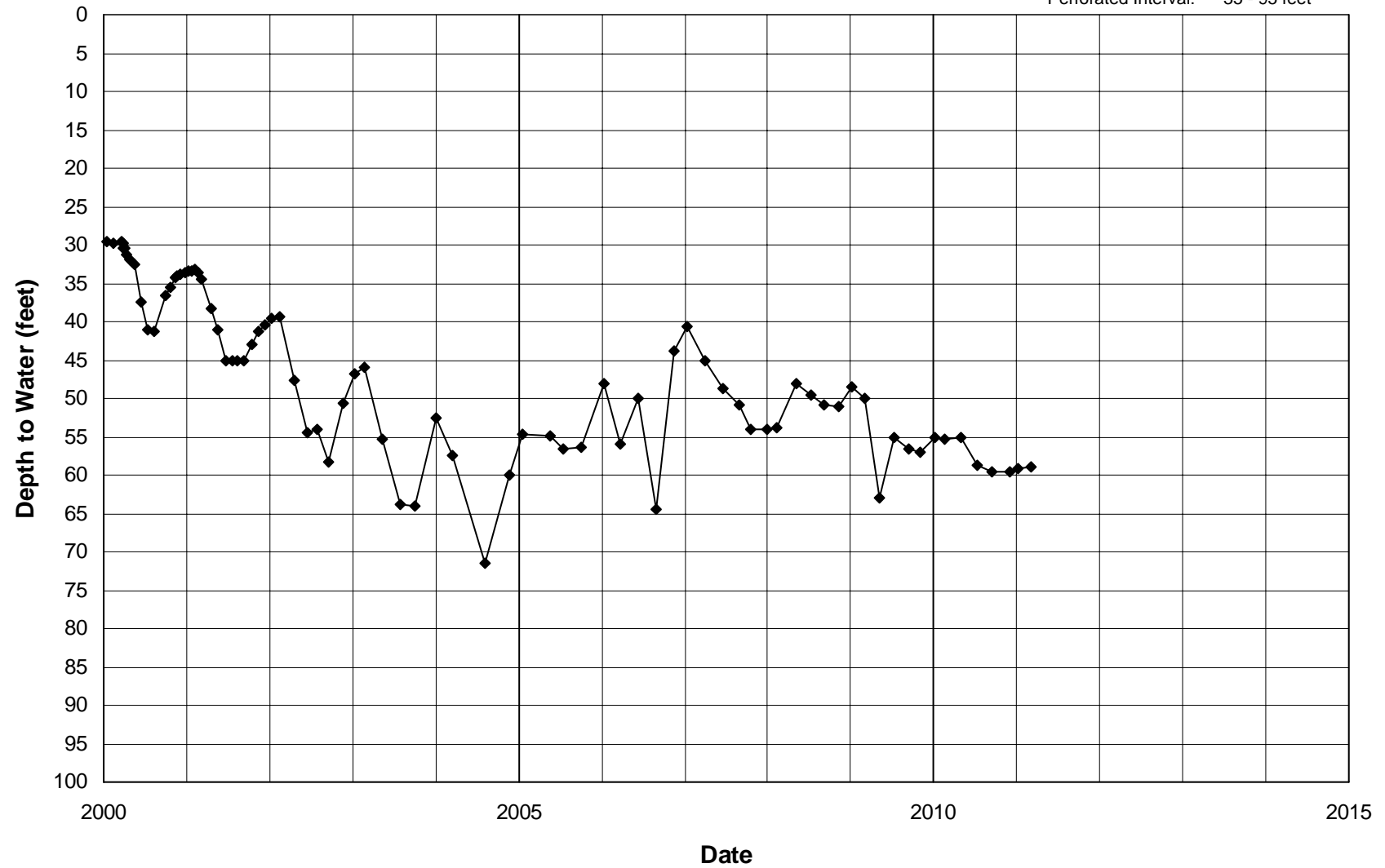


—◆— Hand Measurement

Paramount Farming Co. MW-5

Reference Elevation: 156.19 feet msl

Perforated Interval: 35 - 95 feet

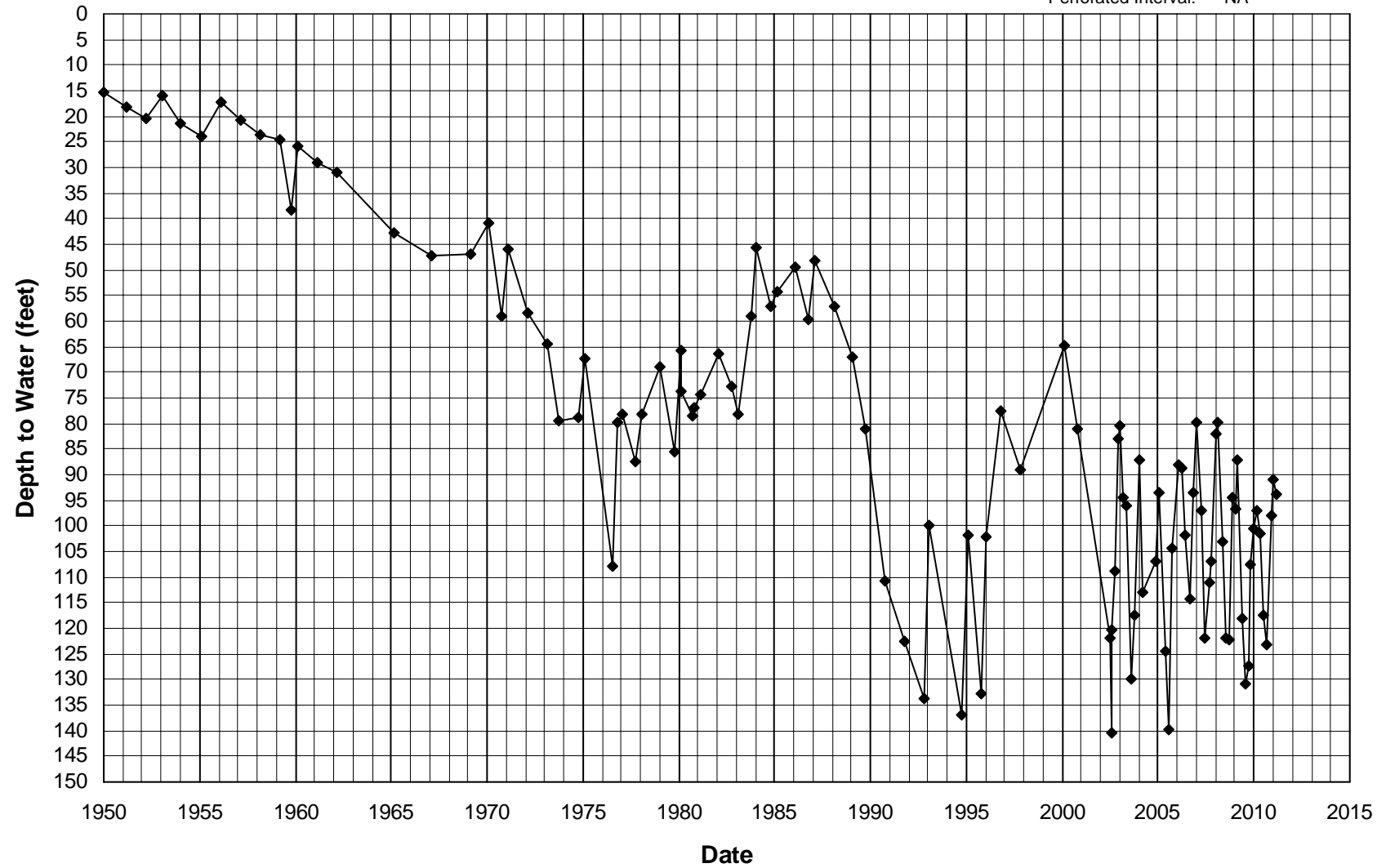


—◆— Hand Measurement

Aliso Water District - Woolf Enterprises T13S/R16E-18H1

Reference Elevation: 175 feet msl

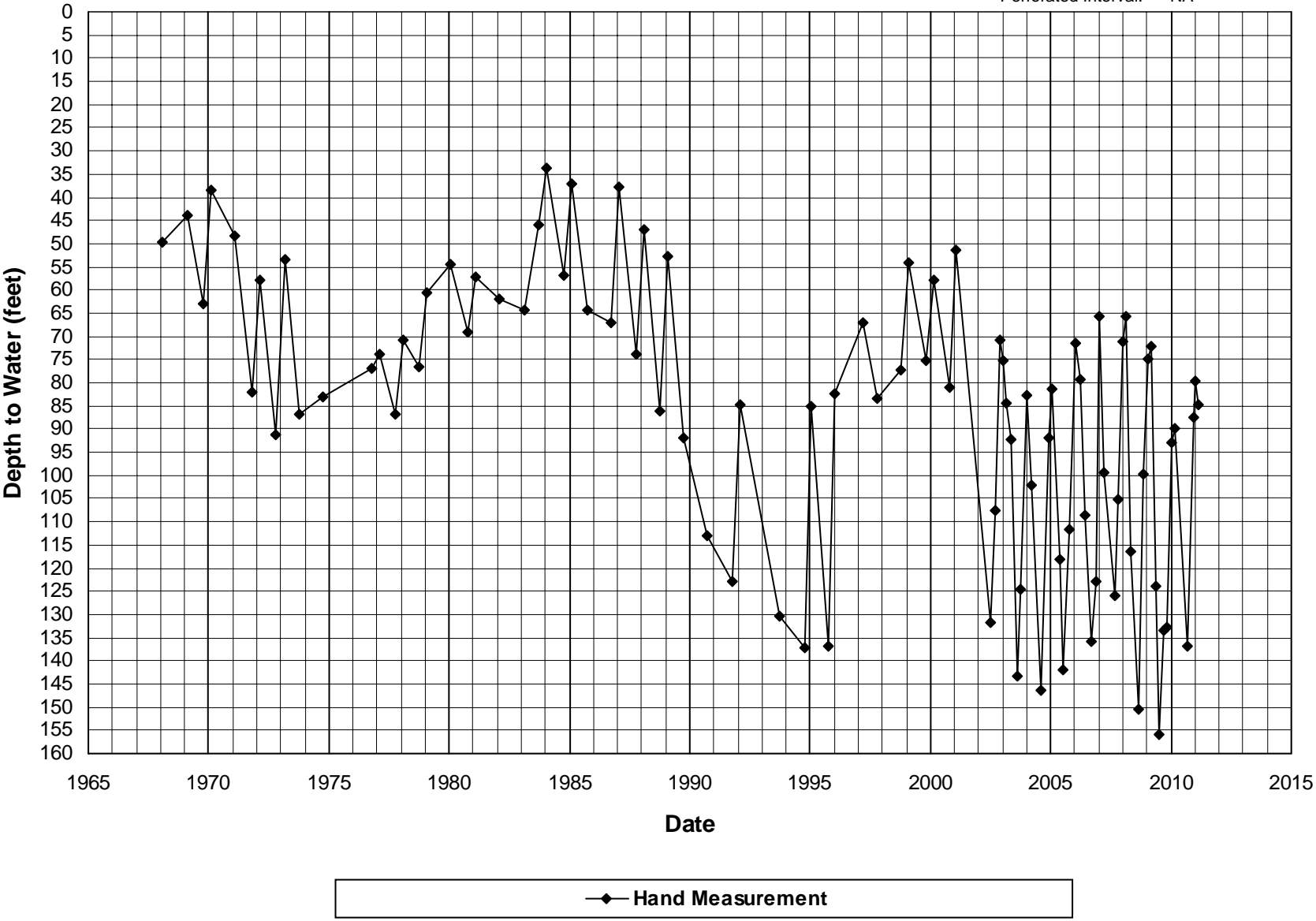
Perforated Interval: NA



—◆— Hand Measurement

Aliso Water District - Woolf Enterprises T13S/R16E-19K1

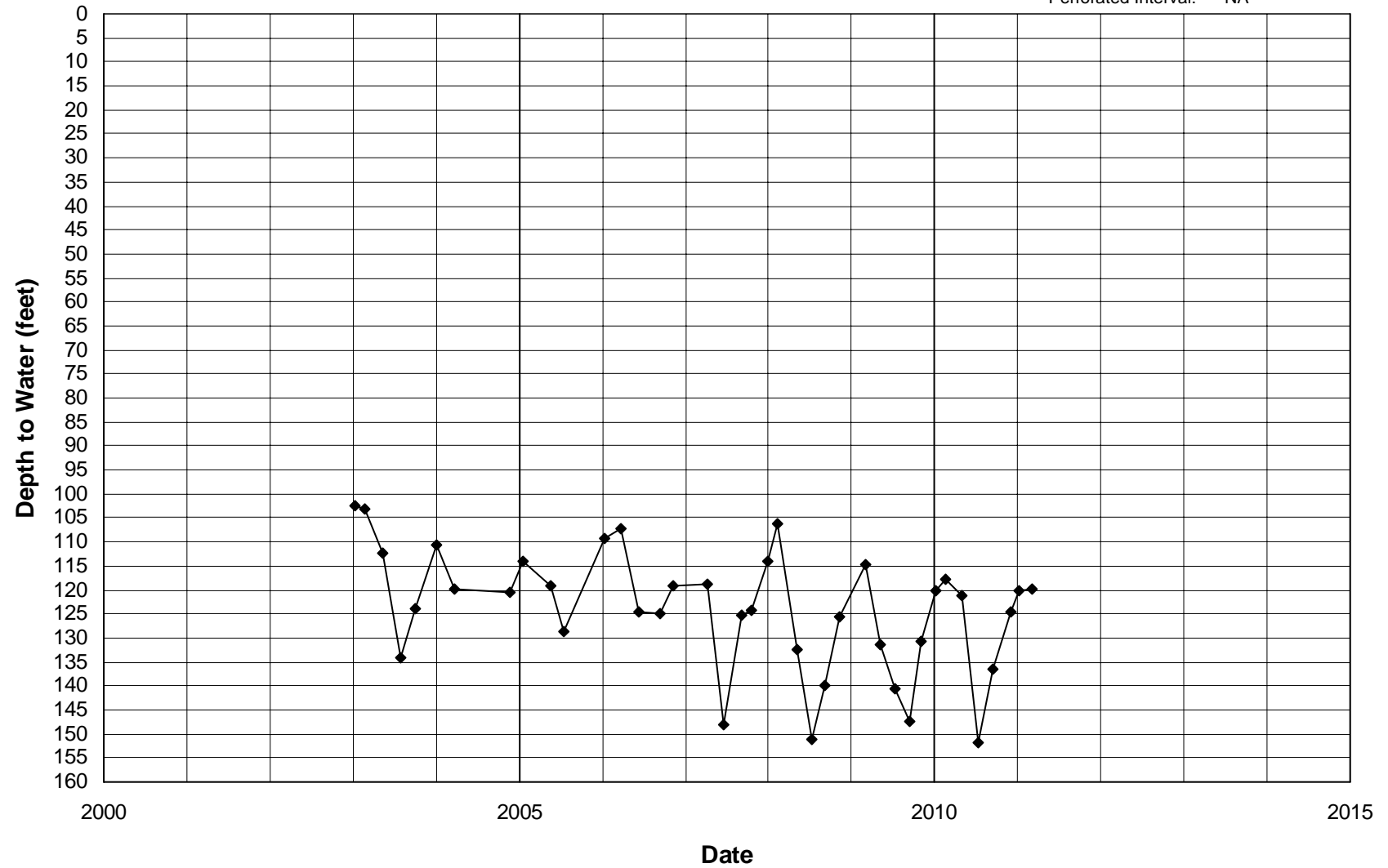
Reference Elevation: 175 feet msl
Perforated Interval: NA



Aliso Water District - Prosperi T12S/R16E-31G1

Reference Elevation: 180 feet msl

Perforated Interval: NA

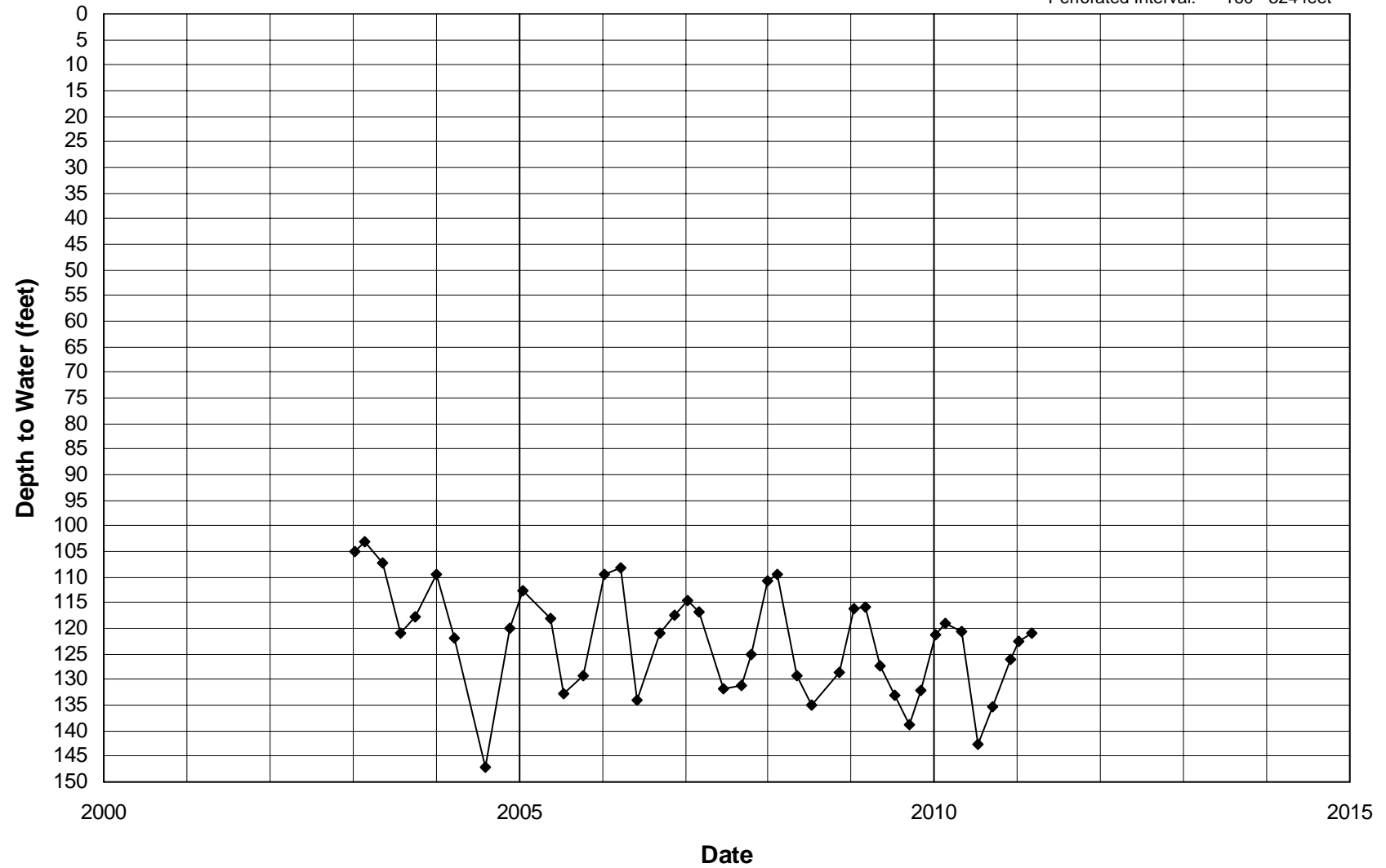


—◆— Hand Measurement

Aliso Water District - Prosperi T12S/R16E-31A

Reference Elevation: 180 feet msl

Perforated Interval: 160 - 324 feet

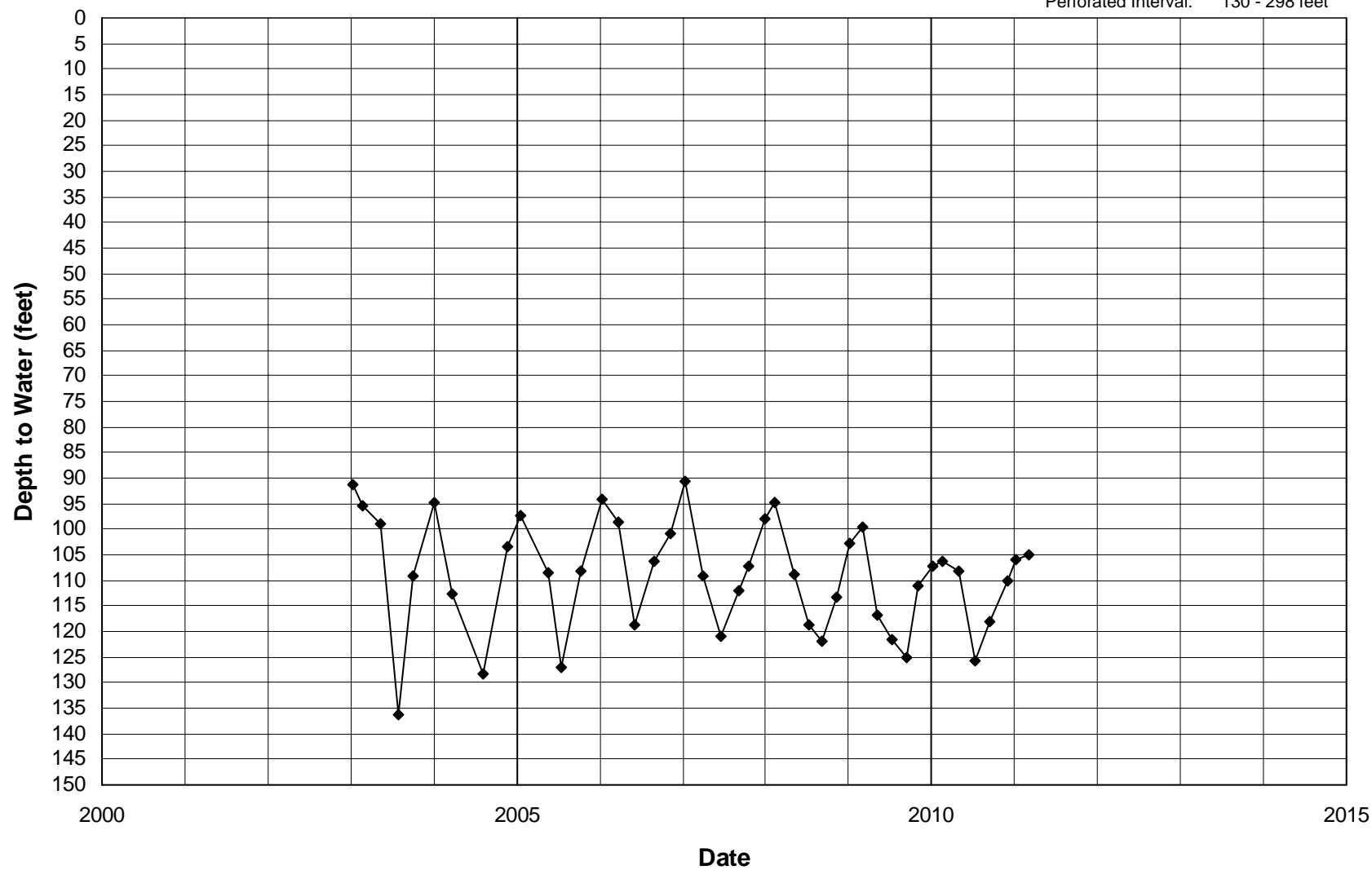


—◆— Hand Measurement

Undistricted (Madera County) - Simpson T12S/R16E-26H01

Reference Elevation: 202 feet msl

Perforated Interval: 130 - 298 feet

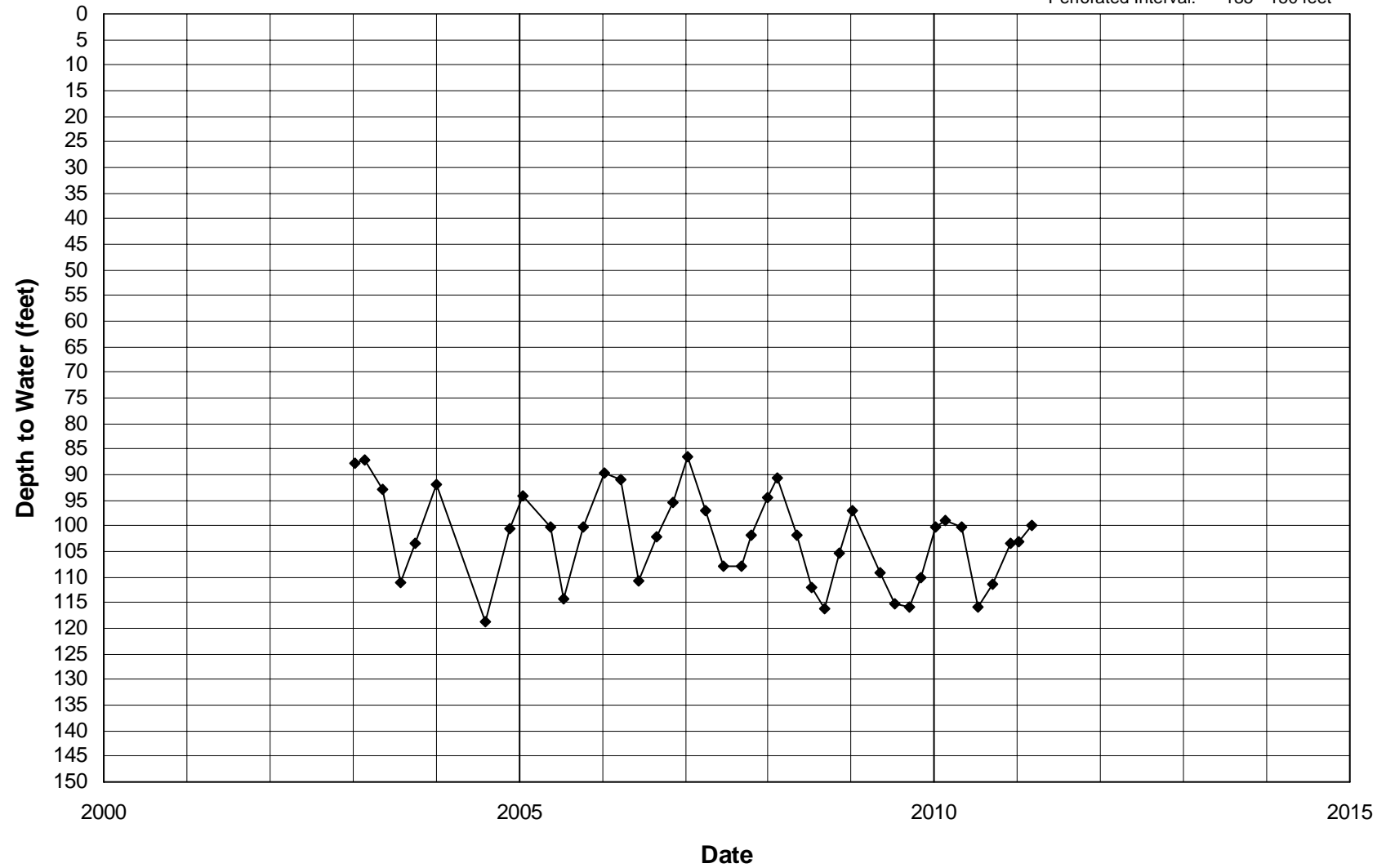


—◆— Hand Measurement

Undistricted (Madera County) - Simpson T12S/R16E-25A1

Reference Elevation: 209 feet msl

Perforated Interval: 135 - 150 feet

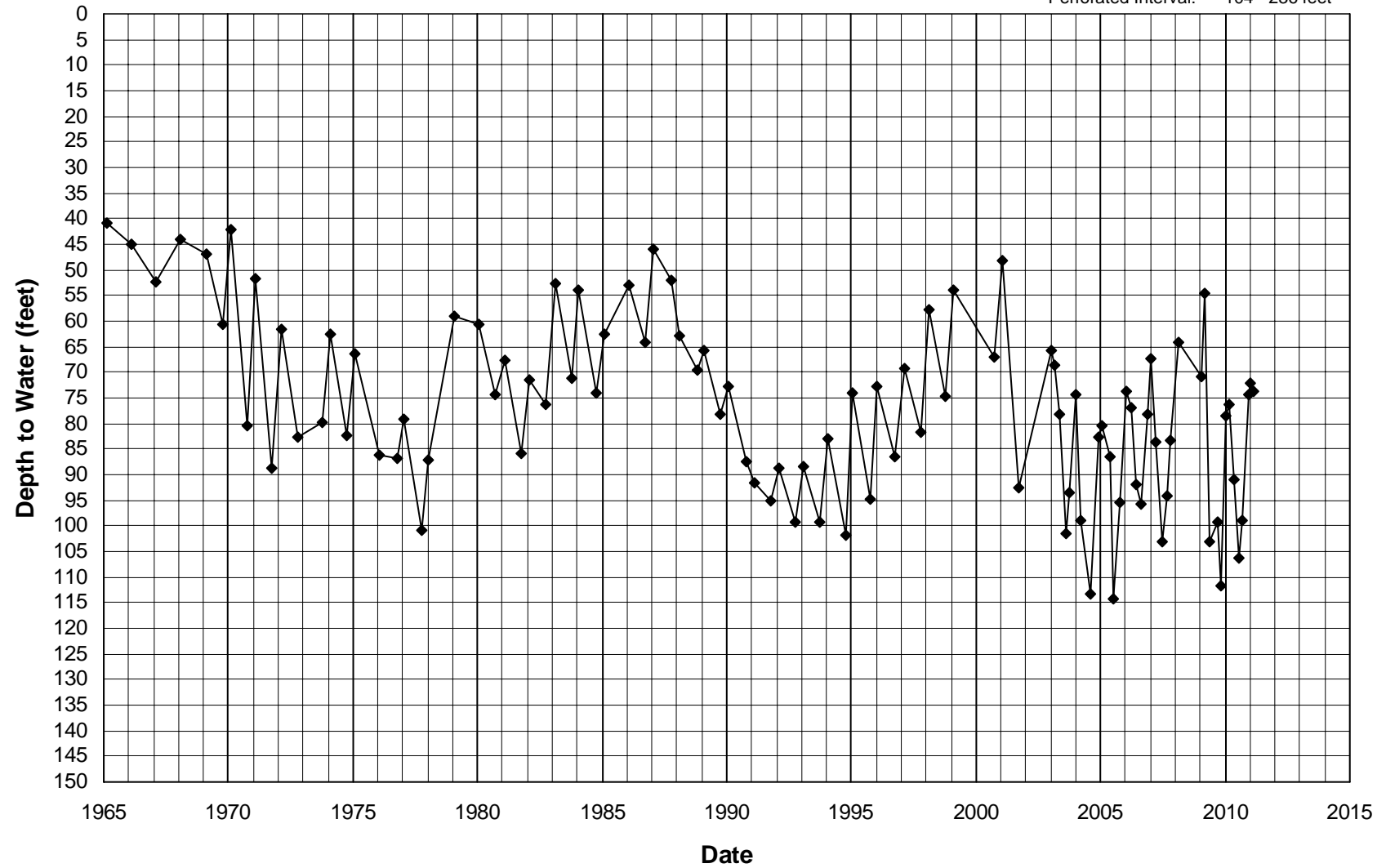


—◆— Hand Measurement

Undistricted (Fresno County) - Horner T13S/R16E-34C1

Reference Elevation: 183 feet msl

Perforated Interval: 104 - 236 feet



—◆— Hand Measurement

Appendix D

Groundwater Quality Tables

Table D-1
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Paramount Farming Co.																										
MW-2	6/11/2002	JML	1090	-	7.1	-	4	-	-	154	-	-	74	384	17	-	-	0.17	-	-	-	-	-	-	-	
MW-2	3/11/2003	JML	1040	-	6.8	-	-	-	-	185	-	-	75	389	13.2	-	-	0.22	-	-	-	-	-	1.96	-	
MW-2	8/6/2003	JML	900	600	7.0	-	-	-	-	126	-	-	64	366	12.2	-	-	0.22	-	-	-	-	-	0.73	-	
MW-2	8/17/2004	JML	840	538	6.8	-	2.9	-	-	113	-	-	46	305	28	-	-	0.12	-	-	-	-	-	0.87	-	
MW-2	3/14/2005	JML	1480	-	7.0	-	2.9	-	-	120	-	-	67	372	37.6	-	-	0.14	-	-	-	-	-	1.66	-	
MW-2	8/25/2005	JML	1260	-	6.8	-	3.6	-	-	126	-	-	53	207	46.5	-	-	0.13	-	-	-	-	-	1.82	-	
MW-2	3/21/2006	JML	680	-	7.1	-	-	-	-	76	-	-	18	171	14.6	-	-	0.12	-	-	-	-	-	<1	-	
MW-2	9/21/2006	JML	350	224	7.1	-	-	-	-	67	-	-	21	128	10.2	-	-	0.12	-	-	-	-	-	<1	-	
MW-2	8/13/2007	JML	460	-	-	127	-	20	8	80	-	38	39	-	13.3	-	-	0.09	-	-	-	-	-	-	-	
MW-2	9/11/2008	JML	540	-	7.1	-	3.4	-	-	92	-	-	35.5	232	23.5	-	-	0.13	-	-	-	-	-	<1	-	
MW-2	8/17/2010	JML	290	-	6.8	-	-	-	-	60	-	-	12	131	17.3	-	-	0.09	-	-	-	-	-	-	-	
MW-2	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-		
MW-3	6/11/2002	JML	320	-	7.3	-	3.1	-	-	57	-	-	32	104	ND	-	-	0.15	-	-	-	-	-	-	-	
MW-3	3/11/2003	JML	350	-	7.2	-	-	-	-	70	-	-	34	102	ND	-	-	0.18	-	-	-	-	-	0.7	-	
MW-3	8/6/2003	JML	330	200	7.3	-	-	-	-	57	-	-	25	79	ND	-	-	0.16	-	-	-	-	-	ND	-	
MW-3	8/17/2004	JML	640	410	7.4	-	2.8	-	-	83	-	-	64	177	1.3	-	-	0.18	-	-	-	-	-	<0.4	-	
MW-3	3/14/2005	JML	540	-	7.5	-	3.2	-	-	55	-	-	28	73	0.4	-	-	0.13	-	-	-	-	-	<0.4	-	
MW-3	8/25/2005	JML	550	-	7.1	-	3	-	-	57	-	-	39	244	ND	-	-	0.11	-	-	-	-	-	<0.4	-	
MW-3	3/21/2006	JML	640	-	7.2	-	-	-	-	67	-	-	50	98	0.9	-	-	0.12	-	-	-	-	-	<1	-	
MW-3	9/21/2006	JML	460	294	7.2	-	-	-	-	71	-	-	57	116	<0.1	-	-	0.15	-	-	-	-	-	<1	-	
MW-3	8/13/2007	JML	530	-	-	89	-	28	10	72	-	62	74	-	1.3	-	-	0.12	-	-	-	-	-	-	-	
MW-3	9/11/2008	JML	370	-	7.2	-	3	-	-	60	-	-	46	104	ND	-	-	0.18	-	-	-	-	-	<1	-	
MW-3	8/17/2010	JML	410	-	7.4	-	-	-	-	66	-	-	54	106	ND	-	-	0.2	-	-	-	-	-	-	-	
MW-3	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-		
MW-4	6/11/2002	JML	1270	-	8.0	-	13	-	-	278	-	-	170	366	6	-	-	0.28	-	-	-	-	-	-	-	
MW-4	3/11/2003	JML	1300	-	7.8	-	-	-	-	349	-	-	173	417	5.6	-	-	0.33	-	-	-	-	-	1.85	-	
MW-4	8/6/2003	JML	1580	1000	7.8	-	-	-	-	349	-	-	174	415	5.6	-	-	0.33	-	-	-	-	-	1.62	-	
MW-4	3/14/2005	JML	2650	-	7.9	-	13.5	-	-	326	-	-	195	531	29.7	-	-	0.33	-	-	-	-	-	1.28	-	
MW-4	8/25/2005	JML	2170	-	7.6	-	12.7	-	-	129	-	-	227	183	27	-	-	0.29	-	-	-	-	-	1.01	-	
MW-4	3/21/2006	JML	2490	-	7.7	-	-	-	-	372	-	-	206	567	22.6	-	-	0.34	-	-	-	-	-	1.1	-	
MW-4	9/21/2006	JML	1730	1107	7.6	-	-	-	-	136	-	-	195	295	19.5	-	-	0.43	-	-	-	-	-	1.01	-	
MW-4	8/13/2007	JML	1500	-	-	373	-	25	5	345	-	99	172	-	42.5	-	-	0.32	-	-	-	-	-	-	-	
MW-4	9/11/2008	JML	1490	-	7.8	-	13.8	-	-	356	-	-	202	519	36.3	-	-	0.32	-	-	-	-	-	1.4	-	
MW-4	8/17/2010	JML	1750	-	7.6	-	-	-	-	405	-	-	246	513	61.1	-	-	0.34	-	-	-	-	-	-	-	
MW-4	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.02	-		
MW-5	6/11/2002	JML	1060	-	7.5	-	5.3	-	-	175	-	-	124	336	5	-	-	0.25	-	-	-	-	-	-	-	
MW-5	3/11/2003	JML	1150	-	7.4	-	-	-	-	229	-	-	139	306	13.5	-	-	0.29	-	-	-	-	-	1.7	-	
MW-5	8/6/2003	JML	1090	700	7.4	-	-	-	-	230	-	-	138	366	13.5	-	-	0.29	-	-	-	-	-	0.83	-	
MW-5	8/17/2004	JML	1160	742	7.5	-	6.4	-	-	195	-	-	128	317	69	-	-	0.25	-	-	-	-	-	1.02	-	
MW-5	3/14/2005	JML	1970	-	7.5	-	5.1	-	-	191	-	-	138	329	60.2	-	-	0.26	-	-	-	-	-	1.1	-	
MW-5	8/25/2005	JML	1610	-	7.3	-	5.1	-	-	184	-	-	138	171	62	-	-	0.22	-	-	-	-	-	0.77	-	
MW-5	3/21/2006	JML	1950	-	7.3	-	-	-	-	193	-	-	149	342	56.2	-	-	0.25	-	-	-	-	-	<1	-	
MW-5	9/21/2006	JML	1500	960	7.5	-	-	-	-	278	-	-	188	433	57.6	-	-	0.3	-	-	-	-	-	<1	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
MW-5	8/13/2007	JML	1510	-	-	289	-	87	14	251	-	127	211	-	75.3	-	-	0.23	-	-	-	-	-	-	-	-	
MW-5	9/11/2008	JML	1350	-	7.5	-	5.6	-	-	225	-	-	199	372	76.6	-	-	0.28	-	-	-	-	-	<1	-	-	
MW-5	8/17/2010	JML	1220	-	7.4	-	-	-	-	206	-	-	142	344	84.6	-	-	0.32	-	-	-	-	-	-	-	-	
MW-5	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	
U.S. Geological Survey																											
31J4	11/21/1985	USGS	3290	1960	8.0	-	19.9	31	29	640	3	370	720	262	<0.4	-	<1	1	-	-	0.25	0.21	-	<1	-	-	
31J4	4/23/1987	USGS	3270	1830	8.4	-	16.9	34	30	560	3	360	670	273	2	-	1	1	-	-	0.2	0.02	-	<1	-	-	
31J4	8/2/1999	FGL	5740	3700	7.0	-	16.5	95	99	960	7	930	1360	260	<0.4	-	<2	1.4	-	-	0.83	1	-	-	-	-	
31J4	9/28/1999	FGL	5970	3670	6.7	-	15.6	102	108	950	9	870	1290	280	0.6	-	<2	1.6	-	-	1.14	1.37	-	<2	-	-	
31J4	8/25/2000	FGL	5890	3730	6.7	200	16.4	98	101	970	7	840	1240	250	<0.8	0.6	-	1.4	-	<0.01	0.83	1.22	-	<10	<0.02		
31J4	6/27/2001	FGL	5940	3490	7.0	210	15.8	101	105	950	8	910	1240	260	<0.8	0.7	<2	1.43	-	<0.01	1.21	1.34	10	-	<0.02		
31J4	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
31J4	6/26/2002	FGL	6370	4170	6.8	220	19.4	113	123	1250	9	1030	1580	260	<0.4	0.3	<2	1.37	-	<0.01	1.74	1.71	-	-	<0.02		
31J4	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	<0.4	-		
31J4	7/9/2003	FGL	6960	4570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
31J4	6/18/2004	FGL	7520	4940	7.0	270	-	172	177	1460	7	1100	1760	330	<0.4	1	<2	2	-	<0.01	1.32	1.45	-	-	<0.02		
31J4	6/18/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	<0.4	-		
31J4	8/7/2006	FGL	7740	5110	7.0	250	-	148	149	1610	8	1250	1900	300	<0.4	0.4	5	2.3	-	<0.01	1.38	1.19	-	-	<0.02		
31J4	8/7/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.9	<0.4	-		
31J4	9/19/2007	FGL	7780	5080	7.6	260	21.5	172	167	1650	7	1280	1950	310	<0.4	0.4	6	2.33	-	<0.01	1.9	1.85	-	-	0.08		
31J4	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	<0.4	-		
31J4	9/17/2008	FGL	8060	5230	7.0	102	16.9	174	170	1310	10	1260	1910	125	<0.4	0.7	6	2.2	-	<0.01	2.15	1.67	-	-	<0.02		
31J4	9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.73	<0.4	-		
31J4	5/12/2010	FGL	8310	5370	6.8	220	-	186	178	1590	7	1300	2050	260	<0.8	0.9	3	2.1	-	<0.01	2.24	1.23	12	-	<0.02		
31J4	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10A2	8/3/1999	FGL	6750	5590	7.5	-	4.7	640	230	540	3	2130	930	110	770	-	20	3.7	-	-	0.57	1.23	-	-	-	-	
10A2	9/28/1999	FGL	6960	5750	7.2	-	4.7	670	270	570	5	2140	970	120	762	-	2	4.1	-	-	<0.25	1.11	-	-	-	-	
Covanta Mendota																											
Well 6B	6/23/2004	BD	852	-	6.9	244	-	-	-	132	-	70	95	-	-	-	-	-	-	0.06	2.9	-	-	-	-	-	
Well 6B	10/7/2004	BD	1000	-	7.3	236	-	-	-	155	-	117	113	-	-	-	-	-	-	<0.05	1.3	-	-	-	-	-	
Well 6B	5/1/2005	BD	1040	-	-	232	-	-	-	-	-	-	117	-	-	-	-	-	-	-	-	-	-	-	-	-	
Fordel, Inc.																											
M-2	8/4/1999	FGL	509	320	6.8	-	2.5	25	10	58	2	42	51	200	<0.4	-	<2	0.2	-	-	5.8	0.7	-	<2	-	-	
M-2	9/27/1999	FGL	627	370	6.7	-	2.8	33	14	75	3	59	65	210	<0.4	-	3	0.3	-	-	7.5	1	-	<2	-	-	
M-2	8/23/2000	FGL	1350	780	6.7	160	8.1	35	15	226	4	201	174	190	<0.4	0.2	-	0.5	-	<0.01	8.12	1.21	-	<10	<0.02		
M-2	6/28/2001	FGL	1020	650	6.8	130	4.4	42	16	133	4	154	132	160	<0.4	0.1	2	0.36	-	<0.01	8.49	1.24	10	-	<0.02		
M-2	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
M-2	10/1/2001	FGL	1150	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
M-2	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
M-2	6/25/2002	FGL	1150	690	6.8	140	5.1	42	17	155	4	197	147	170	<0.4	<0.1	3	0.44	-	<0.01	7.66	1.27	-	-	<0.02		
M-2	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	<0.4	-		
M-2	7/8/2003	FGL	879	670	7.7	140	-	42	15	127	4	123	121	170	<0.4	0.2	2	0.32	-	<0.01	4.8	0.88	-	-	<0.02		

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Fordel, Inc.																										
M-2	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.25	<0.4	-	
M-3	4/8/1993	NA	1040	597	6.6	-	3.3	52	20	110	4	150	130	180	-	-	-	-	-	-	-	-	-	-	-	
M-3	6/28/2001	FGL	1390	810	6.8	160	6.4	46	18	203	4	218	184	190	<0.4	0.1	3	0.51	-	<0.01	9.27	1.35	10	-	<0.02	
M-3	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-3	10/1/2001	FGL	1160	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M-3	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-3	7/8/2003	FGL	1760	1060	7.4	190	-	52	20	296	6	305	285	230	<0.4	0.3	3	0.73	-	<0.01	9.4	1.25	-	-	<0.02	
M-3	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4	<0.4	-	
M-4	10/1/2001	FGL	1250	760	6.7	180	5.4	49	19	177	4	196	169	220	<0.4	0.1	3	0.52	-	<0.01	8.57	1.21	-	-	<0.02	
M-4	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	<0.4	-	
M-4	7/8/2003	FGL	1270	780	7.3	180	-	43	18	222	5	187	196	220	<0.4	0.3	3	0.49	-	<0.01	7.64	0.9	-	-	<0.02	
M-4	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.35	<0.4	-	
M-5	10/1/2001	FGL	769	480	6.9	160	3.4	37	16	99	3	88	101	200	<0.4	0.1	<2	0.35	-	<0.01	8.76	1.27	-	-	<0.02	
M-5	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	<0.4	-	
M-5	7/8/2003	FGL	772	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M-6	6/28/2001	FGL	632	430	6.7	150	2.3	35	15	65	3	63	60	180	<0.4	0.1	<2	0.27	-	<0.01	7.59	1.07	3	-	<0.02	
M-6	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-6	10/1/2001	FGL	629	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M-6	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-6	6/25/2002	FGL	650	390	6.7	160	2.1	36	16	61	3	43	83	190	<0.4	<0.1	3	0.26	-	<0.01	7.93	1.06	-	-	<0.02	
M-6	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	0.4	-	
M-6	7/8/2003	FGL	685	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Terra Linda Farms																										
TLF-11As (4A)	10/2/2001	FGL	935	570	7.6	220	2.9	53	24	103	4	98	111	260	<0.4	<0.1	<2	0.21	-	<0.01	0.89	1.09	-	-	<0.02	
TLF-11As (4A)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	<0.4	-	
TLF-11As (4A)	7/8/2003	FGL	946	610	7.9	200	-	53	24	121	5	129	123	250	<0.4	0.2	<2	0.26	-	<0.01	1.41	1.59	-	-	<0.02	
TLF-11As (4A)	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	<0.4	-	
TLF-11As (4A)	5/22/2007	CLS	990	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-11As (4A)	9/17/2008	FGL	766	430	6.9	180	3.1	40	19	94	4	69	88	230	<0.4	<0.1	<2	0.3	-	<0.01	2.97	1.17	-	-	<0.02	
TLF-11As (4A)	9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<0.4	-	
TLF-11Cs (4C)	6/27/2001	FGL	1000	570	7.3	200	3.1	58	23	111	4	121	128	240	<0.4	<0.1	<2	0.27	-	<0.01	1.95	1.87	10	-	<0.02	
TLF-11Cs (4C)	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	
TLF-11Cs (4C)	10/2/2001	FGL	1090	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-11Cs (4C)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-11Cs (4C)	6/25/2002	FGL	1380	870	6.9	180	4.3	67	26	162	5	227	167	220	<0.4	<0.1	<2	0.41	-	<0.01	3.92	2.67	-	-	<0.02	
TLF-11Cs (4C)	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	<0.4	-	
TLF-11Cs (4C)	7/8/2003	FGL	1190	760	7.7	160	-	62	24	169	5	212	161	200	<0.4	0.2	<2	0.38	-	<0.01	4.68	2.59	-	-	<0.02	
TLF-11Cs (4C)	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	<0.4	-	
TLF-11Cs (4C)	5/22/2007	CLS	1300	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-11Cs (4C)	9/17/2008	FGL	1170	680	6.6	220	5.5	42	19	171	4	129	156	260	<0.4	<0.1	3	0.5	-	<0.01	4.59	1.93	-	-	<0.02	
TLF-11Cs (4C)	9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.15	<0.4	-	
TLF-9s (10A)	9/12/2001	FGL	896	560	7.6	210	3.5	47	22	115	5	99	106	250	<0.4	0.1	<2	0.26	-	<0.01	1.26	1.06	-	-	<0.02	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Terra Linda Farms																										
TLF-9s (10A)	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.6	<0.4	-
TLF-9s (10A)	7/9/2003	FGL	963	590	7.6	190	-	53	24	110	5	124	132	230	<0.4	0.2	<2	0.23	-	<0.01	1.52	1.23	-	-	<0.02	
TLF-9s (10A)	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	<0.4	-	
TLF-9s (10A)	5/21/2007	CLS	910	540	6.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-9s (10A)	9/18/2007	FGL	868	530	7.8	190	3.3	40	19	101	4	91	108	230	<0.4	0.2	<2	0.3	-	<0.01	1.34	0.96	-	-	<0.02	
TLF-9s (10A)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	<0.4	-	
TLF-9s (10A)	9/16/2008	FGL	827	460	7.3	180	3.4	40	19	103	4	85	95	220	<0.4	0.1	<2	0.3	-	<0.01	1.52	1.04	-	-	0.05	
TLF-9s (10A)	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.9	<0.4	-	
TLF-9s (10A)	5/12/2010	FGL	913	530	7.2	180	-	46	21	110	4	98	113	220	<0.4	0.1	<2	0.3	-	<0.01	1.7	1.1	9	-	<0.02	
TLF-9s (10A)	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-8s (10B)	9/12/2001	FGL	989	580	7.5	250	3.6	51	25	124	5	101	109	300	<0.4	0.2	3	0.25	-	<0.01	1.94	1.28	-	-	<0.02	
TLF-8s (10B)	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.2	<0.4	-	
TLF-8s (10B)	6/15/2004	FGL	889	550	7.2	220	-	4	23	112	4	77	108	270	<0.4	0.3	3	0.3	-	<0.01	2.33	1.27	-	-	<0.02	
TLF-8s (10B)	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	<0.4	-	
TLF-8s (10B)	5/21/2007	CLS	780	480	6.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-8s (10B)	9/18/2007	FGL	830	530	7.8	190	3.6	38	18	108	4	86	104	230	<0.4	0.2	2	0.3	-	<0.01	1.59	1.02	-	-	<0.02	
TLF-8s (10B)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4	<0.4	-	
TLF-8s (10B)	9/16/2008	FGL	825	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-8s (10B)	5/12/2010	FGL	938	520	7.2	200	-	45	22	116	4	90	122	250	<0.4	0.2	4	0.3	-	<0.01	1.91	1.3	10	-	<0.02	
TLF-8s (10B)	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-7s (10C)	4/16/1993	NA	1064	647	7.0	-	3.9	57	24	140	4	93	120	349	-	-	-	-	-	-	-	-	-	-	-	
TLF-7s (10C)	9/12/2001	FGL	904	540	7.4	240	3.6	47	23	119	4	83	102	290	<0.4	0.3	6	0.29	-	<0.01	2.59	1.67	-	-	<0.02	
TLF-7s (10C)	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	<0.4	-	
TLF-7s (10C)	10/1/2001	FGL	882	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-7s (10C)	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-7s (10C)	6/25/2002	FGL	727	420	7.2	200	3.5	30	14	92	3	55	79	240	<0.4	0.3	4	0.26	-	<0.01	2.04	0.97	-	-	<0.02	
TLF-7s (10C)	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.5	<0.4	-	
TLF-7s (10C)	7/9/2003	FGL	725	430	7.9	200	-	32	14	99	3	50	84	250	<0.4	0.3	5	0.26	-	<0.01	1.69	1.2	-	-	<0.02	
TLF-7s (10C)	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.4	<0.4	-	
TLF-7s (10C)	6/15/2004	FGL	731	450	7.1	200	-	34	16	102	3	55	88	240	ND	0.4	3	0.3	-	<0.01	1.77	1.09	-	-	<0.02	
TLF-7s (10C)	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.3	<0.4	-	
TLF-7s (10C)	5/21/2007	CLS	710	430	6.74	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-7s (10C)	9/18/2007	FGL	689	430	7.8	180	3.4	30	15	91	3	48	80	220	1.2	0.3	4	0.3	-	<0.01	1.6	1.04	-	-	<0.02	
TLF-7s (10C)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.2	<0.4	-	
TLF-7s (10C)	9/16/2008	FGL	668	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-7s (10C)	5/12/2010	FGL	790	430	7.2	190	-	36	16	97	3	55	97	240	<0.4	0.3	5	0.3	-	<0.01	1.95	1.38	15	-	0.03	
TLF-7s (10C)	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TL-11	9/12/2001	FGL	774	450	7.6	210	3.7	35	17	107	3	67	86	260	<0.4	0.2	<2	0.28	-	<0.01	1.63	1.07	-	-	<0.02	
TL-11	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.7	<0.4	-	
TLF-1s (12)	10/2/2001	FGL	769	460	-	170	4.8	30	9	117	2	82	97	210	<0.4	0.1	<2	0.28	-	<0.01	0.29	0.41	-	-	<0.02	
TLF-1s (12)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	<0.4	-	
TLF-1s (12)	10/17/2002	FGL	864	520	8.0	210	-	26	5	152	1	59	107	260	<0.4	<0.1	<2	0.24	0.038	0.02	0.15	0.2	-	<2	<0.02	
TLF-1s (12)	7/9/2003	FGL	1070	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
Terra Linda Farms																										
TLF-1s (12)	10/24/2005	FGL	1240	790	7.3	290	-	45	14	185	2	139	134	360	<0.4	0.2	<2	0.3	-	<0.01	1.6	0.63	-	-	<0.02	
TLF-1s (12)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	<0.4	-	
TLF-1s (12)	5/21/2007	CLS	1400	830	7.12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-1s (12)	9/18/2007	FGL	1350	840	7.9	390	7.7	44	17	236	2	99	153	470	<0.4	0.1	<2	0.3	-	<0.01	0.58	0.87	-	-	<0.02	
TLF-1s (12)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8	<0.4	-	
TLF-1s (12)	9/17/2008	FGL	1160	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-1s (12)	5/26/2009	FGL	1080	650	7.3	250	-	49	19	181	2	108	120	310	0.4	0.1	<2	0.3	-	0.03	1.23	1.2	6	-	<0.02	
TLF-1s (12)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-2s (13)	6/26/2001	FGL	752	450	7.1	140	3.5	33	14	95	3	80	97	170	<0.4	0.1	<2	0.26	-	<0.01	3.04	0.78	4	-	<0.02	
TLF-2s (13)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-2s (13)	10/2/2001	FGL	860	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-2s (13)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-2s (13)	7/9/2003	FGL	909	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-2s (13)	6/16/2004	FGL	946	590	7.0	150	-	41	19	133	3	127	137	180	<0.4	0.2	<2	0.3	-	<0.01	3.41	1.04	-	-	<0.02	
TLF-2s (13)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	<0.4	-	
TLF-2s (13)	10/24/2005	FGL	564	360	7.0	100	-	22	10	73	2	56	76	120	<0.4	0.2	<2	0.2	-	<0.01	2.53	0.42	-	-	<0.02	
TLF-2s (13)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	<0.4	-	
TLF-2s (13)	5/21/2007	CLS	860	500	6.69	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-2s (13)	9/18/2007	FGL	909	530	7.2	140	4.8	32	15	132	2	113	135	180	<0.4	0.2	<2	0.3	-	<0.01	3.11	0.88	-	-	<0.02	
TLF-2s (13)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	<0.4	-	
TLF-2s (13)	9/16/2008	FGL	965	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-2s (13)	5/26/2009	FGL	952	560	6.8	140	-	48	22	124	3	123	135	170	<0.4	0.2	<2	0.3	-	<0.01	3.95	1.23	4	-	<0.02	
TLF-2s (13)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-2s (13)	5/11/2010	FGL	945	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-3s (14)	6/26/2001	FGL	820	500	7.0	190	3.9	36	14	109	3	73	100	230	<0.4	0.2	<2	0.25	-	<0.01	1.78	0.91	10	-	<0.02	
TLF-3s (14)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-3s (14)	10/2/2001	FGL	1030	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-3s (14)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-3s (14)	6/26/2002	FGL	1190	750	7.2	240	6.1	39	15	178	3	138	153	290	<0.4	<0.1	<2	0.24	-	0.06	2.19	0.93	-	-	<0.02	
TLF-3s (14)	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.5	<0.4	-	
TLF-3s (14)	7/9/2003	FGL	1220	770	8.0	250	-	43	18	196	3	144	171	310	<0.4	0.2	<2	0.28	-	<0.01	2.78	1.21	-	-	<0.02	
TLF-3s (14)	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	<0.4	-	
TLF-3s (14)	6/16/2004	FGL	1210	740	7.1	230	-	47	20	187	3	148	166	280	0.4	0.2	<2	0.3	-	<0.01	2.87	1.24	-	-	<0.02	
TLF-3s (14)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	<0.4	-	
TLF-3s (14)	10/24/2005	FGL	1190	760	6.9	220	-	50	25	155	3	155	155	270	<0.4	0.1	5	0.3	-	0.01	14.1	1.66	-	-	<0.02	
TLF-3s (14)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	<0.4	-	
TLF-3s (14)	5/21/2007	CLS	1100	650	6.78	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-3s (14)	9/18/2007	FGL	1210	700	7.1	220	6	42	19	188	3	147	169	270	<0.4	0.1	<2	0.2	-	0.06	2.77	1.04	-	-	<0.02	
TLF-3s (14)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.6	<0.4	-	
TLF-3s (14)	9/16/2008	FGL	1320	790	7.2	240	5.1	55	27	185	3	150	175	300	<0.4	<0.1	<2	0.3	-	<0.01	3.77	1.4	-	-	<0.02	
TLF-3s (14)	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.8	<0.4	-	
TLF-3s (14)	5/26/2009	FGL	1300	770	6.9	240	-	64	31	191	4	151	175	300	<0.4	0.2	6	0.3	-	<0.01	46	1.8	7	-	<0.02	
TLF-3s (14)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-3s (14)	5/11/2010	FGL	1340	770	7.0	250	-	56	30	172	4	168	184	300	<0.4	0.2	<2	0.3	-	<0.01	4.32	1.72	7	-	<0.02	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Terra Linda Farms																											
TLF-3s (14)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-4s (15)	6/26/2001	FGL	925	550	7.3	210	5.7	30	12	147	2	82	118	250	<0.4	0.2	<2	0.28	-	<0.01	2.04	0.79	10	-	<0.02		
TLF-4s (15)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-4s (15)	10/2/2001	FGL	955	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-4s (15)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-4s (15)	7/9/2003	FGL	823	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-4s (15)	6/16/2004	FGL	853	490	7.4	190	-	28	12	138	2	98	99	230	<0.4	0.3	<2	0.3	-	<0.01	1.89	0.75	-	-	<0.02		
TLF-4s (15)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	<0.4	-		
TLF-4s (15)	10/24/2005	FGL	752	470	7.1	170	-	27	16	102	2	64	94	210	<0.4	0.3	<2	0.2	-	<0.01	4.55	0.97	-	-	<0.02		
TLF-4s (15)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	<0.4	-		
TLF-4s (15)	5/21/2007	CLS	950	520	6.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-4s (15)	9/18/2007	FGL	1220	720	7.4	220	6.1	43	17	188	2	143	172	270	<0.4	0.2	<2	0.3	-	<0.01	1.68	0.89	-	-	<0.02		
TLF-4s (15)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	<0.4	-		
TLF-4s (15)	9/16/2008	FGL	1310	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-4s (15)	5/26/2009	FGL	1260	750	7.0	210	-	52	21	204	3	157	172	260	0.4	0.2	<2	0.3	-	0.01	3.58	1.46	6	-	<0.02		
TLF-4s (15)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-4s (15)	5/11/2010	FGL	1210	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-10s (16)	10/1/2001	FGL	921	550	7.7	200	2.4	62	27	90	5	95	119	240	<0.4	<0.1	<2	0.22	-	0.1	0.49	1.24	-	-	<0.02		
TLF-10s (16)	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	<0.4	-		
TLF-10s (16)	7/8/2003	FGL	858	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-10s (16)	6/15/2004	FGL	1080	690	7.3	210	-	66	29	124	5	149	140	250	<0.4	0.2	<2	0.3	-	<0.01	0.97	1.72	-	-	<0.02		
TLF-10s (16)	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	<0.4	-		
TLF-10s (16)	10/24/2005	FGL	675	400	7.8	160	-	40	15	72	3	49	87	200	<0.4	<0.1	<2	0.2	-	<0.01	0.67	0.61	-	-	<0.02		
TLF-10s (16)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	<0.4	-		
TLF-10s (16)	5/22/2007	CLS	860	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-10s (16)	9/18/2007	FGL	922	540	7.2	190	3.3	52	22	111	4	112	118	240	<0.4	<0.1	<2	0.2	-	<0.01	0.7	1.3	-	-	<0.02		
TLF-10s (16)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.4	<0.4	-		
TLF-10s (16)	9/17/2008	FGL	972	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-10s (16)	5/26/2009	FGL	875	540	7.9	200	-	53	22	101	4	86	107	240	<0.4	0.1	<2	0.2	-	<0.01	0.6	1.27	5	-	<0.02		
TLF-10s (16)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-10s (16)	5/13/2010	FGL	900	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-13s (17)	6/27/2001	FGL	689	390	7.0	130	2.6	39	14	74	3	92	73	160	<0.4	0.1	3	0.23	-	<0.01	4.62	1.35	4	-	<0.02		
TLF-13s (17)	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
TLF-13s (17)	6/25/2002	FGL	926	580	6.7	140	3.6	43	16	109	4	147	115	170	<0.4	<0.1	3	0.31	-	0.01	6.43	1.53	-	-	<0.02		
TLF-13s (17)	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	<0.4	-		
TLF-13s (17)	6/18/2004	FGL	664	390	6.6	140	-	36	16	76	3	61	92	170	<0.4	0.2	3	0.2	-	<0.01	6.84	1.32	-	-	<0.02		
TLF-13s (17)	6/18/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	<0.4	-		
TLF-13s (17)	10/24/2005	FGL	634	410	7.2	140	-	40	10	68	2	58	78	180	<0.4	<0.1	3	0.2	-	<0.01	2.65	0.37	-	-	<0.02		
TLF-13s (17)	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	<0.4	-		
TLF-13s (17)	5/22/2007	CLS	840	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
TLF-13s (17)	9/18/2007	FGL	705	420	7.3	150	3.8	32	13	102	3	84	87	180	<0.4	0.2	3	0.2	-	<0.01	3.71	0.88	-	-	<0.02		
TLF-13s (17)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	<0.4	-		
TLF-13s (17)	9/17/2008	FGL	630	340	7.3	130	2.9	31	12	75	3	57	72	160	<0.4	<0.1	4	0.2	-	<0.01	4.05	0.81	-	-	<0.02		

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹					Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Terra Linda Farms																										
TLF-13s (17)	9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.07	<0.4	-	
TLF-13s (17)	5/26/2009	FGL	715	410	6.7	140	-	40	15	86	3	70	93	170	0.4	0.1	4	0.3	-	<0.01	5.67	1.11	3	-	<0.02	
TLF-13s (17)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-13s (17)	5/13/2010	FGL	697	420	7.0	140	-	38	15	75	3	60	91	170	0.6	0.1	3	0.2	-	<0.01	4.57	0.92	3	-	<0.02	
TLF-13s (17)	5/13/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-15s	9/18/2007	FGL	723	480	7.8	160	3.5	35	13	95	2	82	83	190	<0.4	0.2	<2	0.2	-	<0.01	2.95	0.79	-	-	<0.02	
TLF-15s	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<0.4	-	
TLF-15s	5/26/2009	FGL	808	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-15s	5/11/2010	FGL	817	500	6.9	140	-	39	16	106	3	98	110	170	<0.4	0.2	3	0.3	-	<0.01	4.53	1.15	5	-	<0.02	
TLF-15s	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-16s	9/18/2007	FGL	742	440	7.2	160	3.6	34	16	101	3	75	101	200	<0.4	0.3	<2	0.2	-	<0.01	2.25	1.72	-	-	<0.02	
TLF-16s	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	<0.4	-	
TLF-16s	9/16/2008	FGL	762	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-16s	5/26/2009	FGL	749	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-16s	5/11/2010	FGL	903	560	7.0	140	-	45	22	93	3	155	102	180	<0.4	0.3	<2	0.2	-	<0.01	5.46	2.76	6	-	<0.02	
TLF-16s	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-17s	9/18/2007	FGL	1040	620	8.2	180	5.6	35	14	154	2	130	146	220	<0.4	0.2	<2	0.2	-	<0.01	1.23	1.01	-	-	<0.02	
TLF-17s	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	<0.4	-	
TLF-17s	9/16/2008	FGL	1070	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-17s	5/26/2009	FGL	1050	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-17s	5/11/2010	FGL	1010	600	7.0	160	-	40	20	130	3	159	125	200	<0.4	0.3	<2	0.3	-	<0.01	3.15	1.6	7	-	<0.02	
TLF-17s	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Silver Creek Packing Co.																										
SC-3B	2/27/2002	FGL	847	510	7.3	150	4.4	31	14	117	3	95	111	190	<0.4	<0.1	-	0.29	-	<0.01	3.27	0.66	-	-	0.03	
SC-3B	10/17/2002	FGL	1750	1020	6.9	150	-	68	30	245	2	219	325	180	<0.4	0.1	<2	0.28	0.11	0.02	7.78	1.32	-	<2	<0.02	
SC-3B	5/21/2007	CLS	1100	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-3B	9/19/2007	FGL	1640	1010	7.7	150	7.5	64	27	285	2	218	258	190	0.6	0.1	<2	0.39	-	0.11	5	0.93	-	-	0.02	
SC-3B	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.6	<0.4	-	
SC-3B	9/16/2008	FGL	1580	890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-3B	5/26/2009	FGL	1440	870	6.8	140	-	56	22	242	3	207	236	180	<0.4	0.1	<2	0.3	-	0.67	6.84	0.71	5	-	0.06	
SC-3B	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
SC-4B	2/21/2002	FGL	1150	660	7.0	160	5.3	41	18	161	3	144	159	190	<0.4	<0.1	-	0.37	-	<0.01	4.68	0.89	-	-	0.02	
SC-4B	6/26/2002	FGL	1420	840	6.7	170	5	55	26	178	3	188	245	200	<0.4	0.1	<2	0.33	-	0.02	7.13	1.16	-	-	<0.02	
SC-4B	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7	<0.4	-	
SC-4B	10/24/2005	FGL	562	340	6.9	90	-	20	10	70	2	60	80	110	<0.4	0.2	<2	0.2	-	<0.01	5.59	0.45	-	-	<0.02	
SC-4B	10/24/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	<0.4	-	
SC-4B	5/21/2007	CLS	930	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-4B	9/19/2007	FGL	1510	930	7.9	150	6.7	49	22	225	2	206	270	180	<0.4	0.1	<2	0.3	-	<0.01	4.11	0.88	-	-	<0.02	
SC-4B	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<0.4	-	
SC-4B	9/16/2008	FGL	1790	1030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-4B	5/26/2009	FGL	1760	1020	6.7	150	-	72	31	282	3	260	308	180	<0.4	0.1	<2	0.4	-	<0.01	6.29	1.24	7	-	<0.02	
SC-4B	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
Coelho/Gardner/Hansen																											
CGH-4s (1A)	6/27/2002	FGL	1530	1000	6.9	120	4	70	38	167	4	212	287	150	<0.4	<0.1	<2	0.29	-	<0.01	12.2	2.06	-	-	<0.02		
CGH-4s (1A)	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	<0.4	-		
CGH-4s (1A)	7/9/2003	FGL	1980	1270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-4s (1A)	6/16/2004	FGL	2570	1580	6.6	140	-	101	62	350	5	451	520	170	0.6	0.2	<2	0.5	-	<0.01	21.5	3.11	-	-	<0.02		
CGH-4s (1A)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	<0.4	-		
CGH-4s (1A)	10/24/2005	FGL	3020	2030	6.7	130	-	124	71	353	5	578	570	160	<0.4	<0.1	<2	0.5	-	0.02	13.1	3.59	-	-	<0.02		
CGH-4s (1A)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	<0.4	-		
CGH-4s (1A)	5/22/2007	CLS	3200	2000	6.44	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-4s (1A)	9/19/2007	FGL	4150	2740	7.2	140	10.6	141	96	665	6	930	840	170	<0.4	<0.1	<2	0.8	-	<0.01	14.9	3.71	-	-	<0.02		
CGH-4s (1A)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	<0.4	-		
CGH-4s (1A)	9/17/2008	FGL	3960	2480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-4s (1A)	5/26/2009	FGL	4010	2900	6.4	140	-	148	100	596	7	870	750	180	<0.4	0.1	<2	0.8	-	<0.01	18.8	3.92	8	-	<0.02		
CGH-4s (1A)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-3s (1B)	10/17/2002	FGL	1940	1200	7.1	140	-	56	23	316	3	275	342	180	0.6	<0.1	<2	0.35	0.09	<0.01	2.37	0.86	-	-	<0.02		
CGH-3s (1B)	6/16/2004	FGL	2100	1320	6.6	130	-	82	53	279	4	428	377	150	<0.4	0.3	<2	0.5	-	<0.01	7.15	2.64	-	-	<0.02		
CGH-3s (1B)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	<0.4	-		
CGH-3s (1B)	10/25/2005	FGL	2110	1320	7.3	200	-	78	19	300	2	308	347	240	<0.4	<0.1	<2	0.4	-	<0.01	1	0.81	-	-	<0.02		
CGH-3s (1B)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.6	<0.4	-		
CGH-3s (1B)	5/22/2007	CLS	1200	650	6.59	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-3s (1B)	9/19/2007	FGL	3640	2420	7.6	170	12.4	113	74	689	4	631	670	210	<0.4	<0.1	<2	1.03	-	<0.01	5.17	3.08	-	-	<0.02		
CGH-3s (1B)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4	<0.4	-		
CGH-3s (1B)	5/26/2009	FGL	2850	1780	6.4	150	-	90	61	441	4	640	450	190	<0.4	0.2	<2	0.9	-	<0.01	14.1	2.88	10	-	<0.02		
CGH-3s (1B)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-3s (1B)	5/11/2010	FGL	1540	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-2s (1C)	6/26/2001	FGL	731	460	7.6	140	4.3	29	10	105	1	98	81	170	<0.4	0.1	<2	0.26	-	<0.01	0.61	0.53	10	-	<0.02		
CGH-2s (1C)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-2s (1C)	9/10/2001	FGL	944	580	7.0	130	4.3	42	18	133	2	132	141	160	<0.4	0.2	<2	0.3	-	<0.01	4.47	1.11	-	-	<0.02		
CGH-2s (1C)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.9	<0.4	-		
CGH-2s (1C)	10/17/2002	FGL	1400	840	7.5	270	-	40	15	236	2	145	175	330	<0.4	<0.1	<2	0.31	0.09	<0.01	1.04	0.75	-	<2	<0.02		
CGH-2s (1C)	7/9/2003	FGL	1170	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-2s (1C)	6/16/2004	FGL	1110	660	6.9	170	-	46	25	157	3	163	152	210	<0.4	0.3	<2	0.4	-	<0.01	4.18	2.23	-	-	<0.02		
CGH-2s (1C)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	<0.4	-		
CGH-2s (1C)	10/25/2005	FGL	1360	840	7.5	370	-	35	10	249	2	112	142	450	<0.4	0.2	<2	0.4	-	<0.01	0.79	0.75	-	-	<0.02		
CGH-2s (1C)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	<0.4	-		
CGH-2s (1C)	5/22/2007	CLS	1200	630	7.03	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-2s (1C)	9/19/2007	FGL	1430	910	8.0	330	7	48	22	234	2	149	176	400	<0.4	0.2	<2	0.4	-	<0.01	1.35	1.55	-	-	<0.02		
CGH-2s (1C)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.3	<0.4	-		
CGH-2s (1C)	9/17/2008	FGL	1700	1010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-2s (1C)	5/26/2009	FGL	2350	1450	6.9	210	-	90	38	350	3	420	370	250	<0.4	0.2	<2	0.6	-	<0.01	2.66	1.77	8	-	<0.02		
CGH-2s (1C)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-1s (2)	8/25/1999	FGL	1370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	7/13/2000	FGL	1350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	9/10/2001	FGL	1900	1160	7.4	150	8.4	56	28	309	3	270	349	190	<0.4	0.1	<2	0.37	-	<0.01	3.09	0.87	-	-	<0.02		

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Coelho/Gardner/Hansen																											
CGH-1s (2)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	<0.4	-		
CGH-1s (2)	6/27/2002	FGL	2720	1750	7.3	160	8.9	83	45	406	4	420	560	190	<0.4	<0.1	<2	0.41	-	<0.01	4.51	1.37	-	-	<0.02		
CGH-1s (2)	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	<0.4	-		
CGH-1s (2)	8/19/2002	CLS	2400	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	8/19/2002	FGL	2410	1490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	8/19/2002	TL	2400	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	10/17/2002	FGL	2470	1510	7.1	290	-	77	42	387	4	320	420	330	<0.4	<0.1	<2	0.4	0.064	<0.01	7.83	1.15	-	-	<0.02		
CGH-1s (2)	6/16/2004	FGL	2560	1570	6.8	140	-	98	55	354	4	467	507	170	<0.4	0.2	<2	0.4	-	<0.01	11.1	2.23	-	-	<0.02		
CGH-1s (2)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	<0.4	-		
CGH-1s (2)	10/25/2005	FGL	5280	3550	7.3	210	-	144	89	870	4	978	1070	260	<0.4	<0.5	<2	1.1	-	<0.01	4.06	1.7	-	-	<0.02		
CGH-1s (2)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.9	<0.4	-		
CGH-1s (2)	5/22/2007	CLS	5200	3400	6.84	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-1s (2)	5/11/2010	FGL	4620	3030	7.1	170	-	130	84	643	4	1010	950	210	<0.4	0.1	<2	0.8	-	<0.01	5.15	1.93	12	-	<0.02		
CGH-1s (2)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-5s (3)	6/26/2001	FGL	2310	1430	7.3	110	7.9	74	43	345	3	358	413	140	<0.4	0.1	<2	0.39	-	<0.01	2.64	1.84	10	-	<0.02		
CGH-5s (3)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-5s (3)	9/10/2001	FGL	2940	1820	7.4	170	9.5	90	54	462	4	420	610	210	<0.4	0.2	<2	0.48	-	<0.01	2.65	1.75	-	-	<0.02		
CGH-5s (3)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	<0.4	-		
CGH-5s (3)	8/20/2002	CLS	3200	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-5s (3)	8/20/2002	FGL	3410	2150	7.0	180	11.7	85	52	554	3	440	740	220	<0.4	<0.1	<2	0.54	-	<0.01	1.3	1.35	-	-	<0.02		
CGH-5s (3)	8/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	<0.4	-		
CGH-5s (3)	8/20/2002	TL	3400	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-5s (3)	7/9/2003	FGL	4530	2990	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-5s (3)	6/16/2004	FGL	4720	3200	6.9	180	-	148	106	910	5	950	950	220	<0.4	0.2	<2	0.9	-	<0.01	6.19	4.42	-	-	0.02		
CGH-5s (3)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	<0.4	-		
CGH-5s (3)	5/22/2007	CLS	4200	2200	7.15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-5s (3)	5/10/2010	FGL	5880	4080	7.1	220	-	145	114	791	5	1540	1090	270	<0.4	<0.1	<2	1.7	-	<0.01	3.86	2.41	21	-	<0.02		
CGH-5s (3)	5/10/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-4	7/13/2000	FGL	3190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-4	9/10/2001	FGL	4250	2620	7.9	240	23.6	70	23	892	6	460	940	290	<0.4	0.1	<2	0.98	-	<0.01	0.34	0.46	-	-	<0.02		
CGH-4	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	<0.4	-		
CGH-9As (5)	8/3/1999	FGL	3630	2130	8.0	-	16.4	49	20	540	4	280	860	290	<0.4	-	<2	0.7	-	-	0.2	0.3	-	<1	-		
CGH-9As (5)	7/13/2000	FGL	3290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-9As (5)	10/17/2002	FGL	4870	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-9As (5)	7/9/2003	FGL	5210	3340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-9As (5)	5/21/2007	CLS	3100	1800	7.51	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-9As (5)	9/19/2007	FGL	4620	2810	8.0	260	24.3	74	30	981	4	590	1090	310	<0.4	0.2	2	1	-	<0.01	0.29	0.48	-	-	<0.02		
CGH-9As (5)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.8	<0.4	-		
CGH-9As (5)	9/17/2008	FGL	5310	3120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-6A	6/27/2001	FGL	2910	1740	7.4	280	10.8	69	46	471	3	507	464	340	<0.4	0.2	<2	0.78	-	<0.01	2.36	1.24	20	-	<0.02		
CGH-6A	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
CGH-6A	8/20/2002	CLS	3800	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
CGH-6A	8/20/2002	FGL	3980	2480	7.4	280	12.3	100	69	654	3	640	800	340	<0.4	0.1	-	0.75	-	<0.01	2.44	1.75	-	-	<0.02		

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
Coelho/Gardner/Hansen																											
CGH-6A	8/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.2	<0.4	-	
CGH-6A	8/20/2002	TL	4000	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-12s (6B)	10/17/2002	FGL	3390	2110	7.8	150	-	87	51	567	4	470	640	190	<0.4	0.1	<2	0.54	0.12	<0.01	0.96	0.6	-	-	-	<0.02	
CGH-12s (6B)	10/25/2005	FGL	1220	760	7.2	290	-	32	19	192	2	144	129	350	<0.4	0.3	<2	0.4	-	<0.01	0.53	0.75	-	-	-	<0.02	
CGH-12s (6B)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	<0.4	-		
CGH-12s (6B)	5/10/2010	FGL	3710	2360	7.1	280	-	94	70	543	3	830	620	340	<0.4	0.3	2	0.9	-	<0.01	2.33	2.44	16	-	-	<0.02	
CGH-12s (6B)	5/10/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CGH-10s (6C)	10/17/2002	FGL	2290	1400	7.7	380	-	53	30	290	2	210	330	460	<0.4	0.1	<2	0.46	0.084	0.01	0.42	0.78	-	-	<2	<0.02	
CGH-10s (6C)	10/25/2005	FGL	1340	820	7.1	300	-	43	26	197	2	179	145	360	<0.4	0.2	<2	0.4	-	<0.01	1.55	1.29	-	-	-	<0.02	
CGH-10s (6C)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.6	<0.4	-		
CGH-10s (6C)	5/21/2007	CLS	1500	810	6.81	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-11s (6D)	10/17/2002	FGL	1990	1160	7.6	470	-	30	15	381	2	123	276	580	<0.4	0.1	<2	0.46	0.096	0.05	2.33	0.71	-	-	<2	<0.02	
CGH-11s (6D)	7/9/2003	FGL	1730	1080	8.3	450	-	43	26	334	3	172	220	540	<0.4	0.4	<2	0.49	-	<0.01	1.25	1.05	-	-	-	<0.02	
CGH-11s (6D)	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.7	<0.4	-		
CGH-11s (6D)	10/25/2005	FGL	1610	1000	7.1	380	-	58	35	246	3	213	172	460	<0.4	0.2	<2	0.6	-	<0.01	1.32	1.75	-	-	-	<0.02	
CGH-11s (6D)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	<0.4	-		
CGH-11s (6D)	9/19/2007	FGL	1690	1080	7.9	340	10.6	41	22	337	2	240	207	410	<0.4	0.2	<2	0.5	-	<0.01	0.83	0.87	-	-	-	<0.02	
CGH-11s (6D)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.9	<0.4	-		
CGH-11s (6D)	9/17/2008	FGL	4750	3110	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-11s (6D)	5/26/2009	FGL	2480	1520	6.9	270	-	69	44	386	3	470	360	330	<0.4	0.3	<2	0.6	-	<0.01	2.33	2.1	14	-	-	<0.02	
CGH-11s (6D)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CGH-11s (6D)	5/10/2010	FGL	1590	920	7.2	270	-	30	19	254	2	250	191	330	<0.4	0.4	<2	0.5	-	<0.01	0.72	0.8	14	-	-	<0.02	
CGH-11s (6D)	5/10/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CGH-8	7/22/1997	NA	1000	680	8.2	-	20.65	40	4	540	5	154	511	580	0.82	-	-	0.48	-	-	-	-	-	-	-	-	
CGH-8	8/25/1999	FGL	3030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-8	9/22/1999	FGL	3000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-7s (9)	6/26/2001	FGL	1320	810	7.9	430	12.2	27	7	276	2	65	130	530	<0.4	0.2	<2	0.32	-	<0.01	0.05	0.18	10	-	-	<0.02	
CGH-7s (9)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CGH-7s (9)	9/10/2001	FGL	1720	1070	7.9	570	15.4	31	9	379	2	78	180	700	<0.4	0.2	<2	0.39	-	<0.01	0.11	0.22	-	-	-	<0.02	
CGH-7s (9)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	<0.4	-		
CGH-7s (9)	6/27/2002	FGL	2030	1290	7.6	520	11.1	48	21	367	3	213	230	640	<0.4	0.1	<2	0.49	-	<0.01	0.78	1.09	-	-	-	<0.02	
CGH-7s (9)	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.2	<0.4	-		
CGH-7s (9)	6/16/2004	FGL	1720	1030	7.2	420	-	40	22	320	3	166	223	510	<0.4	0.3	<2	0.5	-	<0.01	0.32	0.79	-	-	-	<0.02	
CGH-7s (9)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.1	<0.4	-		
CGH-7s (9)	10/25/2005	FGL	2030	1290	7.3	620	-	61	22	347	2	148	225	760	0.8	<0.1	<2	0.5	-	0.02	0.5	0.61	-	-	-	<0.02	
CGH-7s (9)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	<0.4	-		
CGH-7s (9)	5/22/2007	CLS	1900	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-7s (9)	5/11/2010	FGL	1670	990	7.5	420	-	31	15	292	2	175	179	510	<0.4	0.2	<2	0.4	-	<0.01	0.3	0.46	7	-	-	<0.02	
CGH-7s (9)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CGH-8s (10)	6/26/2001	FGL	1010	620	7.9	290	8	25	10	188	2	75	98	350	<0.4	0.2	<2	0.31	-	<0.01	<0.05	0.27	10	-	-	<0.02	
CGH-8s (10)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CGH-8s (10)	9/10/2001	FGL	1320	830	7.9	460	11.2	31	10	280	2	59	123	560	<0.4	0.3	<2	0.35	-	<0.01	<0.05	0.28	-	-	-	<0.02	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹					Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Coelho/Gardner/Hansen																										
CGH-8s (10)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	<0.4	-	
CGH-8s (10)	8/19/2002	CLS	1500	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-8s (10)	8/19/2002	FGL	1560	1010	7.6	530	11.1	33	13	298	2	80	147	620	<0.4	0.2	<2	0.4	-	<0.01	0.08	0.37	-	-	<0.02	
CGH-8s (10)	8/19/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	0.4	-		
CGH-8s (10)	8/19/2002	TL	1600	950	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-8s (10)	6/16/2004	FGL	1770	1060	7.4	560	-	50	25	330	3	116	205	680	<0.4	0.3	<2	0.4	-	<0.01	0.21	0.86	-	-	<0.02	
CGH-8s (10)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	<0.4	-		
CGH-8s (10)	10/25/2005	FGL	1860	1190	7.2	520	-	50	26	306	2	172	207	630	0.6	0.2	<2	0.4	-	<0.01	0.36	0.84	-	-	<0.02	
CGH-8s (10)	10/25/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.5	<0.4	-		
CGH-8s (10)	5/22/2007	CLS	1500	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-8s (10)	9/19/2007	FGL	1520	990	8.1	430	12.3	28	13	313	1	129	160	530	<0.4	0.2	<2	0.4	-	<0.01	0.24	0.52	-	-	<0.02	
CGH-8s (10)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	<0.4	-		
CGH-8s (10)	9/17/2008	FGL	1440	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-8s (10)	5/11/2010	FGL	1730	1090	7.1	330	-	63	41	239	3	350	165	410	<0.4	0.3	<2	0.4	-	<0.01	0.54	2.35	9	-	<0.02	
CGH-8s (10)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CGH-6s (11)	6/26/2001	FGL	2680	1620	7.4	260	11.6	65	35	465	3	361	458	320	<0.4	0.2	<2	0.49	-	<0.01	1.14	1.4	10	-	<0.02	
CGH-6s (11)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CGH-6s (11)	9/10/2001	FGL	2750	1720	7.5	230	10.3	81	48	475	4	440	480	280	<0.4	0.2	<2	0.57	-	<0.01	2.17	2.01	-	-	<0.02	
CGH-6s (11)	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9	<0.4	-		
CGH-6s (11)	6/27/2002	FGL	4000	2630	7.1	230	11.3	104	78	628	5	780	800	280	<0.4	<0.1	<2	0.8	-	<0.01	4.65	3.19	-	-	<0.02	
CGH-6s (11)	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	<0.4	-		
CGH-6s (11)	8/19/2002	CLS	3200	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	8/19/2002	FGL	3320	2130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	8/19/2002	TL	3300	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	7/9/2003	FGL	4390	2890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	6/16/2004	FGL	3250	2010	6.8	220	-	68	58	672	4	641	570	270	ND	0.3	<2	0.7	-	<0.01	1.77	1.84	-	-	<0.02	
CGH-6s (11)	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.8	<0.4	-		
CGH-6s (11)	5/22/2007	CLS	1800	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	9/19/2007	FGL	4570	3030	7.5	290	15.5	103	81	864	4	870	860	360	<0.4	0.2	2	1.1	-	<0.01	3.09	2.99	-	-	<0.02	
CGH-6s (11)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.8	<0.4	-		
CGH-6s (11)	9/17/2008	FGL	2580	1510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-6s (11)	5/26/2009	FGL	4910	3720	7.1	290	-	135	88	784	5	1030	880	360	<0.4	0.2	<2	1.3	-	<0.01	2.74	2.26	18	-	<0.02	
CGH-6s (11)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CGH-6s (11)	5/11/2010	FGL	4690	3070	7.2	290	-	101	81	675	4	1080	840	350	<0.4	0.3	<2	1.3	-	<0.01	1.82	1.49	19	-	<0.02	
CGH-6s (11)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
Meyers Farming																										
MS-1	3/22/1999	BSK	4100	2700	-	-	-	-	-	-	-	-	1100	-	-	-	-	0.69	-	-	-	-	-	<2	-	
MS-1	3/23/1999	TL	-	2800	-	-	-	-	-	-	-	-	970	-	-	-	-	0.62	-	-	-	-	-	<2	-	
MS-1	8/25/1999	FGL	5180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-1	9/22/1999	FGL	4750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-1A	8/28/2001	TL	6100	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	0.82	-	-	-	-	10	-	-	
MS-1A	9/10/2001	FGL	6570	4410	7.2	240	16.3	159	141	1170	7	1230	1370	290	<0.4	0.3	<2	1.12	-	<0.01	13.7	2.94	-	-	<0.02	
MS-1A	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.4	<0.4	-	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Meyers Farming																											
MS-2	3/22/1999	BSK	3900	2500	-	-	-	-	-	-	-	-	890	-	-	-	-	0.68	-	-	-	-	-	-	-	-	
MS-2	3/23/1999	TL	-	2600	-	-	-	-	-	-	-	-	790	-	-	-	-	0.63	-	-	-	-	-	<2	-	-	
MS-2	8/28/2001	TL	5100	3200	-	-	-	-	-	-	-	-	-	-	-	-	-	0.84	-	-	-	-	20	-	-	-	
MS-2	9/10/2001	FGL	5000	3050	7.8	300	17.7	95	76	952	5	720	1020	370	<0.4	0.1	<2	0.69	-	<0.01	1.08	0.82	-	-	<0.02	-	
MS-2	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.3	<0.4	-		
MS-3	3/22/1999	BSK	2800	1900	-	-	-	-	-	-	-	-	620	-	-	-	-	0.72	-	-	-	-	-	<2	-	-	
MS-3	3/23/1999	TL	-	2000	-	-	-	-	-	-	-	-	530	-	-	-	-	0.66	-	-	-	-	-	<2	-	-	
MS-3	8/28/2001	TL	3500	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	0.66	-	-	-	-	-	-	-	-	
MS-3	9/10/2001	FGL	3860	2290	7.9	260	25.3	48	18	809	4	380	860	320	<0.4	0.4	<2	0.65	-	<0.01	0.27	0.22	-	-	<0.02	-	
MS-3	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	25.9	<0.4	-		
MS-4	3/22/1999	BSK	2300	1600	-	-	-	-	-	-	-	-	440	-	-	-	-	0.73	-	-	-	-	-	<2	-	-	
MS-4	3/23/1999	TL	-	1700	-	-	-	-	-	-	-	-	390	-	-	-	-	0.7	-	-	-	-	-	<2	-	-	
MS-4	7/13/2000	FGL	2720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-4	6/27/2001	FGL	2830	1720	7.8	340	13	49	36	493	3	495	403	410	<0.4	0.2	<2	0.9	-	<0.01	0.95	0.36	40	-	<0.02	-	
MS-4	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
MS-4	8/28/2001	TL	2700	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	0.86	-	-	-	-	40	-	-	-	
MS-4	9/10/2001	FGL	2730	1740	7.7	350	14	50	38	539	3	510	350	430	<0.4	0.4	<2	1	-	<0.01	1.84	0.39	-	-	<0.02	-	
MS-4	9/10/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	40.7	<0.4	-	-	
MS-6	6/27/2002	FGL	2930	1900	8.0	370	12.7	54	43	516	3	640	360	460	<0.4	0.2	<2	1.1	-	<0.01	0.67	0.34	-	-	<0.02	-	
MS-6	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41.2	<0.4	-	-	
MS-6	8/21/2002	CLS	3500	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-6	8/21/2002	FGL	3590	2210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-6	8/21/2002	TL	3600	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-6	3/24/2004	TL	2800	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-6	8/4/2005	TL	2000	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-6	4/25/2007	TL	1500	960	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	4/30/2002	TL	-	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	8/19/2002	CLS	2900	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	8/19/2002	FGL	2930	1890	7.3	370	14	49	38	538	2	460	430	450	<0.4	0.2	<2	0.98	-	<0.01	0.53	0.38	-	-	<0.02	-	
MS-7	8/19/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	38.7	<0.4	-	-	
MS-7	8/19/2002	TL	-	-	-	-	15.2	49	37	580	6	470	400	440	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	3/24/2004	TL	2900	1900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	8/4/2005	TL	2200	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-7	4/23/2007	TL	1400	920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
S-1	8/3/1998	BSK	6100	4300	-	-	-	-	-	-	-	-	1400	-	-	-	-	1.2	-	-	-	-	-	-	-	-	
S-1	1/4/1999	BSK	7200	5600	-	-	-	-	-	-	-	-	1900	-	-	-	-	1.3	-	-	-	-	-	-	-	-	
S-1	4/1/1999	BSK	7200	5200	-	-	-	-	-	-	-	-	2000	-	-	-	-	1.1	-	-	-	-	-	<2	-	-	
S-1	8/5/1999	FGL	7470	5100	6.7	-	17.3	150	168	1300	11	1380	1610	230	<0.4	-	<2	1.4	-	-	3.4	2.2	-	<2	-	-	
S-1	7/8/2003	FGL	5990	4100	7.8	240	-	116	112	1170	7	1510	1170	290	<0.4	<0.1	<2	1.65	-	<0.01	1.8	1.18	-	-	<0.02	-	
S-1	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
S-2	8/3/1998	BSK	6500	4900	-	-	-	-	-	-	-	-	960	-	-	-	-	3.4	-	-	-	-	-	-	-	-	
S-2	1/4/1999	BSK	5900	4600	-	-	-	-	-	-	-	-	1000	-	-	-	-	3.4	-	-	-	-	-	<2	-	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
Meyers Farming																											
S-2	4/1/1999	BSK	6300	4600	-	-	-	-	-	-	-	-	1200	-	-	-	-	-	2.4	-	-	-	-	-	-	<2	-
S-2	8/5/1999	FGL	7410	5560	6.9	-	19.8	160	142	1430	16	2460	890	360	<0.4	-	-	<2	7.7	-	-	0.2	1.6	-	-	-	-
S-2	6/16/2004	FGL	6130	4520	7.4	350	-	123	99	1510	6	1920	710	430	<0.4	0.6	6	5.6	-	<0.01	8.24	1	-	-	-	<0.02	
S-2	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.6	32	-	-	
S-2	8/8/2006	FGL	15400	11100	7.2	430	-	270	289	3440	19	4250	3170	530	22.3	<0.1	27	6.5	-	<0.01	0.65	0.3	-	-	-	<0.02	
S-2	8/8/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	211	-	-	
S-3	8/3/1998	BSK	4400	3100	-	-	-	-	-	-	-	-	910	-	-	-	-	-	0.97	-	-	-	-	-	<2	-	
S-3	1/4/1999	BSK	4500	3000	-	-	-	-	-	-	-	-	1000	-	-	-	-	-	1	-	-	-	-	-	<2	-	
S-3	4/1/1999	BSK	4200	2800	-	-	-	-	-	-	-	-	960	-	-	-	-	-	0.75	-	-	-	-	-	-	-	
S-3	8/5/1999	FGL	5300	3280	7.0	-	15.8	98	93	910	6	740	1090	350	<0.4	-	2	0.9	-	-	1.4	1.5	-	-	-	-	
S-3	9/29/1999	FGL	5610	3540	6.9	-	15.1	108	99	900	7	770	1180	380	1	-	<2	1	-	-	3.3	1.6	-	-	-	-	
S-3	6/27/2001	FGL	7430	4830	7.2	310	16.9	165	145	1230	8	1480	1420	370	<0.8	<0.2	<2	1.27	-	<0.01	1.77	1.26	50	-	-	<0.02	
S-3	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	
S-3	6/24/2002	FGL	8220	6000	7.4	360	17	204	181	1380	8	2040	1500	440	<0.4	<0.1	3	3.06	-	<0.01	2.3	1.16	-	-	-	<0.02	
S-3	6/24/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	58.4	0.66	-	-	
S-3	6/16/2004	FGL	9020	6800	7.3	340	-	215	167	1930	7	2840	1540	410	<0.4	<0.1	2	7.3	-	<0.01	2.74	1.48	-	-	-	<0.02	
S-3	6/16/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83.4	4.52	-	-	
S-3	8/8/2006	FGL	8490	6000	7.0	280	-	179	144	1910	8	2040	1650	340	0.8	<0.1	4	3.6	-	<0.01	1.47	1.46	-	-	-	<0.02	
S-3	8/8/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.9	24.355	-	-	
S-3	9/15/2008	FGL	8760	6130	6.6	210	20	167	181	1570	12	2240	1600	260	<0.4	0.2	4	4.8	-	<0.01	0.89	5.48	-	-	-	<0.02	
S-3	9/15/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	53.65	12.23	-	-	
P-1	8/3/1998	BSK	4000	2500	-	-	-	-	-	-	-	-	790	-	-	-	-	-	0.89	-	-	-	-	-	-	-	
P-1	1/4/1999	BSK	3500	2400	-	-	-	-	-	-	-	-	690	-	-	-	-	-	1	-	-	-	-	-	<2	-	
P-1	4/1/1999	BSK	3800	2500	-	-	-	-	-	-	-	-	830	-	-	-	-	-	0.88	-	-	-	-	-	<2	-	
P-1	8/5/1999	FGL	4620	2920	7.6	-	15	82	85	810	5	760	870	360	<0.4	-	3	0.9	-	-	0.12	0.7	-	-	-	-	
P-1	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
P-1	6/28/2001	FGL	4810	3380	7.7	290	13.7	98	96	796	4	857	920	360	<0.4	0.1	2	0.89	-	<0.01	0.35	0.68	50	-	-	<0.02	
P-1	8/8/2006	FGL	5420	3560	7.8	320	-	121	119	1070	5	1100	1050	390	<0.4	0.6	3	1	-	<0.01	1.17	0.84	-	-	-	<0.02	
P-1	8/8/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	49.2	<0.4	-	-	
P-1	9/18/2008	FGL	5620	3340	7.4	320	12.6	118	118	812	8	1180	1060	390	<0.4	0.2	3	1	-	<0.01	3.23	1.01	-	-	-	0.03	
P-1	9/18/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55.45	<0.4	-	-	
P-2	8/3/1998	BSK	6000	4000	-	-	-	-	-	-	-	-	1300	-	-	-	-	-	0.84	-	-	-	-	-	-	-	
P-2	1/4/1999	BSK	6000	4300	-	-	-	-	-	-	-	-	1500	-	-	-	-	-	0.8	-	-	-	-	-	<2	-	
P-2	4/1/1999	BSK	5800	4100	-	-	-	-	-	-	-	-	1400	-	-	-	-	-	0.89	-	-	-	-	-	<2	-	
P-3	8/3/1998	BSK	5500	3500	-	-	-	-	-	-	-	-	1100	-	-	-	-	-	1.2	-	-	-	-	-	-	-	
P-3	1/4/1999	BSK	5000	3600	-	-	-	-	-	-	-	-	1100	-	-	-	-	-	1.2	-	-	-	-	-	<2	-	
P-3	4/1/1999	BSK	5300	3600	-	-	-	-	-	-	-	-	1200	-	-	-	-	-	1.1	-	-	-	-	-	<2	-	
P-4	8/3/1998	BSK	9000	5800	-	-	-	-	-	-	-	-	2300	-	-	-	-	-	1.5	-	-	-	-	-	-	-	
P-4	1/4/1999	BSK	8200	5900	-	-	-	-	-	-	-	-	2100	-	-	-	-	-	1.3	-	-	-	-	-	<2	-	
P-4	4/1/1999	BSK	8900	6200	-	-	-	-	-	-	-	-	2600	-	-	-	-	-	1.2	-	-	-	-	-	<2	-	
P-4	8/8/2006	FGL	8730	5800	7.6	250	-	185	178	1820	8	1610	2160	300	<0.4	<0.1	3	1.3	-	<0.01	4.26	1.33	-	-	-	<0.02	
P-4	8/8/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	33.1	<0.4	-	-	
P-4	9/18/2008	FGL	33200	23600	6.4	300	31	643	955	5300	29	4500	9800	400	<0.4	<0.5	18	4.4	-	<0.01	30.7	3.69	-	-	-	<0.02	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Meyers Farming																											
P-4	9/18/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	39.5	<0.4	-		
P-5	8/3/1998	BSK	6200	4000	-	-	-	-	-	-	-	-	1200	-	-	-	-	1.1	-	-	-	-	-	-	-	-	
P-5	1/4/1999	BSK	5300	4000	-	-	-	-	-	-	-	-	1100	-	-	-	-	1.3	-	-	-	-	-	-	-	-	
P-5	4/1/1999	BSK	6000	4200	-	-	-	-	-	-	-	-	1300	-	-	-	-	1	-	-	-	-	-	<2	-	-	
P-6	8/3/1998	BSK	37000	-	-	-	-	-	-	-	-	-	8800	-	-	-	-	6.5	-	-	-	-	-	-	-	-	
P-6	1/4/1999	BSK	31000	-	-	-	-	-	-	-	-	-	7600	-	-	-	-	8	-	-	-	-	-	-	-	-	
P-6	4/1/1999	BSK	35000	-	-	-	-	-	-	-	-	-	8600	-	-	-	-	8.3	-	-	-	-	-	-	-	-	
Five Star																											
FS-1	10/19/1993	NA	1520	907	7.3	-	7.4	36	26	240	2	200	240	241	-	-	-	-	-	-	-	-	-	-	-	-	
FS-1	9/12/2001	FGL	1030	590	8.0	200	6.6	29	15	176	2	102	139	240	<0.4	0.2	<2	0.36	-	<0.01	0.3	0.4	-	-	<0.02	-	
FS-1	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	<0.4	-		
FS-1	8/21/2002	CLS	1200	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-1	8/21/2002	FGL	1160	710	7.9	220	7.1	29	15	190	2	110	166	260	<0.4	0.1	<2	0.36	-	<0.01	0.24	0.39	-	-	<0.02	-	
FS-1	8/21/2002	TL	1200	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-1	9/21/2007	FGL	856	520	8.0	170	9.3	14	7	171	1	78	116	200	<0.4	0.4	<2	0.25	-	<0.01	0.19	0.2	-	-	<0.02	-	
FS-1	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.7	<0.4	-		
FS-1	9/15/2008	FGL	1020	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-1	5/27/2009	FGL	1060	620	7.5	190	-	32	15	187	2	105	157	230	<0.4	0.2	<2	0.4	-	<0.01	1.06	0.5	16	-	<0.02	-	
FS-1	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-2	10/3/2001	FGL	1190	740	7.4	180	4.4	51	27	157	3	202	134	210	<0.4	0.1	<2	0.36	-	<0.01	1.24	1.17	-	-	<0.02	-	
FS-2	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.9	<0.4	-		
FS-2	5/14/2007	CLS	840	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-2	9/15/2008	FGL	1050	560	7.1	150	5.2	36	18	154	3	134	143	190	<0.4	0.2	<2	0.4	-	<0.01	1.1	0.65	-	-	<0.02	-	
FS-2	9/15/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.77	<0.4	-		
FS-2	5/27/2009	FGL	1270	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-2	5/13/2010	FGL	1350	750	7.2	180	-	35	18	222	3	119	242	220	<0.4	0.3	<2	0.4	-	<0.01	1.19	0.75	10	-	<0.02	-	
FS-2	5/13/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-3	9/12/2001	FGL	1680	1020	8.0	400	11.9	30	17	330	3	181	194	490	<0.4	0.2	<2	0.5	-	<0.01	1.13	0.68	-	-	<0.02	-	
FS-3	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	<0.4	-	-	
FS-3	10/2/2001	FGL	1930	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-3	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-3	5/14/2007	CLS	1200	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-3	9/16/2008	FGL	1380	810	7.3	260	9.5	24	16	244	2	186	150	310	<0.4	0.3	<2	0.5	-	<0.01	1.62	0.81	-	-	<0.02	-	
FS-3	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.45	<0.4	-	-	
FS-3	5/27/2009	FGL	1740	1070	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-3	5/13/2010	FGL	1250	760	7.4	210	-	27	19	218	2	188	141	260	<0.4	0.3	<2	0.4	-	<0.01	2.03	0.92	9	-	<0.02	-	
FS-3	5/13/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-4	10/2/2001	FGL	1740	1060	7.8	420	13.8	24	14	345	2	175	211	520	<0.4	0.2	<2	0.5	-	<0.01	0.66	0.5	-	-	<0.02	-	
FS-4	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24	<0.4	-	-	
FS-4	5/14/2007	CLS	1900	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-4	9/21/2007	FGL	2210	1420	8.2	530	18	33	20	531	2	290	200	640	<0.4	0.3	<2	0.55	-	<0.01	0.66	0.55	-	-	<0.02	-	
FS-4	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.7	<0.4	-	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Five Star																											
FS-4	9/16/2008	FGL	1340	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-4	5/27/2009	FGL	1280	740	7.4	270	-	18	10	274	2	146	140	330	0.4	0.3	<2	0.5	-	<0.01	0.81	0.4	16	-	<0.02	-	
FS-4	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-5	8/4/1999	FGL	765	470	7.4	-	4.3	24	13	105	3	98	93	190	<0.4	-	<2	0.3	-	-	0.6	0.4	-	<2	-	-	
FS-5	9/27/1999	FGL	698	440	7.4	-	4.1	24	13	101	2	63	94	190	<0.4	-	<2	0.3	-	-	0.6	0.3	-	<2	-	-	
FS-5	10/3/2001	FGL	1040	640	7.6	170	5.9	31	16	161	3	117	151	200	<0.4	0.3	<2	0.37	-	<0.01	0.88	0.3	-	-	<0.02	-	
FS-5	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	<0.4	-	-	
FS-5	6/25/2002	FGL	921	540	7.6	150	5.1	27	14	131	2	90	143	190	<0.4	0.1	<2	0.31	-	<0.01	0.55	0.32	-	-	<0.02	-	
FS-5	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	<0.4	-	-	
FS-5	8/21/2002	CLS	1200	710	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-5	8/21/2002	FGL	1200	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-5	8/21/2002	TL	1200	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-5	7/10/2003	FGL	1240	840	7.6	150	-	61	33	169	4	265	146	180	<0.4	0.2	-	0.34	-	<0.01	4800	1.97	-	-	<0.02	-	
FS-5	7/10/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.3	<0.4	-	-	
FS-5	10/27/2005	FGL	797	520	7.2	120	-	28	19	98	2	129	101	140	<0.4	0.2	<2	0.3	-	<0.01	2.5	1.16	-	-	<0.02	-	
FS-5	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-5	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	<0.4	-	-	
FS-5	5/14/2007	CLS	780	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-5	5/27/2009	FGL	1270	750	7.3	170	-	42	22	214	3	191	180	210	<0.4	0.2	<2	0.4	-	<0.01	2.3	0.66	14	-	<0.02	-	
FS-5	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-5	5/13/2010	FGL	1210	720	7.6	180	-	45	24	169	3	157	175	230	<0.4	0.2	<2	0.3	0.11	<0.01	1.38	0.68	12	-	<0.02	-	
FS-5	5/13/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-6	9/12/2001	FGL	2340	1390	7.9	260	9.6	63	39	392	3	330	401	320	<0.4	0.2	<2	0.52	-	<0.01	0.42	0.6	-	-	<0.02	-	
FS-6	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.2	<0.4	-	-	
FS-6	7/13/2009	FGL	1960	1150	7.7	260	-	39	25	374	2	310	287	320	<0.4	0.1	<2	0.6	-	<0.01	0.41	0.32	18	-	<0.02	-	
FS-6	7/13/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-6	5/13/2010	FGL	1970	1180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-7	10/3/2001	FGL	2500	1600	7.3	280	7.9	83	57	380	3	489	374	340	<0.4	0.1	<2	0.53	-	<0.01	1.85	1.35	-	-	<0.02	-	
FS-7	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.7	<0.4	-	-	
FS-7	9/21/2007	FGL	2260	1490	7.8	420	9	69	58	418	3	390	250	510	<0.4	0.2	<2	0.53	-	<0.01	6.45	2.1	-	-	<0.02	-	
FS-7	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.2	<0.4	-	-	
FS-7	9/16/2008	FGL	2190	1330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-7	7/13/2009	FGL	2330	1450	7.5	290	-	62	50	415	3	530	290	360	<0.4	<0.1	<2	0.7	-	<0.01	2.66	1.18	15	-	<0.02	-	
FS-7	7/13/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
FS-7	5/13/2010	FGL	2350	1490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-8	10/3/2001	FGL	2240	1310	7.7	240	12.1	43	24	400	3	210	444	290	<0.4	0.2	<2	0.6	-	<0.01	0.63	0.38	-	-	<0.02	-	
FS-8	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	<0.4	-	-	
FS-8	5/14/2007	CLS	1200	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-8	9/16/2008	FGL	1800	1000	7.6	210	10.2	34	19	299	2	181	314	260	<0.4	0.3	<2	0.5	-	<0.01	0.8	0.35	-	-	<0.02	-	
FS-8	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.97	<0.4	-	-	
FS-8	5/27/2009	FGL	2140	1250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-8	5/13/2010	FGL	2040	1190	7.7	230	-	46	28	334	2	280	360	280	<0.4	0.2	<2	0.6	-	<0.01	0.57	0.52	17	-	<0.02	-	
FS-8	5/13/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Five Star																										
FS-9	9/12/2001	FGL	2090	1290	7.9	310	9.8	44	38	368	3	343	286	380	<0.4	0.2	<2	0.56	-	<0.01	1.14	1.14	-	-	<0.02	
FS-9	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.6	<0.4	-	
FS-9	5/14/2007	CLS	1500	920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-9	9/16/2008	FGL	1890	1130	7.3	330	8.9	39	31	308	3	300	223	400	<0.4	0.3	<2	0.5	-	<0.01	2.17	1.72	-	-	0.03	
FS-9	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	<0.4	-	
FS-9	5/27/2009	FGL	2130	1340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-10	10/19/1993	NA	1440	874	8.0	-	13.4	16	9	270	2	130	190	333	-	-	-	-	-	-	-	-	-	-	-	
FS-10	6/26/2001	FGL	1280	770	7.6	300	9.1	25	16	237	2	154	125	370	<0.4	0.3	<2	0.42	-	0.03	0.5	0.64	10	-	<0.02	
FS-10	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
FS-10	10/3/2001	FGL	1400	910	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-10	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
FS-10	6/25/2002	FGL	1630	1060	7.4	290	6.1	54	35	236	3	295	158	350	<0.4	0.1	<2	0.39	-	<0.01	0.85	2.32	-	-	<0.02	
FS-10	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.4	<0.4	-	
FS-10	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.8	<0.4	-	
FS-10	7/10/2003	FGL	2510	1690	7.8	460	-	96	70	389	6	490	270	560	<0.4	0.3	-	0.55	-	<0.01	1.13	5.9	-	-	<0.02	
FS-10	10/27/2005	FGL	1530	940	7.5	400	-	14	9	287	2	109	184	490	<0.4	0.5	<2	0.5	-	<0.01	0.16	0.65	-	-	<0.02	
FS-10	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
FS-10	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.9	<0.4	-	
FS-10	5/14/2007	CLS	1800	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
FS-10	9/16/2008	FGL	2480	1550	7.4	570	10.3	66	41	433	4	370	250	700	<0.4	0.2	<2	0.7	-	<0.01	1.72	0.98	-	-	<0.02	
FS-10	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.9	<0.4	-	
FS-10	7/13/2009	FGL	2360	1420	7.7	540	-	45	30	488	3	350	230	660	<0.4	0.2	<2	0.7	-	<0.01	0.48	0.41	19	-	<0.02	
FS-10	7/13/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Coelho West																										
CW-1	10/20/1993	NA	1175	697	7.4	-	9.5	21	12	220	3	110	160	239	-	-	-	-	-	-	-	-	-	-	-	
CW-1	9/12/2001	FGL	1280	780	8.2	210	12.1	18	9	251	2	218	133	260	<0.4	0.1	<2	0.44	-	<0.01	0.53	0.19	-	-	<0.02	
CW-1	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.5	<0.4	-	
CW-1	6/17/2002	TL	1100	660	7.4	190	11.9	18	9	250	4	160	120	230	<2	-	-	0.44	0.048	<0.05	0.94	0.24	-	-	<0.05	
CW-1	8/21/2002	CLS	1000	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-1	8/21/2002	FGL	1060	680	8.1	200	11.1	14	7	203	1	131	134	240	<0.4	<0.1	-	0.4	-	<0.01	0.41	0.18	-	-	<0.02	
CW-1	8/21/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.7	<0.4	-	
CW-1	8/21/2002	TL	1100	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-1	10/27/2005	FGL	891	570	7.6	160	-	30	16	128	3	92	117	190	0.6	<0.5	3	0.3	-	<0.01	0.17	0.01	-	-	0.03	
CW-1	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CW-1	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	<0.4	-	
CW-1	5/15/2007	CLS	830	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-1	9/20/2007	FGL	930	550	8.1	170	7.3	23	12	173	2	140	105	210	<0.4	0.2	<2	0.26	0.0448	<0.01	0.76	0.29	-	-	<0.02	
CW-1	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3	<0.4	-	
CW-1	9/16/2008	FGL	1150	710	7.6	180	6.9	29	15	184	2	163	137	220	<0.4	0.2	<2	0.4	0.062	<0.01	0.8	0.39	-	-	<0.02	
CW-1	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.27	<0.4	-	
CW-1	5/27/2009	FGL	947	570	7.5	170	-	26	13	170	2	104	130	210	0.4	0.2	<2	0.4	0.0489	<0.01	0.88	0.39	7	-	<0.02	
CW-1	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CW-2	9/12/2001	FGL	1780	1100	8.3	440	17.9	18	11	391	2	183	202	500	<0.4	0.2	<2	0.61	-	<0.01	1.24	0.2	-	-	<0.02	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
Coelho West																											
CW-2	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.5	<0.4	-	
CW-2	6/25/2002	FGL	1100	670	8.5	250	13.4	9	6	212	1	108	133	300	<0.4	0.1		<2	0.46	-	<0.01	1.1	0.06	-	-	<0.02	
CW-2	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	19.7	<0.4	-	
CW-2	8/21/2002	CLS	1200	660	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
CW-2	8/21/2002	FGL	1160	710	8.5	250	14	10	7	236	<1	120	133	290	<0.4	0.2		-	0.43	0.0245	<0.01	0.09	0.05	-	-	<0.02	
CW-2	8/21/2002	TL	1200	690	-	-	14.8	10	7	250	2	110	140	300	-	-		-	-	-	-	-	-	-	-	-	
CW-2	5/15/2007	CLS	1500	860	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
CW-2	9/20/2007	FGL	1460	910	8.5	320	14.5	19	12	327	<1	178	162	380	<0.4	0.3		<2	0.44	0.0436	<0.01	0.19	0.08	-	-	<0.02	
CW-2	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	18.7	<0.4	-	
CW-2	9/16/2008	FGL	1510	870	8.1	330	11.8	20	13	276	1	140	180	410	<0.4	0.2		<2	0.6	0.0637	<0.01	2.11	0.12	-	-	<0.02	
CW-2	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	25.2	<0.4	-	
CW-3	8/24/2000	FGL	1570	920	8.1	300	18.2	13	8	338	1	204	156	340	<0.4	0.2		-	0.5	0.041	<0.01	0.73	0.12	-	-	<0.02	
CW-3	6/25/2001	FGL	1710	1050	8.0	330	16.8	16	10	348	2	232	188	400	<0.4	0.3		<2	0.51	-	<0.01	0.8	0.2	30	-	<0.02	
CW-3	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	<0.4	-	
CW-3	6/17/2002	TL	1500	920	7.6	300	16	16	11	340	3	180	190	370	<2	-		-	0.56	0.045	<0.05	1.4	0.26	-	-	<0.05	
CW-3	8/21/2002	CLS	1600	940	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
CW-3	8/21/2002	FGL	1650	1020	8.1	350	16.9	15	9	336	1	208	187	390	<0.4	0.3		-	0.56	-	<0.01	0.35	0.15	-	-	0.02	
CW-3	8/21/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	28.4	<0.4	-	
CW-3	8/21/2002	TL	1700	999	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
CW-3	7/9/2003	FGL	1270	810	7.5	170	-	29	25	198	2	250	155	210	<0.4	0.5		-	0.42	-	<0.01	6.58	1.26	-	-	0.05	
CW-3	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	9.25	<0.4	-	
CW-3	10/27/2005	FGL	1410	880	7.4	250	-	23	16	257	2	198	169	310	<0.4	0.3		<2	0.5	-	<0.01	2.45	0.46	-	-	<0.02	
CW-3	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	<0.4	-	
CW-3	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	17.5	<0.4	-	
CW-3	5/15/2007	CLS	1800	1100	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
CW-3	9/21/2007	FGL	1990	1240	8.4	500	17.5	26	17	467	1	211	225	610	<0.4	0.4		<2	0.55	0.09	<0.01	0.69	0.48	-	-	<0.02	
CW-3	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	26	<0.4	-	
CW-3	9/16/2008	FGL	1970	1170	8.0	490	16.6	21	13	393	2	189	218	580	<0.4	0.4		<2	0.7	0.075	<0.01	0.42	0.33	-	-	<0.02	
CW-3	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	25.87	<0.4	-	
CW-3	5/27/2009	FGL	1780	1040	8.0	430	-	17	10	348	1	175	202	530	0.7	0.4		<2	0.7	0.0549	<0.01	0.43	0.29	27	-	<0.02	
CW-3	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	<0.4	-	
CW-4	4/9/1993	NA	1850	1050	7.3	-	11.8	29	14	310	3	140	190	497	-	-		-	-	-	-	-	-	-	-	-	
CW-4	9/12/2001	FGL	2780	1730	8.3	790	29	20	11	650	2	216	319	910	<0.4	0.4		<2	0.85	-	<0.01	1.11	0.21	-	-	<0.02	
CW-4	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	59.5	<0.4	-	
CW-4	6/17/2002	TL	1600	940	7.2	250	12.6	24	15	320	5	250	160	310	<2	-		-	0.51	0.072	<0.05	0.81	0.65	-	-	<0.05	
CW-4	8/21/2002	CLS	1500	970	-	330	10.7	26	16	280	3	220	180	403	-	-		-	-	-	-	-	-	-	-	-	
CW-4	8/21/2002	FGL	1600	1000	7.5	330	11.3	25	16	295	2	190	174	400	<0.4	0.4		-	0.5	-	<0.01	1.95	0.61	-	-	<0.02	
CW-4	8/21/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	18.2	0.9	-	
CW-4	8/21/2002	TL	1600	960	-	-	12.2	26	16	320	5	210	170	400	-	-		-	-	-	-	-	-	-	-	-	
CW-4	7/9/2003	FGL	1260	810	7.8	160	-	31	22	193	4	246	156	190	<0.4	0.3		-	0.39	-	<0.01	1.31	1.09	-	-	<0.02	
CW-4	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	8.75	<0.4	-	
CW-4	10/27/2005	FGL	1390	870	7.4	260	-	20	14	246	3	181	172	320	<0.4	0.5		<2	0.5	-	<0.01	1.29	0.69	-	-	<0.02	
CW-4	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	<0.4	-	
CW-4	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	17	<0.4	-	

Table D-1 (continued)
Summary of Groundwater Quality Laboratory Results (Shallow Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Coelho West																											
CW-4	5/15/2007	CLS	1300	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-4	9/21/2007	FGL	2490	1520	8.4	700	17.2	42	26	575	4	193	280	850	<0.4	0.4	<2	0.58	0.167	<0.01	2.07	0.97	-	-	<0.02	-	
CW-4	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.1	<0.4	-	-	
CW-4	9/16/2008	FGL	2410	1410	7.5	610	13.4	41	26	446	4	230	270	750	<0.4	0.3	<2	0.6	0.174	<0.01	2.77	0.87	-	-	<0.02	-	
CW-4	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.6	<0.4	-	-	
CW-5	6/28/2001	FGL	2340	1450	8.2	630	20.4	21	12	474	2	176	267	750	<0.4	0.3	<2	0.7	-	<0.01	0.35	0.23	60	-	<0.02	-	
CW-5	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CW-5	10/3/2001	FGL	2630	1620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-5	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CW-5	6/17/2002	TL	1900	1100	7.9	440	20.5	17	10	430	4	180	210	540	<2	-	-	0.64	0.061	<0.05	0.48	0.23	-	-	<0.05	-	
CW-5	8/20/2002	FGL	2640	1590	8.0	760	26.9	18	10	574	2	217	290	860	<0.4	0.4	-	0.81	-	<0.01	0.38	0.23	-	-	<0.02	-	
CW-5	8/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	44.2	<0.4	-	-	
CW-5	8/21/2002	CLS	2600	1600	-	780	25.3	19	11	560	2	200	290	952	-	-	-	-	-	-	-	-	-	-	-	-	
CW-5	8/21/2002	TL	2700	1600	-	-	29	17	10	610	4	190	310	930	-	-	-	-	-	-	-	-	-	-	-	-	
CW-5	7/9/2003	FGL	1640	1030	8.4	380	-	19	11	356	2	181	199	460	<0.4	-	-	0.55	-	<0.01	0.35	0.35	-	-	<0.02	-	
CW-5	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26	<0.4	-	-	
CW-5	10/27/2005	FGL	1400	880	7.8	340	-	16	10	244	2	141	158	410	<0.4	0.5	<2	0.5	0.0439	<0.01	0.57	0.3	-	-	<0.02	-	
CW-5	10/27/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
CW-5	10/27/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.4	<0.4	-	-	
CW-5	5/15/2007	CLS	2900	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CW-5	9/21/2007	FGL	2910	1850	8.5	840	38	17	9	778	1	240	300	980	<0.4	0.3	<2	0.81	0.0954	<0.01	0.34	0.18	-	-	<0.02	-	
CW-5	9/21/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	31.7	<0.4	-	-	
CW-5	9/16/2008	FGL	2120	1260	8.1	600	29.8	9	5	449	1	160	220	710	<0.4	0.4	<2	0.7	0.0559	<0.01	0.19	0.09	-	-	<0.02	-	
CW-5	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	29.7	<0.4	-	-	
CW-5	5/27/2009	FGL	2020	1250	8.0	560	-	10	6	456	1	157	220	690	1.1	0.4	<2	0.6	0.0553	<0.01	0.49	0.13	25	-	0.22	-	
CW-5	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	

1. Laboratory Abbreviations: AT - Agri Tech, Inc., Kerman; BD - Betz Dearborn; BCL - BC Laboratories, Bakersfield; BSK - BSK Analytical Laboratories, Fresno; CLS - California Laboratory Services, Rancho Cordova; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord, Fresno; OBL = Olson Biochemistry Laboratories of South Dakota State University, Brookings, SD; TL - The Twining Laboratories, Inc., Fresno; UAG - U.S. Agricultural Consultants and Laboratories, Burbank; USGS - U.S. Geological Survey

2. Electrical Conductivity at 25°C

3. HCO₃⁻, Total Alkalinity and NO₃⁻ reported as HCO₃⁻, CaCO₃ and NO₃⁻ respectively. Some 2008 NO₃ results may include NO₂ in reported value.

NA = Not Available; ND = Non Detect (detection limit unknown)

Table D-2
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Central California ID																											
5A	8/1/1990	NA	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5A	8/1/1991	NA	794	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5A	8/1/1992	NA	584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5A	8/1/1996	NA	828	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5A	6/9/1997	NA	710	430	8.3	-	-	16	5	120	2	98	83	134	<0.4	-	-	0.3	-	-	0.54	0.31	-	-	-	-	
5A	8/4/1999	FGL	688	450	7.9	-	6	16	5	107	2	97	85	150	<0.4	-	2	0.3	-	-	0.05	0.03	-	<2	-	-	
5A	9/29/1999	FGL	587	350	7.7	-	4	23	8	88	2	70	79	140	<0.4	-	<2	0.2	-	-	0.6	0.3	-	<2	-	-	
5A	6/7/2001	CCID	730	460	7.9	110	7.5	18	5.3	140	2	110	92	134	<10	-	-	0.2	-	-	-	-	-	-	-	-	
5A	9/30/2002	BSK	910	590	7.7	120	-	19	5	180	2	150	98	120	ND	-	-	0.4	-	-	-	-	-	-	-	-	
5A	8/25/2003	BSK	620	390	8.1	110	-	26	8	110	ND	68	84	110	ND	-	-	0.2	-	-	-	-	-	-	-	-	
5A	7/14/2004	BSK	880	580	8.1	-	-	20	5	180	2	170	100	130	ND	-	-	0.3	-	-	-	-	-	2	-	-	
5A	9/2/2008	NA	1100	-	8.2	120	-	24	5	200	2.7	230	110	146	ND	-	-	0.46	-	-	-	-	-	ND	-	-	
5A	7/16/2009	BSK	1200	700	8.3	140	-	26	5.1	210	2.8	240	110	140	ND	-	-	0.5	-	-	-	-	-	ND	-	-	
5A	9/23/2010	BSK	660	390	8.3	120	-	20	5.9	100	2.1	85	82	120	ND	-	-	0.22	-	-	-	-	-	ND	-	-	
12C	6/7/2001	CCID	1700	1200	7.3	120	5.7	86	42	260	4	420	260	146	ND	-	-	0.5	-	-	-	-	-	-	-	-	
12C	9/30/2002	BSK	1900	1300	6.8	130	-	82	41	270	6	430	250	130	ND	-	-	0.6	-	-	-	-	-	-	-	-	
12C	8/25/2003	BSK	1400	1000	7.4	120	-	68	35	200	5	330	180	120	ND	-	-	0.5	-	-	-	-	-	-	-	-	
12C	7/15/2004	BSK	1800	1300	7.4	-	-	89	43	280	5	490	250	140	ND	-	-	0.6	-	-	-	-	-	4	-	-	
12C	9/2/2008	NA	2200	-	7.6	140	-	91	46	310	5.5	560	270	171	ND	-	-	0.94	-	-	-	-	-	ND	-	-	
12C	7/16/2009	BSK	2300	1500	8.0	160	-	98	48	340	5.6	600	290	160	ND	-	-	1	-	-	-	-	-	ND	-	-	
12C	9/23/2010	BSK	2200	1600	7.9	160	-	90	45	320	5.1	610	290	160	ND	-	-	1.1	-	-	-	-	-	ND	-	-	
15	7/15/1960	NA	813	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1961	NA	1050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1965	NA	753	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1972	NA	659	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1974	NA	641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1975	NA	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1976	NA	641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	4/15/1977	NA	528	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	7/15/1978	NA	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15	4/15/1979	NA	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	7/15/1980	NA	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	4/15/1981	NA	845	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	7/15/1982	NA	863	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	4/15/1984	NA	847	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	7/15/1987	NA	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	7/15/1988	NA	860	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	7/1/1989	NA	951	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15A	8/1/1990	NA	1170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Central California ID																										
15A	8/1/1991	NA	1024	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15B	8/1/1992	NA	1020	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15B	7/1/1993	NA	1050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15B	8/1/1994	NA	1120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15B	8/1/1996	NA	1050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
15B	6/9/1997	NA	1100	680	7.9	-	-	47	24	120	5	190	140	134	<0.4	-	-	0.3	-	-	<0.05	1.3	-	-	-	
15B	6/21/2001	CCID	1100	730	7.3	98	4	59	29	150	4	230	160	120	ND	-	-	0.3	-	-	-	-	-	-	-	
15B	9/30/2002	BSK	1200	770	6.8	120	-	56	29	160	4	240	160	120	ND	-	-	0.4	-	-	-	-	-	-	-	
15B	8/25/2003	BSK	1100	720	7.6	120	-	63	31	140	5	220	150	120	ND	-	-	0.3	-	-	-	-	-	-	-	
15B	7/15/2004	BSK	1100	720	7.5	-	-	56	27	160	4	220	150	130	ND	-	-	0.3	-	-	-	-	-	3	-	
15B	9/2/2008	NA	1100	-	7.7	120	-	49	24	150	3.9	220	150	146	ND	-	-	0.38	-	-	-	-	-	ND	-	
15B	7/16/2009	BSK	1200	680	8.0	130	-	48	23	150	3.8	210	150	130	ND	-	-	0.4	-	-	-	-	-	ND	-	
15B	9/23/2010	BSK	940	600	8.0	120	-	45	23	110	3.9	170	130	120	ND	-	-	0.32	-	-	-	-	-	ND	-	
16B	10/20/1993	NA	839	523	6.8	-	3.1	38	23	99	3.6	120	120	-	-	-	-	-	-	-	-	-	-	-	-	
16C	9/30/2002	BSK	1000	620	6.7	110	-	51	27	130	4	180	130	110	ND	-	-	0.3	-	-	-	-	-	-	-	
16C	8/25/2003	BSK	790	510	7.6	110	-	39	21	110	4	140	99	110	ND	-	-	0.3	-	-	-	-	-	-	-	
16B	7/15/2004	BSK	970	650	7.5	-	-	55	26	130	4	180	140	130	ND	-	-	0.3	-	-	-	-	-	3	-	
16C	7/16/2009	BSK	1200	720	8.0	130	-	59	28	140	4	210	170	130	ND	-	-	0.36	-	-	-	-	-	ND	-	
16C	9/23/2010	BSK	850	510	7.9	120	-	41	20	99	3.5	130	120	120	ND	-	-	0.32	-	-	-	-	-	ND	-	
23B	6/7/2001	CCID	2600	1100	7.5	120	7.4	120	62	400	6	670	380	146	ND	-	-	1.2	-	-	-	-	-	-	-	
23B	9/30/2002	BSK	2700	1900	6.5	140	-	110	61	400	6	700	360	140	ND	-	-	1.2	-	-	-	-	-	-	-	
23B	8/25/2003	BSK	2400	1800	7.5	140	-	120	62	350	6	640	340	140	ND	-	-	0.9	-	-	-	-	-	-	-	
23B	7/15/2004	BSK	2500	1900	7.4	-	-	120	65	400	7	760	370	160	ND	-	-	1.4	-	-	-	-	-	6	-	
23B	9/3/2008	NA	2700	-	7.4	150	-	110	60	420	6.4	780	340	183	ND	-	-	1.6	-	-	-	-	-	ND	-	
23B	7/16/2009	BSK	2900	2000	7.9	160	-	120	65	430	6.7	810	358	160	ND	-	-	1.8	-	-	-	-	-	ND	-	
23B	9/23/2010	BSK	2600	1700	7.8	150	-	100	55	380	5.7	740	330	150	ND	-	-	1.5	-	-	-	-	-	ND	-	
28	7/15/1963	NA	741	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	7/15/1964	NA	880	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	7/15/1968	NA	681	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	7/15/1972	NA	889	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28	4/15/1973	NA	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1974	NA	930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1975	NA	970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1976	NA	970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	4/15/1977	NA	825	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1978	NA	1172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	4/15/1979	NA	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	4/15/1981	NA	1159	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1982	NA	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Central California ID																										
28A	4/15/1984	NA	962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1987	NA	850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/15/1988	NA	850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	7/1/1989	NA	1118	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	8/1/1990	NA	1382	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	8/1/1991	NA	1335	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	8/1/1992	NA	1304	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28A	8/1/1994	NA	1480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28B	2/1/1995	NA	1160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28B	8/1/1996	NA	1370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
28B	6/9/1997	NA	-	890	-	-	-	-	-	175	-	314	137	-	-	-	-	-	-	-	<0.05	0.96	-	-	-	
28B	8/4/1999	FGL	1400	940	6.9	-	3.9	70	32	157	5	310	153	200	<0.4	-	3	0.4	-	-	11.4	1.5	-	<2	-	
28B	9/29/1999	FGL	1410	960	6.7	-	3.6	76	36	152	6	326	162	210	<0.4	-	<2	0.4	-	-	0.05	0.01	-	<2	-	
28C	7/15/2004	BSK	1300	850	8.0	-	-	16	3	280	3	220	180	160	-	-	-	0.8	-	-	-	-	-	4	-	
28C	9/2/2008	NA	1400	-	8.1	150	-	15	3	280	3	220	180	183	ND	-	-	0.83	-	-	-	-	-	ND	-	
28C	7/27/2009	BSK	1400	860	8.1	170	-	14	2.6	270	3	230	200	170	ND	-	-	0.85	-	-	-	-	-	ND	-	
28C	9/23/2010	BSK	1800	1100	8.2	150	-	28	5.6	350	3.7	410	230	150	ND	-	-	0.73	-	-	-	-	-	ND	-	
32	7/15/1964	NA	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32	7/15/1968	NA	653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	7/15/1970	NA	745	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	7/15/1972	NA	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	7/15/1974	NA	1030	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	7/15/1975	NA	1050	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	7/15/1976	NA	941	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	4/15/1977	NA	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32A	4/15/1979	NA	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	4/15/1981	NA	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	7/15/1982	NA	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	4/15/1984	NA	991	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	7/15/1987	NA	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	7/15/1988	NA	1548	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	7/1/1989	NA	1674	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	8/1/1990	NA	2060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	8/1/1991	NA	1789	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	8/1/1992	NA	1370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	8/1/1996	NA	2090	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	6/9/1997	NA	2000	1400	7.9	-	-	110	36	270	7	610	200	195	<0.4	-	-	1.2	-	-	<0.05	2.5	-	-	-	
32B	8/4/1999	FGL	2120	1480	7.1	-	4.9	120	40	242	6	630	204	210	<0.4	-	<2	1.3	-	-	0.8	2.8	-	<2	-	
32B	9/29/1999	FGL	1450	1010	7.2	-	3.6	88	33	156	5	362	152	210	<0.4	-	<2	0.7	-	-	0.9	3	-	<2	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Central California ID																										
32B	8/23/2000	FGL	2270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
32B	6/7/2001	CCID	2100	1600	7.8	160	5.5	130	47	290	5	720	240	195	28	-	-	1.4	-	-	-	-	-	-	-	
32B	9/30/2002	BSK	2100	1500	7.3	160	-	130	48	300	6	630	210	160	ND	-	-	1.3	-	-	-	-	-	-	-	
32B	8/25/2003	BSK	1300	910	7.8	140	-	86	35	160	4	320	160	140	ND	-	-	0.5	-	-	-	-	-	-	-	
32B	7/15/2004	BSK	490	330	8.2	-	-	8.1	4	100	-	52	65	100	ND	-	-	0.2	-	-	-	-	-	-	-	
32B	8/27/2008	NA	1300	-	7.9	120	-	70	27	180	4.3	360	130	146	ND	-	-	1	-	-	-	-	-	ND	-	
32C	8/12/2009	BSK	1600	1100	8.0	150	-	85	32	210	4.5	460	150	150	ND	-	-	1.3	-	-	-	-	-	ND	-	
35	7/15/1966	NA	555	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1972	NA	853	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1974	NA	891	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1975	NA	870	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1976	NA	900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	4/15/1977	NA	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1978	NA	675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	4/15/1979	NA	725	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	4/15/1981	NA	1155	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1982	NA	850	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	4/15/1984	NA	584	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1987	NA	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35	7/15/1988	NA	925	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	7/1/1989	NA	1068	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	8/1/1990	NA	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	8/1/1991	NA	1167	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	8/1/1992	NA	1141	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	7/1/1993	NA	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	8/1/1994	NA	1270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	8/1/1996	NA	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
35A	6/9/1997	NA	1300	810	7.2	-	-	65	29	160	6	290	140	159	<0.4	-	-	0.4	-	-	<0.05	1.1	-	-	-	
35A	6/7/2001	CCID	1200	830	7.6	110	4.2	62	30	160	5	280	150	134	ND	-	-	0.3	-	-	-	-	-	-	-	
35A	9/30/2002	BSK	1400	900	6.8	130	-	71	33	190	5	310	160	130	ND	-	-	0.3	-	-	-	-	-	-	-	
35A	8/25/2003	BSK	1300	890	7.4	110	-	72	36	170	6	290	180	110	ND	-	-	0.3	-	-	-	-	-	-	-	
35A	7/15/2004	BSK	1400	990	7.5	-	-	84	38	200	6	370	180	150	ND	-	-	0.3	-	-	-	-	-	2	-	
35A	9/2/2008	NA	1500	-	7.6	130	-	76	36	200	5.3	360	180	159	ND	-	-	0.4	-	-	-	-	-	ND	-	
35A	7/16/2009	BSK	1600	998	7.2	170	-	78	37	200	5.4	380	180	170	ND	-	-	0.44	-	-	-	-	-	ND	-	
35A	9/23/2010	BSK	1200	700	7.6	110	-	51	26	140	4.6	250	160	110	ND	-	-	0.32	-	-	-	-	-	ND	-	
38A	6/9/1997	NA	540	320	8.1	-	-	3	1	110	5	47	65	134	<0.4	-	-	0.2	-	-	-	-	-	-	-	
38A	6/15/2001	CCID	620	340	7.9	110	14.9	3	1	120	ND	58	76	134	ND	-	-	0.1	-	-	-	-	-	-	-	
38A	8/25/2003	BSK	590	390	8.1	110	-	3.8	1	130	ND	57	78	110	ND	-	-	0.2	-	-	-	-	-	-	-	
38A	7/15/2004	BSK	550	380	8.1	-	-	4	1	130	-	60	71	120	ND	-	-	0.2	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Central California ID																										
38A	10/17/2008	NA	590	-	8.1	110	-	3.5	1	120	ND	67	76	134	ND	-	-	0.17	-	-	-	-	-	-	ND	-
38A	7/16/2009	BSK	620	360	8.3	120	-	3.7	1.2	120	ND	63	72	120	ND	-	-	0.22	-	-	-	-	-	-	ND	-
Columbia Canal Co.																										
CC-1	11/8/1994	JML	270	-	8.8	-	-	-	-	62	-	-	18	-	3.5	-	-	0.19	-	-	-	-	-	-	-	-
CC-1	9/29/1997	JML	300	-	8.2	-	11.7	-	-	67	-	-	14	116	1.8	-	-	0.1	-	-	-	-	-	-	-	-
CC-1	6/4/1999	JML	860	-	8.6	-	12.9	2	ND	73	-	27	16	-	6.2	-	-	0.07	-	-	-	-	-	-	-	-
CC-1	5/4/2001	JML	270	173	8.6	-	3.4	17	2	54	-	27	14	-	ND	-	-	0.04	-	-	-	-	-	-	-	-
CC-1	8/6/2002	JML	250	160	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-1	8/25/2003	JML(1)	260	170	8.7	107	24	ND	ND	74	-	30	14	-	ND	-	-	0.05	-	-	-	-	-	-	-	-
CC-1	8/4/2004	JML(1)	440	282	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-1	7/22/2005	JML	300	-	8.51	-	9.1	3.2	1.3	76	-	34	16	-	0.9	-	-	0.09	-	-	-	-	-	-	-	-
CC-1	7/18/2006	JML	350	224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-1	7/25/2007	JML	290	186	-	105	-	2.6	0.4	79	-	44	15	-	<0.4	-	-	0.07	-	-	-	-	-	-	-	-
MLT-W	7/21/2010	JML	540	-	8.13	-	-	2.4	0.4	143.7	-	70.6	79.8	136.7	2.9	-	-	0.272	-	-	-	-	-	-	-	-
CC-2	11/8/1994	JML	320	-	8.8	-	-	-	-	67	-	-	32	-	3.5	-	-	0.19	-	-	-	-	-	-	-	-
CC-2	9/29/1997	JML	400	-	8.3	-	32.3	-	-	92	-	-	21	140	1.8	-	-	0.1	-	-	-	-	-	-	-	-
CC-2	5/4/2001	JML	350	224	8.6	-	4.3	16	2	69	-	55	27	-	ND	-	-	0.06	-	-	-	-	-	-	-	-
CC-2	5/14/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CC-2	8/6/2002	JML	330	211	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-2	8/25/2003	JML(1)	330	210	8.7	127	61.9	ND	ND	101	-	80	30	-	ND	-	-	0.06	-	-	-	-	-	-	-	-
CC-2	8/4/2004	JML(1)	570	365	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-2	7/22/2005	JML	420	-	8.27	-	20	1.6	0.4	109	-	56	33	-	ND	-	-	0.09	-	-	-	-	-	-	-	-
CC-2	7/18/2006	JML	480	307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
CC-2	7/25/2007	JML	400	256	-	119	-	2.6	0.4	109	-	86	33	-	<0.4	-	-	0.09	-	-	-	-	-	-	-	-
Cardella-1	9/29/1997	JML	800	-	7.9	-	21.4	-	-	175	-	-	71	220	7.1	-	-	0.1	-	-	-	-	-	-	-	-
Cardella-1	5/4/2001	JML	750	480	7.7	-	7.3	21	4.3	140	-	77	100	-	ND	-	-	0.1	-	-	-	-	-	-	-	-
Cardella-1	8/1/2002	JML	840	538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardella-1	9/17/2003	JML(1)	660	420	8.0	145	12.2	9	3	160	-	65	95	-	ND	-	-	0.17	-	-	-	-	-	-	-	-
Cardella-1	8/4/2004	JML(1)	890	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardella-1	8/24/2005	JML	480	-	8.42	-	21.5	2.2	0.5	133	-	78	51	-	0.4	-	-	0.17	-	-	-	-	-	-	-	-
Cardella-1	8/9/2006	JML	1570	1005	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cardella-1	7/26/2007	JML	680	435	-	119	-	4.6	0.9	185	-	143	85	-	<0.4	-	-	0.34	-	-	-	-	-	-	-	-
Cardella-1	7/17/2008	JML	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lopes-1	3/18/1999	JML	490	-	8.2	-	40.5	1	ND	132	-	56	50	-	2.2	-	-	0.31	-	-	-	-	-	-	-	-
Lopes-1	5/4/2001	JML	510	326	8.1	-	5.7	15.8	2.6	93.3	-	60	65	-	ND	-	-	0.3	-	-	-	-	-	-	-	-
Lopes-1	5/14/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Lopes-1	8/1/2002	JML	890	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Lopes-1	9/17/2003	JML(1)	710	450	8.2	170	13.1	9	3	177	-	76	94	-	0.1	-	-	0.1	-	-	-	-	-	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Columbia Canal Co.																										
Lopes-1	8/4/2004	JML(1)	1160	742	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lopes-1	8/23/2005	JML	690	-	7.89	-	12.7	8.8	2.6	167	-	76	90	-	0.9	-	-	0.11	-	-	-	-	-	-	-	
Lopes-1	8/10/2006	JML	1010	646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Lopes-1	7/26/2007	JML	640	406	-	154	-	8.2	2.2	169	-	78	92	-	0.4	-	-	0.1	-	-	-	-	-	-	-	
Lopes-1	7/21/2010	JML	650	-	8.09	-	-	3.4	0.7	170.1	-	124.9	83.7	144	2	-	-	0.292	-	-	-	-	-	-	-	
Elrod-1	5/14/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Elrod-1	7/31/2002	JML	1700	1088	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-1	9/17/2003	JML(1)	1590	1020	8.1	155	15.2	34	5	361	-	160	352	-	ND	-	-	0.65	-	-	-	-	-	-	-	
Elrod-1	8/4/2004	JML(1)	2730	1747	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-1	8/24/2005	JML	550	-	7.55	-	7.4	18	4.3	134	-	56	79	-	0.4	-	-	0.18	-	-	-	-	-	-	-	
Elrod-1	8/11/2006	JML	910	582	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-1	7/31/2007	JML	1520	976	-	130	-	31	4.9	356	-	176	388	-	0.9	-	-	0.64	-	-	-	-	-	-	-	
Elrod-1	7/16/2008	JML	2320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-1	7/21/2010	JML	1540	-	7.65	-	-	27.1	4.3	326.4	-	163.8	333.4	153.1	2.4	-	-	0.647	-	-	-	-	-	-	-	
Elrod-2	2/24/1999	JML	400	-	7.8	-	21.2	2	0.3	109	-	27	43	-	10.6	-	-	0.26	-	-	-	-	-	-	-	
Elrod-2	5/14/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Elrod-2	7/31/2002	JML	510	326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-2	9/17/2003	JML(1)	470	300	8.1	122	7.7	10	2	102	-	35	58	-	ND	-	-	0.25	-	-	-	-	-	-	-	
Elrod-2	8/4/2004	JML(1)	1020	653	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-2	8/23/2005	JML	1600	-	7.59	-	15.6	30.9	4.6	352	-	165	358	-	ND	-	-	0.62	-	-	-	-	-	-	-	
Elrod-2	8/11/2006	JML	2120	1357	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-2	8/1/2007	JML	550	352	-	118	-	9.2	1.8	134	-	66	74	-	0.4	-	-	0.38	-	-	-	-	-	-	-	
Elrod-2	7/17/2008	JML	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Elrod-2	7/21/2010	JML	670	-	7.84	-	-	15.7	3.6	151.3	-	56.2	103	176.3	1.9	-	-	0.244	-	-	-	-	-	-	-	
Elrod-3	7/21/2010	JML	470	-	7.5	-	-	10.2	2.5	112.9	-	45.2	69.8	134.8	2.3	-	-	0.209	-	-	-	-	-	-	-	
Burkhart-Heirs	7/31/2002	JML	510	326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Burkhart-Heirs	8/4/2004	JML(1)	880	563	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Burkhart-Heirs	8/9/2006	JML	1160	724	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Burkhart-Heirs	7/31/2007	JML	540	246	-	119	-	23	9.7	111	-	63	84	-	<0.4	-	-	0.22	-	-	-	-	-	-	-	
Burkhart-Heirs	7/16/2008	JML	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Burkhart-Heirs	7/21/2010	JML	660	-	7.58	-	-	29.9	13.9	120.2	-	76.4	106	159.9	2.3	-	-	0.213	-	-	-	-	-	-	-	
Diepersloot-1	2/24/1999	JML	360	-	7.0	-	3.6	17.03	3.8	63	ND	32	47	-	13.3	-	-	0.07	-	-	-	-	-	-	-	
Diepersloot-1	6/4/1999	JML	1740	-	7.2	-	9.4	72	14	333	-	182	362	-	ND	-	-	0.37	-	-	-	-	-	-	-	
Diepersloot-1	8/1/2002	JML	2490	1594	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diepersloot-1	9/17/2003	JML(1)	1820	1170	7.6	327	6.7	127	25	315	-	209	333	-	3.5	-	-	0.42	-	-	-	-	-	-	-	
Diepersloot-1	8/4/2004	JML(1)	3040	1946	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Diepersloot-1	8/23/2005	JML	1710	-	7.5	-	10.1	65.1	12.3	340	-	168	334	-	8.4	-	-	0.42	-	-	-	-	-	-	-	
Diepersloot-1	8/11/2006	JML	2530	1619	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Columbia Canal Co.																										
Diepersloot-1	7/31/2007	JML	1610	1030	-	220	-	51	9.7	363	-	162	380	-	6.6	-	-	0.45	-	-	-	-	-	-	-	-
Diepersloot-1	7/17/2008	JML	2320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Diepersloot-1	7/21/2010	JML	1710	-	7.58	-	-	50.5	9.5	340.2	-	154.2	343.6	267.2	9.3	-	-	0.46	-	-	-	-	-	-	-	-
Diepersloot-2	7/22/2010	JML	2110	-	7.57	-	-	63.9	9.6	402.3	-	180.6	497	293.5	9.3	-	-	0.561	-	-	-	-	-	-	-	-
Davis-1	2/24/1999	JML	840	-	7.6	-	9.6	18	8	193	-	102	112	-	9.7	-	-	0.5	-	-	-	-	-	-	-	-
Davis-1	8/1/2002	JML	890	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-1	9/17/2003	JML(1)	630	400	8.2	158	5.7	23	8	126	-	57	89	-	ND	-	-	0.36	-	-	-	-	-	-	-	-
Davis-1	8/4/2004	JML(1)	1140	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-1	8/24/2005	JML	700	-	7.14	-	5.5	33	11.4	144	-	69	103	-	ND	-	-	0.25	-	-	-	-	-	-	-	-
Davis-1	8/9/2006	JML	1040	666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-1	7/31/2007	JML	740	474	-	139	-	19	6.9	173	-	104	117	-	<0.4	-	-	0.57	-	-	-	-	-	-	-	-
Davis-1	7/16/2008	JML	1010	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-1	7/21/2010	JML	900	-	7.88	-	-	12.3	2.2	201.4	-	100.9	154.5	157.4	0.8	-	-	0.642	-	-	-	-	-	-	-	-
Davis-2	8/23/2006	JML	800	512	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-2	7/31/2007	JML	490	506	-	137	-	13	2.2	197	-	95	137	-	0.4	-	-	0.6	-	-	-	-	-	-	-	-
Davis-2	7/16/2008	JML	1120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Davis-2	7/21/2010	JML	760	-	7.64	-	-	21.6	7.9	155.9	-	89.3	112.8	166.6	1.9	-	-	0.545	-	-	-	-	-	-	-	-
Garcia-1	8/6/2002	JML	780	499	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-1	9/4/2003	JML(1)	810	520	7.8	146	22.7	5	1	208	-	121	123	-	0.1	-	-	0.52	-	-	-	-	-	-	-	-
Garcia-1	8/4/2004	JML(1)	940	602	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-1	8/23/2005	JML	800	-	7.9	-	21.6	5	0.9	200	-	116	119	-	ND	-	-	0.51	-	-	-	-	-	-	-	-
Garcia-1	8/8/2006	JML	970	621	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-1	8/1/2007	JML	630	403	-	113	-	2.8	0.7	163	-	90	69	-	0.4	-	-	0.29	-	-	-	-	-	-	-	-
Garcia-1	7/16/2008	JML	940	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-1	7/22/2010	JML	660	-	7.48	-	-	24	11.1	114.9	-	69.6	104	154.4	ND	-	-	0.204	-	-	-	-	-	-	-	-
Garcia-2	8/1/2002	JML	1430	915	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-2	9/4/2003	JML(1)	930	600	7.8	143	22.1	6	1	224	-	142	139	-	ND	-	-	0.63	-	-	-	-	-	-	-	-
Garcia-2	8/4/2004	JML(1)	1390	890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-2	8/23/2005	JML	930	-	7.84	-	21.5	6.6	1.1	227	-	139	145	-	ND	-	-	0.64	-	-	-	-	-	-	-	-
Garcia-2	8/8/2006	JML	1240	794	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-2	8/1/2007	JML	960	614	-	124	-	6.4	1.6	234	-	169	128	-	0.4	-	-	0.69	-	-	-	-	-	-	-	-
Garcia-2	7/16/2008	JML	1130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-2	7/22/2010	JML	890	-	7.84	-	-	11	2.9	198.2	-	77.8	149.1	210.5	ND	-	-	0.209	-	-	-	-	-	-	-	-
Garcia-3	8/1/2002	JML	1000	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-3	9/17/2003	JML(1)	690	440	8.0	158	9.5	14	4	158	-	70	98	-	ND	-	-	0.13	-	-	-	-	-	-	-	-
Garcia-3	8/4/2004	JML(1)	1170	749	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-3	8/8/2006	JML	930	595	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Garcia-3	8/1/2007	JML	640	410	-	139	-	13	4.4	152	-	81	78	-	0.4	-	-	0.2	-	-	-	-	-	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Columbia Canal Co.																										
Garcia-3	7/17/2008	JML	920	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-4	8/6/2002	JML	750	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-4	9/17/2003	JML(1)	890	570	8.1	192	14	12	3	208	-	74	138	-	ND	-	-	0.15	-	-	-	-	-	-	-	
Garcia-4	8/4/2004	JML	1250	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-4	8/23/2005	JML	790	-	7.8	-	14.5	9.6	2.2	190	-	75	122	-	0.9	-	-	0.23	-	-	-	-	-	-	-	
Garcia-4	8/7/2007	JML	830	534	-	169	-	13	2.6	208	-	80	145	-	0.4	-	-	0.23	-	-	-	-	-	-	-	
Garcia-4	7/17/2008	JML	1140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-4	7/22/2010	JML	980	-	7.85	-	-	6.5	1.3	210.3	-	139.3	170.5	147.7	ND	-	-	0.708	-	-	-	-	-	-	-	
Garcia-5	8/1/2002	JML	960	614	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-5	9/17/2003	JML(1)	660	420	8.2	144	6.5	19	8	134	-	66	90	-	ND	-	-	0.28	-	-	-	-	-	-	-	
Garcia-5	8/4/2004	JML(1)	1010	646	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-5	8/23/2005	JML	600	-	7.46	-	6.6	16.4	7.2	127	-	68	83	-	0.9	-	-	0.27	-	-	-	-	-	-	-	
Garcia-5	8/9/2006	JML	860	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-5	8/1/2007	JML	640	410	-	136	-	22	10	131	-	84	62	-	0.4	-	-	0.25	-	-	-	-	-	-	-	
Garcia-5	7/17/2008	JML	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Garcia-5	7/22/2010	JML	640	-	7.89	-	-	2.8	0.5	150.1	-	73	96.5	137.3	ND	-	-	0.311	-	-	-	-	-	-	-	
Mowry Diesel	5/17/2001	JML	630	-	8.1	-	29.8	2.2	ND	160.5	-	84	97	-	ND	-	-	0.47	-	-	-	-	-	-	-	
Mowry Diesel	8/2/2002	JML	700	448	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Mowry Electric	6/24/1999	JML	720	-	7.9	-	5.5	26	5	115	-	70	81	-	2.66	-	-	0.18	-	-	-	-	-	-	-	
Mowry Electric	5/17/2001	JML	480	-	7.8	-	4.3	27.3	2.9	87.6	-	52	77	-	ND	-	-	0.1	-	-	-	-	-	-	-	
Snyder	5/4/2001	JML	950	608	7.9	-	9	20	3	164	-	123	147	-	4.4	-	-	0.5	-	-	-	-	-	-	-	
Snyder	7/31/2002	JML	660	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Snyder	9/9/2003	JML(1)	650	420	8.1	146	21.3	3	1	166	-	80	85	-	ND	-	-	0.22	-	-	-	-	-	-	-	
Snyder	8/4/2004	JML(1)	1060	678	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Snyder	8/26/2005	JML	710	-	7.89	-	19.7	3.6	1.1	166	-	92	95	-	ND	-	-	0.14	-	-	-	-	-	-	-	
Snyder	8/11/2006	JML	990	634	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Snyder	8/1/2007	JML	680	435	-	124	-	0.2	0.2	177	-	90	77	-	0.4	-	-	0.23	-	-	-	-	-	-	-	
Snyder	7/16/2008	JML	890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Snyder	7/21/2010	JML	750	-	8.02	-	-	4.3	1.3	178.9	-	97	105.9	150.1	ND	-	-	0.207	-	-	-	-	-	-	-	
Hunger	7/22/2010	JML	820	-	7.87	-	-	55.9	9	122.5	-	89.3	125.5	186.7	21.2	-	-	0.106	-	-	-	-	-	-	-	
Lorenzetti	7/21/2010	JML	720	-	7.19	-	-	35.1	11.5	122.5	-	71.1	119.5	168.4	1.2	-	-	0.225	-	-	-	-	-	-	-	
Texiera	7/21/2010	JML	750	-	7.34	-	-	32.5	10.9	133.8	-	78.8	115.2	167.8	8	-	-	0.302	-	-	-	-	-	-	-	
Harrison-1	7/21/2010	JML	950	-	7.55	-	-	39.1	8.5	192	-	80.2	176.2	217.2	12.2	-	-	0.092	-	-	-	-	-	-	-	
Harrison-2	7/21/2010	JML	590	-	7.03	-	-	54.7	10.4	80.5	-	68.2	98.5	140.9	3.8	-	-	0.25	-	-	-	-	-	-	-	
Harrison-3	7/21/2010	JML	1530	-	7.57	-	-	70.9	16.4	262.1	-	192.1	281.1	226.4	2.4	-	-	0.038	-	-	-	-	-	-	-	
Harrison-4	7/21/2010	JML	1790	-	7.55	-	-	127.7	32.6	229.9	-	108.5	421.5	230.6	19.5	-	-	0.046	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Columbia Canal Co.																										
Paramount Farming Co.																										
3311-62 (W-8)	8/20/2007	JML	580	-	-	204	-	28	7	121	-	49	31	-	18.2	-	-	0.12	-	-	-	-	-	<1	-	
3311-62 (W-8)	9/10/2009	JML	710	-	7.8	-	-	-	-	153	-	-	43	360	21.2	-	-	0.18	-	-	-	-	-	-	-	
3311-62 (W-8)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
3311-62 (W-8)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3311-62 (W-8)	8/17/2010	JML	760	-	7.7	-	-	-	-	158	-	-	51	309	23.5	-	-	0.19	-	-	-	-	-	-	-	
3591-66 (W-11)	8/13/2007	JML	720	-	-	250	-	70	15	80	-	67	37	-	20.4	-	-	0.03	-	-	-	-	-	<1	-	
3591-66 (W-11)	9/18/2008	JML	770	-	7.7	-	2.1	-	-	85	-	-	35	366	23	-	-	0.05	-	-	-	-	-	<1	-	
3591-66 (W-11)	9/10/2009	JML	760	-	7.6	-	-	-	-	91	-	-	34	345	28.3	-	-	0.08	-	-	-	-	-	-	-	
3591-66 (W-11)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3591-66 (W-11)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3591-66 (W-11)	8/17/2010	JML	790	-	7.5	-	-	-	-	100	-	-	41	340	32.3	-	-	0.08	-	-	-	-	-	-	-	
3211-66 (W-15)	8/22/2007	JML	770	-	-	219	-	18	5	178	-	86	68	-	8	-	-	0.1	-	-	-	-	-	<1	-	
3211-66 (W-15)	9/18/2008	JML	750	-	7.9	-	7.8	-	-	163	-	-	71	262	9.7	-	-	0.11	-	-	-	-	-	<1	-	
3211-66 (W-15)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3211-66 (W-15)	9/10/2009	JML	730	-	7.8	-	-	-	-	155	-	-	67	148	10.6	-	-	0.12	-	-	-	-	-	-	-	
3211-66 (W-15)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3211-66 (W-15)	8/17/2010	JML	720	-	7.8	-	-	-	-	159	-	-	71	245	13.7	-	-	0.15	-	-	-	-	-	-	-	
3431-61 (W-32)	8/28/1953	AT	-	277	8.1	-	6.2	6	3.5	77	-	4.1	39	168	-	-	-	0.04	-	-	-	-	-	-	-	
3431-61 (W-32)	5/18/1979	AT	600	380	7.9	-	-	-	-	106	-	-	43	275	-	-	-	0.3	-	-	-	-	-	-	-	
3431-61 (W-32)	8/4/1979	AT	680	440	8.0	-	-	-	-	124	-	-	60	287	-	-	-	0.5	-	-	-	-	-	-	-	
3431-61 (W-32)	11/8/1994	JML	970	-	7.8	-	4.7	-	-	154	-	-	99	262	28	-	-	0.29	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	4/3/1995	JML	980	-	8.2	-	4.7	-	-	152	-	-	99	275	28	-	-	0.29	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	9/15/1995	JML	1080	-	8.0	-	6.7	-	-	184	-	-	99	366	27	-	-	0.43	-	-	-	-	-	0.59	-	
3431-61 (W-32)	3/19/1996	JML	1020	-	7.9	-	5.9	-	-	163	-	-	96	384	28	-	-	0.33	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	9/4/1996	JML	1100	-	7.8	-	5.8	-	-	159	-	-	121	305	30	-	-	0.3	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	4/4/1997	JML	1100	-	8.0	-	4.6	-	-	149	-	-	96	165	44	-	-	0.3	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	7/2/1997	JML	1100	-	8.6	-	6.6	-	-	182	-	-	82	574	54	-	-	0.3	-	-	-	-	-	-	-	
3431-61 (W-32)	4/17/2001	JML	1100	-	7.7	-	6.4	-	-	198	-	-	124	366	56	-	-	0.3	-	-	-	-	-	ND	-	
3431-61 (W-32)	9/14/2001	JML	1210	-	7.3	-	4.8	-	-	184	-	-	117	421	53	-	-	0.22	-	-	-	-	-	0.73	-	
3431-61 (W-32)	3/13/2002	JML	1120	-	7.9	-	5.6	-	-	195	-	-	124	384	9	-	-	0.3	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	8/15/2002	JML	830	-	8.0	-	10.6	-	-	191	-	-	64	293	2	-	-	0.1	-	-	-	-	-	<0.5	-	
3431-61 (W-32)	8/14/2003	JML	1000	800	7.8	-	-	-	-	210	-	-	121	378	8.2	-	-	0.34	-	-	-	-	-	<0.4	-	
3431-61 (W-32)	8/12/2004	JML	1820	1165	7.6	-	6	-	-	205	-	-	121	348	45	-	-	0.38	-	-	-	-	-	<0.4	-	
3431-61 (W-32)	3/11/2005	JML	1800	-	7.6	-	6.6	-	-	214	-	-	128	354	39	-	-	0.36	-	-	-	-	-	<0.4	-	
3431-61 (W-32)	9/9/2005	JML	1710	-	7.5	-	6.1	-	-	209	-	-	124	366	47.8	-	-	0.31	-	-	-	-	-	<0.4	-	
3431-61 (W-32)	9/18/2006	JML	1110	710.4	7.5	-	-	-	-	214	-	-	103	378	42.1	-	-	0.4	-	-	-	-	-	<1	-	
3431-61 (W-32)	4/19/2007	JML	1240	-	-	313	-	86	19	203	-	132	121	-	66.4	-	-	0.27	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Paramount Farming Co.																										
3431-61 (W-32)	8/20/2007	JML	1200	-	-	295	-	75	17	205	-	121	126	-	57.6	-	-	0.28	-	-	-	-	-	-	<1	-
3431-61 (W-32)	9/11/2008	JML	1140	-	7.7	-	5.5	-	-	200	-	-	131	384	56.7	-	-	0.32	-	-	-	-	-	-	<1	-
3431-61 (W-32)	9/10/2009	JML	1170	-	7.7	-	-	-	-	210	-	-	129	375	85.4	-	-	0.33	-	-	-	-	-	-	-	-
3431-61 (W-32)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3431-61 (W-32)	8/17/2010	JML	1190	-	7.5	-	-	-	-	212	-	-	136	373	63.3	-	-	0.33	-	-	-	-	-	-	-	-
3431-61 (W-32)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
2480-66 (W-42)	11/8/1994	JML	1050	-	7.8	-	5.4	-	-	184	-	-	135	244	21	-	-	0.47	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	4/3/1995	JML	1040	-	8.0	-	3.3	-	-	85	-	-	117	275	4	-	-	0.05	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	9/15/1995	JML	1280	-	8.0	-	8	-	-	218	-	-	149	397	27	-	-	0.39	-	-	-	-	-	-	0.8	-
2480-66 (W-42)	3/19/1996	JML	1110	-	7.9	-	7.9	-	-	198	-	-	124	336	20	-	-	0.48	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	9/4/1996	JML	1100	-	7.8	-	9.1	-	-	191	-	-	142	287	22	-	-	0.5	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	4/4/1997	JML	1100	-	8.0	-	7	-	-	182	-	-	131	134	27	-	-	0.5	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	7/2/1997	JML	1100	-	8.5	-	9.3	-	-	205	-	-	96	714	48	-	-	0.5	-	-	-	-	-	-	-	-
2480-66 (W-42)	3/21/2001	JML	1100	-	7.7	-	9.4	-	-	218	-	-	149	329	34	-	-	0.4	-	-	-	-	-	-	ND	-
2480-66 (W-42)	9/14/2001	JML	1130	-	7.5	-	9.3	-	-	221	-	-	145	384	20	-	-	0.42	-	-	-	-	-	-	ND	-
2480-66 (W-42)	3/13/2002	JML	1110	-	8.0	-	8.8	-	-	228	-	-	152	354	5	-	-	0.5	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	8/15/2002	JML	1200	-	7.7	-	6.2	-	-	205	-	-	121	378	6	-	-	0.3	-	-	-	-	-	-	<0.5	-
2480-66 (W-42)	8/14/2003	JML	1000	800	7.7	-	-	-	-	241	-	-	142	383	5.4	-	-	0.46	-	-	-	-	-	-	<0.4	-
2480-66 (W-42)	8/12/2004	JML	1830	1171	7.7	-	9.4	-	-	241	-	-	145	348	27	-	-	0.48	-	-	-	-	-	-	<0.4	-
2480-66 (W-42)	3/11/2005	JML	1990	-	7.6	-	8.8	-	-	253	-	-	149	384	30	-	-	0.45	-	-	-	-	-	-	<0.4	-
2480-66 (W-42)	9/9/2005	JML	1710	-	7.5	-	7.4	-	-	244	-	-	145	409	45.2	-	-	0.34	-	-	-	-	-	-	<0.57	-
2480-66 (W-42)	9/18/2006	JML	1120	716.8	7.5	-	-	-	-	244	-	-	131	391	28.3	-	-	0.4	-	-	-	-	-	-	<1	-
2480-66 (W-42)	4/19/2007	JML	1170	-	-	293	-	43	9	244	-	96	143	-	32.8	-	-	0.41	-	-	-	-	-	-	-	-
2480-66 (W-42)	8/20/2007	JML	1210	-	-	292	-	50	11	244	-	99	146	-	37.2	-	-	0.37	-	-	-	-	-	-	<1	-
2480-66 (W-42)	9/11/2008	JML	1180	-	7.8	-	7.6	-	-	237	-	-	152	384	39.4	-	-	0.41	-	-	-	-	-	-	<1	-
2480-66 (W-42)	9/10/2009	JML	1190	-	7.7	-	-	-	-	246	-	-	147	390	46.5	-	-	0.41	-	-	-	-	-	-	-	-
2480-66 (W-42)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
2480-66 (W-42)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
2480-66 (W-42)	8/17/2010	JML	1240	-	7.4	-	-	-	-	246	-	-	156	383	45.2	-	-	0.45	-	-	-	-	-	-	-	-
3730-65 (W-53)	1/28/1964	UAG	225	160	7.8	-	-	-	-	56	-	-	23	164	-	-	-	0.2	-	-	-	-	-	-	-	-
3730-65 (W-53)	11/8/1994	JML	530	-	8.3	-	3.1	-	-	76	-	-	71	92	4	-	-	0.21	-	-	-	-	-	-	<0.5	-
3730-65 (W-53)	4/3/1995	JML	550	-	8.3	-	3.9	-	-	85	-	-	71	122	4	-	-	0.06	-	-	-	-	-	-	-	-
3730-65 (W-53)	9/15/1995	JML	540	-	8.3	-	5.2	-	-	92	-	-	39	140	7	-	-	0.06	-	-	-	-	-	-	-	-
3730-65 (W-53)	3/19/1996	JML	570	-	8.4	-	4.4	-	-	92	-	-	78	244	2	-	-	0.1	-	-	-	-	-	-	<0.5	-
3730-65 (W-53)	9/4/1996	JML	600	-	8.2	-	5.2	-	-	83	-	-	82	92	2	-	-	0.1	-	-	-	-	-	-	<0.5	-
3730-65 (W-53)	4/4/1997	JML	600	-	8.3	-	3.5	-	-	78	-	-	74	55	4	-	-	0.2	-	-	-	-	-	-	<0.5	-
3730-65 (W-53)	7/2/1997	JML	600	-	8.3	-	6.5	-	-	108	-	-	64	177	14	-	-	0.1	-	-	-	-	-	-	<0.8	-
3730-65 (W-53)	9/1/1997	BSK	500	-	8.2	-	-	-	-	-	-	97	57	110	4	-	-	0.1	-	-	-	-	-	-	-	-
3730-65 (W-53)	3/1/1998	BSK	565	-	8.3	-	-	-	-	21	1	97	83	-	<2	-	-	0.1	-	-	-	-	-	-	<0.5	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
3730-65 (W-53)	9/1/1998	BSK	610	-	8.3	-	-	-	-	-	-	97	64	-	3	-	-	0.1	-	-	-	-	-	-	<0.5	-	
3730-65 (W-53)	3/1/1999	BSK	570	-	8.1	-	-	-	-	-	-	122	57	134	6	-	-	0.1	-	-	-	-	-	-	<0.5	-	
3730-65 (W-53)	9/1/1999	BSK	600	-	8.2	-	-	-	-	-	-	110	71	153	3	-	-	0.1	-	-	-	-	-	-	1.2	-	
3730-65 (W-53)	3/21/2000	JML	530	-	8.1	122	6.4	22	2	117	-	56	105	-	2	-	-	0.03	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	10/3/2000	JML	520	-	8.2	121	5.5	27	2	110	-	54	71	-	-	-	-	0.08	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	3/21/2001	JML	540	-	8.2	115	5.6	19	3	99	-	49	75	-	-	-	-	0.07	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	6/26/2001	JML	530	-	8.3	120	6.6	18	ND	102	-	49	78	-	-	-	-	0.08	-	-	-	-	-	-	-	-	
3730-65 (W-53)	9/14/2001	JML	580	-	8.1	-	5.5	-	-	97	-	-	71	262	ND	-	-	0.07	-	-	-	-	-	-	ND	-	
3730-65 (W-53)	3/13/2002	JML	520	-	8.1	-	5.6	-	-	101	-	-	74	153	-	-	-	0.1	-	-	-	-	-	-	<0.5	-	
3730-65 (W-53)	8/15/2002	JML	1200	-	7.6	-	10.1	-	-	262	-	-	145	354	6	-	-	0.4	-	-	-	-	-	-	<0.5	-	
3730-65 (W-53)	7/15/2003	JML(1)	550	350	8.3	141	5.8	23	3	112	-	52	67	-	ND	-	-	0.13	-	-	-	-	-	-	-	-	
3730-65 (W-53)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	8/17/2004	JML	560	352	8.3	-	5.4	-	-	99	-	-	53	140	0.9	-	-	0.09	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	3/11/2005	JML	850	-	8.1	-	5.2	-	-	101	-	-	64	146	ND	-	-	0.11	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	9/9/2005	JML	710	-	8.0	-	5.4	-	-	99	-	-	64	146	ND	-	-	0.1	-	-	-	-	-	-	<0.4	-	
3730-65 (W-53)	7/19/2006	JML	840	538	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3730-65 (W-53)	9/18/2006	JML	480	307.2	8.2	-	-	-	-	99	-	-	57	146	1.3	-	-	0.1	-	-	-	-	-	-	<1	-	
3730-65 (W-53)	4/19/2007	JML	480	-	-	107	-	22	3	100	-	50	63	-	30.1	-	-	0.11	-	-	-	-	-	-	-	-	
3730-65 (W-53)	8/20/2007	JML	480	-	-	110	-	20	3	96	-	47	61	-	<0.4	-	-	0.1	-	-	-	-	-	-	<1	-	
3730-65 (W-53)	9/11/2008	JML	410	-	8.3	-	5.8	-	-	92	-	-	57	128	ND	-	-	0.16	-	-	-	-	-	-	<1	-	
3730-65 (W-53)	9/10/2009	JML	430	-	8.3	-	-	-	-	93	-	-	54	121	0.4	-	-	0.13	-	-	-	-	-	-	-	-	
3730-65 (W-53)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-65 (W-53)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-65 (W-53)	8/9/2010	JML	410	-	8.0	-	-	-	-	90	-	-	47	120	3.1	-	-	0.19	-	-	-	-	-	-	-	-	
3421-62 (W-74)	1/27/1975	TL	-	684	8.1	-	20	7	1	214	-	124	156	168	-	-	-	0.3	-	-	-	-	-	-	-	-	
3421-62 (W-74)	11/8/1994	JML	1000	-	8.1	-	11.4	-	-	177	-	-	152	122	4	-	-	0.61	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	4/3/1995	JML	1020	-	8.0	-	11.9	-	-	193	-	-	145	153	4	-	-	0.78	-	-	-	-	-	-	ND	-	
3421-62 (W-74)	9/15/1995	JML	1090	-	8.2	-	23.9	-	-	223	-	-	163	140	2	-	-	0.75	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	3/19/1996	JML	980	-	8.2	-	13.9	-	-	202	-	-	138	244	4	-	-	0.84	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	9/4/1996	JML	1000	-	8.0	-	36.7	-	-	189	-	-	149	122	3	-	-	0.6	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	4/4/1997	JML	1000	-	8.2	-	11.5	-	-	179	-	-	128	43	5	-	-	0.6	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	7/2/1997	JML	1000	-	8.4	-	23.6	-	-	218	-	-	96	214	15	-	-	0.7	-	-	-	-	-	-	<0.8	-	
3421-62 (W-74)	9/1/1997	JML	1000	-	8.0	-	-	-	-	209	-	-	89	153	9	-	-	0.7	-	-	-	-	-	-	<2	-	
3421-62 (W-74)	3/1/1998	JML	964	-	8.0	-	-	2	<1	198	-	-	118	-	1	-	-	0.6	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	9/1/1998	JML	1070	-	8.3	-	-	-	-	205	-	-	124	-	-	-	-	0.6	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	9/1/1998	BSK	-	-	-	-	-	-	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-	-	-	
3421-62 (W-74)	3/1/1999	JML	950	-	7.9	-	-	-	-	248	-	-	92	159	5	-	-	0.7	-	-	-	-	-	-	1	-	
3421-62 (W-74)	9/1/1999	JML	1050	-	8.0	-	-	-	-	243	-	-	-	171	2	-	-	0.6	-	-	-	-	-	-	<0.5	-	
3421-62 (W-74)	9/1/1999	BSK	-	-	-	-	-	-	-	-	-	-	138	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
3421-62 (W-74)	3/21/2000	JML	920	-	7.9	135	21.3	7	<1	227	-	123	171	-	2	-	-	0.5	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	10/3/2000	JML	930	-	7.8	202	17.1	12	<1	230	-	145	140	-	-	-	-	0.68	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	3/21/2001	JML	950	-	8.0	136	20.5	6	1	206	-	126	155	-	-	-	-	0.59	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	6/28/2001	JML	980	-	8.1	88	-	2	ND	157	-	82	178	-	-	-	-	0.51	-	-	-	-	-	-	-	-	-
3421-62 (W-74)	9/14/2001	JML	940	-	7.8	-	21.3	-	-	202	-	-	142	232	ND	-	-	0.6	-	-	-	-	-	-	ND	-	-
3421-62 (W-74)	3/13/2002	JML	920	-	7.9	-	24.1	-	-	212	-	-	149	171	-	-	-	0.6	-	-	-	-	-	-	-	<0.5	-
3421-62 (W-74)	8/15/2002	JML	570	-	8.2	-	6.4	-	-	115	-	-	67	146	-	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
3421-62 (W-74)	7/17/2003	JML(1)	930	600	7.9	158	22	6	1	217	-	126	135	-	ND	-	-	0.65	-	-	-	-	-	-	-	-	-
3421-62 (W-74)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
3421-62 (W-74)	8/12/2004	JML	1320	845	8.0	-	25.4	-	-	207	-	-	135	159	ND	-	-	0.53	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	3/11/2005	JML	1410	-	7.8	-	23.3	-	-	212	-	-	124	159	ND	-	-	0.65	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	9/9/2005	JML	1210	-	7.8	-	24.9	-	-	223	-	-	135	165	0.4	-	-	0.64	-	-	-	-	-	-	-	<0.4	-
3421-62 (W-74)	8/7/2006	JML	1230	787	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3421-62 (W-74)	9/18/2006	JML	880	563.2	7.8	-	-	-	-	216	-	-	113	171	ND	-	-	0.6	-	-	-	-	-	-	<1	-	-
3421-62 (W-74)	4/19/2007	JML	890	-	-	125	-	5	1	218	-	131	134	-	0.4	-	-	0.66	-	-	-	-	-	-	-	-	-
3421-62 (W-74)	8/20/2007	JML	940	-	-	122	-	6	1	224	-	138	147	-	<0.4	-	-	0.62	-	-	-	-	-	-	<1	-	-
3421-62 (W-74)	9/18/2008	JML	940	-	7.9	-	23.9	-	-	230	-	-	142	159	ND	-	-	0.63	-	-	-	-	-	-	<1	-	-
3421-62 (W-74)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-
3421-62 (W-74)	9/10/2009	JML	1060	-	7.8	-	-	-	-	248	-	-	157	153	-	-	-	0.68	-	-	-	-	-	-	-	-	-
3421-62 (W-74)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-
3421-62 (W-74)	8/17/2010	JML	940	-	7.8	-	-	-	-	232	-	-	158	156	ND	-	-	0.74	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	7/15/2003	JML(1)	770	490	8.0	215	15	8	2	185	-	55	93	-	0.5	-	-	0.36	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-
3211-69 (W-77)	8/12/2004	JML	1150	736	7.9	-	15.3	-	-	175	-	-	99	214	1.8	-	-	0.36	-	-	-	-	-	-	-	<0.4	-
3211-69 (W-77)	3/11/2005	JML	1140	-	8.0	-	12.2	-	-	170	-	-	74	244	3.1	-	-	0.25	-	-	-	-	-	-	-	<0.4	-
3211-69 (W-77)	9/9/2005	JML	1030	-	7.8	-	14.6	-	-	175	-	-	89	238	3.1	-	-	0.29	-	-	-	-	-	-	-	<0.4	-
3211-69 (W-77)	7/24/2006	JML	740	474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	9/18/2006	JML	720	460.8	7.8	-	-	-	-	179	-	-	64	287	3.5	-	-	0.2	-	-	-	-	-	-	<1	-	-
3211-69 (W-77)	4/19/2007	JML	780	-	-	209	-	11	3	195	-	72	90	-	4.9	-	-	0.25	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	8/20/2007	JML	790	-	-	190	-	10	2	191	-	69	100	-	4.4	-	-	0.28	-	-	-	-	-	-	<1	-	-
3211-69 (W-77)	9/10/2009	JML	890	-	7.7	-	-	-	-	204	-	-	84	303	9.7	-	-	0.16	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-
3211-69 (W-77)	8/17/2010	JML	820	-	7.8	-	-	-	-	204	-	-	106	260	8.4	-	-	0.3	-	-	-	-	-	-	-	-	-
3211-69 (W-77)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	-
2630-61 (W-78)	4/13/1976	TL	-	314	8.0	-	12.9	2	2	108	-	42	64	137	1	-	-	0.6	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	7/21/1977	TL	337	-	8.4	-	11.4	2	1	79	-	39	35	64	1	-	-	0.3	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	11/8/1994	JML	430	-	8.6	-	8.4	-	-	87	-	-	57	110	4	-	-	0.22	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	4/3/1995	JML	360	-	8.6	-	ND	-	-	78	-	-	53	92	3	-	-	0.2	-	-	-	-	-	-	-	ND	-
2630-61 (W-78)	9/15/1995	JML	390	-	8.3	-	19.8	-	-	85	-	-	21	122	8	-	-	0.15	-	-	-	-	-	-	-	0.54	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
2630-61 (W-78)	3/19/1996	JML	390	-	8.7	-	7.8	-	-	87	-	-	53	122	2	-	-	0.16	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	9/4/1996	JML	500	-	8.6	-	24.7	-	-	85	-	-	43	85	2	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	4/4/1997	JML	400	-	8.5	-	5.9	-	-	74	-	-	39	37	3	-	-	0.2	-	-	-	-	-	-	-	ND	-
2630-61 (W-78)	7/2/1997	JML	400	-	8.4	-	46	-	-	106	-	-	43	177	14	-	-	0.1	-	-	-	-	-	-	-	<0.8	-
2630-61 (W-78)	9/1/1997	JML	400	-	8.5	-	-	-	-	94	-	-	32	110	8	-	-	0.1	-	-	-	-	-	-	-	<2	-
2630-61 (W-78)	3/1/1998	JML	396	-	8.5	-	-	<1	<1	88	-	-	75	-	<2	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	9/1/1998	JML	480	-	8.5	-	-	-	-	94	-	-	39	-	5	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	3/1/1999	JML	410	-	8.5	-	-	-	-	120	-	-	43	122	11	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	9/1/1999	JML	500	-	8.2	-	-	-	-	117	-	-	46	146	3	-	-	0.2	-	-	-	-	-	-	-	1.4	-
2630-61 (W-78)	3/21/2000	JML	400	-	8.5	113	13.9	3	<1	109	-	38	58	-	3	-	-	0.05	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	10/3/2000	JML	450	-	8.3	116	11.3	7	<1	121	-	51	55	-	-	-	-	0.15	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	3/21/2001	JML	450	-	7.4	109	16.8	1	<1	99	-	44	54	-	-	-	-	0.13	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	6/26/2001	JML	400	-	8.5	112	16.4	1	ND	97	-	32	50	-	-	-	-	0.09	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	9/14/2001	JML	430	-	8.3	-	29.2	-	-	94	-	-	46	140	ND	-	-	0.1	-	-	-	-	-	-	-	ND	-
2630-61 (W-78)	3/13/2002	JML	440	-	8.2	-	37.5	-	-	106	-	-	57	140	-	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	8/15/2002	JML	1000	-	7.9	-	23.4	-	-	232	-	-	138	165	-	-	-	0.6	-	-	-	-	-	-	-	<0.5	-
2630-61 (W-78)	6/20/2003	JML	560	-	8.3	-	-	-	-	101	-	-	46	157	ND	-	-	0.13	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
2630-61 (W-78)	8/12/2004	JML	400	256	8.4	-	81.6	-	-	101	-	-	32	122	ND	-	-	0.14	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	3/11/2005	JML	570	-	8.3	-	24.2	-	-	92	-	-	43	110	ND	-	-	0.13	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	9/9/2005	JML	550	-	8.2	-	66.9	-	-	97	-	-	43	122	ND	-	-	0.12	-	-	-	-	-	-	-	<0.4	-
2630-61 (W-78)	7/20/2006	JML	960	614	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	9/18/2006	JML	370	236.8	8.4	-	-	-	-	99	-	-	35	122	0.4	-	-	0.1	-	-	-	-	-	-	-	<1	-
2630-61 (W-78)	4/19/2007	JML	390	-	-	94	-	1	0.24	103	-	45	51	-	0.4	-	-	0.13	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	8/20/2007	JML	420	-	-	104	-	1	0.36	110	-	43	51	-	0.4	-	-	0.12	-	-	-	-	-	-	-	<1	-
2630-61 (W-78)	9/11/2008	JML	420	-	8.4	-	19	-	-	110	-	-	64	128	ND	-	-	0.18	-	-	-	-	-	-	-	<1	-
2630-61 (W-78)	9/10/2009	JML	420	-	8.1	-	-	-	-	107	-	-	51	126	0.4	-	-	0.15	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
2630-61 (W-78)	8/9/2010	JML	430	-	8.1	-	-	-	-	113	-	-	50	124	2.7	-	-	0.21	-	-	-	-	-	-	-	-	-
2630-61 (W-78)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3311-61 (W-89)	11/8/1994	JML	890	-	7.7	-	2.4	-	-	122	-	-	85	250	19	-	-	0.26	-	-	-	-	-	-	-	0.57	-
3311-61 (W-89)	4/3/1995	JML	920	-	8.1	-	2.7	-	-	138	-	-	96	262	17	-	-	0.23	-	-	-	-	-	-	-	0.58	-
3311-61 (W-89)	9/15/1995	JML	980	-	8.1	-	2.5	-	-	168	-	-	89	366	15	-	-	0.17	-	-	-	-	-	-	-	0.98	-
3311-61 (W-89)	3/19/1996	JML	940	-	8.2	-	2.4	-	-	161	-	-	85	293	17	-	-	0.21	-	-	-	-	-	-	-	0.5	-
3311-61 (W-89)	9/4/1996	JML	900	-	7.8	-	2.6	-	-	154	-	-	92	305	26	-	-	0.2	-	-	-	-	-	-	-	0.62	-
3311-61 (W-89)	4/4/1997	JML	1000	-	7.9	-	1.9	-	-	152	-	-	67	201	22	-	-	0.1	-	-	-	-	-	-	-	-	-
3311-61 (W-89)	7/2/1997	JML	1000	-	8.6	-	1.8	-	-	166	-	-	64	470	42	-	-	0.2	-	-	-	-	-	-	-	-	-
3311-61 (W-89)	9/14/2001	JML	1050	-	7.4	-	5.9	-	-	175	-	-	89	378	24	-	-	0.16	-	-	-	-	-	-	-	0.9	-
3311-61 (W-89)	3/13/2002	JML	1080	-	7.8	-	6.1	-	-	202	-	-	99	415	6	-	-	0.2	-	-	-	-	-	-	-	0.8	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
3311-61 (W-89)	8/15/2002	JML	810	-	8.0	-	14.8	-	-	186	-	-	89	250	1	-	-	0.3	-	-	-	-	-	-	-	1	-
3311-61 (W-89)	8/14/2003	JML	1000	-	7.6	-	-	-	-	203	-	-	81	430	5.9	-	-	0.21	-	-	-	-	-	-	-	0.83	-
3311-61 (W-89)	8/12/2004	JML	1450	928	7.5	-	5.9	-	-	189	-	-	78	378	28	-	-	0.21	-	-	-	-	-	-	-	0.72	-
3311-61 (W-89)	3/11/2005	JML	1730	-	7.5	-	6.5	-	-	209	-	-	82	433	24.3	-	-	0.21	-	-	-	-	-	-	-	0.84	-
3311-61 (W-89)	9/9/2005	JML	1430	-	7.4	-	6.4	-	-	193	-	-	71	378	27.4	-	-	0.19	-	-	-	-	-	-	-	0.67	-
3311-61 (W-89)	9/18/2006	JML	960	614.4	7.5	-	-	-	-	189	-	-	57	433	27	-	-	0.2	-	-	-	-	-	-	-	<1	-
3311-61 (W-89)	4/19/2007	JML	1010	-	-	319	-	54	13	200	-	107	86	-	26.1	-	-	0.19	-	-	-	-	-	-	-	-	-
3311-61 (W-89)	8/22/2007	JML	1040	-	-	315	-	55	13	208	-	122	84	-	30.1	-	-	0.17	-	-	-	-	-	-	-	<1	-
3311-61 (W-89)	9/18/2008	JML	1160	-	7.6	-	6.3	-	-	225	-	-	110	464	35.9	-	-	0.2	-	-	-	-	-	-	-	1.22	-
3311-61 (W-89)	9/10/2009	JML	1230	-	7.6	-	-	-	-	232	-	-	114	442	42.9	-	-	0.22	-	-	-	-	-	-	-	-	-
3311-61 (W-89)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
3311-61 (W-89)	8/17/2010	JML	1310	-	7.3	-	-	-	-	241	-	-	126	457	47.4	-	-	0.23	-	-	-	-	-	-	-	-	-
3311-61 (W-89)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.48	-	
3431-62 (W-91)	11/8/1994	JML	890	-	7.7	-	4.7	-	-	163	-	-	106	238	27	-	-	0.27	-	-	-	-	-	-	-	<0.5	-
3431-62 (W-91)	4/3/1995	JML	840	-	7.7	-	6.1	-	-	133	-	-	96	232	27	-	-	0.25	-	-	-	-	-	-	-	<0.5	-
3431-62 (W-91)	9/15/1995	JML	980	-	8.1	-	7.2	-	-	172	-	-	103	305	24	-	-	0.29	-	-	-	-	-	-	-	0.84	-
3431-62 (W-91)	3/19/1996	JML	950	-	8.0	-	6.5	-	-	166	-	-	96	323	27	-	-	0.22	-	-	-	-	-	-	-	0.45	-
3431-62 (W-91)	9/4/1996	JML	1600	-	7.9	-	12.1	-	-	274	-	-	284	250	18	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3431-62 (W-91)	4/4/1997	JML	1000	-	8.0	-	5.3	-	-	143	-	-	92	140	19	-	-	0.3	-	-	-	-	-	-	-	<0.5	-
3431-62 (W-91)	7/2/1997	JML	1300	-	8.6	-	11.3	-	-	267	-	-	128	445	50	-	-	0.3	-	-	-	-	-	-	-	-	-
3431-62 (W-91)	3/21/2001	JML	1000	-	7.7	-	6.9	-	-	172	-	-	110	360	46	-	-	0.18	-	-	-	-	-	-	-	ND	-
3431-62 (W-91)	9/14/2001	JML	1020	-	7.7	-	6.1	-	-	175	-	-	106	348	31	-	-	0.19	-	-	-	-	-	-	-	ND	-
3431-62 (W-91)	3/13/2002	JML	1000	-	7.8	-	6.4	-	-	189	-	-	117	366	7	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3431-62 (W-91)	8/15/2002	JML	420	-	8.3	-	28.4	-	-	113	-	-	50	128	-	-	-	0.1	-	-	-	-	-	-	-	0.4	-
3431-62 (W-91)	8/14/2003	JML	1100	-	7.3	-	-	-	-	188	-	-	111	426	7.6	-	-	0.24	-	-	-	-	-	-	-	<0.4	-
3431-62 (W-91)	8/12/2004	JML	1660	1062	7.3	-	6.3	-	-	228	-	-	142	354	34	-	-	0.26	-	-	-	-	-	-	-	<0.4	-
3431-62 (W-91)	3/11/2005	JML	1740	-	7.5	-	6.8	-	-	205	-	-	113	360	32.8	-	-	0.24	-	-	-	-	-	-	-	0.5	-
3431-62 (W-91)	9/9/2005	JML	1500	-	7.5	-	7.9	-	-	218	-	-	124	366	34.5	-	-	0.23	-	-	-	-	-	-	-	<0.4	-
3431-62 (W-91)	9/18/2006	JML	1340	857.6	7.6	-	-	-	-	280	-	-	230	372	28.3	-	-	0.2	-	-	-	-	-	-	-	<1	-
3431-62 (W-91)	4/19/2007	JML	1030	-	-	280	-	52	10	199	-	81	111	-	33.6	-	-	0.23	-	-	-	-	-	-	-	-	-
3431-62 (W-91)	8/27/2007	JML	1000	-	-	281	-	51	10	214	-	171	119	-	36.7	-	-	0.26	-	-	-	-	-	-	-	<1	-
3431-62 (W-91)	9/11/2008	JML	1010	-	7.6	-	6.7	-	-	198	-	-	117	348	38.1	-	-	0.26	-	-	-	-	-	-	-	<1	-
3431-62 (W-91)	9/10/2009	JML	990	-	7.7	-	-	-	-	201	-	-	115	337	41.2	-	-	0.27	-	-	-	-	-	-	-	-	-
3431-62 (W-91)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3431-62 (W-91)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3431-62 (W-91)	8/17/2010	JML	830	-	7.5	-	-	-	-	211	-	-	122	329	42.1	-	-	0.29	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	11/8/1994	JML	480	-	8.8	-	8.3	-	-	85	-	-	64	110	3	-	-	0.3	-	-	-	-	-	-	-	0.23	-
3730-62 (W-94)	4/3/1995	JML	390	-	8.8	-	7.7	-	-	78	-	-	35	92	4	-	-	0.19	-	-	-	-	-	-	-	0.11	-
3730-62 (W-94)	9/15/1995	JML	650	-	8.6	-	6.5	-	-	110	-	-	64	171	1	-	-	0.3	-	-	-	-	-	-	-	0.33	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
3730-62 (W-94)	3/19/1996	JML	500	-	8.8	-	9	-	-	106	-	-	64	110	2	-	-	0.32	-	-	-	-	-	-	-	0.11	-
3730-62 (W-94)	9/4/1996	JML	500	-	8.7	-	-	ND	ND	94	-	-	57	79	6	-	-	0.3	-	-	-	-	-	-	-	0.02	-
3730-62 (W-94)	4/4/1997	JML	500	-	8.6	-	1.7	-	-	90	-	-	53	43	4	-	-	0.3	-	-	-	-	-	-	-	ND	-
3730-62 (W-94)	7/2/1997	JML	400	-	8.5	-	30.1	-	-	108	-	-	43	177	19	-	-	0.2	-	-	-	-	-	-	-	<0.8	-
3730-62 (W-94)	9/1/1997	JML	400	-	8.6	-	-	-	-	92	-	-	32	110	11	-	-	0.2	-	-	-	-	-	-	-	<2	-
3730-62 (W-94)	3/1/1998	JML	403	-	8.3	-	-	<1	<1	92	-	-	59	-	ND	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-62 (W-94)	9/1/1998	JML	450	-	8.6	-	-	-	-	92	-	-	35	-	11	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-62 (W-94)	3/1/1999	JML	380	-	8.6	-	-	-	-	113	-	-	32	134	14	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-62 (W-94)	9/1/1999	JML	440	-	8.5	-	-	-	-	108	-	-	35	159	2	-	-	0.2	-	-	-	-	-	-	-	1.3	-
3730-62 (W-94)	3/21/2000	JML	410	-	8.6	123	17.7	2	<1	123	-	40	21	-	3	-	-	0.14	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	10/3/2000	JML	410	-	8.5	129	10.4	7	<1	111	-	39	39	-	-	-	-	0.14	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	3/29/2001	JML	400	-	8.8	-	14.5	-	-	97	-	-	35	146	ND	-	-	0.12	-	-	-	-	-	-	-	ND	-
3730-62 (W-94)	6/22/2001	JML	450	-	8.5	145	33	1	ND	120	-	37	48	-	-	-	-	0.07	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	9/14/2001	JML	380	-	8.5	-	24.3	-	-	87	-	-	35	153	ND	-	-	0.14	-	-	-	-	-	-	-	ND	-
3730-62 (W-94)	3/13/2002	JML	390	-	8.4	-	34.1	-	-	97	-	-	39	165	-	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-62 (W-94)	8/15/2002	JML	1110	-	7.8	-	6.6	-	-	214	-	-	82	391	6	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-62 (W-94)	7/2/2003	JML(1)	350	220	8.6	141	31.3	1	ND	106	-	42	47	-	ND	-	-	0.2	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	8/12/2004	JML	700	448	8.6	-	36.7	-	-	115	-	-	53	153	0.9	-	-	0.26	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	3/11/2005	JML	610	-	8.5	-	27.8	-	-	99	-	-	39	128	ND	-	-	0.21	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	9/9/2005	JML	660	-	8.4	-	51.3	-	-	117	-	-	53	146	ND	-	-	0.25	-	-	-	-	-	-	-	<0.4	-
3730-62 (W-94)	7/18/2006	JML	510	326	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	9/18/2006	JML	400	256	8.7	-	-	-	-	101	-	-	46	146	ND	-	-	0.2	-	-	-	-	-	-	-	<1	-
3730-62 (W-94)	4/19/2007	JML	380	-	-	111	-	1	0.12	100	-	42	39	-	<0.4	-	-	0.16	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	8/20/2007	JML	480	-	-	123	-	1	0.24	125	-	45	56	-	<0.4	-	-	0.22	-	-	-	-	-	-	-	<1	-
3730-62 (W-94)	9/10/2009	JML	450	-	8.3	-	-	-	-	115	-	-	52	484	0.4	-	-	0.2	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
3730-62 (W-94)	8/9/2010	JML	480	-	8.3	-	-	-	-	126	-	-	55	144	3.1	-	-	0.27	-	-	-	-	-	-	-	-	-
3730-62 (W-94)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
3730-61 (W-95)	9/1/1997	JML	200	-	8.9	-	-	-	-	57	-	-	14	110	11	-	-	0.1	-	-	-	-	-	-	-	<2	-
3730-61 (W-95)	3/1/1998	JML	305	-	8.7	-	-	<1	<1	70	-	-	3	-	4	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
3730-61 (W-95)	9/1/1998	JML	310	-	8.7	-	-	-	-	67	-	-	21	-	10	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
3730-61 (W-95)	3/1/1999	JML	300	-	8.6	-	-	-	-	90	-	-	21	128	14	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
3730-61 (W-95)	9/1/1999	JML	280	-	8.6	-	-	-	-	7	-	-	18	134	1	-	-	0.1	-	-	-	-	-	-	-	0.8	-
3730-61 (W-95)	3/21/2000	JML	240	-	8.8	106	11.2	2	<1	78	-	45	21	-	3	-	-	0.03	-	-	-	-	-	-	-	<0.4	-
3730-61 (W-95)	10/3/2000	JML	230	-	8.6	105	6.9	6	<1	69	-	23	12	-	-	-	-	0.06	-	-	-	-	-	-	-	<0.4	-
3730-61 (W-95)	3/29/2001	JML	560	-	8.6	-	8.9	-	-	60	-	-	11	116	ND	-	-	0.05	-	-	-	-	-	-	-	ND	-
3730-61 (W-95)	6/22/2001	JML	240	-	8.6	100	13.3	ND	ND	62	-	6	13	-	-	-	-	0.05	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	9/14/2001	JML	250	-	8.6	-	25	-	-	57	-	-	14	128	ND	-	-	0.06	-	-	-	-	-	-	-	ND	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Paramount Farming Co.																											
3730-61 (W-95)	3/13/2002	JML	230	-	8.4	-	17.7	-	-	57	-	-	14	122	-	-	-	0.1	-	-	-	-	-	-	-	<0.5	-
3730-61 (W-95)	8/15/2002	JML	1250	-	7.9	-	9	-	-	248	-	-	160	354	7	-	-	0.2	-	-	-	-	-	-	-	<0.5	-
3730-61 (W-95)	7/2/2003	JML(1)	220	140	8.6	115	26.2	ND	ND	65	-	48	18	-	ND	-	-	0.1	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	8/14/2003	JML	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
3730-61 (W-95)	8/12/2004	JML	520	333	8.7	-	30.7	-	-	87	-	-	32	134	ND	-	-	0.16	-	-	-	-	-	-	-	<0.4	-
3730-61 (W-95)	3/11/2005	JML	430	-	8.6	-	32.6	-	-	71	-	-	18	110	ND	-	-	0.1	-	-	-	-	-	-	-	<0.4	-
3730-61 (W-95)	9/9/2005	JML	530	-	8.4	-	35.4	-	-	92	-	-	35	134	ND	-	-	0.14	-	-	-	-	-	-	-	0.46	-
3730-61 (W-95)	7/18/2006	JML	350	224	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	9/18/2006	JML	330	211.2	8.6	-	-	-	-	90	-	-	25	140	ND	-	-	0.1	-	-	-	-	-	-	-	<1	-
3730-61 (W-95)	4/19/2007	JML	280	-	-	100	-	1	0.24	77	-	46	23	-	<0.4	-	-	0.09	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	8/20/2007	JML	280	-	-	97	-	1	0.12	77	-	73	19	-	<0.4	-	-	0.08	-	-	-	-	-	-	-	<1	-
3730-61 (W-95)	9/11/2008	JML	290	-	8.5	-	11.1	-	-	78	-	-	21	128	ND	-	-	0.09	-	-	-	-	-	-	-	<1	-
3730-61 (W-95)	9/10/2009	JML	290	-	8.7	-	-	-	-	80	-	-	22	121	0.4	-	-	0.12	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
3730-61 (W-95)	8/9/2010	JML	340	-	8.3	-	-	-	-	89	-	-	27	126	3.1	-	-	0.14	-	-	-	-	-	-	-	-	-
3730-61 (W-95)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-69 (W-106)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
3730-69 (W-106)	9/10/2009	JML	580	-	8.3	-	-	-	-	141	-	-	75	136	-	-	-	0.1	-	-	-	-	-	-	-	-	-
3730-69 (W-106)	8/17/2010	JML	520	-	8.3	-	-	-	-	137	-	-	74	135	ND	-	-	0.09	-	-	-	-	-	-	-	-	-
3730-69 (W-106)	8/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-72 (W-107)	9/10/2009	JML	520	-	8.1	-	-	-	-	126	-	-	62	143	-	-	-	0.2	-	-	-	-	-	-	-	-	-
3730-72 (W-107)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-72 (W-107)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-72 (W-107)	8/9/2010	JML	510	-	8.0	-	-	-	-	129	-	-	59	144	3.1	-	-	0.23	-	-	-	-	-	-	-	-	-
3730-70 (W-108)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-70 (W-108)	9/10/2009	JML	530	-	8.1	-	-	-	-	128	-	-	68	146	0.4	-	-	0.27	-	-	-	-	-	-	-	-	-
3730-70 (W-108)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-70 (W-108)	8/9/2010	JML	550	-	8.0	-	-	-	-	139	-	-	79	138	3.1	-	-	0.35	-	-	-	-	-	-	-	-	-
3211-68 (W-110)	9/10/2009	JML	630	-	8.1	-	-	-	-	153	-	-	76	181	0.4	-	-	0.21	-	-	-	-	-	-	-	-	-
3211-68 (W-110)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3211-68 (W-110)	8/9/2010	JML	660	-	7.9	-	-	-	-	163	-	-	88	176	2.7	-	-	0.27	-	-	-	-	-	-	-	-	-
3211-68 (W-110)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-64 (W-111)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-64 (W-111)	9/10/2009	JML	540	-	8.4	-	-	-	-	134	-	-	66	168	0.4	-	-	0.22	-	-	-	-	-	-	-	-	-
3730-64 (W-111)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
3730-64 (W-111)	8/9/2010	JML	570	-	8.3	-	-	-	-	144	-	-	75	174	2.7	-	-	0.25	-	-	-	-	-	-	-	-	-
3730-63 (W-112)	9/10/2009	JML	570	-	8.4	-	-	-	-	135	-	-	50	159	0.4	-	-	0.05	-	-	-	-	-	-	-	-	-
3730-63 (W-112)	9/10/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Paramount Farming Co.																										
3730-63 (W-112)	8/9/2010	JML	500	-	8.3	-	-	-	-	125	-	-	51	151	3.1	-	-	0.2	-	-	-	-	-	-	-	-
3730-63 (W-112)	8/9/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-
MW-1	6/11/2002	JML	670	-	7.4	-	2.8	-	-	90	-	-	82	183	ND	-	-	0.2	-	-	-	-	-	-	-	-
MW-1	3/11/2003	JML	660	-	7.2	-	-	-	-	101	-	-	82	189	ND	-	-	0.21	-	-	-	-	-	-	1.14	-
MW-1	8/6/2003	JML	610	400	7.4	-	-	-	-	85	-	-	78	122	ND	-	-	0.2	-	-	-	-	-	-	0.43	-
MW-1	8/17/2004	JML	300	192	7.3	-	3.1	-	-	51	-	-	74	61	0.4	-	-	0.12	-	-	-	-	-	-	<0.4	-
MW-1	3/14/2005	JML	1060	-	7.6	-	2.8	-	-	87	-	-	78	177	ND	-	-	0.19	-	-	-	-	-	-	<0.4	-
MW-1	8/25/2005	JML	930	-	7.1	-	2.8	-	-	85	-	-	78	226	ND	-	-	0.17	-	-	-	-	-	-	<0.4	-
MW-1	3/21/2006	JML	980	-	7.4	-	-	-	-	90	-	-	78	171	0.4	-	-	0.19	-	-	-	-	-	-	<1	-
MW-1	9/21/2006	JML	640	410	7.3	-	-	-	-	87	-	-	74	183	<0	-	-	0.21	-	-	-	-	-	-	<1	-
MW-1	8/13/2007	JML	690	-	-	133	-	49	14	87	-	86	93	-	4.4	-	-	0.18	-	-	-	-	-	-	-	-
MW-1	9/11/2008	JML	610	-	7.4	-	2.8	-	-	85	-	-	82	171	ND	-	-	0.19	-	-	-	-	-	-	<1	-
MW-1	8/19/2010	JML	640	-	7.3	-	-	-	-	95	-	-	87	171	ND	-	-	0.21	-	-	-	-	-	-	-	-
MW-1	8/19/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	-	
City of Mendota																										
No. 2	7/10/1979	TL	988	564	8.1	169.1	2.7	33	35	94	-	98	135	168	0.1	0.55	<5	-	<0.5	<0.05	0.49	0.38	-	-	<5	<0.05
No. 2	9/15/1980	BSK	928	612	7.9	182	6.5	27	7.3	148	2	63	124	222	<1	0.49	-	0.25	-	<0.02	0.4	0.26	-	-	<0.1	-
No. 2	2/22/1982	NA	945	542	-	-	-	-	-	-	-	115	134	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	4/8/1983	NA	875	553	-	-	-	-	-	-	-	60	136	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	4/21/1986	NA	897	648	7.9	-	8.8	25.5	5.4	188	-	170	162	207	1	0.34	<1	-	<0.08	<0.01	0.19	0.328	-	-	<1	<0.01
No. 2	11/19/1987	BCL	1300	800	-	-	7.6	48	11	224	3	199	190	229	<1	0.3	<10	-	-	-	0.4	0.55	-	-	-	-
No. 2	9/15/1989	NA	1600	930	7.9	-	9.2	54	10	280	-	260	250	210	<1	0.3	<5	-	<0.1	<0.05	0.27	0.6	-	-	<5	<0.05
No. 2	6/7/1990	NA	2200	1300	-	-	-	-	-	-	-	390	320	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	2/15/1991	NA	2200	1500	7.6	-	5.2	140	40	270	-	470	260	300	<2	0.1	-	-	-	-	-	-	-	-	-	-
No. 2	4/4/1991	NA	2100	1300	7.7	-	5	140	40	260	-	490	260	270	<1	0.1	<5	-	<0.1	<0.05	1.4	1.3	-	-	<5	<0.05
No. 2	10/10/1991	NA	2400	1500	-	-	-	-	-	-	-	500	320	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	1/2/1992	NA	2300	1400	-	-	-	-	-	-	-	510	280	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	8/6/1992	NA	2400	1500	-	-	-	-	-	-	-	500	340	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 2	8/5/1993	NA	2500	1600	8.0	-	9.8	100	24	420	-	490	390	280	<2	0.2	<2	-	0.078	<0.05	0.58	1	-	-	<5	<0.05
No. 2	2/22/1994	NA	2000	1400	7.6	-	5.3	130	42	270	-	490	220	330	<2	0.1	<2	-	<0.1	0.059	2	1.6	-	-	<5	<0.05
No. 2	7/6/1995	NA	2700	1700	7.6	-	10.1	100	26	440	-	430	340	240	<2	0.4	<2	-	<0.1	<0.05	0.62	1.1	-	-	<5	<0.05
No. 2	10/5/1995	NA	2200	1600	7.9	-	9.8	100	24	420	-	440	400	280	<2	0.1	-	-	0.003	<0.05	0.72	0.99	-	-	-	<0.05
No. 2	1/4/1996	BSK	2000	1300	7.5	-	10.6	94	23	440	5	530	380	270	2	0.6	<2	-	<0.1	<0.05	0.62	0.09	-	-	-	<0.05
No. 2	2/25/1998	BCL	1340	830	7.8	-	6.9	56	13	220	ND	210	200	216	<0.4	0.29	<10	0.44	<0.1	<0.01	0.15	0.01	-	-	<5	<0.01
No. 2	5/4/2001	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	0.2	-	-	-	-
No. 2	4/26/2007	NA	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-
No. 3	3/5/1990	BCL	630	410	8.0	-	7.8	13	3	120	2.1	70	80	155	<1	0.33	<0.01	0.25	<0.1	-	0.29	0.25	-	-	<2	-
No. 3	5/2/1990	BSK	780	390	8.1	130	5.9	45	2.5	150	2.2	96	100	160	<1	0.2	-	-	-	-	-	-	-	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 3	6/7/1990	BSK	1200	650	8.2	160	13.1	17	2.7	220	-	130	160	200	<1	0.4	<5	-	<0.1	<0.05	0.86	0.43	-	<5	<0.05	
No. 3	7/6/1990	BSK	1300	750	7.9	160	12.1	26	5.3	260	-	210	190	190	<1	0.3	<5	-	<0.1	<0.05	1	0.58	-	<5	<0.05	
No. 3	8/9/1990	NA	1400	830	-	-	-	-	-	-	-	220	230	-	-	-	-	-	-	-	-	-	-	-	-	
No. 3	2/6/1992	NA	1600	1000	-	-	-	-	-	-	-	280	210	-	-	-	-	-	-	-	-	-	-	-	-	
No. 3	11/5/1992	NA	2000	1300	-	-	-	-	-	-	-	380	290	-	-	-	-	-	-	-	-	-	-	-	-	
No. 3	1/14/1993	NA	2100	1300	7.6	-	9.7	84	13	360	-	250	320	<1	<1	0.2	<2	-	0.091	<0.05	0.71	0.86	-	<2	<0.001	
No. 3	2/4/1993	NA	2000	1300	-	-	-	-	-	-	-	380	300	-	-	-	-	-	-	-	-	-	-	-	-	
No. 3	4/1/1993	NA	2100	1300	8.0	-	10.9	67	10	360	-	360	320	230	<1	0.4	<2	-	<0.1	<0.05	<0.1	<0.01	-	<50	<0.05	
No. 3	1/12/1994	NA	1800	1200	7.8	-	9.3	66	11	310	-	290	290	220	<1	0.2	<2	-	<0.1	<0.05	0.76	0.61	-	<50	<0.05	
No. 3	2/3/1994	NA	2000	1300	8.6	-	10.1	71	12	350	-	310	330	220	<1	0.3	<2	-	<0.1	<0.05	0.86	0.69	-	<50	<0.05	
No. 3	2/22/1994	NA	2000	1200	8.0	-	10.6	69	11	360	-	410	250	260	<2	0.3	<2	-	<0.1	<0.05	0.81	0.67	-	<50	<0.05	
No. 3	5/16/1995	NA	2300	1400	7.9	-	12.8	63	11	420	-	420	400	130	<2	0.4	<2	-	<0.1	<0.05	0.51	0.55	-	<50	<0.05	
No. 3	11/2/1995	NA	1900	-	-	-	-	-	-	420	-	-	-	-	-	-	-	-	-	-	0.5	0.5	-	-	-	
No. 3	4/4/1996	NA	1900	1300	7.9	-	11.3	65	10	370	-	390	600	230	<2	<0.1	2	-	<0.1	<0.05	0.55	0.54	-	<50	<0.05	
No. 3	7/3/1996	NA	2000	1200	7.8	-	-	60	9	-	-	300	360	240	<2	1.4	<2	-	<0.1	<0.05	0.49	0.48	-	<50	<0.05	
No. 3	10/9/1996	NA	2400	1500	7.5	-	11.7	77	13	420	-	440	350	200	<2	<0.1	<2	-	<0.1	<0.05	0.61	0.56	-	<50	<0.05	
No. 3	11/14/1996	NA	2000	1400	-	-	-	-	-	-	-	440	360	-	-	-	-	-	-	-	0.5	0.52	-	-	-	
No. 3	3/6/1997	NA	1700	1200	-	-	-	-	-	-	-	300	340	-	-	-	-	-	-	-	0.29	0.39	-	-	-	
No. 3	4/3/1997	NA	2300	1400	8.2	-	13.5	66	11	450	-	420	350	200	<2	<0.1	3	-	<0.1	<0.05	0.48	0.5	-	-	<0.05	
No. 3	5/1/1997	NA	2300	1400	-	-	-	-	-	-	-	420	350	-	-	-	-	-	-	-	0.46	0.52	-	-	-	
No. 3	6/5/1997	NA	2700	1700	-	-	-	-	-	-	-	550	390	-	-	-	-	-	-	-	0.69	0.86	-	-	-	
No. 3	7/3/1997	NA	2400	1600	8.1	-	11.7	83	15	440	-	480	380	210	<2	<0.1	2	-	<0.1	<0.05	0.52	0.62	-	<50	<0.05	
No. 3	10/2/1997	BSK	2100	1400	7.9	-	12	71	13	420	6	420	350	210	<2	0.3	<2	-	<0.1	-	0.42	0.54	-	-	-	
No. 3	9/3/1998	NA	2400	1500	-	-	-	-	-	-	-	440	420	-	-	-	-	-	-	-	0.26	0.32	-	-	-	
No. 3	10/1/1998	NA	2400	1500	8.1	-	12.3	80	16	460	-	440	390	210	<2	<0.1	<2	-	<0.1	<0.05	0.56	0.66	-	<50	<0.05	
No. 3	12/3/1998	NA	2400	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	0.59	-	-	-	
No. 3	1/7/1999	NA	2400	1500	8.0	-	12.3	81	15	460	-	490	410	200	15	<0.1	<2	-	<0.1	<0.05	0.55	0.61	-	<50	<0.05	
No. 3	4/1/1999	NA	2200	1400	8.1	-	11.5	72	18	420	-	340	380	210	<2	<0.1	4	-	<0.1	<0.05	0.31	0.56	-	<50	<0.05	
No. 3	7/1/1999	NA	2400	1600	7.9	-	12.3	81	15	460	-	410	390	210	9	<0.1	<2	-	<0.1	<0.05	0.53	0.63	-	-	<0.05	
No. 3	8/6/1999	FGL	2490	1570	7.7	-	13	70	13	450	6	440	410	270	<0.4	-	<2	1	-	-	0.4	0.6	-	-	-	
No. 3	9/29/1999	FGL	2500	1540	7.8	-	11.8	73	14	420	6	440	390	280	<0.4	-	<2	1.1	-	-	0.4	0.6	-	<2	-	
No. 3	11/4/1999	NA	2500	1500	-	-	-	-	-	-	-	460	400	-	-	-	-	-	-	-	0.39	0.51	-	-	-	
No. 3	1/6/2000	BSK	2300	1500	7.6	200	13.9	67	12	470	6	460	380	244	<1	<2	2	-	0.07	<0.05	0.4	0.5	-	-	<0.05	
No. 3	2/3/2000	BSK	2400	1500	-	-	-	-	-	-	-	430	350	-	-	-	-	-	-	-	0.41	0.48	-	-	-	
No. 3	3/2/2000	BSK	2500	1500	-	-	-	-	-	-	-	430	380	-	-	-	-	-	-	-	0.39	0.47	-	-	-	
No. 3	4/6/2000	BSK	2300	1500	7.9	200	12.3	66	11	410	4	410	360	244	<1	<2.5	2	-	0.06	<0.05	0.37	0.48	-	-	<0.05	
No. 3	5/4/2000	NA	2500	1700	-	-	-	-	-	-	-	500	390	-	-	-	-	-	-	-	0.14	0.49	-	-	-	
No. 3	6/1/2000	BSK	2300	1500	-	-	-	-	-	-	-	390	360	-	-	-	-	-	-	-	0.35	0.46	-	-	-	
No. 3	11/1/2000	BSK	2800	1700	-	-	-	-	-	-	-	530	430	-	-	-	-	-	-	-	0.43	0.53	-	-	-	
No. 3	11/9/2000	BSK	2900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 3	11/16/2000	BSK	2600	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 3	11/21/2000	BSK	2700	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 3	11/30/2000	BSK	2600	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 3	12/7/2000	BSK	2900	1800	7.6	200	13.5	97	17	550	6	580	390	244	-	-	-	-	-	-	<0.05	0.5	0.67	-	-	<0.05
No. 3	12/15/2000	BSK	2600	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 3	12/21/2000	BSK	2700	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 3	2/1/2001	NA	2600	1600	-	-	-	-	-	-	-	-	-	-	<20	-	-	-	-	-	-	-	-	-	-	-
No. 3	5/4/2001	NA	2000	1200	7.9	-	-	83	18	340	-	380	240	230	-	<2	<2	-	<0.1	<0.05	0.78	0.65	-	<50	<0.05	
No. 3	10/2/2001	FGL	2660	1680	7.9	210	13	71	15	463	6	561	399	250	<0.4	0.2	<2	1.36	-	<0.01	0.42	0.56	-	-	<0.02	
No. 3	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.1	<0.4	-	
No. 3	5/13/2002	NA	2200	1400	7.8	-	9.5	78	15	350	-	-	-	210	<30	-	-	-	-	<0.05	-	-	-	-	-	<0.05
No. 3	9/2/2002	NA	2560	1546	-	-	-	-	-	-	-	703	479	-	-	-	-	-	-	-	0.25	0.42	-	-	-	-
No. 3	1/7/2003	NA	2540	1578	-	-	-	-	-	-	-	517	275	-	-	-	-	-	-	-	<0.1	0.4	-	-	-	-
No. 3	5/11/2007	NA	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	-
No. 4	9/27/1990	BCL	2020	1230	7.7	-	12.5	54	9.6	380	3.8	336	299	262	<0.4	0.27	<2	0.72	0.002	-	<0.005	<0.01	-	<2	-	-
No. 4	2/15/1991	NA	2300	1400	7.9	-	7.8	120	19	350	-	440	320	270	<1	0.1	<10	-	0.18	<0.05	0.68	0.96	-	<5	<0.05	
No. 4	5/2/1991	NA	2300	1400	7.8	-	8.7	100	19	360	-	410	330	270	<1	0.2	<10	-	0.12	<0.05	0.64	0.87	-	<5	<0.05	
No. 4	8/1/1991	NA	2300	1400	8.1	-	10.2	89	17	400	-	480	330	270	<1	0.2	-	-	-	-	0.77	0.69	-	-	-	-
No. 4	12/12/1991	NA	2300	1400	-	-	-	-	-	-	-	410	330	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 4	7/2/1992	NA	2500	1600	-	-	-	-	-	-	-	480	330	-	-	-	-	-	-	-	-	-	-	-	-	-
No. 4	9/2/1993	NA	2300	1400	7.9	-	10.8	91	15	420	-	440	400	250	<1	0.3	<50	-	<0.1	<0.05	0.73	0.76	-	<5	<0.05	
No. 4	2/22/1994	NA	2400	1600	7.9	-	7.8	130	30	380	-	510	330	320	<2	0.2	<50	-	<0.1	0.38	0.57	1	-	<5	0.27	
No. 4	3/30/1995	NA	-	-	-	-	7.1	120	34	340	-	470	330	320	-	-	-	-	-	0.35	0.84	1.1	-	-	-	0.09
No. 4	7/6/1995	NA	2700	1700	7.8	-	11.5	98	18	470	-	440	420	250	<2	0.4	3	-	<0.1	0.49	0.61	0.75	-	-	<0.05	
No. 4	10/5/1995	NA	2500	1500	8.0	-	11.6	86	14	440	-	450	380	260	<2	0.1	3	-	<0.1	0.38	1.8	0.65	-	-	<0.05	
No. 4	11/2/1995	NA	2600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.49	0.62	-	-	-	-
No. 4	1/4/1996	NA	1900	1500	7.6	-	12.5	80	14	460	-	480	390	250	<2	0.6	3	-	<0.1	<0.05	0.52	0.61	-	-	<0.05	
No. 4	8/7/1997	NA	2600	1100	-	-	-	-	-	-	-	590	370	-	-	-	-	-	-	-	0.67	0.91	-	-	-	-
No. 4	11/6/1997	NA	2600	1600	-	-	-	-	-	-	-	500	370	-	-	-	-	-	-	-	0.54	0.63	-	-	-	-
No. 4	1/8/1998	NA	2500	1700	8.1	-	12	98	17	490	-	560	410	220	5	<0.1	<50	-	<0.1	<0.05	0.52	0.66	-	<5	<0.05	
No. 4	5/7/1998	NA	-	-	-	-	-	-	-	-	-	480	390	-	-	-	-	-	-	-	0.51	0.64	-	-	-	-
No. 4	6/4/1998	NA	2700	1700	-	-	-	-	-	-	-	510	400	-	-	-	-	-	-	-	0.52	0.66	-	-	-	-
No. 4	8/6/1999	FGL	2450	1650	7.7	-	8.2	120	32	390	5	590	290	320	<0.4	-	<2	1.3	-	-	0.6	1	-	<2	-	-
No. 4	9/29/1999	FGL	2600	1710	7.6	-	8.4	118	27	390	6	650	320	320	<0.4	-	<2	1.5	-	-	0.8	1	-	-	-	-
No. 4	5/4/2001	NA	1900	1600	7.6	-	8.8	120	27	410	-	580	300	260	<25	<2.5	3	-	<0.1	<0.05	0.95	1.1	-	<5	<0.05	
No. 4	6/27/2001	FGL	2890	1790	7.8	220	12.4	88	17	484	6	592	415	270	<0.4	0.2	<2	1.3	-	<0.01	0.56	0.72	8	-	<0.02	
No. 4	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
No. 4	5/13/2002	NA	2700	1800	7.7	-	8.7	130	28	420	-	-	-	230	<40	-	-	-	-	<0.05	-	-	-	-	-	<0.05
No. 4	9/2/2002	NA	2940	1900	-	-	-	-	-	-	-	851	500	-	-	-	-	-	-	-	0.45	0.75	-	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 4	1/7/2003	NA	2570	1574	-	-	-	-	-	-	-	606	282	-	-	-	-	-	-	-	<0.1	0.46	-	-	-	
No. 5	9/15/1994	SAL	1600	1100	7.9	140	15.2	36	7.1	380	3.6	380	200	140	<0.1	<0.1	<2	-	<0.1	<0.01	0.51	0.44	-	<2	0.02	
No. 5	1/19/1996	NA	710	400	8.1	-	10.3	11	3	150	-	84	80	160	4	0.2	<2	-	<0.1	<0.05	0.37	0.18	-	<5	<0.05	
No. 5	10/9/1996	NA	1300	800	7.8	-	12.7	23	4	250	-	240	150	150	<2	<0.1	<2	-	<0.1	<0.05	0.41	0.23	-	<5	<0.05	
No. 5	4/3/1997	NA	1100	640	8.3	-	12.3	19	3.3	220	-	190	160	160	5	<0.1	<2	-	<0.1	<0.05	0.26	0.17	-	<5	<0.05	
No. 5	5/1/1997	NA	1200	710	-	-	-	-	-	-	-	210	130	-	-	-	-	-	-	-	0.29	0.19	-	-	-	
No. 5	6/5/1997	NA	1400	850	-	-	-	-	-	-	-	300	150	-	-	-	-	-	-	-	0.46	0.3	-	-	-	
No. 5	7/3/1997	NA	1400	850	8.2	-	12.3	29	4.5	270	-	280	160	150	<2	<0.1	<2	-	<0.1	<0.05	0.38	0.25	-	<5	<0.05	
No. 5	8/7/1997	NA	1700	1100	-	-	-	-	-	-	-	380	190	-	-	-	-	-	-	-	0.46	0.33	-	-	-	
No. 5	10/2/1997	BSK	1600	970	8.0	-	12.6	40	5.3	320	5	340	180	150	<2	0.3	<2	-	<0.1	<0.05	0.43	0.3	-	<5	<0.05	
No. 5	11/6/1997	NA	1400	870	-	-	-	-	-	-	-	270	150	-	-	-	-	-	-	-	0.59	0.28	-	-	-	
No. 5	5/7/1998	NA	-	-	-	-	-	-	-	-	-	340	180	-	-	-	-	-	-	-	0.38	0.28	-	-	-	
No. 5	6/4/1998	NA	1500	950	-	-	-	-	-	-	-	320	170	-	-	-	-	-	-	-	0.33	0.26	-	-	-	
No. 5	9/3/1998	NA	1800	1100	-	-	-	-	-	-	-	470	230	-	-	-	-	-	-	-	0.45	0.35	-	-	-	
No. 5	10/1/1998	NA	1700	1100	8.1	-	11.7	47	5.9	320	-	400	200	150	<2	<0.1	<2	-	<0.1	<0.05	0.37	0.3	-	<5	<0.05	
No. 5	12/3/1998	NA	1600	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35	0.29	-	-	-	
No. 5	4/1/1999	NA	1700	1200	8.0	-	11.7	53	6.4	340	-	410	210	150	<2	<0.1	<2	-	<0.1	<0.05	0.4	0.33	-	<5	<0.05	
No. 5	7/1/1999	NA	1800	1200	7.8	-	11.7	57	6.9	350	-	320	160	150	<2	<0.1	<2	-	<0.1	<0.05	0.33	0.33	-	<5	<0.05	
No. 5	8/6/1999	FGL	2150	1420	7.5	-	11.5	70	8	380	5	559	246	200	<0.4	-	<2	1.1	-	-	0.4	0.4	-	<2	-	
No. 5	9/29/1999	FGL	1950	1260	7.9	-	10.1	63	8	320	5	479	217	210	<0.4	-	<2	1	-	-	0.4	0.4	-	<2	-	
No. 5	11/4/1999	NA	1800	1100	-	-	-	-	-	-	-	430	200	-	-	-	-	-	-	-	0.34	0.32	-	-	-	
No. 5	5/4/2000	NA	1800	1200	-	-	-	-	-	-	-	390	190	-	-	-	-	-	-	-	0.44	0.34	-	-	-	
No. 5	6/1/2000	BSK	1800	1200	-	-	-	-	-	-	-	280	130	-	-	-	-	-	-	-	0.35	0.34	-	-	-	
No. 5	5/4/2001	NA	1800	1300	7.9	-	10.4	80	9.7	370	-	520	220	140	-	-	<2	-	<0.1	<0.05	0.44	0.46	-	<5	<0.05	
No. 5	10/2/2001	FGL	2180	1400	7.9	170	11.5	75	11	403	5	587	235	210	<0.4	0.2	<2	1.21	-	<0.01	0.42	0.47	-	-	<0.02	
No. 5	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	<0.4	-	
No. 5	5/13/2002	NA	2100	1400	7.7	-	9.8	80	10	350	-	-	-	170	<30	-	-	-	-	<0.05	-	-	-	-	<0.05	
No. 5	9/2/2002	NA	2370	1420	-	-	-	-	-	-	-	766	468	-	-	-	-	-	-	-	0.05	0.34	-	-	-	
No. 5	1/7/2003	NA	2570	1596	-	-	-	-	-	-	-	280	611	-	-	-	-	-	-	-	<0.1	0.23	-	-	-	
No. 5	4/18/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	-	-	-	-	-	
No. 6	1/23/1996	NA	630	350	7.4	-	2.2	39	17	66	-	63	83	160	<2	0.1	<2	-	0.21	<0.05	7.7	1.6	-	<5	0.055	
No. 7	6/12/2001	NA	732	468	8.3	133	27.2	2.9	0.339	184	2	86	87.9	162	<0.2	0.71	5.8	0.61	0.01	0.01	0.28	0.03	-	<2	0.03	
No. 7	2/11/2003	NA	380	380	-	-	-	-	-	-	-	78	94	-	-	-	-	-	-	-	0.403	ND	-	-	-	
No. 7	3/4/2003	NA	664	410	-	-	-	-	-	-	-	68	58	-	-	-	-	-	-	-	0.211	0.29	-	-	-	
No. 7	4/1/2003	NA	720	428	-	-	-	-	-	-	-	80	73	-	-	-	-	-	-	-	0.191	ND	-	-	-	
No. 7	5/6/2003	NA	783	492	-	-	-	-	-	-	-	110	99	-	-	-	-	-	-	-	-	-	-	-	-	
No. 7	6/3/2003	NA	799	468	-	-	-	-	-	-	-	103	91	-	-	-	-	-	-	-	0.167	0.26	-	-	-	
No. 7	7/1/2003	NA	799	508	-	-	-	-	-	-	-	101	86	-	-	-	-	-	-	-	0.118	0.21	-	-	-	
No. 7	8/5/2003	NA	800	530	-	-	-	-	-	-	-	112	96	-	-	-	-	-	-	-	0.164	0.23	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 7	10/7/2003	NA	805	502	-	-	-	-	-	-	-	109	95	-	-	-	-	-	-	-	0.152	ND	-	-	-	
No. 7	11/4/2003	NA	818	484	-	-	-	-	-	-	-	111	86	-	-	-	-	-	-	-	0.181	ND	-	-	-	
No. 7	12/2/2003	NA	815	486	-	-	-	-	-	-	-	96	85	-	-	-	-	-	-	-	0.39	ND	-	-	-	
No. 7	1/13/2004	NA	822	512	-	-	-	-	-	-	-	116	104	-	-	-	-	-	-	-	0.2	0.025	-	-	-	
No. 7	3/2/2004	BSK	310	230	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	0.08	0.01	-	-	-	
No. 7	4/7/2004	NA	820	510	-	-	-	-	-	-	-	-	96	-	-	-	-	-	-	-	<0.1	0.03	-	-	-	
No. 7	6/9/2004	NA	810	510	-	-	-	-	-	-	-	-	94	-	-	-	-	-	-	-	<0.1	0.03	-	-	-	
No. 7	9/7/2004	NA	780	500	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	<0.1	0.03	-	-	-	
No. 7	10/20/2004	NA	810	520	8.3	-	-	4.5	0.6	160	-	100	94	180	<2	0.8	8	-	<0.1	<0.05	<0.1	0.03	-	ND	<0.05	
No. 7	12/7/2004	NA	770	510	-	-	-	-	-	-	-	-	93	-	-	-	-	-	-	-	<0.05	0.03	-	-	-	
No. 7	3/1/2005	NA	850	530	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	0.06	0.02	-	-	-	
No. 7	8/2/2005	NA	590	430	-	-	-	-	-	-	-	-	77	-	-	-	-	-	-	-	0.05	0.2	-	-	-	
No. 7	10/4/2005	NA	790	510	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	ND	0.03	-	-	-	
No. 7	1/4/2006	NA	800	500	-	-	-	-	-	-	-	-	95	-	-	-	-	-	-	-	0.061	0.025	-	-	-	
No. 7	4/4/2006	NA	450	310	-	-	-	-	-	-	-	-	54	-	-	-	-	-	-	-	0.12	<0.1	-	-	-	
No. 7	7/6/2006	NA	810	510	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	<0.1	0.03	-	-	-	
No. 7	7/10/2006	NA	800	1000	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	<0.1	0.03	-	-	-	
No. 7	10/4/2006	NA	820	510	-	-	-	-	-	-	-	-	66	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 7	1/9/2007	NA	820	500	-	-	-	-	-	-	-	-	96	-	-	-	-	-	-	-	<0.1	0.027	-	-	-	
No. 7	4/3/2007	NA	790	500	-	-	-	-	-	-	-	-	93	-	-	-	-	-	-	-	<0.1	0.027	-	-	-	
No. 7	4/26/2007	NA	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	
No. 7	5/11/2007	NA	706	-	-	-	-	-	<2	160	-	106	-	-	<2	0.9	8.1	-	<0.1	<0.05	<0.1	0.022	-	<5	<0.05	
No. 7	7/10/2007	NA	800	490	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	<0.1	-	-	-	-	
No. 7	10/2/2007	NA	770	480	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	<0.1	-	-	-	-	
No. 7	10/23/2007	NA	-	-	7.19	-	-	<2	<2	180	-	-	-	123	-	0.5	8.6	-	<0.1	<0.05	-	-	-	<5	<0.05	
No. 7	3/26/2008	NA	-	-	-	-	-	-	-	-	-	-	-	-	<8.9	-	-	-	-	-	-	-	-	-	-	
No. 7	4/2/2008	NA	800	490	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	ND	0.057	-	-	-	
No. 7	2/23/2009	NA	500	420	-	-	-	-	-	-	-	-	82	-	-	-	-	-	-	-	0.245	0.0384	-	-	-	
No. 7	4/14/2009	NA	910	500	-	-	-	-	-	-	-	-	94.3	-	-	-	-	-	-	-	<0.1	0.0329	-	-	-	
No. 7	11/3/2009	NA	719	490	-	-	-	-	-	-	-	-	98.8	-	-	-	-	-	-	-	<0.1	0.0343	-	-	-	
No. 8	6/12/2001	NA	564	401	8.5	117	17.2	3.1	0.666	128	2.1	68	77.2	135	<0.2	0.61	3.5	0.46	0.01	0.01	0.41	0.03	-	<2	0.215	
No. 8	8/31/2001	NA	564	401	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
No. 8	2/11/2003	NA	548	368	-	-	-	-	-	-	-	70	87	-	-	-	-	-	-	-	0.271	ND	-	-	-	
No. 8	3/4/2003	NA	591	354	-	-	-	-	-	-	-	47	55	-	-	-	-	-	-	-	0.195	0.25	-	-	-	
No. 8	5/6/2003	NA	289	232	-	-	-	-	-	-	-	15	29	-	-	-	-	-	-	-	0.758	ND	-	-	-	
No. 8	6/24/2003	NA	291	266	-	-	-	-	-	-	-	13	26	-	-	-	-	-	-	-	0.708	ND	-	-	-	
No. 8	7/1/2003	NA	292	186	-	-	-	-	-	-	-	13	24	-	-	-	-	-	-	-	0.635	ND	-	-	-	
No. 8	8/5/2003	NA	292	220	-	-	-	-	-	-	-	14	27	-	-	-	-	-	-	-	0.682	0.2	-	-	-	
No. 8	9/3/2003	NA	295	214	-	-	-	-	-	-	-	14	26	-	-	-	-	-	-	-	0.406	ND	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 8	10/7/2003	NA	295	206	-	-	-	-	-	-	-	15	27	-	-	-	-	-	-	-	0.534	ND	-	-	-	
No. 8	11/4/2003	NA	296	204	-	-	-	-	-	-	-	13	27	-	-	-	-	-	-	-	0.603	ND	-	-	-	
No. 8	12/2/2003	NA	298	208	-	-	-	-	-	-	-	14	25	-	-	-	-	-	-	-	0.63	0.22	-	-	-	
No. 8	1/13/2004	NA	302	210	-	-	-	-	-	-	-	16.6	31	-	-	-	-	-	-	-	0.24	<0.02	-	-	-	
No. 8	3/2/2004	BSK	300	200	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	0.1	0.01	-	-	-	
No. 8	4/7/2004	NA	300	220	-	-	-	-	-	-	-	-	33	-	-	-	-	-	-	-	0.11	<0.02	-	-	-	
No. 8	6/9/2004	NA	340	240	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	0.17	0.02	-	-	-	
No. 8	9/7/2004	NA	300	220	-	-	-	-	-	-	-	-	34	-	-	-	-	-	-	-	0.14	<0.02	-	-	-	
No. 8	10/20/2004	NA	310	230	8.6	-	-	0.4	0.1	69	-	18	35	93	<2	0.4	<2	-	<0.1	<0.05	0.39	0.02	-	ND	<0.05	
No. 8	12/7/2004	NA	300	230	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	0.1	0.01	-	-	-	
No. 8	3/1/2005	NA	330	530	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	0.2	0.01	-	-	-	
No. 8	8/2/2005	NA	540	380	-	-	-	-	-	-	-	-	70	-	-	-	-	-	-	-	0.07	0.03	-	-	-	
No. 8	10/4/2005	NA	560	230	-	-	-	-	-	-	-	-	71	-	-	-	-	-	-	-	0.12	0.04	-	-	-	
No. 8	12/7/2005	NA	300	230	-	-	-	-	-	-	-	-	35	-	-	-	-	-	-	-	0.1	0.01	-	-	-	
No. 8	1/4/2006	NA	320	220	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	0.12	0.01	-	-	-	
No. 8	4/4/2006	NA	310	230	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	0.12	<0.02	-	-	-	
No. 8	7/6/2006	NA	330	230	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	0.14	<0.02	-	-	-	
No. 8	7/10/2006	NA	320	110	-	-	-	-	-	-	-	-	36	-	-	-	-	-	-	-	0.22	<0.02	-	-	-	
No. 8	10/4/2006	NA	320	220	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	0.11	<0.02	-	-	-	
No. 8	1/9/2007	NA	330	220	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	<0.1	<0.02	-	-	-	
No. 8	4/3/2007	NA	320	220	-	-	-	-	-	-	-	-	38	-	-	-	-	-	-	-	0.12	<0.02	-	-	-	
No. 8	4/26/2007	NA	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	
No. 8	5/11/2007	NA	302	-	-	-	-	-	<2	74	-	22.3	-	-	<2	0.5	<2	-	<0.1	<0.05	<0.1	<0.02	-	<5	<0.05	
No. 8	7/10/2007	NA	330	220	-	-	-	-	-	-	-	-	37	-	-	-	-	-	-	-	0.12	-	-	-	-	
No. 8	10/2/2007	NA	330	220	-	-	-	-	-	-	-	-	39	-	-	-	-	-	-	-	0.12	-	-	-	-	
No. 8	10/23/2007	NA	-	-	7.47	-	-	<2	<2	66	-	-	-	80	-	0.4	<2	-	<0.1	<0.05	-	<0.02	-	<5	<0.05	
No. 8	3/26/2008	NA	-	-	-	-	-	-	-	-	-	-	-	-	<8.9	-	-	-	-	-	-	-	-	-	-	
No. 8	4/2/2008	NA	330	220	-	-	-	-	-	-	-	22	38	-	-	-	-	-	-	-	0.3	1.2	-	-	-	
No. 8	2/23/2009	NA	500	430	-	-	-	-	-	-	-	-	81.9	-	-	-	-	-	-	-	0.3	0.0366	-	-	-	
No. 8	4/14/2009	NA	830	-	-	-	-	-	-	-	-	-	90.2	-	-	-	-	-	-	-	<0.1	0.0255	-	-	-	
No. 8	11/3/2009	NA	337	250	-	-	-	-	-	-	-	-	46	-	-	-	-	-	-	-	0.16	0.0212	-	-	-	
No. 9	8/16/2001	NA	598	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
No. 9	8/27/2001	NA	598	420	8.3	126	22.7	2.1	0.249	130	1.9	67	78.4	149	<0.2	0.7	2.7	0.48	0.01	0.01	0.32	0.03	-	<2	<0.025	
No. 9	2/11/2003	NA	337	250	-	-	-	-	-	-	-	22	70	-	-	-	-	-	-	-	0.56	ND	-	-	-	
No. 9	3/4/2003	NA	569	368	-	-	-	-	-	-	-	55	48	-	-	-	-	-	-	-	0.232	0.28	-	-	-	
No. 9	5/6/2003	NA	721	452	-	-	-	-	-	-	-	90	94	-	-	-	-	-	-	-	0.175	0.2	-	-	-	
No. 9	6/3/2003	NA	724	416	-	-	-	-	-	-	-	80	84	-	-	-	-	-	-	-	0.156	0.21	-	-	-	
No. 9	7/1/2003	NA	732	402	-	-	-	-	-	-	-	77	80	-	-	-	-	-	-	-	0.149	ND	-	-	-	
No. 9	8/5/2003	NA	728	468	-	-	-	-	-	-	-	82	88	-	-	-	-	-	-	-	0.134	ND	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
City of Mendota																										
No. 9	10/7/2003	NA	720	450	-	-	-	-	-	-	-	80	85	-	-	-	-	-	-	-	0.152	ND	-	-	-	
No. 9	11/14/2003	NA	734	454	-	-	-	-	-	-	-	82	87	-	-	-	-	-	-	-	0.2	ND	-	-	-	
No. 9	12/2/2003	NA	734	448	-	-	-	-	-	-	-	76	80	-	-	-	-	-	-	-	0.16	0.22	-	-	-	
No. 9	1/13/2004	NA	746	460	-	-	-	-	-	-	-	91	96	-	-	-	-	-	-	-	0.16	<0.02	-	-	-	
No. 9	3/2/2004	BSK	350	260	-	-	-	-	-	-	-	-	41	-	-	-	-	-	-	-	0.07	0.01	-	-	-	
No. 9	4/7/2004	NA	750	480	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	4/27/2004	NA	810	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-	-	-	
No. 9	6/9/2004	NA	360	240	-	-	-	-	-	-	-	-	41	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	9/7/2004	NA	720	460	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	10/20/2004	NA	740	470	8.4	-	-	3	0.3	150	-	85	89	170	<2	0.6	2	-	<0.1	<0.05	<0.1	0.02	-	ND	<0.05	
No. 9	12/7/2004	NA	710	480	-	-	-	-	-	-	-	-	90	-	-	-	-	-	-	-	<0.05	0.02	-	-	-	
No. 9	3/1/2005	NA	780	480	-	-	-	-	-	-	-	-	91	-	-	-	-	-	-	-	ND	0.02	-	-	-	
No. 9	8/2/2005	NA	670	450	-	-	-	-	-	-	-	-	89	-	-	-	-	-	-	-	ND	0.02	-	-	-	
No. 9	10/4/2005	NA	560	370	-	-	-	-	-	-	-	-	71	-	-	-	-	-	-	-	ND	0.01	-	-	-	
No. 9	1/4/2006	NA	740	460	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	ND	0.019	-	-	-	
No. 9	4/4/2006	NA	480	320	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	<0.1	<0.1	-	-	-	
No. 9	7/6/2006	NA	740	490	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	10/4/2006	NA	750	460	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	<0.1	<0.02	-	-	-	
No. 9	1/9/2007	NA	760	450	-	-	-	-	-	-	-	-	92	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	4/3/2007	NA	740	450	-	-	-	-	-	-	-	-	88	-	-	-	-	-	-	-	<0.1	0.02	-	-	-	
No. 9	4/26/2007	NA	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	-	-	-	-	
No. 9	5/11/2007	NA	675	-	-	-	-	-	<2	150	-	90	-	-	<2	0.8	2.8	-	<0.1	<0.05	<0.1	<0.02	-	<5	<0.05	
No. 9	7/10/2007	NA	730	420	-	-	-	-	-	-	-	-	84	-	-	-	-	-	-	-	<0.1	-	-	-	-	
No. 9	10/2/2007	NA	710	440	-	-	-	-	-	-	-	-	87	-	-	-	-	-	-	-	<0.1	-	-	-	-	
No. 9	10/23/2007	NA	-	-	7.56	-	-	<2	<2	167	-	-	-	133	-	0.47	3.3	-	<0.1	<0.05	-	-	-	<5	<0.05	
No. 9	3/26/2008	NA	-	-	-	-	-	-	-	-	-	-	-	-	<8.9	-	-	-	-	-	-	-	-	-	-	
No. 9	4/2/2008	NA	750	460	-	-	-	-	-	-	-	76	88	-	-	-	-	-	-	-	0.168	0.056	-	-	-	
No. 9	2/23/2009	NA	500	420	-	-	-	-	-	-	-	-	80.2	-	-	-	-	-	-	-	0.246	0.0363	-	-	-	
No. 9	4/14/2009	NA	820	460	-	-	-	-	-	-	-	-	89.3	-	-	-	-	-	-	-	<0.1	0.0258	-	-	-	
No. 9	11/3/2009	NA	676	460	-	-	-	-	-	-	-	-	92.4	-	-	-	-	-	-	-	<0.1	0.0336	-	-	-	
U.S. Geological Survey																										
31J5	11/20/1985	USGS	4040	2450	7.9	-	29.4	49	6	820	5	420	990	248	<0.1	-	1	0.9	-	-	0.22	0.34	-	<1	-	
31J5	11/6/1991	USGS	5200	2780	7.7	-	20.4	130	19	940	9	520	990	-	<0.1	-	1	0.72	-	-	0.91	0.46	-	<1	-	
31J5	8/2/1999	FGL	9410	6550	7.4	-	15.3	380	140	1370	16	1580	2440	290	<0.4	-	<2	2.3	-	-	1.66	3.69	-	<2	-	
31J5	9/28/1999	FGL	10100	6700	7.4	-	16.2	425	178	1580	19	1660	2400	320	<0.4	-	<2	3.1	-	-	2.34	4	-	-	-	
31J5	8/25/2000	FGL	10300	7000	7.3	230	17.8	395	174	1690	17	1630	2360	280	<0.8	<0.2	-	2.8	-	<0.01	2.18	3.28	-	<10	<0.02	
31J5	6/27/2001	FGL	9750	6400	6.9	230	16.9	356	168	1540	34	1430	2190	280	<0.8	0.8	3	3.07	-	<0.01	10.9	3.61	103	-	<0.02	
31J5	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
31J5	6/26/2002	FGL	10100	7100	7.2	240	21.6	326	177	1950	18	1920	2720	290	<0.4	<0.1	<2	3.2	-	<0.01	1.8	3.12	-	-	<0.02	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹					Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)
U.S. Geological Survey																									
31J5	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.2	<0.4	-
31J5	7/8/2003	FGL	9900	6900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
31J5	6/18/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	<0.4	-
31J5	6/18/2004	FGL	10300	7200	7.3	250	-	416	228	1860	15	1740	2530	310	<0.4	1	<2	3.5	-	<0.01	2.2	3.57	-	-	<0.02
31J5	8/7/2006	FGL	10000	6700	7.8	220	-	360	194	2000	20	1650	2470	270	<0.4	<0.1	4	3.7	-	<0.01	2.33	3.1	-	-	<0.02
31J5	8/7/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.3	<0.4	-
31J5	9/19/2007	FGL	10200	6870	7.7	230	20.5	392	199	2000	18	1500	1160	280	<0.4	<0.1	7	4.02	-	<0.01	1.98	3	-	-	<0.02
31J5	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18.3	<0.4	-
31J5	9/17/2008	FGL	10300	6920	8.1	100	16.1	394	198	1570	20	1800	2480	200	<0.4	<0.5	5	3.8	-	<0.01	2.22	2.99	-	-	<0.02
31J5	9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	24.5	<0.4	-
31J5	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
31J5	5/12/2010	FGL	10000	6780	7.3	220	-	389	199	1630	14	1800	2550	260	<0.8	0.3	<2	3.8	-	<0.01	2	2.92	22	-	<0.02
10A4	9/28/1999	FGL	2820	2370	7.5	130	2.5	221	167	200	3	1370	129	160	5.5	-	2	2.1	-	-	<0.25	0.16	-	-	-
Covanta Mendota																									
Well 6A	5/17/1991	BCL	990	625	8.6	180	-	-	-	209	1	83	133	-	-	0.12	-	0.2	-	-	0.058	0.068	-	-	-
Well 6A	8/12/1994	BD	1050	-	8.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	9/19/1996	BD	1200	-	8.4	225	-	-	-	258	-	119	172	-	-	-	-	-	-	<0.05	<0.05	-	-	-	<0.05
Well 6A	9/9/1999	BD	1290	-	8.5	236	-	-	-	269	-	127	173	-	-	-	-	-	-	<0.05	0.35	-	-	-	-
Well 6A	5/11/2000	BD	1340	-	8.4	223	-	-	-	272	-	144	208	-	-	-	-	-	-	<0.05	0.1	-	-	-	-
Well 6A	11/2/2000	BD	1290	-	8.4	233	-	-	-	276	-	128	199	-	-	-	-	-	-	<0.05	0.17	-	-	-	-
Well 6A	8/23/2001	BD	1330	-	8.3	241	-	-	-	287	-	143	196	-	-	-	-	-	-	<0.05	0.09	-	-	-	-
Well 6A	4/18/2002	BD	1460	-	8.4	242	-	-	-	296	-	144	218	-	-	-	-	-	-	<0.05	0.06	-	-	-	<0.01
Well 6A	6/13/2002	BD	1430	-	8.4	237	-	-	-	307	-	160	216	-	-	-	-	-	-	<0.05	0.21	-	-	-	-
Well 6A	3/11/2004	BD	2100	-	7.9	211	-	-	-	414	-	196	430	-	-	-	-	-	-	<0.05	0.39	-	-	-	-
Well 6A	6/1/2005	BD	1430	-	-	237	-	-	-	-	-	-	202	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	7/1/2005	BD	1350	-	-	231	-	-	-	-	-	-	196	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	8/1/2005	BD	1400	-	-	229	-	-	-	-	-	-	207	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	10/1/2005	BD	1850	-	-	226	-	-	-	-	-	-	315	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	12/1/2005	BD	2230	-	-	172	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	2/1/2006	BD	2220	-	-	214	-	-	-	-	-	-	506	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	5/1/2006	BD	1800	-	-	218	-	-	-	-	-	-	322	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	6/1/2008	NA	2046	-	-	221	-	-	-	-	-	-	355	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	11/1/2008	NA	2585	-	-	212	-	-	-	-	-	-	519	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	4/1/2009	NA	2417	-	-	211	-	-	-	-	-	-	446	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	6/1/2009	NA	2019	-	-	223	-	-	-	-	-	-	378	-	-	-	-	-	-	-	-	-	-	-	-
Well 6A	2/8/2010	NA	3109	-	-	198	-	-	-	-	-	-	700	-	-	-	-	-	-	-	-	-	-	-	-
Hansen Farms																									
7C1	8/3/1999	FGL	8860	5700	7.8	-	18.2	216	140	1400	8	1020	2380	320	7	-	10	3.9	-	-	0.32	0.28	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Hansen Farms																										
7C1	9/28/1999	FGL	9510	6130	7.6	-	18.1	250	173	1520	10	1270	2370	310	21	-	4	5.2	-	-	<0.05	0.38	-	-	-	
7C1	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	50.4	-	
7C1	6/27/2001	FGL	9480	5950	7.8	240	20.9	226	163	1690	8	1330	2330	290	20.6	<0.1	5	4.98	-	<0.01	0.31	0.36	-	-	0.13	
7C1	10/3/2001	FGL	9430	6300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	65.6	-	
Fordel, Inc.																										
M-1	8/3/1999	FGL	923	580	8.5	-	20.9	4	0.5	167	2	97	134	180	<0.4	-	<2	0.5	-	-	<0.05	<0.03	-	<2	-	
M-1	9/27/1999	FGL	1040	620	8.2	-	22.8	5	0.5	200	2	118	148	190	<0.4	-	<2	0.5	-	-	<0.05	0.04	-	<2	-	
M-1	8/23/2000	FGL	1020	610	7.8	150	22.1	6	0.5	210	2	106	137	180	<0.4	0.4	-	0.5	-	<0.01	<0.05	0.04	-	<10	<0.02	
M-1	6/28/2001	FGL	1240	760	8.3	160	22.2	9	0.5	253	3	155	176	190	<0.4	0.5	<2	0.56	-	<0.01	<0.05	0.07	9	-	<0.02	
M-1	6/28/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-1	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
M-1	10/1/2001	FGL	1200	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
M-1	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	<0.4	-	
M-1	7/8/2003	FGL	1260	780	8.2	160	-	14	1	250	3	180	200	190	<0.4	0.5	<2	0.53	-	<0.01	<0.05	0.1	-	-	<0.02	
M-1	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	<0.4	-	
M-1	6/15/2004	FGL	1230	740	8.2	170	-	17	4	241	3	176	179	190	0.6	0.6	<2	0.5	-	<0.01	0.87	0.1	-	-	<0.02	
Biomass	7/13/2000	FGL	1350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Terra Linda Farms																										
TL-1	7/13/2000	FGL	877	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TL-1	6/25/2002	FGL	1450	880	8.1	210	19.4	14	1	278	3	157	220	260	<0.4	0.2	<2	0.4	-	<0.01	<0.05	0.08	-	-	<0.02	
TL-1	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	<0.4	-	
TLF-18d (2)	7/13/2000	FGL	1440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-18d (2)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	<0.4	-	
TLF-18d (2)	9/19/2007	FGL	1230	770	8.5	210	25.8	8	<1	265	2	129	185	250	<0.4	0.2	<2	0.3	-	<0.01	<0.05	0.04	-	-	<0.02	
TLF-18d (2)	9/16/2008	FGL	1340	780	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-12d (3)	8/25/1999	FGL	651	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-12d (3)	9/22/1999	FGL	664	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-12d (3)	7/13/2000	FGL	675	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-12d (3)	10/1/2001	FGL	733	450	8.4	140	15.6	5	<1	146	2	65	104	170	<0.4	0.5	<2	0.35	-	<0.01	0.12	0.05	-	-	<0.02	
TLF-12d (3)	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	<0.4	-	
TLF-5d (5)	8/3/1999	FGL	1430	880	8.5	-	24	8	0.5	259	3	135	251	210	<0.4	-	<2	0.6	-	-	<0.05	<0.03	-	<2	-	
TLF-5d (5)	8/25/1999	FGL	1410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-5d (5)	9/22/1999	FGL	1376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-5d (5)	9/27/1999	FGL	1370	810	8.4	-	26.6	7	0.5	270	3	126	238	230	<0.4	-	<2	0.6	-	-	<0.05	0.02	-	<2	-	
TLF-5d (5)	7/13/2000	FGL	1450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-5d (5)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-5d (5)	6/26/2001	FGL	1530	900	8.3	190	29.4	8	0.5	317	4	141	261	230	<0.4	0.4	<2	0.55	-	<0.01	<0.05	0.02	9	-	<0.02	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Terra Linda Farms																										
TLF-5d (5)	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6	<0.4	-	
TLF-5d (5)	6/15/2004	FGL	2120	1220	8.2	190	-	17	2	398	4	195	444	210	<0.4	0.5	<2	0.6	-	<0.01	0.05	0.04	-	-	<0.02	
TLF-5d (5)	5/21/2007	CLS	2200	1300	7.86	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-5d (5)	9/18/2007	FGL	2070	1160	8.8	190	29.6	15	1	439	4	186	460	230	<0.4	0.4	<2	0.6	-	<0.01	<0.05	0.03	-	-	<0.02	
TLF-5d (5)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.9	<0.4	-	
TLF-5d (5)	5/26/2009	FGL	2240	1280	7.8	180	-	22	2	415	5	196	470	220	<0.4	0.4	<2	0.7	-	<0.01	0.06	0.05	8	-	<0.02	
TLF-5d (5)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-5d (5)	5/11/2010	FGL	2370	1330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TL-6	9/22/1999	FGL	4040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	8/25/1999	FGL	962	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	9/22/1999	FGL	1003	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	7/13/2000	FGL	1040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-6d (7)	6/26/2001	FGL	1140	700	8.5	170	26.1	5	<1	244	3	105	183	200	<0.4	0.6	<2	0.5	-	<0.01	<0.05	0.02	8	-	<0.02	
TLF-6d (7)	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.4	<0.4	-	
TLF-6d (7)	9/12/2001	FGL	1140	680	8.6	170	27.1	5	<1	254	3	105	185	200	<0.4	0.8	<2	0.52	-	<0.01	<0.05	0.02	-	-	<0.02	
TLF-6d (7)	6/26/2002	FGL	1250	760	8.4	170	24.2	6	<1	243	3	108	217	210	<0.4	0.4	<2	0.5	-	<0.01	<0.05	0.02	-	-	<0.02	
TLF-6d (7)	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	<0.4	-	
TLF-6d (7)	6/15/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.7	<0.4	-	
TLF-6d (7)	6/15/2004	FGL	1570	950	8.3	170	-	10	ND	310	3	143	311	190	<0.4	0.7	<2	0.5	-	<0.01	0.05	0.03	-	-	<0.02	
TLF-6d (7)	5/21/2007	CLS	1800	980	7.88	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.2	<0.4	-	
TLF-6d (7)	9/18/2007	FGL	1600	960	8.1	170	29.5	10	<1	339	3	143	312	210	<0.4	0.4	<2	0.5	-	<0.01	<0.05	0.03	-	-	<0.02	
TLF-6d (7)	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	<0.4	-	
TLF-6d (7)	9/16/2008	FGL	1680	950	8.2	170	26.2	11	<1	315	3	145	312	200	<0.4	0.5	<2	0.6	-	<0.01	<0.05	0.03	-	-	<0.02	
TLF-6d (7)	5/26/2009	FGL	1740	980	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-6d (7)	5/11/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-6d (7)	5/11/2010	FGL	1960	1120	8.0	170	-	16	1	360	4	176	413	200	<0.4	0.4	<2	0.6	-	<0.01	0.07	0.04	6	-	<0.02	
TLF-14d (8)	8/25/1999	FGL	971	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-14d (8)	9/22/1999	FGL	1035	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-14d (8)	7/13/2000	FGL	1060	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-14d (8)	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-14d (8)	6/26/2001	FGL	1070	650	8.4	160	24.4	5	<1	228	3	113	162	200	<0.4	0.6	<2	0.51	-	<0.01	<0.05	0.02	8	-	<0.02	
TLF-14d (8)	9/12/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	<0.4	-	
TLF-14d (8)	9/12/2001	FGL	1190	730	8.5	170	24.7	6	<1	248	3	140	183	210	<0.4	0.7	<2	0.56	-	<0.01	<0.05	0.02	-	-	<0.02	
TLF-14d (8)	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-14d (8)	10/2/2001	FGL	1110	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-14d (8)	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	<0.4	-	
TLF-14d (8)	6/25/2002	FGL	1250	780	8.3	170	24.4	6	<1	245	3	134	196	210	<0.4	0.3	<2	0.5	-	<0.01	<0.05	0.03	-	-	<0.02	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Terra Linda Farms																										
TLF-14d (8)	5/21/2007	CLS	1400	840	7.89	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TLF-14d (8)	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	<0.4	-	
TLF-14d (8)	9/18/2007	FGL	1560	970	8.2	180	26.5	11	1	342	3	172	278	210	0.8	0.4	<2	0.5	-	<0.01	<0.05	0.04	-	-	<0.02	
TLF-14d (8)	9/16/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.25	<0.4	-	
TLF-14d (8)	9/16/2008	FGL	1650	950	8.0	170	22.9	12	1	307	4	173	280	210	<0.4	0.4	<2	0.6	-	<0.01	0.05	0.05	-	-	<0.02	
TLF-14d (8)	5/26/2009	FGL	1680	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TLF-14d (8)	5/12/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
TLF-14d (8)	5/12/2010	FGL	1790	1030	8.0	170	-	15	2	332	4	207	329	210	<0.4	0.4	<2	0.6	-	<0.01	0.07	0.06	7	-	<0.02	
TL-9	8/25/1999	FGL	1290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
TL-9	9/22/1999	FGL	1387	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Coelho/Coelho																										
Conejo West	8/3/1999	FGL	1460	880	8.3	-	23.3	8	<1	263	4	132	268	200	<0.4	-	<2	0.6	-	-	<0.05	<0.03	-	-	<2	-
Conejo West	8/25/1999	FGL	1440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Conejo West	9/28/1999	FGL	1470	870	8.3	-	24.8	8	<1	280	4	136	270	230	<0.4	-	<2	0.7	-	-	<0.05	0.03	-	-	-	-
Conejo West	7/13/2000	FGL	1550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Coelho/Coelho/Fordel																										
CCF-1	7/13/2000	FGL	1660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCF-1	6/26/2001	FGL	1710	1030	8.2	180	25.5	13	1	355	4	197	285	220	<0.4	0.4	<2	0.62	-	<0.01	<0.05	0.05	8	-	<0.02	
CCF-1	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
CCF-1	9/20/2001	FGL	1720	1040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCF-1	10/2/2001	FGL	1740	1040	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CCF-1	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Silver Creek Packing Co.																										
SC-5	8/6/1999	FGL	3010	1730	8.0	-	24.6	38	9	650	10	330	630	240	<0.4	-	<2	0.6	-	-	<0.05	0.1	-	-	-	
SC-5	8/25/1999	FGL	3180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-5	9/22/1999	FGL	3210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-5	9/27/1999	FGL	3380	1940	8.0	-	23.7	42	4	600	8	260	770	270	<0.4	-	<2	1	-	-	0.08	0.1	-	-	-	
SC-5	7/13/2000	FGL	3620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-5	8/23/2000	FGL	3770	2110	7.6	200	25.4	52	6	726	7	280	800	240	<0.4	0.2	-	1	-	<0.01	0.11	0.16	-	<10	0.06	
SC-5	6/27/2001	FGL	3970	2140	8.0	200	24.3	59	7	742	9	390	890	240	<0.4	0.2	<2	1.11	-	<0.01	0.15	0.19	-	-	<0.02	
SC-5	6/27/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7	<0.4	-	
SC-6	8/25/1999	FGL	2820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-6	9/22/1999	FGL	2680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-6	7/13/2000	FGL	2740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
SC-6	6/26/2001	FGL	2770	1560	8.0	190	27.7	25	2	536	6	200	610	240	<0.4	0.3	<2	0.72	-	<0.01	<0.05	0.09	-	-	<0.02	
SC-6	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5	<0.4	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Coelho/Gardner/Hansen																											
CGH-13d (7)	7/22/1997	NA	1000	680	8.1	-	10.7	32	13	283	4	110	511	445	0.71	-	-	0.42	-	-	-	-	-	-	-	-	
CGH-13d (7)	9/22/1999	FGL	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-13d (7)	7/13/2000	FGL	1710	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-13d (7)	5/21/2007	CLS	1700	1000	6.99	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-13d (7)	9/19/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.7	<0.4	-	-	
CGH-13d (7)	9/19/2007	FGL	1710	1090	7.9	390	12.3	33	17	350	2	193	207	470	<0.4	0.2	<2	0.5	-	<0.01	1.69	0.76	-	-	<0.02	-	
CGH-13d (7)	9/17/2008	FGL	2170	1270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
CGH-13d (7)	5/26/2009	FGL	2770	1640	7.5	330	-	66	37	486	3	410	460	400	<0.4	0.2	<2	0.6	-	<0.01	1.17	0.88	16	-	<0.02	-	
CGH-13d (7)	5/26/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
Meyers Farming																											
MS-5	3/15/1999	BSK	2600	1600	-	-	-	-	-	-	-	-	610	-	-	-	-	0.9	-	-	-	-	-	-	-	-	
MS-5	3/22/1999	BSK	2800	1700	-	-	-	-	-	-	-	-	650	-	-	-	-	0.87	-	-	-	-	-	<2	0.61	-	
MS-5	3/23/1999	TL	-	1700	-	-	-	-	-	-	-	-	600	-	-	-	-	0.82	-	-	-	-	-	<2	-	-	
MS-5	8/5/1999	FGL	2940	1710	8.3	-	24	26	12	590	3	220	570	390	<0.4	-	<2	0.8	-	-	<0.05	0.09	-	-	-	-	
MS-5	8/25/1999	FGL	2970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	9/22/1999	FGL	2820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	9/27/1999	FGL	3060	1750	5.2	-	23.8	27	11	580	3	250	620	410	<0.4	-	<2	0.9	-	-	<0.05	0.1	-	<2	-	-	
MS-5	7/13/2000	FGL	2970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	8/24/2000	FGL	2890	1670	8.0	340	20.5	28	16	548	2	300	450	390	<0.4	0.2	-	0.8	-	0.02	0.08	0.12	-	<10	0.16	-	
MS-5	6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
MS-5	6/26/2001	FGL	3030	1790	8.1	310	23.7	28	13	604	3	333	549	380	<0.4	0.4	<2	0.87	-	<0.01	0.07	0.11	22	-	<0.02	-	
MS-5	9/10/2001	TL	3000	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	0.83	-	-	-	-	18	-	-	-	
MS-5	10/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
MS-5	10/3/2001	FGL	3130	1820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	6/27/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.6	<0.4	-	-	
MS-5	6/27/2002	FGL	3110	1860	8.4	290	22	32	14	592	3	320	670	360	<0.4	0.3	<2	0.8	-	<0.01	0.06	0.12	-	-	<0.02	-	
MS-5	8/20/2002	FGL	3190	1890	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	8/20/2002	CLS	3200	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	8/20/2002	TL	3200	1900	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MS-5	7/9/2003	FGL	3190	1830	8.2	280	-	34	15	667	3	350	710	340	<0.4	0.4	<2	0.89	-	<0.01	0.07	0.13	-	-	<0.02	-	
MS-5	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.8	<0.4	-	-	
Meyers Farm Water Bank																											
DW-1	12/21/2007	BCL	2400	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DW-1	4/17/2008	BCL	2000	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DW-1	4/21/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.46	<0.4	-	-	
DW-1	4/21/2008	BCL	-	-	-	-	-	-	-	-	-	-	-	280	-	-	-	-	-	-	-	-	-	-	-	-	
DW-1	10/4/2008	BCL	1970	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
DW-1	7/22/2009	BCL	2940	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.079	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Farmers Water District																											
R-1	6/25/2001	FGL	430	270	8.8	110	12.5	2	<1	87	<1	45	34	130	<0.1	0.1	<2	0.09	-	<0.01	0.11	<0.01	5	-	<0.02		
R-1	6/25/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-1	10/2/2001	FGL	444	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-1	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-1	8/20/2002	CLS	430	270	-	110	11.9	2	<1	87	<1	47	35	122	-	-	-	-	-	-	-	-	-	-	-		
R-1	8/20/2002	FGL	436	290	8.8	110	13.7	2	<1	95	<1	42	35	140	<0.4	<0.1	-	0.1	-	<0.01	0.08	<0.01	-	-	<0.02		
R-1	8/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.8	<0.4	-		
R-1	8/20/2002	TL	440	260	-	-	15.9	2	0.3	95	1	46	35	130	-	-	-	-	-	-	-	-	-	-	-		
R-1	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.4	<0.4	-		
R-1	7/9/2003	FGL	465	320	8.8	120	-	2	<1	111	<1	50	41	140	<0.4	0.3	<2	0.1	-	<0.01	<0.05	<0.01	-	-	<0.02		
R-1	6/17/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.5	<0.4	-		
R-1	6/17/2004	FGL	441	300	8.8	120	-	3	ND	99	ND	54	28	130	<0.4	0.1	<2	<0.1	-	<0.01	0.09	0.02	-	-	<0.02		
R-1	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	<0.4	-		
R-1	10/26/2005	FGL	461	330	8.7	130	-	2	<1	93	<1	50	27	160	<0.4	<0.1	<2	<0.1	-	<0.01	0.57	0.01	-	-	<0.02		
R-1	8/8/2006	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.2	<0.4	-		
R-1	8/8/2006	FGL	476	310	9.1	130	-	2	<1	100	<1	55	29	120	<0.4	<0.1	<2	<0.1	0.0112	<0.01	0.86	0.03	-	-	<0.02		
R-1	5/16/2007	CLS	450	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-1	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-1	5/27/2009	FGL	571	350	8.7	140	-	3	<1	132	<1	65	43	170	<0.4	<0.1	<2	<0.1	-	<0.01	<0.05	0.01	4	-	<0.02		
R-1	5/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-1	5/17/2010	FGL	720	440	8.4	140	-	4	<1	146	<1	71	82	180	<0.4	0.1	<2	0.1	0.0112	<0.01	0.05	0.01	5	-	<0.02		
R-2	7/31/1987	BCL	410	275	8.4	-	15.7	1	<1	93	1	20	39	131	<1	0.4	<10	0.2	<0.5	-	0.17	<0.01	-	<5	-		
R-2	10/20/1993	NA	555	346	8.8	-	-	<3	<2	120	<1	47	48	-	-	-	-	-	-	-	-	-	-	-	-		
R-2	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	<0.4	-		
R-2	10/2/2001	FGL	458	270	8.8	110	7.4	9	<1	88	1	56	41	130	<0.4	<0.1	<2	0.05	-	<0.01	<0.05	0.01	-	-	<0.02		
R-2	6/17/2002	TL	540	330	8.4	130	28	1	0.2	130	1	52	48	160	<2	-	-	0.1	<0.01	<0.05	0.13	<0.03	-	-	<0.05		
R-2	7/8/2003	FGL	753	490	8.7	150	-	2	<1	181	2	43	119	190	<0.4	0.4	<2	0.35	0.0084	<0.01	<0.05	<0.01	-	-	<0.02		
R-2	5/15/2007	CLS	500	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-2	9/18/2007	FGL	505	310	8.7	130	31.9	1	<1	116	<1	47	51	160	<0.4	0.2	<2	0.1	-	<0.01	0.06	<0.01	-	-	<0.02		
R-2	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	<0.4	-		
R-2	9/18/2008	FGL	631	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-2	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-2	5/27/2009	FGL	564	360	8.6	140	-	1	<1	133	<1	54	49	170	<0.4	0.2	<2	0.1	-	<0.01	<0.05	<0.01	2	-	<0.02		
R-3	7/31/1987	BCL	560	365	8.3	-	-	3	<1	155	1	39	38	217	<1	0.2	<10	0.1	<0.1	-	0.06	0.03	-	<5	-		
R-3	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	<0.4	-		
R-3	10/2/2001	FGL	776	460	8.4	240	11.5	12	2	163	1	78	55	300	<0.4	<0.1	<2	0.09	-	<0.01	0.07	0.08	-	-	<0.02		
R-3	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
R-3	6/25/2002	FGL	770	500	8.3	230	11.4	11	2	157	1	76	57	280	<0.4	<0.1	<2	0.2	-	<0.01	<0.05	0.06	-	-	<0.02		
R-3	8/20/2002	FGL	778	520	7.9	230	11.5	12	2	164	1	80	59	280	<0.4	<0.1	-	0.1	0.0214	<0.01	0.08	0.08	-	-	<0.02		

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹					Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)
Farmers Water District																									
R-3	8/20/2002	TL	790	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-3	8/20/2002	CLS	740	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-3	7/9/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-
R-3	7/9/2003	FGL	827	520	8.3	260	-	17	3	190	2	88	62	310	<0.4	<0.1	<2	0.08	0.028	<0.01	0.08	0.13	-	-	<0.02
R-3	6/17/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-
R-3	6/17/2004	FGL	811	490	8.2	240	-	14	2	176	1	93	66	270	<0.4	0.1	<2	<0.1	0.0217	<10	0.08	0.08	-	-	<0.02
R-3	10/26/2005	FGL	883	570	7.9	280	-	25	4	162	2	90	65	350	<0.4	<0.1	<2	<0.1	0.0469	<0.01	0.2	0.25	-	-	<0.02
R-3	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-
R-3	5/15/2007	CLS	820	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-3	9/17/2007	FGL	895	540	8.8	240	13.3	13	2	195	<1	107	79	280	<0.4	<0.1	<2	0.1	0.0238	<0.01	0.06	0.07	-	-	<0.02
R-3	9/17/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.4	<0.4	-
R-3	9/18/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	<0.4	-
R-3	9/18/2008	FGL	934	580	8.1	260	12.3	14	2	186	1	94	69	310	<0.4	<0.1	<2	<0.1	0.0293	0.01	0.06	0.07	-	-	<0.02
R-3	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
R-3	5/27/2009	FGL	917	580	8.1	240	-	16	2	208	1	105	77	290	<0.4	<0.1	<2	0.1	0.0271	<0.01	0.08	0.07	<1	-	<0.02
R-3	5/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
R-3	5/17/2010	FGL	952	570	8.1	240	-	17	3	184	1	109	78	290	<0.4	<0.1	<2	<0.0001	0.0304	<0.01	<0.05	0.08	<1	-	<0.02
R-4	10/1/2001	FGL	252	180	9.2	90	9.3	1	<1	55	<1	15	13	100	<0.4	0.2	3	0.08	-	<0.01	0.14	<0.01	-	-	<0.02
R-4	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	<0.4	-
R-4	6/17/2002	TL	240	150	8.7	84	13.7	1	0.1	56	<1	23	8.7	100	<2	-	-	<0.05	<0.01	<0.05	0.48	<0.03	-	-	<0.05
R-4	5/16/2007	CLS	500	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-4	9/20/2007	FGL	281	180	8.9	90	<0.1	<1	<1	63	<1	19	19	90	<0.4	0.3	3	<0.05	-	<0.01	0.11	<0.01	-	-	<0.02
R-4	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.2	<0.4	-
R-4	9/18/2008	FGL	341	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-4	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
R-4	5/27/2009	FGL	305	220	8.9	90	-	<1	<1	68	<1	19	24	100	<0.4	0.3	4	0.1	-	<0.01	0.06	<0.01	4	-	<0.02
R-4	5/17/2010	FGL	617	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-6	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.1	<0.4	-
R-6	10/1/2001	FGL	558	350	8.7	110	10.1	7	<1	108	1	58	67	140	<0.4	0.2	<2	0.16	-	<0.01	0.06	0.03	-	-	<0.02
R-6	6/17/2002	TL	480	290	8.2	100	6.3	14	1.4	93	2	47	51	130	<2	-	-	0.1	0.011	<0.05	0.88	0.086	-	-	<0.05
R-6	5/16/2007	CLS	470	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
R-6	9/18/2007	FGL	510	310	8.7	110	10.1	8	<1	104	<1	55	64	130	<0.4	0.1	<2	<0.1	-	<0.01	<0.05	0.03	-	-	<0.02
R-6	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.3	<0.4	-
R-6	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
R-6	5/27/2009	FGL	498	300	8.4	100	-	10	<1	102	1	50	54	130	<0.4	0.1	<2	0.1	-	0.02	0.14	0.04	4	-	<0.02
R-7	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	<0.4	-
R-7	10/1/2001	FGL	476	300	8.7	110	7.4	9	<1	88	1	58	43	130	<0.4	<0.1	<2	<0.05	-	<0.01	<0.05	0.02	-	-	<0.02
R-7	6/17/2002	TL	470	280	8.4	100	9	8	0.5	98	2	55	42	130	<2	-	-	0.1	<0.01	<0.05	<0.1	<0.03	-	-	<0.05
R-7	5/16/2007	CLS	460	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements										
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Farmers Water District																											
R-7	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	<0.4	-		
R-7	9/20/2007	FGL	459	300	8.3	110	10.1	7	<1	97	<1	60	42	130	<0.4	0.2	<2	<0.05	-	<0.01	<0.05	0.01	-	-	<0.02		
R-7	9/18/2008	FGL	466	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-7	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-7	5/27/2009	FGL	452	270	8.6	100	-	6	<1	97	1	52	38	120	<0.4	0.1	<2	0.1	-	<0.01	<0.05	0.01	3	-	<0.02		
R-7	5/17/2010	FGL	445	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
R-8	10/2/2001	FGL	587	340	8.9	130	15.5	3	<1	121	1	59	66	160	<0.4	0.3	<2	0.22	-	<0.01	0.12	<0.01	-	-	<0.02		
R-8	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	<0.4	-		
R-8	8/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.7	<0.4	-		
R-8	8/20/2002	FGL	616	420	8.7	140	18.3	2	<1	127	1	55	74	170	<0.4	0.2	-	0.2	-	<0.01	0.15	<0.01	-	-	<0.02		
R-8	8/20/2002	TL	-	-	-	-	18.7	2	0.3	130	3	56	70	160	-	-	-	-	-	-	-	-	-	-	-	-	
R-8	8/21/2002	CLS	620	380	-	140	17.1	2	<1	120	1	61	72	159	-	-	-	-	-	-	-	-	-	-	-	-	
R-8	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	<0.4	-		
R-8	10/26/2005	FGL	536	350	8.7	150	-	2	<1	109	<1	53	37	180	<0.4	<0.1	<2	<0.1	-	<0.01	0.32	<0.01	-	-	<0.02		
R-8	5/15/2007	CLS	600	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-8	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	<0.4	-		
R-8	9/18/2007	FGL	630	380	8.8	140	27.8	2	<1	143	<1	63	74	150	<0.4	0.4	<2	0.2	-	<0.01	0.06	<0.01	-	-	<0.02		
R-8	9/18/2008	FGL	623	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-8	5/27/2009	FGL	603	380	8.7	130	-	2	<1	140	1	57	65	160	<0.4	0.3	<2	0.2	-	<0.01	0.05	<0.01	9	-	<0.02		
R-8	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-8	5/17/2010	FGL	595	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-9	6/17/2002	TL	710	440	8.4	140	23	3	0.4	160	4	23	-	180	<2	-	-	0.3	0.011	<0.05	<0.1	<0.03	-	-	<0.05		
R-9	6/17/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.2	<0.4	-		
R-9	6/17/2004	FGL	771	480	8.6	150	-	4	<1	165	2	58	115	160	<0.4	1	<2	0.3	-	<0.01	0.05	<0.01	-	-	<0.02		
R-9	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.5	<0.4	-		
R-9	10/26/2005	FGL	724	470	8.5	140	-	3	<1	142	2	47	105	170	<0.4	0.3	<2	0.3	-	<0.01	0.05	<0.01	-	-	<0.02		
R-9	8/8/2006	FGL	809	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-9	5/16/2007	CLS	340	220	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-9	9/20/2007	FGL	787	470	8.7	150	28.5	3	<1	179	2	64	115	160	<0.4	0.5	<2	0.28	-	<0.01	0.07	<0.01	-	-	<0.02		
R-9	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16.4	<0.4	-		
R-9	9/18/2008	FGL	804	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-9	5/27/2009	FGL	766	450	8.6	140	-	4	<1	173	2	56	108	170	<0.4	0.5	<2	0.4	-	<0.01	<0.05	<0.01	14	-	<0.02		
R-9	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-9	5/17/2010	FGL	763	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-10	10/2/2001	FGL	810	510	8.7	170	22.5	3	<1	176	2	76	104	200	<0.4	0.5	<2	0.51	-	<0.01	0.07	<0.01	-	-	<0.02		
R-10	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	<0.4	-		
R-10	6/17/2002	TL	800	490	8.4	180	28.4	3	0.3	190	4	74	100	220	<2	-	-	0.5	0.01	<0.05	<0.1	<0.03	-	-	<0.05		
R-10	6/17/2004	FGL	818	530	8.6	170	-	3	<1	176	2	82	108	180	<0.4	0.6	<2	0.5	-	<0.01	0.06	0.01	-	-	<0.02		
R-10	6/17/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.7	<0.4	-		

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹						Cations				Anions					Trace Elements									
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
Farmers Water District																										
R-10	10/26/2005	FGL	562	360	8.7	170	-	2	<1	112	1	23	54	210	<0.4	0.3	<2	0.2	-	<0.01	0.07	<0.01	-	-	<0.02	
R-10	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	<0.4	-	
R-10	5/15/2007	CLS	810	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-10	9/17/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14.1	<0.4	-	
R-10	9/17/2007	FGL	856	530	8.7	160	30.7	3	<1	193	1	89	104	180	<0.4	0.4	<2	0.5	0.0112	<0.01	<0.05	<0.01	-	-	<0.02	
R-10	9/18/2008	FGL	846	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-10	5/27/2009	FGL	844	530	8.6	150	-	3	<1	195	2	77	109	190	<0.4	0.5	<2	0.5	-	<0.01	<0.05	<0.01	14	-	<0.02	
R-10	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
R-10	5/17/2010	FGL	859	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-11	8/24/2000	FGL	808	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-11	6/25/2001	FGL	739	470	8.6	150	22.1	2	<1	153	2	41	102	190	<0.1	0.4	<2	0.37	-	<0.01	0.09	<0.01	12	-	<0.02	
R-11	6/25/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
R-11	6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3	<0.4	-	
R-11	6/25/2002	FGL	737	460	8.6	150	21	2	<1	146	2	34	106	190	<0.4	0.3	<2	0.4	-	<0.01	<0.05	<0.01	-	-	<0.02	
R-11	8/20/2002	FGL	535	370	8.7	140	-	<1	<1	115	<1	5	84	170	0.5	0.3	-	0.3	0.0041	<0.01	0.15	<0.01	-	-	<0.02	
R-11	8/20/2002	TL	540	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-11	8/20/2002	CLS	520	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-11	7/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.2	<0.4	-	
R-11	10/26/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.4	<0.4	-	
R-11	10/26/2005	FGL	803	500	8.6	160	-	2	<1	156	2	39	118	190	<0.4	0.5	<2	0.4	-	<0.01	0.08	<0.01	-	-	<0.02	
R-11	5/15/2007	CLS	790	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
R-11	9/17/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.1	<0.4	-	
R-11	9/17/2007	FGL	810	480	8.4	150	34.9	2	<1	179	1	49	118	160	3	0.4	<2	0.4	0.0093	<0.01	0.09	<0.01	-	-	<0.02	
R-11	9/18/2008	FGL	859	490	8.5	160	28.1	3	<1	177	2	41	141	190	<0.4	0.3	<2	0.4	0.011	<0.01	0.07	<0.01	-	-	<0.02	
R-11	9/18/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11.93	<0.4	-	
R-11	5/27/2009	FGL	870	490	8.6	170	-	3	<1	199	2	40	145	200	<0.4	0.4	<2	0.4	0.0111	<0.01	0.05	<0.01	9	-	<0.02	
R-11	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
R-11	5/17/2010	FGL	1000	600	8.4	190	-	3	<1	202	2	40	167	240	<0.4	0.3	<2	0.3	0.0141	<0.01	0.06	<0.01	8	-	<0.02	
R-11	5/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
Baker Farming Co.																										
BF-1	8/25/1999	FGL	549	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BF-1	9/22/1999	FGL	686	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
BF-1	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	<0.4	-	
BF-1	10/1/2001	FGL	497	300	8.9	120	17.3	1	<1	102	<1	44	53	140	<0.4	0.2	<2	0.12	-	<0.01	0.08	<0.01	-	-	<0.02	
BF-1	6/26/2002	FGL	555	380	8.7	120	15.9	2	<1	110	2	44	64	150	<0.4	0.2	<2	0.2	-	<0.01	0.08	<0.01	-	-	<0.02	
BF-1	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	<0.4	-	
BF-1	9/18/2007	FGL	492	290	8.5	110	30.8	1	<1	112	<1	49	55	130	<0.4	0.2	<2	<0.1	-	<0.01	0.08	<0.01	-	-	<0.02	
BF-1	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	<0.4	-	
BF-1	9/19/2008	FGL	474	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

Well Owner and Name	Date	Lab ¹	Cations					Anions					Trace Elements												
			EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)
Baker Farming Co.																									
BF-1	5/17/2010	FGL	563	350	8.5	110	-	2	<1	115	1	52	64	140	<0.4	0.4	<2	0.2	-	<0.01	<0.05	<0.01	6	-	<0.02
BF-1	5/17/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
BF-2	8/25/1999	FGL	533	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-2	6/25/2001	FGL	497	300	8.6	100	12.4	3	<1	97	<1	46	56	130	<0.1	0.1	<2	0.06	-	0.08	0.19	<0.01	2	-	<0.02
BF-2	6/25/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
BF-2	6/26/2002	FGL	496	310	8.6	100	12.5	3	<1	98	1	42	58	130	<0.4	<0.1	<2	0.1	-	<0.01	<0.05	<0.01	-	-	<0.02
BF-2	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	<0.4	-
BF-2	5/16/2007	CLS	510	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-2	9/18/2007	FGL	486	300	6.8	110	17.2	3	<1	108	<1	49	60	130	<0.4	<0.1	<2	<0.1	-	<0.01	<0.05	<0.01	-	-	<0.02
BF-2	9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	<0.4	-
BF-2	9/19/2008	FGL	486	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-2	5/27/2009	FGL	520	310	8.1	100	-	4	<1	117	2	56	57	120	0.8	0.2	<2	0.2	-	<0.01	0.94	<0.01	6	-	<0.02
BF-2	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
BF-2	5/18/2010	FGL	603	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-3	10/1/2001	FGL	511	310	8.8	120	11.7	4	<1	101	<1	44	59	140	<0.4	<0.1	<2	0.09	-	<0.01	0.06	0.01	-	-	<0.02
BF-3	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	<0.4	-
BF-3	5/16/2007	CLS	520	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-3	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	<0.4	-
BF-3	9/20/2007	FGL	515	330	9.5	120	15.4	4	<1	112	<1	49	62	140	0.8	0.1	<2	0.08	-	<0.01	<0.05	0.01	-	-	<0.02
BF-3	9/19/2008	FGL	521	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-4	9/22/1999	FGL	562	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-4	10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	<0.4	-
BF-4	10/2/2001	FGL	539	310	8.8	130	13.3	3	<1	104	1	43	64	150	<0.4	<0.1	<2	0.09	-	<0.01	<0.05	0.03	-	-	<0.02
BF-4	5/16/2007	CLS	490	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-4	9/20/2007	FGL	500	290	8.4	120	13.1	5	<1	106	1	42	61	140	<0.4	0.2	<2	0.07	-	<0.01	<0.05	0.04	-	-	<0.02
BF-4	9/20/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.6	<0.4	-
BF-4	9/19/2008	FGL	515	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-4	5/18/2010	FGL	548	340	8.3	110	-	4	<1	107	1	48	65	140	<0.4	0.2	<2	0.2	-	<0.01	<0.05	0.03	5	-	<0.02
BF-4	5/18/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
BF-5	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	<0.4	-
BF-5	10/1/2001	FGL	462	300	8.5	100	6	10	2	80	1	37	56	130	<0.4	<0.1	<2	0.11	-	<0.01	0.08	0.03	-	-	<0.02
BF-5	5/16/2007	CLS	470	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
BF-5	9/19/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.85	<0.4	-
BF-5	9/19/2008	FGL	467	290	8.4	100	15.1	3	<1	95	<1	37	53	120	<0.4	0.1	<2	<0.1	0.006	<0.01	<0.05	0.02	-	-	<0.02
BF-5	5/18/2010	FGL	662	390	8.2	110	-	4	<1	131	2	73	82	140	<0.4	0.3	<2	0.3	-	<0.01	0.06	0.02	8	-	<0.02
BF-5	5/18/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-
Panoche Creek Farms																									
PCF-1	6/25/2001	FGL	534	340	8.6	150	12.7	4	<1	110	1	38	51	180	<0.1	0.2	<2	0.15	-	<0.01	0.18	0.02	3	-	<0.02

Table D-2 (continued)
Summary of Groundwater Quality Laboratory Results (Deep Wells)

								Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)			
Panoche Creek Farms																												
PCF-1	6/25/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-			
PCF-1	10/1/2001	FGL	535	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PCF-1	10/1/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-			
PCF-1	6/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.8	<0.4	-			
PCF-1	6/26/2002	FGL	575	390	8.6	160	13	4	<1	112	1	37	57	190	<0.4	0.1	<2	0.2	-	<0.01	<0.05	0.02	-	-	<0.02			
PCF-1	5/15/2007	CLS	630	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PCF-1	9/17/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	<0.4	-			
PCF-1	9/17/2007	FGL	619	400	8.8	170	19.7	4	<1	143	<1	53	71	200	0.5	0.2	<2	0.2	-	<0.01	<0.05	0.02	-	-	<0.02			
PCF-1	9/18/2008	FGL	633	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			
PCF-1	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-			
PCF-1	5/27/2009	FGL	676	430	8.5	170	-	3	<1	162	1	56	69	200	<0.4	0.3	<2	0.3	-	<0.01	<0.05	0.02	6	-	<0.02			
PCF-1	5/17/2010	FGL	685	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-			

1. Laboratory Abbreviations: AT - Agri Tech, Inc., Kerman; BCL - BC Laboratories, Bakersfield; BD - Betz Dearborn; BSK - BSK Analytical Laboratories, Fresno; CLS - California Laboratory Services, Rancho Cordova; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord, Fresno; JML(1) - JM Lord, Fresno (TDS estimated from EC); OBL = Olson Biochemistry Laboratories of South Dakota State University, Brookings, SD; TL - The Twining Laboratories, Inc., Fresno.; UAG - U.S. Agricultural Consultants and Laboratories, Burbank; USGS - U.S. Geological Survey

2. Electrical Conductivity at 25°C

3. HCO₃, Total Alkalinity and NO₃ reported as HCO₃, CaCO₃ and NO₃ respectively. Some 2008 NO₃ results may include NO₂ in reported value.

NA = Not Available; ND = Non Detect (detection limit unknown)

Table D-3
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-1	8/2/1982	TL	-	-	-	-	-	8	2	370	9	99	255	470	<1	-	<10	0.5	-	-	0.06	0.03	-	-	-	-
MW-1	11/1/1982	BCL	1480	890	9.2	-	52	2.5	0.51	345	2	93	206	390	<0.4	0.84	<10	0.44	-	-	0.06	0.02	-	-	-	-
MW-1	11/24/1982	UNK	1480	890	9.2	-	-	2.5	0.5	345	2	93	206	389.8	-	0.84	-	0.44	-	-	0.06	0.02	-	-	-	-
MW-1	5/5/1983	BCL	1400	973	8.6	-	52.4	2.9	0.6	375	1.2	120	203	428	<0.1	-	<10	-	-	-	0.05	0.03	-	-	-	-
MW-1	12/3/1983	UNK	-	1128	8.4	-	-	4	8	370	-	85	196	240	-	-	-	-	-	-	0.17	0.02	-	-	-	-
MW-1	5/22/1984	BCL	1780	1083	8.8	-	50.2	3	1.1	400	0.9	145	230	424	<0.4	-	-	-	-	-	0.08	0.04	-	-	-	-
MW-1	11/27/1984	UNK	1450	1033	8.3	-	-	3.4	1.7	355	0.7	110	185	474	-	-	-	0.44	-	-	-	0.03	-	-	-	-
MW-1	11/1/1985	UNK	1380	865	8.6	-	-	2.3	0.9	327	0.5	88	174	402	-	-	-	-	-	-	0.06	0.02	-	-	-	-
MW-1	9/27/1986	UNK	1510	950	8.6	-	-	2.4	1	352	0.6	114	190	468	-	-	-	0.56	-	-	-	0.02	-	-	-	-
MW-1	4/21/1987	BCL	1530	935	7.8	-	47.9	2.4	1	350	0.7	101	192	473	0.4	-	-	-	<0.1	-	0.06	0.03	-	-	-	-
MW-1	3/28/1988	BCL	1280	830	8.9	-	45.7	1.9	0.9	305	0.7	85	153	345	<0.4	-	-	-	<0.1	-	<0.05	0.01	-	-	-	-
MW-1	12/22/1988	BCL	1330	925	8.8	-	49	2	1	340	1	136	230	282	<0.4	-	-	-	-	-	<0.05	0.01	-	-	-	-
MW-1	12/15/1989	UNK	1480	905	8.9	-	-	2.6	1.5	325	0.6	124	225	304	-	-	-	-	-	-	-	0.024	-	-	-	-
MW-1	4/11/1990	BCL	1510	940	8.9	-	43.5	2.6	1.4	350	5	134	257	291	<0.4	-	5	-	<0.1	-	<0.05	0.021	-	-	-	-
MW-1	11/13/1990	UNK	-	1110	8.7	-	-	-	-	-	0.6	-	302	284	-	-	-	-	-	-	-	0.023	-	-	-	-
MW-1	6/10/1991	BCL	2400	1320	8.8	-	-	-	-	-	0.8	-	384	406	-	-	-	-	<0.1	-	-	-	-	-	-	-
MW-1	10/28/1991	UNK	2500	1365	8.8	-	-	5.3	2.8	530	0.7	209	299	542	4	0.6	-	0.56	-	-	-	49	-	-	-	-
MW-1	2/24/1992	BCL	2700	1570	8.6	-	54	4.8	2.3	575	0.5	384	267	632	<0.4	0.66	-	0.56	<0.1	-	<0.05	0.024	-	-	-	-
MW-1	10/19/1992	BCL	3600	2110	8.5	-	58	8	4	805	1.7	355	380	948	3.1	0.64	-	0.63	<0.1	-	<0.05	0.036	-	-	-	-
MW-1	3/3/1993	BCL	3900	2270	8.5	-	60.4	8.7	5.2	912	2	310	344	1230	<0.4	0.55	-	0.8	<0.1	-	0.059	0.046	-	-	-	-
MW-1	9/20/1993	UNK	4000	2230	8.4	-	-	9.5	4.9	937	2.5	340	350	1310	4	0.64	-	0.94	-	-	-	0.045	-	-	-	-
MW-1	3/8/1994	BCL	4050	2580	8.4	-	68.8	7.6	5.1	999	2.1	450	444	1270	<0.4	0.74	-	0.45	0.2	-	4.15	2.32	-	-	-	-
MW-1	9/19/1994	BCL	4050	2630	8.4	-	59.3	10.5	5.4	948	2.6	505	438	1090	1.3	0.38	-	0.86	<0.1	-	<0.05	0.046	-	-	-	-
MW-1	3/15/1995	BCL	4000	2580	8.4	-	66.9	8.5	4.9	989	2.7	489	493	1100	5.8	0.44	-	0.86	<0.1	-	<0.05	0.021	-	-	-	-
MW-1	10/9/1995	UNK	4270	2690	8.3	-	-	10.9	6.5	1020	2.4	365	488	1430	4	0.72	-	1.2	-	-	-	0.032	-	-	-	-
MW-1	4/2/1996	BCL	4300	2590	8.4	-	56.1	11.5	7.4	992	2.6	440	520	1280	<0.4	0.6	-	1	<0.1	-	<0.05	0.085	-	-	-	-
MW-1	9/30/1996	BCL	3660	2300	9.0	-	59.4	8.2	5.6	901	2.2	336	445	1070	8.9	0.54	-	1	<0.1	-	<0.05	0.067	-	-	-	-
MW-1	6/2/1997	BCL	2340	1440	8.6	-	54.4	3.8	2.4	550	1.4	186	241	665	<0.4	0.59	-	0.84	<0.1	-	<0.05	0.037	-	-	-	-
MW-1	3/18/1998	BSK	3600	2200	8.3	1100	59.5	9	4.6	880	1.8	<50	410	1342	<25	<2.5	31	1.3	0.06	-	<0.05	0.07	-	2	-	-
MW-1	8/25/1998	BSK	3300	2000	8.4	960	57.3	7.8	3.8	780	2.4	210	390	1171	<2	<1	-	1.2	<0.05	-	<0.05	0.06	-	-	-	-
MW-1	4/20/1999	BSK	2800	1800	8.4	780	58.4	6.1	3.1	710	2	370	490	952	<6	<3	-	1	<0.05	-	<0.05	0.04	-	-	-	-
MW-1	11/14/1999	BSK	3800	2400	8.2	1400	55.8	10	5.1	870	2	190	430	1708	<10	<5	-	1.2	0.05	-	<0.05	0.08	-	-	-	-
MW-1	5/21/2000	BSK	3400	2200	8.2	1100	60.3	8.9	4.4	880	<2	210	400	1342	<8	<4	-	1.2	0.05	-	<0.05	0.07	-	-	-	-
MW-1	12/19/2000	BSK	3900	2500	8.2	1300	60.7	7.6	4	830	2	220	440	1586	<10	<5	-	1.2	<0.05	-	<0.05	0.06	-	-	-	-
MW-1	6/5/2001	BSK	3800	2600	8.1	1400	67.7	8.3	5	1000	2	200	490	1708	-	<5	-	1.3	<0.05	-	<0.05	0.08	-	-	-	-
MW-1	10/2/2001	UNK	4300	2200	8.0	1400	-	11	6.1	1100	ND	210	480	1400	ND	ND	-	1.3	0.06	-	ND	0.1	-	-	-	-
MW-1	5/2/2002	BSK	4100	2400	8.2	1500	-	7.4	4.4	980	2	180	500	1500	<12	<6	-	1.2	0.06	-	<0.05	0.08	-	-	-	-
MW-1	9/17/2002	TL	4400	2700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	12/10/2002	BSK	4000	2500	8.2	1300	-	7.4	5.3	920	2	140	490	-	-	ND	-	1.2	0.06	-	ND	0.12	-	-	-	-
MW-1	1/13/2003	TL	4000	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	3/23/2003	BSK	3800	2400	8.0	1200	-	7.2	5.3	920	<2	130	460	1460	<27	<3	-	1.1	0.06	-	0.06	0.12	-	-	-	-
MW-1	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	32	-	-	-	-	-	38.2	<0.4	-	-
MW-1	9/30/2003	TL	4000	2700	7.9	1400	-	7.2	5.7	1100	8.3	160	490	1700	<1.8	-	-	1.2	0.06	<0.05	<0.05	0.14	-	-	-	<0.05
MW-1	10/24/2003	BSK	4200	2700	8.3	1500	-	8.2	6.8	1000	3	180	490	-	-	ND	-	1.2	0.06	-	ND	0.14	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-1	3/4/2004	TL	3800	2400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1	4/1/2004	UNK	3800	2400	8.2	1400	-	9	7	980	3	120	460	1400	ND	ND	-	1.1	0.06	-	ND	0.13	-	-	-	-
MW-1	11/14/2004	BSK	4000	2500	8.3	1500	-	9.5	8.8	920	3	120	470	1830	<9	<1	-	1.1	0.06	-	<0.05	0.15	-	-	-	-
MW-1	3/2/2005	TL	4000	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	-	0.12	33	-	-	-
MW-1	4/7/2005	UNK	4200	2600	8.3	1500	-	12	8.7	960	3	160	490	1500	ND	0.6	-	1.2	0.07	-	ND	0.14	-	-	-	-
MW-1	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	-	-	-	-	38	<0.4	-	-
MW-1	8/9/2005	TL	4100	2900	7.9	1600	-	12	10	1100	9.5	190	470	2000	<2	-	-	1.4	0.089	<0.005	0.1	0.17	-	-	-	<0.005
MW-1	10/13/2005	UNK	4700	2900	8.4	1700	-	15	13	1200	ND	100	540	1600	ND	ND	-	1.6	0.1	-	ND	0.19	-	-	-	-
MW-1	4/20/2006	UNK	5140	2978	8.3	1682	-	13.6	12	1060	11.7	228	-	1682	ND	0.2	-	1.2	0.09	-	0.03	0.18	-	-	-	-
MW-1	4/20/2006	TL	4500	3000	8.1	1100	-	14	13	1200	11	220	490	-	<2	-	-	-	-	<0.01	<0.2	0.17	-	-	-	<0.01
MW-1	9/26/2006	UNK	5380	3045	8.1	1410	-	15.1	14	968	7	367	-	1410	ND	ND	-	1.37	0.1	-	0.03	0.26	-	-	-	-
MW-1	9/26/2006	TL	4600	3100	7.9	1600	-	17	15	1200	9.7	310	510	-	<20	-	<50	1.5	0.13	<0.025	<0.5	0.29	<25	<100	<0.025	
MW-1	3/28/2007	TL	4300	2800	8.0	1200	-	14	13	1000	11	400	410	1500	-	-	ND	1.2	0.18	ND	ND	0.2	19	ND	0.027	
MW-1	9/24/2007	TL	2000	820	8.1	520	-	3.7	4	450	4.7	170	180	620	-	-	ND	0.7	0.023	ND	0.11	0.075	-	-	-	ND
MW-1	9/24/2007	UNK	1900	900	8.1	-	-	-	-	-	-	170	-	600	ND	-	-	-	-	-	-	-	-	-	-	-
MW-1	4/6/2008	BCL	1520	980	8.34	-	-	-	-	-	-	150	160	476	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-1	9/3/2008	BCL	1720	1100	8.4	-	-	-	-	-	-	150	180	573	<0.4	-	-	-	0.02	-	-	-	-	-	-	-
MW-1	4/2/2009	BCL	1820	1200	8.15	540	-	4.9	6	450	2	160	200	650	-	-	-	-	-	0.00031	0.14	0.087	-	-	-	0.0061
MW-1	4/2/2009	UNK	1820	1300	8.2	-	-	-	-	-	-	150	200	530	ND	-	-	-	0.023	-	-	-	-	-	-	-
MW-1	10/2/2009	BSK	1800	1000	8.3	-	-	-	-	-	-	140	200	647	<5	-	-	-	-	-	-	-	-	-	-	-
MW-1	10/20/2009	BCL	1760	1200	8.18	540	-	14	16	450	2.3	160	210	660	<0.4	-	1.4	0.51	0.049	0.0012	0.22	0.28	-	-	-	0.0052
MW-1	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.6	<0.4	-	-
MW-1	5/20/2010	BCL	2050	1400	8.1	630	-	10	10	480	2.4	140	250	760	ND	-	-	-	-	0.00057	0.27	0.17	-	-	-	0.0038
MW-1	9/15/2010	BCL	1460	1100	8.16	390	-	6.6	6.2	350	1.7	160	150	480	ND	-	1.5	0.41	0.026	0.00072	0.2	0.11	-	-	-	0.0045
MW-1	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19.9	ND	-	-
MW-1	9/15/2010	SSC	1500	890	7.9	-	-	-	-	-	-	140	140	520	<2	-	-	-	-	-	-	-	-	-	-	-
MW-2	8/3/1982	TL	-	-	-	-	-	68	50	375	5	7	184	1130	<1	-	<10	0.5	-	-	0.31	1.4	-	-	-	-
MW-2	4/21/1987	UNK	2200	1140	7.6	-	-	76	47	338	4	8	179	1036	1.8	-	-	-	0.14	-	0.22	2.2	-	-	-	-
MW-2	3/28/1988	UNK	1975	1105	7.8	-	-	77	45	340	4.6	-	176	1047	-	-	-	-	0.14	-	4.2	2.2	-	-	-	-
MW-2	12/22/1988	BCL	1770	1005	7.6	-	7.2	61	43	300	3	12	168	880	0.9	-	-	-	0.1	-	<0.05	1.3	-	-	-	-
MW-2	12/14/1989	UNK	2300	1380	7.5	-	-	76	41	355	4.2	18	184	1045	-	-	-	-	-	-	4.9	2.042	-	-	-	-
MW-2	4/11/1990	UNK	2200	1235	7.4	-	-	77	39	360	37	29	202	1047	-	-	-	-	-	-	3.2	2.092	-	-	-	-
MW-2	11/13/1990	UNK	-	880	7.1	-	-	-	-	-	2.4	-	152	535	-	-	-	-	-	-	0.987	0.499	-	-	-	-
MW-2	6/10/1991	UNK	2100	1230	7.0	-	-	-	-	-	6.5	-	188	304	-	-	-	-	0.157	-	-	-	-	-	-	-
MW-2	10/28/1991	UNK	2200	1255	7.5	-	-	67	33	360	5.3	-	196	1030	-	0.35	-	0.4	0.125	-	3920	1660	-	-	-	-
MW-2	2/24/1992	UNK	2200	1260	7.5	-	-	68	33	380	6.9	9	194	1070	8	0.38	-	0.4	0.151	-	3.89	1.76	-	-	-	-
MW-2	10/19/1992	UNK	2300	1320	7.4	-	-	61	30	385	6.6	-	196	1070	-	0.37	-	0.47	0.149	-	3.65	1.81	-	-	-	-
MW-2	3/1/1993	UNK	2200	1230	7.4	-	-	64	38	383	6.6	-	214	1050	-	0.38	-	0.45	0.154	-	3.86	1.93	-	-	-	-
MW-2	9/20/1993	UNK	2200	1170	7.4	-	-	72	34	366	8.2	-	206	1040	-	0.35	-	0.43	0.17	-	4.01	2.12	-	-	-	-
MW-2	3/8/1994	UNK	2050	1230	7.3	-	-	75	35	355	8.5	16	210	1000	-	0.34	-	0.45	0.199	-	4.15	2.32	-	-	-	-
MW-2	9/19/1994	UNK	2120	1320	7.3	-	-	68	37	356	10.1	20	204	1020	-	0.3	-	0.38	0.16	-	0.059	2.37	-	-	-	-
MW-2	3/15/1995	UNK	2200	1350	7.4	-	-	0.79	0.4	395	10.8	36	240	1020	-	0.31	-	0.42	0.18	-	-	2.46	-	-	-	-
MW-2	10/17/1995	UNK	2190	2190	7.4	-	-	85	38	362	8.9	-	235	1080	-	0.27	-	0.45	0.161	-	-	2.48	-	-	-	-
MW-2	4/3/1996	UNK	2140	1200	7.4	-	-	94	45	346	7.2	-	210	210	-	0.29	-	0.42	0.154	-	-	2.72	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-2	9/30/1996	UNK	2170	1300	8.1	-	-	86	44	374	6.2	-	217	1110	-	0.31	-	0.43	0.154	-	-	2.42	-	-	-	-
MW-2	6/2/1997	UNK	2140	1300	7.9	-	-	78	37	392	5.7	-	194	1110	-	0.37	-	-	0.132	-	-	2.19	-	-	-	-
MW-2	3/18/1998	UNK	2100	1300	7.5	-	-	81	35	400	5.8	-	180	930	-	-	-	0.43	0.15	-	-	2.1	-	-	-	-
MW-2	8/25/1998	UNK	2200	1300	7.4	-	-	84	35	380	6.9	ND	210	910	ND	ND	-	0.44	0.15	-	ND	2.3	-	-	-	-
MW-2	4/20/1999	BSK	2200	1300	7.3	930	8.2	110	44	400	8	<50	220	1135	<5	<2.5	-	0.4	0.18	-	<0.05	2.6	-	-	-	-
MW-2	11/15/1999	UNK	2300	1400	7.7	-	-	110	41	370	8	ND	230	900	ND	ND	-	0.4	0.19	-	ND	4.1	-	-	-	-
MW-2	5/21/2000	BSK	2100	1400	7.3	940	7.9	99	36	360	7	<50	220	1147	<5	<2.5	-	0.4	0.17	-	<0.05	2.6	-	-	-	-
MW-2	12/19/2000	BSK	2200	1300	7.3	980	8.7	85	32	370	7	<50	200	1196	<5	<2.5	-	0.4	0.15	-	<0.05	2.2	-	-	-	-
MW-2	6/5/2001	BSK	2200	1400	7.0	1000	8.3	100	41	390	9	<60	250	1220	-	<3	-	0.4	0.18	-	<0.05	3.5	-	-	-	-
MW-2	10/2/2001	UNK	2500	1400	7.1	1000	-	110	44	390	10	ND	230	1000	ND	ND	-	0.4	0.2	-	ND	3.4	-	-	-	-
MW-2	5/2/2002	BSK	2300	1400	7.6	950	-	94	35	350	6	<70	220	950	<7	<3.5	-	0.4	0.18	-	<0.05	2.7	-	-	-	-
MW-2	9/17/2002	TL	2400	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	12/11/2002	BSK	2300	1400	7.4	910	-	74	29	360	4	ND	220	-	-	ND	-	0.4	0.16	-	ND	1.8	-	-	-	-
MW-2	1/13/2003	TL	2500	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	3/23/2003	BSK	2400	1400	7.5	980	-	91	35	370	6	<40	240	1200	<18	<2	-	0.4	0.18	-	<0.05	2.6	-	-	-	-
MW-2	9/30/2003	TL	2400	1500	7.1	990	-	110	43	420	20	41	500	1200	<1.8	-	-	0.41	0.26	<0.05	6.4	3.1	-	-	<0.05	<0.05
MW-2	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	1.8	<0.4	-	-
MW-2	10/24/2003	BSK	2300	1400	7.8	-	-	110	41	350	8	ND	230	-	-	ND	-	0.4	0.17	-	ND	2.9	-	-	-	-
MW-2	3/4/2004	TL	2400	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2	4/1/2004	UNK	2500	1600	7.7	1100	-	130	50	440	12	ND	290	1100	ND	ND	-	0.4	0.22	-	ND	3.6	-	-	-	-
MW-2	11/14/2004	BSK	2600	1600	7.7	1200	-	110	51	430	12	<2	280	1460	<4	0.7	-	0.4	0.21	-	<0.05	3.3	-	-	-	-
MW-2	3/2/2005	TL	2900	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	3.8	<5	-	-	-
MW-2	4/7/2005	UNK	2800	1700	7.8	1200	-	120	53	430	14	ND	320	1200	ND	ND	-	0.4	0.23	-	ND	3.7	-	-	-	-
MW-2	8/9/2005	TL	2500	1600	7.0	1100	-	120	53	430	23	<20	280	1400	<2	-	-	0.39	0.31	<0.005	9	3.5	-	-	<0.005	<0.005
MW-2	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	37	-	-	-	-	-	1.7	<0.4	-	-
MW-2	10/13/2005	UNK	2700	1600	7.9	1100	-	120	55	450	12	ND	290	1100	ND	ND	-	0.5	0.23	-	ND	3.6	-	-	-	-
MW-2	4/20/2006	UNK	2772	1620	7.5	1161	-	115	50.8	399	17.6	ND	291	1161	ND	0.2	-	0.32	0.2	-	0.02	3.4	-	-	-	-
MW-2	4/20/2006	TL	2600	1700	7.2	1100	-	120	56	480	26	<2	280	-	<2	-	-	-	-	<0.01	9.5	3.4	-	-	<0.01	<0.01
MW-2	9/26/2006	UNK	2902	1682	7.4	1160	-	122	54.4	452	15	ND	314	1160	ND	ND	-	0.43	0.2	-	0.02	3.56	-	-	-	-
MW-2	9/26/2006	TL	2700	1700	7.2	1100	-	130	58	430	26	<10	290	-	<10	-	42	0.41	0.32	<0.01	9.7	3.4	<10	<40	<0.01	
MW-2	3/28/2007	TL	2700	1900	7.3	1100	-	120	55	440	24	ND	310	1300	-	-	25	0.42	0.33	ND	ND	3.1	ND	ND	0.028	0.028
MW-2	9/24/2007	UNK	2500	1500	7.2	-	-	-	-	-	-	ND	250	1400	ND	-	-	-	-	-	-	-	-	-	-	-
MW-2	9/24/2007	TL	2600	1300	7.1	1100	-	110	53	440	25	ND	240	1300	-	-	26	0.41	0.22	ND	8.7	2.9	-	-	ND	ND
MW-2	4/6/2008	BCL	2720	1700	7.36	-	-	-	-	-	-	6.6	290	1464	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-2	9/3/2008	BCL	2650	1600	7.4	-	-	-	-	-	-	<1	300	1342	<0.4	-	-	-	0.23	-	-	-	-	-	-	-
MW-2	4/2/2009	UNK	2590	1300	7.4	-	-	-	-	-	-	3	290	1100	ND	-	-	-	0.23	-	-	-	-	-	-	-
MW-2	4/2/2009	BCL	2500	1700	7.32	1100	-	120	56	460	12	2	290	1300	-	-	-	-	-	ND	8.4	3	-	-	-	0.0041
MW-2	10/2/2009	BSK	2600	1500	7.9	-	-	-	-	-	-	<20	280	1464	<10	-	-	-	-	-	-	-	-	-	-	-
MW-2	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	<0.4	-	-
MW-2	10/20/2009	BCL	2670	1500	7.53	1100	-	120	59	490	13	1.7	300	1300	<0.9	-	29	0.45	0.3	<0.002	8.3	3.1	-	-	-	0.0045
MW-2	5/20/2010	BCL	2600	1400	7.46	1000	-	130	60	330	21	7.7	310	1200	ND	-	-	-	-	0.00052	10	3.4	-	-	-	0.0056
MW-2	9/15/2010	SSC	2700	1600	7.1	-	-	-	-	-	-	<10	290	1342	<2	-	-	-	-	-	-	-	-	-	-	-
MW-2	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.65	ND	-	-
MW-2	9/15/2010	BCL	2610	1500	7.52	1000	-	120	56	450	15	6.5	320	1300	1.7	-	37	0.42	0.33	0.00065	7.3	3.3	-	-	-	0.0049

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-3	8/2/1982	TL	-	-	-	-	-	103	22	340	25	6	199	1015	<1	-		30	0.4	-	-	0.08	1.4	-	-	-	
MW-3	11/24/1982	UNK	2100	1070	7.6	-	-	73	27	355	28	-	168.5	1091	-	0.34		-	0.3	-	-	11.7	1	-	-	-	
MW-3	5/5/1983	UNK	1790	1147	7.4	-	-	64	32.5	295	39	15	165	910	-	-		-	-	-	-	18	1.1	-	-	-	
MW-3	12/3/1983	UNK	1900	-	-	-	-	-	-	240	-	-	157	-	-	-		-	-	-	-	13.8	1	-	-	-	
MW-3	5/22/1984	UNK	1810	1033	7.6	-	-	86	30	242	33	5	156	812	-	-		-	-	-	-	19	1.1	-	-	-	
MW-3	11/27/1984	UNK	1890	1227	7.5	-	-	75	34	245	26	6	165	895	-	-		-	0.25	-	-	18	1.3	-	-	-	
MW-3	11/1/1985	UNK	1800	1150	7.3	-	-	103	30	235	30.5	-	178	837	-	-		-	-	-	-	12.6	1.2	-	-	-	
MW-3	9/25/1986	UNK	1800	1120	7.4	-	-	101	26	230	31	9	186	868	-	-		-	-	-	-	0.07	0.92	-	-	-	
MW-3	4/21/1987	UNK	1850	1105	7.6	-	-	109	28	235	34	6	176	936	53.1	-		-	-	0.2	-	16.4	1	-	-	-	
MW-3	3/28/1988	UNK	1925	1105	7.23	-	-	110	27	260	35	-	185	962	43.4	-		-	-	0.12	-	-	0.55	-	-	-	
MW-3	12/22/1988	BCL	1325	735	7.3	-	5.5	51	17	176	14	15	150	533	<0.4	-		-	-	-	-	<0.05	0.3	-	-	-	
MW-3	12/15/1989	UNK	1780	1050	7.3	-	-	119	23	263	41	25	187	874	-	-		-	-	-	-	17.3	0.942	-	-	-	
MW-3	4/11/1990	UNK	2400	1215	7.2	-	-	129	25	275	39	26	210	1060	-	-		-	-	-	-	0.351	0.954	-	-	-	
MW-3	11/13/1990	UNK	-	1435	6.9	-	-	-	-	-	44	-	282	1293	-	-		-	-	0.166	-	10	0.574	-	-	-	
MW-3	6/10/1991	UNK	3200	1620	7.1	-	-	-	-	-	46	-	317	1572	-	-		-	-	0.466	-	-	-	-	-	-	
MW-3	10/28/1991	UNK	3700	1995	7.1	-	-	206	49	540	40.6	7	395	1700	-	0.29		-	0.31	0.497	-	26.73	2.22	-	-	-	
MW-3	2/24/1992	UNK	4400	2760	7.2	-	-	215	58	575	83	11	514	-	-	0.27		-	0.33	0.943	-	28.5	2.49	-	-	-	
MW-3	10/19/1992	UNK	5500	2950	7.2	-	-	173	44	740	228	-	605	2480	-	0.3		-	0.41	1.7	-	12.8	1.45	-	-	-	
MW-3	3/1/1993	UNK	5500	3040	7.1	-	-	172	57	749	246	-	630	2460	-	0.3		-	0.37	1.69	-	22.9	1.28	-	-	-	
MW-3	9/20/1993	UNK	5000	2630	7.0	-	-	142	44	644	289	40	565	2120	-	0.35		-	0.42	1.76	-	20.5	1.11	-	-	-	
MW-3	3/8/1994	UNK	3990	2350	7.1	-	-	162	48	554	152	10	474	1560	-	0.27		-	0.41	1.2	-	21	1.44	-	-	-	
MW-3	9/19/1994	UNK	3250	1870	7.1	-	-	134	39	440	81	12.5	322	1540	-	0.31		-	0.36	0.33	-	0.13	1.76	-	-	-	
MW-3	3/15/1995	UNK	3770	2140	7.0	-	-	139	38	569	123	-	401	1820	-	0.33		-	0.43	0.457	-	0.095	1.49	-	-	-	
MW-3	10/9/1995	UNK	3080	1730	7.1	-	-	103	29	470	86	-	307	1510	-	0.41		-	0.45	0.3	-	0.054	1.25	-	-	-	
MW-3	4/3/1996	UNK	2550	1420	7.3	-	-	91	27	416	50	10	220	1340	-	0.38		-	0.46	0.197	-	-	1.12	-	-	-	
MW-3	9/30/1996	UNK	2400	1460	7.9	-	-	108	33	406	27	4.4	197	1300	-	0.38		-	0.49	0.126	-	-	1.51	-	-	-	
MW-3	6/2/1997	UNK	2430	1450	7.7	-	-	106	38	392	26	69.6	182	1200	4	0.54		-	0.5	0.107	-	-	1.95	-	-	-	
MW-3	3/18/1998	UNK	2300	1400	7.2	-	-	110	33	400	26	-	190	1000	57.6	-		-	0.49	0.13	-	-	1.5	-	-	-	
MW-3	8/25/1998	UNK	2400	1400	7.1	-	-	110	36	380	22	60	210	970	ND	0.5		-	0.51	0.13	-	0.31	1.9	-	-	-	
MW-3	4/20/1999	BSK	2300	1400	7.1	-	9.8	98	30	430	22	<50	200	970	<0.2	-		-	0.4	-	-	0.14	1.3	-	-	-	
MW-3	11/1/1999	BSK	2500	1500	7.8	-	6.9	150	42	370	26	75	260	950	<0.2	-		-	0.4	-	-	0.3	2.2	-	-	-	
MW-3	11/14/1999	UNK	2500	1500	7.76	-	-	150	42	370	26	75	260	950	ND	ND		-	0.4	0.13	-	0.31	2.2	-	-	-	
MW-3	5/21/2000	BSK	2300	1400	7.3	1100	8.1	110	34	380	23	<50	240	1342	<5	<2.5		-	0.4	0.12	-	<0.05	1.6	-	-	-	
MW-3	12/19/2000	BSK	2500	1400	7.1	1000	7.7	110	35	360	24	<60	240	-	<6	<3		-	0.4	0.12	-	<0.05	1.4	-	-	-	
MW-3	6/5/2001	BSK	2400	1500	6.8	995	7.4	130	43	380	25	<60	280	1214	-	<3		-	0.4	0.13	-	<0.05	1.8	-	-	-	
MW-3	10/2/2001	UNK	2700	1600	6.8	1000	-	150	47	370	24	ND	300	1000	ND	ND		-	0.4	0.14	-	ND	2.2	-	-	-	
MW-3	3/27/2002	FGL	2510	1480	6.9	1030	7.9	108	33	365	21	1	230	1260	<0.4	0.4		60	0.47	0.21	<0.01	17.9	1.79	-	<10	<0.02	
MW-3	4/23/2002	TL	2400	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-		
MW-3	5/2/2002	BSK	2600	1400	7.3	1000	-	120	37	360	21	<80	270	1000	<8	<4		-	0.5	0.14	-	<0.05	1.7	-	-	-	
MW-3	9/17/2002	TL	2700	1500	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-		
MW-3	12/10/2002	BSK	2400	1500	7.6	960	-	82	25	380	13	ND	240	-	-	ND		-	0.5	0.1	-	ND	1.2	-	-	-	
MW-3	1/13/2003	TL	2800	1700	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-		
MW-3	3/23/2003	BSK	2600	1600	7.3	1000	-	110	33	380	19	<40	280	1220	<18	<2		-	0.4	0.15	-	<0.05	1.8	-	-	-	
MW-3	9/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		82	-	-	-	-	11.1	<0.4	-		

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-3	9/29/2003	TL	3000	1800	6.9	1200	-	130	44	490	43	41	290	1500	<1.8	-	-	0.46	0.28	<0.05	25	2.1	-	-	-	<0.05
MW-3	10/24/2003	BSK	2800	1700	7.6	1300	-	130	43	400	27	ND	300	-	-	ND	-	0.4	0.11	-	ND	1.9	-	-	-	-
MW-3	3/4/2004	TL	2700	1700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3	4/1/2004	UNK	2600	1500	7.7	1100	-	110	39	430	25	ND	270	1100	ND	ND	-	0.5	0.14	-	ND	1.6	-	-	-	-
MW-3	11/14/2004	BSK	2500	1500	7.7	1100	-	92	35	420	22	29	240	1340	<4	0.7	-	0.5	0.1	-	<0.05	1.4	-	-	-	-
MW-3	3/2/2005	TL	1800	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	0.47	-	-	-	0.8	<5	-	-	-
MW-3	4/7/2005	UNK	1800	970	7.8	670	-	48	16	290	20	35	180	670	ND	0.6	-	0.4	ND	-	ND	0.66	-	-	-	-
MW-3	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	83	-	-	-	-	-	3.1	<0.4	-	
MW-3	8/9/2005	TL	1300	850	7.2	540	-	36	11	270	26	29	150	660	<2	-	-	0.42	0.079	<0.005	5	0.54	-	-	<0.005	
MW-3	10/13/2005	UNK	1600	920	8.0	640	-	42	14	280	17	ND	150	640	ND	ND	-	0.5	ND	-	ND	0.53	-	-	-	-
MW-3	4/20/2006	UNK	997	578	7.7	335	-	16.6	5.4	198	17.2	33	110	335	ND	0.7	-	0.33	0.01	-	0.08	0.22	-	-	-	-
MW-3	4/20/2006	TL	940	600	7.4	320	-	17	5.4	200	21	33	120	-	<2	-	-	-	-	<0.005	2.8	0.25	-	-	<0.005	
MW-3	9/26/2006	UNK	1048	612	7.7	365	-	18.6	5.8	187	14.5	36	116	356	ND	0.4	-	0.33	0.01	-	0.04	0.27	-	-	-	-
MW-3	9/26/2006	TL	1000	630	7.4	350	-	20	6.3	190	22	36	100	-	<10	-	79	0.34	0.043	<0.005	2.9	0.29	<5	<20	<0.005	
MW-3	3/28/2007	TL	930	550	7.5	250	-	16	5	170	19	62	110	310	-	-	60	0.34	0.079	ND	ND	0.18	8	ND	0.022	
MW-3	9/24/2007	TL	1800	800	7.1	720	-	66	20	310	37	36	150	880	-	-	54	0.42	0.05	ND	11	0.79	-	-	ND	
MW-3	9/24/2007	UNK	1700	1000	7.2	-	-	-	-	-	-	38	160	1700	ND	-	-	-	-	-	-	-	-	-	-	-
MW-3	4/6/2008	BCL	1560	930	7.53	-	-	-	-	-	-	22	150	793	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-3	9/3/2008	BCL	1640	940	7.4	-	-	-	-	-	-	32	160	781	0.2	-	-	-	0.042	-	-	-	-	-	-	-
MW-3	4/2/2009	BCL	1730	1100	7.33	640	-	74	23	330	25	88	180	790	-	-	-	-	-	ND	12	0.88	-	-	0.0069	
MW-3	4/2/2009	UNK	1790	980	7.4	-	-	-	-	-	-	88	170	640	ND	-	-	-	0.067	-	-	-	-	-	-	-
MW-3	10/2/2009	BSK	1200	690	8.1	-	-	-	-	-	-	<10	120	610	<5	-	-	-	-	-	-	-	-	-	-	-
MW-3	10/20/2009	BCL	1260	740	7.73	470	-	32	10	240	17	8.2	130	570	<0.4	-	77	0.41	0.073	<0.002	4.6	0.4	-	-	0.0061	
MW-3	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	<0.4	-	
MW-3	5/20/2010	BCL	1950	1300	6.89	290	-	110	33	270	30	500	190	350	22	-	-	-	-	0.0031	12	1.9	-	-	0.021	
MW-3	9/15/2010	BCL	906	660	7.69	290	-	17	5.7	180	10	54	85	360	ND	-	47	0.34	0.037	0.00057	2.5	0.23	-	-	0.0044	
MW-3	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.6	ND	-	
MW-3	9/15/2010	SSC	950	530	7.4	-	-	-	-	-	-	52	83	370	<2	-	-	-	-	-	-	-	-	-	-	-
MW-4	8/2/1982	TL	-	-	-	-	-	80	34	98	8	116	176	240	<1	-	<10	0.2	-	-	0.1	1.1	-	-	-	-
MW-4	11/24/1982	UNK	1020	630	7.6	-	-	67.5	34	96	8.3	128	152.2	207.9	-	0.08	-	0.09	-	-	2	0.94	-	-	-	-
MW-4	6/30/1983	UNK	950	560	7.4	-	-	60	31	98	6.8	115	147	215	1.8	-	-	-	-	-	3	0.92	-	-	-	-
MW-4	10/7/1983	UNK	970	610	7.1	-	-	70	36	95	7.5	124	145	244	5.8	-	-	-	-	-	1.9	0.83	-	-	-	-
MW-4	12/1/1983	UNK	750	-	6.7	-	-	98	18	110	-	75	87.9	207	-	-	-	-	-	-	0.89	0.3	-	-	-	-
MW-4	3/7/1984	UNK	1200	650	7.5	-	-	71	33	105	6.6	120	152	281	-	-	-	-	-	-	2.4	0.85	-	-	-	-
MW-4	5/22/1984	UNK	1080	653	7.4	-	-	84	35	93	6.5	125	143	268	1.8	-	-	-	-	-	0.65	0.57	-	-	-	-
MW-4	7/18/1984	UNK	-	687	7.1	-	-	79	37	80	6.2	128	135	265	-	-	-	-	-	-	1.4	0.9	-	-	-	-
MW-4	11/27/1984	UNK	1060	737	7.7	-	-	88	36	89	6.4	130	139	284	4	-	-	0.1	-	-	0.52	0.73	-	-	-	-
MW-4	4/23/1985	UNK	1050	663	7.6	-	-	75	36	85	5.9	130	132	240	5.8	-	-	-	-	-	-	0.9	-	-	-	-
MW-4	11/4/1985	UNK	1300	905	7.4	-	-	95	46	112	7.1	190	201	248	27.4	-	-	-	-	-	0.41	0.37	-	-	-	-
MW-4	9/23/1986	UNK	2250	1365	7.6	-	-	154	80	180	8.8	380	323	316	131.5	-	-	-	-	-	0.69	0.17	-	-	-	-
MW-4	4/21/1987	UNK	1990	1280	7.6	-	-	144	76	167	8.5	312	316	311	98.3	-	-	-	0.1	-	0.06	0.49	-	-	-	-
MW-4	3/24/1988	UNK	1860	1105	7.6	-	-	101	53	255	8.2	82	276	680	-	-	-	-	-	-	-	0.7	-	-	-	-
MW-4	12/19/1988	UNK	1240	760	7.6	-	-	68	33	170	6	100	165	415	8	-	-	-	-	-	0.29	0.27	-	-	-	-
MW-4	12/13/1989	UNK	1060	635	7.8	-	-	44	19	160	4.4	58	154	322	1.8	-	-	-	-	-	0.189	0.088	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-4	4/10/1990	UNK	1120	405	7.8	-	-	54	23	155	4.8	72	166	325	5.8	-	-	-	-	-	0.225	-	-	-	-	-
MW-4	11/13/1990	UNK	-	950	7.2	-	-	-	-	-	2.9	285	-	410	-	-	-	-	-	-	-	0.034	-	-	-	-
MW-4	6/12/1991	UNK	2100	-	7.4	-	-	-	-	-	6.5	-	269	747	-	1200	-	-	0.16	-	-	-	-	-	-	
MW-4	10/29/1991	UNK	1800	1120	7.6	-	-	72	41	280	6.3	109	251	629	-	0.1	-	0.13	0.11	-	0.361	1.58	-	-	-	
MW-4	2/24/1992	UNK	1800	1090	7.4	-	-	120	57	196	6.9	130	253	623	-	0.08	-	0.12	0.146	-	0.479	1.8	-	-	-	
MW-4	10/19/1992	UNK	1950	1180	7.2	-	-	141	52	216	7.9	150	243	636	-	0.06	-	0.22	-	-	0.951	2.04	-	-	-	
MW-4	3/30/1993	UNK	1610	980	7.3	-	-	129	56	217	7.7	164	265	606	-	0.08	-	0.22	0.193	-	0.933	2.09	-	-	-	
MW-4	9/20/1993	UNK	1880	1120	7.2	-	-	122	55	221	9	200	248	574	-	0.1	-	0.17	0.209	-	1.48	1.96	-	-	-	
MW-4	3/8/1994	UNK	2340	1600	7.3	-	-	111	68	323	10.9	675	226	259	-	0.08	-	0.17	-	-	1.4	2.54	-	-	-	
MW-4	9/20/1994	UNK	2120	1420	7.2	-	-	89	52	298	9.4	490	224	290	1.8	0.4	-	0.17	-	-	-	2.01	-	-	-	
MW-4	3/16/1995	UNK	1920	1170	7.1	-	-	78	48	288	9.1	245	240	521	-	0.09	-	0.2	-	-	-	1.74	-	-	-	
MW-4	10/9/1995	UNK	2220	1530	7.2	-	-	88	56	308	9.8	460	246	375	-	0.1	-	0.3	-	-	-	2.4	-	-	-	
MW-4	4/6/1996	UNK	1660	995	7.2	-	-	112	52	162	6	230	221	385	-	0.1	-	0.21	0.158	-	-	0.595	-	-	-	
MW-4	9/30/1996	UNK	1730	1100	8.4	-	-	53	36	257	10.1	296	254	240	-	0.07	-	0.25	-	-	-	1.77	-	-	-	
MW-4	6/3/1997	UNK	1740	1030	7.4	-	-	39	24	298	9.6	220	254	313	-	0.19	-	0.25	-	-	-	1.38	-	-	-	
MW-4	3/20/1998	UNK	1400	950	7.1	-	-	42	1.1	320	10	100	270	370	-	-	-	0.27	0.1	-	-	1.1	-	-	-	
MW-4	8/26/1998	UNK	1800	960	7.3	-	-	37	22	310	8.8	91	250	380	ND	ND	-	0.27	0.1	-	ND	1.3	-	-	-	
MW-4	4/22/1999	BSK	1700	1000	8.0	390	12	33	19	350	8	77	240	476	<4	<2	-	0.3	0.09	-	0.05	1.1	-	-	-	
MW-4	11/14/1999	UNK	-	-	-	-	-	38	19	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-4	5/21/2000	BSK	1700	1100	6.9	450	11.7	36	19	350	7	59	290	549	<4	<2	-	0.2	0.08	-	<0.05	0.96	-	-	-	
MW-4	12/17/2000	BSK	1700	998	7.3	430	9.8	34	17	280	6	50	280	525	<4	<2	-	0.2	0.07	-	<0.05	0.66	-	-	-	
MW-4	6/5/2001	BSK	1900	1200	6.8	500	12	41	24	390	8	84	340	610	-	<2	-	0.2	0.1	-	<0.05	0.78	-	-	-	
MW-4	10/3/2001	UNK	2000	1100	6.8	480	-	36	22	380	7	76	300	480	ND	ND	-	0.2	0.09	-	ND	0.55	-	-	-	
MW-4	5/2/2002	BSK	2200	1200	7.5	560	-	39	24	410	7	82	340	560	6.6	<3.2	-	0.2	0.1	-	<0.05	0.44	-	-	-	
MW-4	12/11/2002	BSK	1900	1100	7.3	590	-	33	20	320	-	81	290	-	-	ND	-	0.2	0.08	-	ND	0.4	-	-	-	
MW-4	3/22/2003	BSK	2000	1200	7.4	450	-	40	21	320	6	94	310	-	-	ND	-	0.2	0.09	-	ND	0.75	-	-	-	
MW-4	10/24/2003	BSK	1800	1000	7.7	410	-	39	22	320	7	87	270	-	-	ND	-	0.2	0.09	-	0.06	0.82	-	-	-	
MW-4	3/31/2004	BSK	1800	1100	7.3	350	-	41	26	320	9	200	300	430	<0.9	<0.1	-	0.2	0.1	-	2.7	1.5	-	-	-	
MW-4	11/13/2004	BSK	1700	1000	7.6	400	-	55	32	270	8	130	250	490	<4	<0.5	-	0.2	0.1	-	<0.05	0.98	-	-	-	
MW-4	4/6/2005	UNK	1700	1000	7.8	460	-	84	38	260	8	120	260	460	ND	ND	-	0.2	0.12	-	ND	1.1	-	-	-	
MW-4	10/13/2005	UNK	1900	1100	7.9	490	-	100	46	240	7	130	260	490	ND	ND	-	0.2	0.13	-	0.18	1.1	-	-	-	
MW-4	4/19/2006	DL	1808	1143	7.6	483	-	108	45	221	13	145	254	483	0.2	0.1	-	0.16	0.14	-	0.06	1.16	-	-	-	
MW-4	9/25/2006	UNK	1706	1145	7.6	512	-	84.2	37.4	257	7.9	144	278	512	3.1	ND	-	0.19	0.11	-	0.01	0.6	-	-	-	
MW-4	3/29/2007	TL	1800	1100	7.2	510	-	110	44	250	15	110	240	620	<10.2	<0.5	<10	0.2	0.14	<0.005	-	-	<5	-	<0.005	
MW-4	9/23/2007	TL	1900	1200	7.2	-	-	-	-	-	-	95	270	690	<20	-	-	-	-	-	-	-	-	-	-	
MW-4	4/5/2008	BCL	2270	1400	7.39	-	-	-	-	-	-	96	310	842	1.4	-	-	-	-	-	-	-	-	-	-	
MW-4	9/2/2008	BCL	2160	1200	7.4	-	-	-	-	-	-	100	330	805	1.5	-	-	-	0.14	-	-	-	-	-	-	
MW-4	4/2/2009	UNK	2100	1100	7.4	-	-	-	-	-	-	79	310	640	4	-	-	-	0.13	-	-	-	-	-	-	
MW-4	9/30/2009	BSK	2300	1300	8.1	-	-	-	-	-	-	97	340	903	<10	-	-	-	-	-	-	-	-	-	-	
MW-4	10/19/2010	SSC	2300	1400	7.0	-	-	-	-	-	-	100	330	860	<2	-	-	-	-	-	-	-	-	-	-	
MW-5	8/3/1982	TL	-	-	-	-	-	86	41	74	7	119	142	280	<1	-	<10	0.2	-	-	0.47	0.92	-	-	-	
MW-5	11/24/1982	UNK	980	590	7.3	-	-	79	43	66.5	6.9	114	125.7	270.3	-	-	-	0.04	-	-	1.5	0.86	-	-	-	
MW-5	5/5/1983	UNK	820	587	7.6	-	-	46	41	59	5.4	94	109	210	-	-	-	-	-	-	1.4	0.85	-	-	-	
MW-5	12/2/1983	UNK	810	470	8.0	-	-	61	33	56	6	85	95.9	229	-	-	-	-	-	-	0.3	0.57	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-5	5/22/1984	UNK	1390	973	7.2	-	-	108	53	91	6.5	220	204	198	117.8	-	-	-	-	-	5.4	1.3	-	-	-	-	
MW-5	7/19/1984	UNK	1160	750	7.6	-	-	97	44	76	5.7	165	158	220	74.4	-	-	-	-	-	0.11	0.09	-	-	-	-	
MW-5	11/28/1984	UNK	930	663	7.5	-	-	78	38	63	5.1	115	121	225	58.9	-	-	0.04	-	-	-	0.06	-	-	-	-	
MW-5	4/23/1985	UNK	1000	727	7.3	-	-	76	41	70	4.9	120	131	250	62.9	-	-	-	-	-	-	0.26	-	-	-	-	
MW-5	11/4/1985	UNK	1250	795	7.2	-	-	96	47	97	6.1	156	183	257	156.7	-	-	-	-	-	0.14	0.04	-	-	-	-	
MW-5	9/23/1986	UNK	1900	1215	7.6	-	-	130	62	191	6.9	271	275	374	166.9	-	-	-	-	-	0.52	0.07	-	-	-	-	
MW-5	4/21/1987	UNK	1290	845	7.5	-	-	93	46	119	5.7	160	177	328	58.9	-	-	-	-	-	0.17	0.11	-	-	-	-	
MW-5	3/24/1988	UNK	1620	1015	7.3	-	-	102	47	205	608	118	236	520	46.9	-	-	-	-	-	0.1	0.06	-	-	-	-	
MW-5	12/16/1988	UNK	860	525	7.9	-	-	49	30	94	4.3	86	118	243	12	-	-	-	-	-	-	0.04	-	-	-	-	
MW-5	12/22/1988	BCL	860	525	7.9	-	2.6	49	30	94	4	86	118	243	3	-	-	-	<0.1	-	<0.05	0.04	-	-	-	-	
MW-5	12/13/1989	UNK	1100	655	7.5	-	-	48	22	153	4.2	82	155	300	29.2	-	-	-	-	-	0.118	0.065	-	-	-	-	
MW-5	11/14/1990	UNK	-	375	7.5	-	-	-	-	-	2.4	-	84.7	186	-	-	-	-	-	-	-	0.03	-	-	-	-	
MW-5	6/20/1991	UNK	1510	980	7.4	-	-	-	-	-	4.6	-	227	514	-	-	-	-	-	-	-	-	-	-	-	-	
MW-5	10/29/1991	UNK	1260	775	7.4	-	-	88	45	108	4.8	151	183	310	-	0.11	-	0.11	0.105	-	-	0.192	-	-	-	-	
MW-5	2/24/1992	UNK	1300	835	7.3	-	-	110	51	88	5.5	160	193	301	-	0.06	-	0.11	0.125	-	-	0.158	0.92	-	-	-	
MW-5	10/20/1992	UNK	1460	920	7.2	-	-	106	46	135	5.7	139	211	373	-	0.11	-	0.19	0.141	-	-	0.181	0.631	-	-	-	
MW-5	3/1/1993	UNK	1130	680	7.2	-	-	126	53	89	5.4	186	227	283	-	0.12	-	0.18	0.167	-	-	0.522	1.18	-	-	-	
MW-5	9/27/1993	UNK	1740	1500	7.6	-	-	43	20	316	4.2	60	270	517	68.6	0.22	-	0.2	0.102	-	-	0.082	0.151	-	-	-	
MW-5	3/10/1994	UNK	1700	985	7.5	-	-	39	19	314	4	60	258	489	49.1	0.24	-	0.24	-	-	0.056	0.111	-	-	-	-	
MW-5	9/20/1994	UNK	1250	800	7.1	-	-	94	42	104	6.9	109	156	367	-	0.07	-	0.12	0.14	-	-	0.74	-	-	-	-	
MW-5	3/16/1995	UNK	1450	900	6.9	-	-	116	49	121	6.8	188	201	357	-	0.07	-	0.12	0.196	-	-	1.05	-	-	-	-	
MW-5	10/10/1995	UNK	1680	860	7.7	-	-	39	17.5	306	4	33	252	556	12	0.25	-	0.28	-	-	-	-	-	-	-	-	
MW-5	4/6/1996	UNK	2000	1210	7.3	-	-	84	51	283	9.6	434	258	321	-	0.08	-	-	-	-	-	2.3	-	-	-	-	
MW-5	9/30/1996	UNK	1510	885	8.3	-	-	69	36	192	5.9	94	228	432	1.8	0.11	-	0.22	0.102	-	-	0.438	-	-	-	-	
MW-5	6/30/1997	UNK	1650	970	7.8	-	-	98	46	186	5.9	243	-	484	5.3	0.1	-	0.22	0.116	-	-	0.414	-	-	-	-	
MW-5	3/20/1998	UNK	1400	950	7.3	-	-	95	40	260	8.2	120	270	400	-	-	-	0.21	0.13	-	-	0.03	-	-	-	-	
MW-5	8/26/1998	UNK	1800	1100	7.3	-	-	110	48	220	5.5	190	250	360	ND	ND	-	0.21	0.15	-	-	ND	0.23	-	-	-	
MW-5	4/22/1999	BSK	1700	1000	7.7	440	7.1	72	34	290	6	67	260	537	<4	<2	-	0.2	0.09	-	-	<0.05	0.09	-	-	-	
MW-5	5/21/2000	BSK	1600	1000	7.2	470	7.3	61	31	280	5	67	290	573	6.4	<2	-	0.2	0.1	-	-	<0.05	0.41	-	-	-	
MW-5	12/17/2000	BSK	1700	996	7.2	440	7.2	61	32	280	5	50	280	537	<4	<2	-	0.2	0.11	-	-	<0.05	0.56	-	-	-	
MW-5	6/5/2001	BSK	1700	1000	6.8	450	7.2	66	34	290	6	55	320	549	-	<2	-	0.2	0.11	-	-	<0.05	0.56	-	-	-	
MW-5	10/3/2001	UNK	1700	1000	6.9	-	-	60	33	280	5	54	280	430	ND	ND	-	0.2	0.11	-	-	ND	0.56	-	-	-	
MW-5	5/2/2002	BSK	1800	940	7.4	450	-	60	32	270	5	<60	270	450	<6	<3	-	0.2	0.12	-	-	<0.05	0.65	-	-	-	
MW-5	12/11/2002	BSK	1900	1000	7.4	460	-	57	30	260	5	54	330	-	-	ND	-	0.2	0.13	-	-	ND	0.58	-	-	-	
MW-5	3/23/2003	BSK	1800	1000	7.5	440	-	57	30	250	4	55	310	-	-	ND	-	0.2	0.12	-	-	ND	0.67	-	-	-	
MW-5	10/24/2003	BSK	1600	950	7.9	-	-	59	32	250	6	56	260	-	-	ND	-	0.2	0.13	-	-	ND	0.68	-	-	-	
MW-5	3/31/2004	BSK	1700	980	7.6	420	-	58	31	270	5	100	270	510	<0.9	<0.1	-	0.2	0.13	-	-	0.06	0.73	-	-	-	
MW-5	11/13/2004	BSK	1600	940	7.6	350	-	69	39	220	6	150	250	430	<2.7	<0.3	-	0.2	0.13	-	-	<0.05	0.83	-	-	-	
MW-5	4/6/2005	UNK	1500	890	7.8	350	-	68	39	230	7	140	240	350	ND	ND	-	0.2	0.13	-	-	ND	0.84	-	-	-	
MW-5	10/13/2005	UNK	1700	970	7.9	360	-	78	42	230	6	170	240	360	ND	ND	-	0.2	0.13	-	-	ND	0.75	-	-	-	
MW-5	4/19/2006	DL	1508	925	7.6	349	-	82	45	176	10.1	173	215	349	1.6	<0.1	-	0.14	0.13	-	-	0.01	0.83	-	-	-	
MW-5	9/25/2006	UNK	1244	890	7.2	352	-	78.4	42.8	143	6.2	183	200	352	ND	ND	-	0.14	0.12	-	-	ND	0.7	-	-	-	
MW-5	3/29/2007	TL	1300	810	7.1	340	-	85	46	140	12	100	140	420	<6.6	<0.5	<10	0.14	0.13	<0.005	-	-	<5	-	<0.005		
MW-5	9/23/2007	TL	1900	1100	7.2	-	-	-	-	-	-	120	520	640	34	-	-	-	-	-	-	-	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-5	4/5/2008	BCL	1490	960	7.29	-	-	-	-	-	-	120	210	500	0.4	-	-	-	-	-	-	-	-	-	-	-
MW-5	9/2/2008	BCL	1510	870	7.3	-	-	-	-	-	-	100	220	525	<0.4	-	-	-	0.1	-	-	-	-	-	-	-
MW-5	4/2/2009	UNK	1510	890	7.3	-	-	-	-	-	-	100	220	400	ND	-	-	-	0.11	-	-	-	-	-	-	-
MW-5	9/30/2009	BSK	1500	840	8.1	-	-	-	-	-	-	110	200	500	<3	-	-	-	-	-	-	-	-	-	-	-
MW-5	10/6/2010	SSC	1600	920	7.0	-	-	-	-	-	-	110	220	480	<2	-	-	-	-	-	-	-	-	-	-	-
MW-6	5/6/1982	UNK	850	670	7.4	-	-	74	38.5	58	6.6	113	132	203	4	-	-	-	-	-	0.68	1.2	-	-	-	-
MW-6	8/3/1982	TL	-	-	-	-	-	85	35	66	8	121	153	210	<1	-	<10	0.2	-	-	0.51	1.4	-	-	-	-
MW-6	11/24/1982	UNK	920	530	7.2	-	-	77	36	58.5	7.8	112	135	201	-	ND	-	0.4	-	-	0.71	1.2	-	-	-	-
MW-6	12/2/1982	UNK	960	620	8.1	-	-	73	40	63	7.8	124	134	204	-	-	-	-	-	-	7	1.2	-	-	-	-
MW-6	5/6/1983	UNK	850	670	7.4	-	-	74	38.5	58	6.6	113	132	203	4	-	-	-	-	-	6.8	1.2	-	-	-	-
MW-6	5/23/1984	UNK	930	623	7.1	-	-	76	34	74	6	125	126	222	4	-	-	-	-	-	6.1	1.2	-	-	-	-
MW-6	7/19/1984	UNK	990	603	7.4	-	-	71	33	82	6.2	125	138	201	8	-	-	-	-	-	5.4	1.1	-	-	-	-
MW-6	11/28/1984	UNK	920	637	7.4	-	-	67	30	82	6	115	128	213	9.7	-	-	0.08	-	-	3.7	1	-	-	-	-
MW-6	4/23/1985	UNK	1000	633	7.1	-	-	65	32	97	6	130	140	224	21.7	-	-	-	-	-	-	0.91	-	-	-	-
MW-6	11/4/1985	UNK	1000	655	7.0	-	-	70	32	95	6.4	127	147	224	21.7	-	-	-	-	-	3.2	1	-	-	-	-
MW-6	9/23/1986	UNK	1240	760	7.3	-	-	81	35	125	6.7	194	173	206	72.6	-	-	-	-	-	1.3	0.66	-	-	-	-
MW-6	4/21/1987	UNK	1530	995	7.3	-	-	101	41	169	7.6	250	222	242	186.4	-	-	-	-	-	0.68	0.68	-	-	-	-
MW-6	3/24/1988	UNK	1525	950	7.0	-	-	76	26	225	6.5	190	223	296	164.7	-	-	-	-	-	-	0.08	-	-	-	-
MW-6	12/16/1988	UNK	1390	895	7.3	-	-	102	41	129	7.2	177	210	263	45.2	-	-	-	-	-	0.05	0.55	-	-	-	-
MW-6	12/22/1988	BCL	1390	895	7.3	-	2.7	102	41	129	7	177	210	263	10	-	-	-	<0.1	-	<0.05	0.55	-	-	-	-
MW-6	12/13/1989	UNK	1400	900	7.0	-	-	116	52	98	6.8	192	221	268	15.5	-	-	-	-	-	1.635	1.695	-	-	-	-
MW-6	11/14/1990	UNK	-	770	7.2	-	-	-	-	-	3.5	-	200	184	-	-	-	-	-	-	1.52	0.625	-	-	-	-
MW-6	6/20/1991	UNK	1500	-	6.8	-	-	-	-	-	7.6	-	252	268	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	10/29/1991	UNK	1480	950	7.0	-	-	118	54	107	7	217	245	260	-	-	-	0.1	-	-	7.27	2.02	-	-	-	-
MW-6	2/24/1992	UNK	1500	1020	6.8	-	-	120	480	122	6.8	192	230	283	-	0.06	-	0.21	-	-	9.46	1.85	-	-	-	-
MW-6	10/20/1992	UNK	1450	940	7.0	-	-	100	40	138	6.6	167	221	295	-	-	-	0.25	0.102	-	8.11	1.4	-	-	-	-
MW-6	3/1/1993	UNK	1600	1060	7.0	-	-	117	48	154	6.5	185	262	354	-	0.07	-	0.26	0.13	-	9.95	1.84	-	-	-	-
MW-6	9/27/1993	UNK	1560	1010	7.0	-	-	102	47	164	7.1	162	241	394	-	0.06	-	0.14	0.165	-	10.4	1.53	-	-	-	-
MW-6	3/10/1994	UNK	1660	1060	7.1	-	-	104	47	169	7.1	191	248	356	-	0.05	-	0.21	0.154	-	8.4	1.51	-	-	-	-
MW-6	9/20/1994	UNK	1770	1170	7.0	-	-	121	51	173	7.2	220	258	362	-	0.05	-	0.2	0.16	-	-	2.12	-	-	-	-
MW-6	3/16/1995	UNK	1640	1030	6.9	-	-	116	47	159	7.3	216	247	346	-	0.05	-	0.16	-	-	-	1.93	-	-	-	-
MW-6	10/10/1995	UNK	1680	1020	7.0	-	-	122	51	146	6.9	213	257	357	-	-	-	0.25	-	-	-	2	-	-	-	-
MW-6	4/6/1996	UNK	1830	1160	7.0	-	-	144	54	154	6.8	263	274	352	-	-	-	0.23	0.1	-	0.205	2.82	-	-	-	-
MW-6	9/30/1996	UNK	1730	1080	8.4	-	-	118	55	152	7.4	202	282	348	-	-	-	0.22	-	-	-	2.21	-	-	-	-
MW-6	6/30/1997	UNK	1730	1050	7.0	-	-	123	55	140	6.7	222	284	310	-	0.05	-	0.22	-	-	2.02	2.5	-	-	-	-
MW-6	3/20/1998	UNK	1300	970	7.0	-	-	130	47	160	9.5	200	250	240	-	-	-	-	-	-	-	2.6	-	-	-	-
MW-6	8/26/1998	UNK	1700	1000	6.8	-	-	120	48	180	7.5	190	290	230	ND	ND	-	0.14	0.08	-	1.5	2.9	-	-	-	-
MW-6	4/21/1999	BSK	1700	1100	7.0	250	3.1	130	58	170	9	220	280	305	<4	<2	-	0.1	0.06	-	0.05	2.7	-	-	-	-
MW-6	5/21/2000	BSK	1400	900	6.6	240	3.2	88	48	150	8	190	220	293	<3	<1.5	-	0.1	<0.05	-	1.4	1.6	-	-	-	-
MW-6	12/17/2000	BSK	1400	880	6.4	230	3	90	44	140	7	190	210	281	<4	<2	-	0.1	0.05	-	0.75	1.6	-	-	-	-
MW-6	6/5/2001	BSK	1300	830	6.8	240	3.2	90	45	150	8	200	210	293	-	<1.5	-	0.2	0.05	-	0.43	1.8	-	-	-	-
MW-6	10/3/2001	UNK	1400	890	6.4	-	-	88	43	150	6	160	210	240	ND	ND	-	0.1	0.05	-	0.65	1.5	-	-	-	-
MW-6	5/2/2002	BSK	1300	900	6.8	240	-	74	37	130	6	170	180	240	<4	<2	-	0.2	<0.05	-	1.3	1.4	-	-	-	-
MW-6	12/11/2002	BSK	1500	870	7.0	260	-	73	34	160	6	180	230	-	-	ND	-	0.2	ND	-	0.33	1.3	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-6	3/22/2003	BSK	1500	900	6.9	250	-	76	34	150	-	190	220	-	-	ND	-	0.2	ND	-	0.62	-	-	-	-	-
MW-6	10/24/2003	BSK	1600	1000	7.6	310	-	98	44	180	7	160	250	-	-	ND	-	0.2	0.05	-	0.56	1.5	-	-	-	-
MW-6	4/1/2004	UNK	1600	970	7.6	300	-	94	39	190	7	170	240	300	ND	ND	-	0.2	0.06	-	0.45	1.4	-	-	-	-
MW-6	11/13/2004	BSK	1400	880	7.6	290	-	71	34	190	7	140	160	350	<2.7	<0.3	-	0.2	0.06	-	0.99	1.1	-	-	-	-
MW-6	4/6/2005	UNK	1500	900	7.7	290	-	91	36	200	7	180	240	290	ND	ND	-	0.2	0.06	-	0.37	1.4	-	-	-	-
MW-6	10/14/2005	UNK	2000	1200	7.9	300	-	120	53	220	8	240	320	300	ND	ND	-	0.2	0.07	-	1.9	2.1	-	-	-	-
MW-6	4/19/2006	DL	1705	1103	7.2	313	-	114	46	185	10.2	197	287	313	<0.1	<0.1	-	0.14	0.06	-	1.51	2.15	-	-	-	-
MW-6	9/25/2006	UNK	1887	1390	6.9	380	-	122	55.7	234	9.6	248	440	380	ND	ND	-	0.17	0.07	-	2.43	2.34	-	-	-	-
MW-6	3/29/2007	TL	2100	1300	7.0	410	-	120	56	260	18	170	360	500	<10.2	<0.5	<10	0.21	0.078	<0.005	-	-	<5	-	<0.005	-
MW-6	9/23/2007	TL	2000	1200	6.9	-	-	-	-	-	-	130	320	510	<20	-	-	-	-	-	-	-	-	-	-	-
MW-6	9/4/2008	BCL	2070	1300	7.2	-	-	-	-	-	-	130	310	549	<0.4	-	-	-	0.078	-	-	-	-	-	-	-
MW-6	4/3/2009	UNK	2020	1300	7.2	-	-	-	-	-	-	160	380	420	ND	-	-	-	0.08	-	-	-	-	-	-	-
MW-6	9/30/2009	BSK	2400	1400	8.0	-	-	-	-	-	-	210	460	537	<10	-	-	-	-	-	-	-	-	-	-	-
MW-6	10/6/2010	SSC	2300	1300	6.9	-	-	-	-	-	-	200	360	520	<2	-	-	-	-	-	-	-	-	-	-	-
MW-9	4/7/1984	UNK	950	513	6.9	-	-	75	40	55	6	35	115	333	-	-	-	0.1	-	-	15.4	2.2	-	-	-	-
MW-9	7/19/1984	UNK	900	550	7.3	-	-	74	33	55	5.9	50	104	294	-	-	-	-	-	-	9.4	1.9	-	-	-	-
MW-9	11/28/1984	UNK	1050	670	7.0	-	-	78	44	60	6.1	18	131	380	-	-	-	0.1	-	-	0.86	2.6	-	-	-	-
MW-9	4/24/1985	UNK	1160	740	7.2	-	-	92	50	74	6	21	146	454	-	-	-	-	-	-	-	2.6	-	-	-	-
MW-9	11/5/1985	UNK	1390	850	7.0	-	-	105	52	73	6.9	6	144	533	-	-	-	-	-	-	16.8	3.1	-	-	-	-
MW-9	9/24/1986	UNK	1050	620	7.3	-	-	95	44	67	6.3	45	121	439	-	-	-	-	-	-	11.3	2.3	-	-	-	-
MW-9	3/29/1988	UNK	1210	715	7.1	-	-	97	45	103	7.7	37	149	491	-	-	-	-	0.15	-	-	2.2	-	-	-	-
MW-9	12/14/1989	UNK	1140	690	7.1	-	-	104	46	69	6	19	133	492	-	-	-	-	-	-	13.9	2.573	-	-	-	-
MW-9	11/14/1990	UNK	-	335	7.0	-	-	-	-	-	2.5	-	72.7	211	-	-	-	-	0.162	-	14.1	2.42	-	-	-	-
MW-9	6/20/1991	UNK	1070	685	7.0	-	-	-	-	-	6.3	-	141	358	-	-	-	-	0.15	-	-	-	-	-	-	-
MW-9	10/29/1991	UNK	1000	650	7.0	-	-	85	44	66	5.8	74	122	343	-	0.07	-	-	0.152	-	12.12	2.18	-	-	-	-
MW-9	2/24/1992	UNK	1030	660	7.1	-	-	88	40	68	6.4	75	135	351	7.1	0.08	-	-	0.163	-	14.4	2.31	-	-	-	-
MW-9	10/20/1992	UNK	1080	680	7.0	-	-	92	40	70	6.4	80	132	351	7	0.07	-	0.16	0.149	-	13	2.03	-	-	-	-
MW-9	3/1/1993	UNK	1060	720	6.9	-	-	94	41	72	5.9	67	140	342	6.9	0.07	-	0.14	0.143	-	12	2.16	-	-	-	-
MW-9	9/27/1993	UNK	960	615	6.9	-	-	0.82	35	69	6.6	80	121	302	6.9	0.1	-	-	0.139	-	10.2	1.92	-	-	-	-
MW-9	3/10/1994	UNK	940	540	7.0	-	-	71	32	69	5.7	79	107	293	7	0.07	-	-	0.128	-	8.62	1.68	-	-	-	-
MW-9	9/20/1994	UNK	1000	600	7.0	-	-	80	36	67	8.9	69	126	318	7	0.06	-	-	0.11	-	0.93	1.7	-	-	-	-
MW-9	3/16/1995	UNK	1210	735	6.8	-	-	97	44	81	6.9	78	170	371	6.8	0.08	-	0.1	0.132	-	-	2.13	-	-	-	-
MW-9	10/10/1995	UNK	1180	710	7.1	-	-	82	40	88	6.5	72	156	376	7.1	0.07	-	0.17	0.14	-	-	2.03	-	-	-	-
MW-9	4/6/1996	UNK	1180	695	7.1	-	-	88	40	91	6.5	73	158	382	7.1	0.08	-	0.16	0.14	-	0.333	1.99	-	-	-	-
MW-9	9/30/1996	UNK	1190	720	8.45	-	-	83	41	97	7.4	70.7	164	378	8.5	0.07	-	0.17	0.139	-	-	1.89	-	-	-	-
MW-9	6/30/1997	UNK	900	580	6.9	-	-	97	2.2	76	9.7	91	140	240	6.9	-	-	-	0.13	-	-	2.2	-	-	-	-
MW-9	8/26/1998	UNK	980	590	7.2	-	-	83	36	72	6.6	110	110	220	ND	ND	-	ND	0.13	-	2.4	2.3	-	-	-	-
MW-9	4/21/1999	BSK	990	610	6.9	270	1.8	88	41	80	7	76	140	329	<2	<1	-	<0.1	0.13	-	2.7	2.4	-	-	-	-
MW-9	11/15/1999	UNK	-	-	-	-	-	-	-	-	-	-	-	-	7.4	-	-	-	-	-	-	-	-	-	-	-
MW-9	5/20/2000	BSK	960	660	6.6	200	1.3	89	41	60	7	170	99	244	<2	<1	-	<0.1	0.09	-	4.9	2.4	-	-	-	-
MW-9	12/17/2000	BSK	930	600	6.4	200	1.2	86	39	53	6	170	78	244	<2	<1	-	<0.1	0.08	-	1.1	1.8	-	-	-	-
MW-9	6/5/2001	BSK	840	580	6.4	170	1.1	86	38	50	6	190	76	207	-	<1	-	<0.1	0.07	-	0.97	2.1	-	-	-	-
MW-9	10/3/2001	UNK	870	620	6.6	-	-	79	35	48	5	180	65	160	ND	ND	-	ND	0.06	-	2.7	1.6	-	-	-	-
MW-9	5/2/2002	BSK	930	600	6.6	170	-	82	35	44	5	180	72	170	<3.2	<1.6	-	<0.1	0.09	-	4.6	1.6	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-9	12/10/2002	BSK	920	640	6.4	110	-	84	36	42	5	280	58	-	-	ND	-	ND	0.1	-	3.5	1.7	-	-	-	-	
MW-9	3/22/2003	BSK	950	670	6.5	110	-	84	35	42	4	280	66	-	-	ND	-	ND	0.08	-	5.5	1.6	-	-	-	-	
MW-9	10/24/2003	BSK	850	610	7.4	120	-	76	32	40	5	-	54	-	-	ND	-	ND	0.08	-	3.9	1.6	-	-	-	-	
MW-9	3/31/2004	BSK	670	440	7.3	170	-	61	25	40	5	120	56	210	<0.9	<0.1	-	<0.1	0.08	-	4.9	1.5	-	-	-	-	
MW-9	11/13/2004	BSK	980	660	7.6	210	-	86	38	67	6	170	100	250	<1.8	<0.2	-	<0.1	0.13	-	2.4	2.1	-	-	-	-	
MW-9	4/6/2005	UNK	1300	820	7.6	310	-	120	49	110	8	100	220	310	ND	ND	-	0.1	0.19	-	0.59	2.7	-	-	-	-	
MW-9	10/13/2005	UNK	1700	990	7.9	450	-	140	57	150	8	57	260	450	ND	ND	-	0.2	0.23	-	1.4	2.9	-	-	-	-	
MW-9	4/19/2006	DL	1773	1050	7.6	565	-	127	2.1	175	11.7	47	274	565	<0.1	<0.1	-	0.18	0.22	-	0.18	2.54	-	-	-	-	
MW-9	9/25/2006	UNK	1685	1183	7.3	570	-	120	52.5	186	8.6	68	324	570	ND	ND	-	0.2	0.22	-	0.04	2.27	-	-	-	-	
MW-9	3/29/2007	TL	2000	1200	7.1	560	-	130	58	240	19	63	270	680	<20	<1	<10	0.23	0.32	<0.005	-	-	<5	-	<0.005	-	
MW-9	9/23/2007	TL	1700	1100	7.0	-	-	-	-	-	-	120	250	510	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-9	4/5/2008	BCL	2050	1300	7.31	-	-	-	-	-	-	58	320	720	<0.4	-	-	-	-	-	-	-	-	-	-	-	
MW-9	9/2/2008	BCL	1900	1000	7.4	-	-	-	-	-	-	92	330	622	<0.4	-	-	-	0.2	-	-	-	-	-	-	-	
MW-9	4/2/2009	UNK	1580	940	7.2	-	-	-	-	-	-	140	250	390	ND	-	-	-	0.19	-	-	-	-	-	-	-	
MW-9	10/2/2009	BSK	1500	950	7.8	-	-	-	-	-	-	230	180	378	<5	-	-	-	-	-	-	-	-	-	-	-	
MW-9	10/6/2010	SSC	1800	1000	7.1	-	-	-	-	-	-	90	260	550	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-13	4/7/1984	UNK	1770	1043	7.8	-	-	15	14	365	4.8	10	128	840	-	-	-	0.41	-	-	0.67	0.88	-	-	-	-	
MW-13	7/19/1984	UNK	1690	1040	7.4	-	-	14	12.4	350	7.1	13	126	809	-	-	-	-	-	-	0.58	0.86	-	-	-	-	
MW-13	11/28/1984	UNK	1540	983	7.9	-	-	16	14	320	5.2	20	122	751	-	-	-	0.28	-	-	0.65	0.78	-	-	-	-	
MW-13	4/24/1985	UNK	1550	1033	7.9	-	-	34	15	320	5.1	16	124	793	-	-	-	-	-	-	-	0.83	-	-	-	-	
MW-13	11/5/1985	UNK	1540	1110	7.7	-	-	40	15	320	5.3	17	129	806	4	-	-	-	-	-	0.66	1	-	-	-	-	
MW-13	9/24/1986	UNK	1610	1010	8.1	-	-	43	17	327	5.3	30	148	786	8	-	-	-	-	-	0.63	1	-	-	-	-	
MW-13	4/22/1987	UNK	1600	1060	8.0	-	-	29	17	325	5.2	17	132	812	5.8	-	-	-	-	-	-	0.01	-	-	-	-	
MW-13	3/24/1988	UNK	1580	1015	7.7	-	-	33	14	343	5.4	14	128	836	-	-	-	-	-	-	0.05	0.47	-	-	-	-	
MW-13	12/19/1988	UNK	1310	945	7.6	-	-	12	4.7	320	3.6	30	138	643	8	-	-	-	-	-	0.22	0.27	-	-	-	-	
MW-13	12/14/1989	UNK	1700	1060	7.8	-	-	33	12	350	4.3	82	207	633	-	-	-	-	-	-	0.49	0.695	-	-	-	-	
MW-13	4/11/1990	UNK	1760	1125	7.8	-	-	39	16	360	4.8	82	236	638	1.8	-	-	-	-	-	0.625	0.891	-	-	-	-	
MW-13	11/15/1990	UNK	-	1120	7.4	-	-	-	-	-	2.6	-	244	485	-	-	-	-	-	0.105	-	0.522	0.984	-	-	-	
MW-13	6/20/1991	UNK	2400	1370	7.5	-	-	-	-	-	5.4	-	301	810	-	-	-	-	-	0.131	-	-	-	-	-	-	
MW-13	10/29/1991	UNK	2400	1310	7.8	-	-	49	19	435	5.1	74	306	797	-	0.05	-	0.24	0.136	-	0.816	1.26	-	-	-	-	
MW-13	2/24/1992	UNK	2400	1320	7.8	-	-	53	22	420	5.8	75	326	805	-	0.06	-	0.26	0.146	-	1.09	1.48	-	-	-	-	
MW-13	10/20/1992	UNK	2400	1380	7.0	-	-	25	19.7	445	5.6	70	321	772	-	-	-	0.24	0.155	-	1.25	1.64	-	-	-	-	
MW-13	3/1/1993	UNK	-	1330	7.4	-	-	64	25	387	5.4	85	315	778	-	0.05	-	0.27	0.179	-	1.66	2.05	-	-	-	-	
MW-13	9/22/1993	BCL	3000	1240	7.3	-	9.7	69	26	371	6.1	65	300	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-13	9/27/1993	UNK	-	1240	7.3	-	-	69	26	371	6.1	65	300	780	-	-	-	0.24	0.196	-	1.7	2.27	-	-	-	-	
MW-13	3/10/1994	UNK	2140	1280	7.3	-	-	77	31	349	6.1	85	290	728	-	-	-	0.26	0.226	-	2.32	2.61	-	-	-	-	
MW-13	9/20/1994	UNK	2120	1260	7.2	-	-	76	32	343	6.1	80	288	728	-	-	-	0.24	0.2	-	0.32	2.67	-	-	-	-	
MW-13	3/16/1995	UNK	2200	1390	7.1	-	-	93	40	367	6.9	122	313	768	-	-	-	0.25	0.231	-	-	3.43	-	-	-	-	
MW-13	10/10/1995	UNK	2570	1540	7.2	-	-	113	45	381	6.8	84	369	831	-	-	-	0.33	0.29	-	-	4.06	-	-	-	-	
MW-13	4/6/1996	UNK	2800	1610	7.2	-	-	114	52	432	8	80	410	1020	-	-	-	0.31	0.296	-	-	-	-	-	-	-	
MW-13	6/10/1996	UNK	2930	1690	8.2	-	-	105	50	484	10	48	436	1090	-	-	-	0.34	0.341	-	0.083	4.18	-	-	-	-	
MW-13	6/3/1997	UNK	2740	1640	7.2	-	-	96	47	449	6.4	82.4	384	1000	-	-	-	0.33	0.292	-	-	3.85	-	-	-	-	
MW-13	3/23/1998	UNK	2700	1900	7.0	-	-	120	57	580	10	69	470	970	-	-	-	0.28	0.44	-	-	3.4	-	-	-	-	
MW-13	8/26/1998	UNK	3200	1800	7.3	-	-	120	55	510	7.7	73	490	900	10.2	ND	-	0.26	0.39	-	ND	4.3	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-13	4/21/1999	BSK	3000	1800	7.5	1000	9.8	130	60	540	9	62	390	1220	<6	<3	-	0.2	0.41	-	<0.05	4	-	-	-	-	
MW-13	5/20/2000	BSK	2500	1600	7.0	870	9.1	94	42	420	8	75	370	1061	6.3	<3	-	0.3	0.24	-	0.07	2.4	-	-	-	-	
MW-13	12/17/2000	BSK	2400	1500	7.3	760	8.6	84	38	380	7	70	370	930	<5	<2.5	-	0.3	0.22	-	<0.05	2.2	-	-	-	-	
MW-13	6/5/2001	BSK	2200	1700	7.3	560	7.8	87	40	350	8	100	380	683	<5	<2.5	-	0.2	0.18	-	<0.05	2.6	-	-	-	-	
MW-13	10/3/2001	UNK	2400	1400	6.9	-	-	91	43	380	7	86	390	640	ND	ND	-	0.2	0.18	-	ND	2.4	-	-	-	-	
MW-13	5/2/2002	BSK	2400	1400	7.6	600	-	81	38	360	6	100	380	600	<8	<4	-	0.2	0.18	-	<0.05	2.1	-	-	-	-	
MW-13	12/10/2002	BSK	2100	1200	7.3	520	-	74	32	300	5	84	320	-	-	ND	-	0.2	0.15	-	ND	2	-	-	-	-	
MW-13	3/22/2003	BSK	2200	1300	7.5	550	-	72	30	320	4	74	360	-	-	ND	-	0.3	0.16	-	ND	2	-	-	-	-	
MW-13	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	2	<0.4	-	-	
MW-13	9/30/2003	TL	2500	1400	7.0	190	-	90	40	430	17	64	400	230	<1.8	-	-	0.24	0.2	<0.05	1.6	2.2	-	-	<0.05	-	
MW-13	10/24/2003	BSK	2500	1400	-	720	-	88	40	360	8	ND	400	-	-	ND	-	0.2	0.18	-	ND	2.2	-	-	-	-	
MW-13	3/31/2004	BSK	2200	1400	7.7	630	-	85	39	400	6	96	400	770	<0.9	<0.1	-	0.2	0.2	-	0.06	2.2	-	-	-	-	
MW-13	4/1/2004	TL	2300	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-13	11/13/2004	BSK	2400	1500	7.9	820	-	71	36	450	7	36	370	1000	<4	<0.5	-	0.3	0.21	-	<0.05	1.9	-	-	-	-	
MW-13	3/8/2005	TL	3200	1900	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	2.9	<25	-	-	-	
MW-13	4/6/2005	UNK	2800	1700	7.8	800	-	92	49	500	8	100	490	800	ND	ND	-	0.3	0.28	-	ND	2.7	-	-	-	-	
MW-13	8/11/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	5.6	<0.4	-	-	
MW-13	8/11/2005	TL	1300	890	7.2	250	-	27	15	270	8.7	120	220	310	4.6	-	-	0.23	0.081	<0.005	0.29	0.76	-	-	<0.005	-	
MW-13	10/13/2005	UNK	1200	660	8.1	210	-	20	9.9	220	3	120	160	210	ND	ND	-	0.2	0.06	-	0.06	0.79	-	-	-	-	
MW-13	4/19/2006	UNK	1273	773	7.6	394	-	23	12	238	6.3	66	158	394	ND	ND	-	0.22	0.1	-	0.03	0.83	-	-	-	-	
MW-13	4/20/2006	TL	1500	950	7.3	510	-	27	14	280	8	54	180	-	<2	-	-	-	-	<0.005	2	1.1	-	-	<0.005	-	
MW-13	9/25/2006	UNK	618	427	7.8	222	-	9.4	4.6	133	2.3	71	86	222	ND	ND	-	0.21	0.04	-	0.01	0.38	-	-	-	-	
MW-13	9/26/2006	TL	740	470	7.6	210	-	14	6.7	150	5.7	55	74	-	11	-	10	0.25	0.037	<0.005	2.8	0.52	8.4	<20	0.0069		
MW-13	3/29/2007	TL	660	410	7.6	150	-	7.4	3.6	140	4.3	67	78	190	<4	<0.2	<10	0.25	0.034	<0.005	-	-	9.9	-	0.01		
MW-13	9/24/2007	UNK	770	470	7.5	-	-	-	-	-	-	56	94	240	ND	-	-	-	-	-	-	-	-	-	-	-	
MW-13	9/24/2007	TL	1000	590	7.3	280	-	19	9.1	200	7.4	98	200	340	-	-	ND	0.27	0.037	ND	0.61	0.58	-	-	ND	-	
MW-13	4/5/2008	BCL	515	320	8.03	-	-	-	-	-	-	46	57	146	<0.4	-	-	-	-	-	-	-	-	-	-	-	
MW-13	9/3/2008	BCL	633	380	7.9	-	-	-	-	-	-	59	69	183	<0.4	-	-	-	0.016	-	-	-	-	-	-	-	
MW-13	4/2/2009	BCL	931	610	7.7	240	-	16	7.7	190	3.2	82	120	290	1	-	-	-	0.039	0.00023	0.066	0.64	-	-	0.0094	-	
MW-13	10/1/2009	BSK	760	420	8.1	-	-	-	-	-	-	74	88	207	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-13	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.35	<0.4	-	-	
MW-13	10/20/2009	BCL	700	470	7.73	150	-	10	4.9	140	2.4	76	87	190	<0.4	-	2.2	0.23	0.022	0.00077	0.067	0.39	-	-	0.0051	-	
MW-13	5/20/2010	BCL	786	490	7.78	150	-	13	6.3	150	2.8	94	100	180	ND	-	-	-	-	0.00049	0.15	0.58	-	-	-	0.0042	
MW-13	9/15/2010	SSC	460	260	7.8	-	-	-	-	-	-	36	46	134	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-13	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.65	ND	-	-	
MW-13	9/15/2010	BCL	459	330	8.02	110	-	5.2	2.4	86	1.8	41	46	130	ND	-	5.1	0.22	0.013	ND	0.11	0.28	-	-	-	0.0029	
MW-15	12/7/1988	BCL	21600	13300	7.9	-	120.8	11	10	2300	3860	118	1894	11520	1	0.6	20	0.2	1.5	-	1.3	0.03	-	<5	-	-	
MW-15	12/12/1989	UNK	-	15455	8.0	-	-	15	12	2750	2565	210	2412	12534	-	-	-	-	-	-	2.637	0.036	-	-	-	-	
MW-15	4/10/1990	UNK	23980	17300	8.0	-	-	11	8.1	3100	4760	124	2942	14148	-	-	-	-	-	-	2.335	0.027	-	-	-	-	
MW-15	6/18/1991	UNK	20000	14400	8.0	-	-	-	-	-	3950	-	2552	10162	-	-	-	-	-	1.57	-	-	-	-	-	-	
MW-15	10/20/1991	UNK	19500	11200	7.9	-	-	14	20	2080	3150	65	1910	9440	-	0.51	-	0.29	1.79	-	4.02	0.046	-	-	-	-	
MW-15	3/12/1992	UNK	18000	12000	8.1	-	-	19.2	28	2010	2875	-	1740	9260	9.7	0.45	-	0.32	1.74	-	3.88	0.027	-	-	-	-	
MW-15	10/22/1992	UNK	7600	6800	7.7	-	-	15.9	22	1320	1740	-	1120	3360	-	0.24	-	0.33	1.68	-	4.85	0.03	-	-	-	-	
MW-15	9/22/1993	UNK	11500	6650	7.8	-	-	26	35	1230	1800	-	1050	5860	-	0.27	-	0.32	1.55	-	4.02	0.032	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-15	3/14/1994	UNK	11000	5900	7.8	-	-	23	30	1130	1650	14	945	5560	-	0.3	-	0.34	1.19	-	1.25	0.024	-	-	-	-
MW-15	9/22/1994	UNK	9180	5300	7.8	-	-	16.7	24	922	1210	35	739	4620	-	0.32	-	0.34	0.98	-	2.43	0.016	-	-	-	-
MW-15	3/20/1995	UNK	8300	4700	7.6	-	-	15.2	19.1	862	1130	46	630	4150	-	-	-	0.31	0.63	-	0.926	0.13	-	-	-	-
MW-15	10/15/1995	UNK	7560	4160	7.9	-	-	12.5	15.8	721	997	40	560	3760	-	0.29	-	0.39	0.57	-	0.85	0.012	-	-	-	-
MW-15	4/6/1996	UNK	6420	3120	7.9	-	-	8.5	12.2	593	844	55	408	3290	-	0.28	-	0.4	0.453	-	1.4	0.013	-	-	-	-
MW-15	10/4/1996	UNK	5920	2850	8.7	-	-	6.6	11	529	764	47.2	322	3010	-	0.26	-	0.44	0.389	-	1.09	0.017	-	-	-	-
MW-15	6/5/1997	UNK	5970	3010	7.9	-	-	7.9	11.7	560	762	56	362	2990	-	0.25	-	0.45	0.393	-	0.995	0.019	-	-	-	-
MW-15	3/30/1998	UNK	4900	2800	7.7	-	-	7.1	11	630	740	45	400	2200	-	-	-	0.38	0.33	-	0.75	0.02	-	-	-	-
MW-15	8/29/1998	UNK	5100	2400	7.7	-	-	6.9	13	550	650	ND	290	2200	ND	ND	-	0.51	0.36	-	0.74	0.03	-	-	-	-
MW-15	4/22/1999	BSK	5500	2800	7.6	2300	22.8	9.5	23	570	670	<200	350	2806	<20	<10	-	0.4	0.41	-	0.48	0.03	-	-	-	-
MW-15	5/21/2000	BSK	5500	2900	7.5	2400	21.4	8.5	17	470	650	<120	390	2440	<12	<6	-	0.4	0.47	-	1.1	0.03	-	-	-	-
MW-15	12/17/2000	BSK	5500	2800	7.6	2500	21.8	8.7	19	500	680	<120	380	3050	<12	<6	-	0.4	0.39	-	0.49	0.04	-	-	-	-
MW-15	6/6/2001	BSK	6400	3500	7.6	2600	26.4	12	18	620	880	<200	560	3172	-	<10	-	0.4	0.44	-	1.8	0.03	-	-	-	-
MW-15	10/3/2001	UNK	6000	3000	7.4	-	-	8.6	20	520	750	ND	410	2400	ND	ND	-	0.4	0.39	-	0.5	0.03	-	-	-	-
MW-15	5/2/2002	BSK	6600	3500	7.8	2700	-	7.3	19	510	640	<20	59	2700	2.4	<1	-	0.3	0.5	-	0.72	0.02	-	-	-	-
MW-15	12/10/2002	BSK	6000	3200	7.8	2200	-	7.3	19	450	610	ND	440	-	-	ND	-	0.3	0.44	-	0.9	0.02	-	-	-	-
MW-15	3/22/2003	BSK	6200	3400	7.9	2200	-	9.5	19	500	670	180	490	-	-	ND	-	0.3	0.32	-	0.46	0.02	-	-	-	-
MW-15	10/25/2003	BSK	5400	2900	8.0	2100	-	15	37	470	650	140	350	-	-	ND	-	0.3	0.21	-	-	0.03	-	-	-	-
MW-15	3/31/2004	BSK	4800	2700	7.9	2200	-	16	38	490	610	140	320	2680	<0.9	<0.1	-	0.4	0.33	-	0.47	0.03	-	-	-	-
MW-15	11/14/2004	BSK	6100	3600	8.0	2400	-	20	24	620	860	280	420	2930	<18	<2	-	0.4	<0.1	-	0.27	0.09	-	-	-	-
MW-15	4/6/2005	UNK	8800	5800	8.0	2400	-	69	20	950	1500	1400	770	2400	53.1	ND	-	0.4	ND	-	0.1	0.05	-	-	-	-
MW-15	10/13/2005	UNK	9900	6000	7.9	1700	-	180	36	980	1600	2400	710	1700	ND	ND	-	ND	ND	-	ND	0.26	-	-	-	-
MW-15	4/19/2006	DL	11060	7823	7.6	1265	-	406	86	1689	2486	3301	776	1265	0.3	<0.1	-	0.18	0.05	-	0.02	0.37	-	-	-	-
MW-15	9/25/2006	UNK	13330	8087	7.2	1104	-	333	59.9	835	1331	3996	912	1104	447.1	ND	-	0.27	0.05	-	0.01	0.42	-	12	-	-
MW-15	3/28/2007	NA	11000	8800	7.1	960	-	430	52	980	1600	3000	710	1200	460	<5	-	0.3	0.11	-	-	-	-	-	-	-
MW-15	9/24/2007	TL	9000	6600	7.1	-	-	-	-	-	-	2500	530	1600	250	-	-	-	-	-	-	-	-	-	-	-
MW-15	4/5/2008	BCL	8110	6300	7.56	-	-	-	-	-	-	1500	690	2440	11.1	-	-	-	-	-	-	-	-	-	-	-
MW-15	9/2/2008	BCL	8160	5600	7.3	-	-	-	-	-	-	2100	580	1708	154.9	-	-	-	0.039	-	-	-	-	-	-	-
MW-15	4/3/2009	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.05	-	-	-	-	-	-	-
MW-15	4/3/2009	BCL	7320	5700	7.3	-	-	-	-	-	-	1800	580	1300	172.7	-	-	-	-	-	-	-	-	-	-	-
MW-15	10/1/2009	BSK	7700	4400	7.8	-	-	-	-	-	-	1700	560	1952	53	-	-	-	-	-	-	-	-	-	-	-
MW-15	9/23/2010	SSC	6500	4000	7.4	-	-	-	-	-	-	690	530	2318	2	-	-	-	-	-	-	-	-	-	-	-
MW-17	12/8/1988	BCL	5000	2534	7.5	-	9.7	53	62	440	512	50	241	2694	4	0.2	20	0.3	0.5	-	0.18	0.17	-	<5	-	-
MW-17	12/20/1988	UNK	2400	1190	7.5	-	-	15	16	215	240	21	120	1409	-	-	-	-	-	-	-	0.02	-	-	-	-
MW-17	12/8/1989	UNK	3300	1705	7.7	-	-	100	83	257	171	50	163	1580	4	-	-	-	-	-	0.104	0.136	-	-	-	-
MW-17	4/10/1990	UNK	3000	1825	7.7	-	-	90	70	280	200	35	148	1709	4	-	-	-	-	-	0.421	0.12	-	-	-	-
MW-17	5/21/1990	UNK	-	2135	-	-	-	-	-	-	189	-	136	1134	-	-	-	-	-	-	-	-	-	-	-	-
MW-17	11/16/1990	UNK	-	1910	7.2	-	-	-	-	-	270	-	466	1190	-	-	-	-	-	0.26	-	6.21	0.112	-	-	-
MW-17	6/18/1991	UNK	3600	1900	7.4	-	-	-	-	-	194	-	227	430	-	-	-	-	-	0.312	-	-	-	-	-	-
MW-17	10/22/1991	UNK	4100	1985	7.2	-	-	181	83	346	206	10	229	2160	-	0.1	-	0.26	0.321	-	7.26	0.199	-	-	-	-
MW-17	2/25/1992	UNK	3900	2300	7.5	-	-	175	86	350	197	16	227	2120	-	0.11	-	0.27	0.342	-	8.36	0.199	-	-	-	-
MW-17	10/23/1992	UNK	3000	1750	7.1	-	-	160	81	268	158	-	183	1600	-	0.08	-	0.24	0.267	-	9.8	0.216	-	-	-	-
MW-17	3/9/1993	UNK	3700	1810	7.2	-	-	181	95	329	184	-	194	2040	-	0.09	-	0.39	0.297	-	12.1	0.257	-	-	-	-
MW-17	9/23/1993	UNK	3600	1840	7.2	-	-	164	95	290	184	5	204	1980	-	0.09	-	0.22	0.32	-	10.6	0.261	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-17	3/14/1994	UNK	3010	1610	7.2	-	-	140	80	281	162	-	195	1670	-	0.07	-	0.27	0.275	-	9.37	0.295	-	-	-	-
MW-17	10/3/1994	UNK	2900	1470	7.2	-	-	128	67	270	141	3	201	1580	-	0.08	-	0.24	0.51	-	8.71	0.31	-	-	-	-
MW-17	10/16/1995	UNK	3000	1550	7.4	-	-	124	65	285	136	75	212	1450	-	0.08	-	0.34	0.17	-	0.079	0.25	-	-	-	-
MW-17	4/8/1996	UNK	2860	1350	8.2	-	-	128	69	307	129	80	240	1490	-	0.08	-	0.4	0.149	-	0.107	0.97	-	-	-	-
MW-17	10/4/1996	UNK	3440	1820	8.1	-	-	156	81	368	149	32	238	1910	-	0.08	-	0.41	0.264	-	0.054	0.253	-	-	-	-
MW-17	6/5/1997	UNK	4410	2440	7.4	-	-	164	95	407	295	24.9	264	2490	-	0.13	-	0.49	0.238	-	0.101	0.267	-	-	-	-
MW-17	8/26/1998	UNK	3800	1800	7.1	-	-	230	160	380	140	100	240	ND	35	ND	-	0.33	0.23	-	0.11	0.5	-	-	-	-
MW-17	4/22/1999	BSK	3600	2200	7.0	2000	4.8	220	150	380	130	<100	250	2440	<10	<5	-	0.3	0.18	-	0.08	0.4	-	-	-	-
MW-17	5/21/2000	BSK	3700	2100	7.2	1800	5	190	110	350	140	88	280	2196	<8	<4	-	0.3	0.23	-	0.1	0.31	-	-	-	-
MW-17	12/17/2000	BSK	3800	2000	7.1	1800	4.9	180	110	340	150	80	290	2196	<8	<4	-	0.4	0.26	-	0.75	0.28	-	-	-	-
MW-17	6/6/2001	BSK	3600	2100	6.9	1800	5.4	190	110	380	170	<100	290	2196	-	<5	-	0.4	0.2	-	<0.05	0.29	-	-	-	-
MW-17	10/3/2001	UNK	3600	2100	6.7	-	-	210	98	340	150	240	290	1400	44.3	ND	-	0.3	0.19	-	ND	0.16	-	-	-	-
MW-17	5/2/2002	BSK	3600	440	7.2	1400	-	150	83	300	110	190	340	1400	<16	<8	-	0.3	0.16	-	0.06	0.24	-	-	-	-
MW-17	12/10/2002	BSK	4500	2800	7.3	2100	-	180	140	360	110	ND	350	-	-	ND	-	0.4	0.22	-	0.35	0.34	-	-	-	-
MW-17	3/22/2003	BSK	4600	2800	7.5	2300	-	220	200	420	120	ND	380	-	-	ND	-	0.4	0.32	-	0.17	0.34	-	-	-	-
MW-17	10/25/2003	BSK	4600	2900	7.7	2600	-	200	260	430	-	ND	360	-	-	ND	-	0.4	0.26	-	0.17	0.29	-	-	-	-
MW-17	3/31/2004	BSK	4300	3000	7.6	2600	-	150	280	470	170	<2	370	3170	<0.9	<0.1	-	0.4	0.21	-	0.12	0.12	-	-	-	-
MW-17	11/14/2004	BSK	4500	2900	7.6	2600	-	190	270	440	170	<40	350	3170	<18	<2	-	0.4	0.32	-	0.1	0.24	-	-	-	-
MW-17	4/7/2005	UNK	4400	2600	7.6	2400	-	170	240	430	160	31	350	2400	ND	ND	-	0.4	0.32	-	0.1	0.2	-	-	-	-
MW-17	10/13/2005	UNK	4300	2500	7.8	2200	-	170	240	430	150	ND	300	2200	ND	ND	-	0.5	0.32	-	0.17	0.18	-	-	-	-
MW-17	4/19/2006	DL	4624	2427	7.7	2239	-	157	203	437	269	1.9	257	2239	<0.1	<0.1	-	0.24	0.22	-	0.1	0.19	-	-	-	-
MW-17	9/25/2006	UNK	5100	2568	7.3	2109	-	152	195	359	189	29	305	2109	ND	ND	-	0.34	0.32	-	0.11	0.3	-	-	-	-
MW-17	3/29/2007	TL	4100	2300	7.3	2000	-	130	190	430	220	<20	250	2500	<20	<1	10	0.4	0.51	<0.005	-	-	5.1	-	<0.005	-
MW-17	9/23/2007	TL	4500	2800	7.2	-	-	-	-	-	-	16	280	3000	<50	-	-	-	-	-	-	-	-	-	-	-
MW-17	4/5/2008	BCL	4920	3100	7.3	-	-	-	-	-	-	16	390	3416	<2.2	-	-	-	-	-	-	-	-	-	-	-
MW-17	9/2/2008	BCL	5370	2700	7.3	-	-	-	-	-	-	4	400	3782	<0.9	-	-	-	0.33	-	-	-	-	-	-	-
MW-17	4/3/2009	BCL	5210	3300	7.3	-	-	-	-	-	-	13	390	2900	ND	-	-	-	-	-	-	-	-	-	-	-
MW-17	4/3/2009	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42	-	-	-	-	-	-	-
MW-17	10/1/2009	BSK	5100	4700	7.8	-	-	-	-	-	-	<40	320	3538	<20	-	-	-	-	-	-	-	-	-	-	-
MW-17	10/19/2010	SSC	5200	3200	7.2	-	-	-	-	-	-	15	330	3600	<2	-	-	-	-	-	-	-	-	-	-	-
MW-18	12/9/1988	BCL	4700	2490	7.8	-	22.2	19	20	580	387	92	460	1964	1	0.1	<10	0.3	0.4	-	1.4	0.13	-	<5	-	-
MW-18	12/20/1988	UNK	5400	3220	7.5	-	-	30	70	1035	140	69	690	2451	-	-	-	-	-	-	0.06	0.19	-	-	-	-
MW-18	12/8/1989	UNK	5500	2980	8.0	-	-	41	39	820	233	80	626	2310	-	-	-	-	-	-	2.782	0.309	-	-	-	-
MW-18	5/21/1990	UNK	-	3200	-	-	-	-	-	-	265	-	-	2410	-	-	-	-	-	-	-	-	-	-	-	-
MW-18	11/16/1990	UNK	-	3000	7.3	-	-	-	-	-	310	-	634	2621	-	-	-	-	-	-	3.67	0.482	-	-	-	-
MW-18	6/18/1991	UNK	5500	2820	7.6	-	-	-	-	-	310	-	564	2602	-	-	-	-	0.768	-	-	-	-	-	-	-
MW-18	10/22/1991	UNK	5500	2930	7.5	-	-	41	38	830	300	18	576	2350	-	0.07	-	0.36	0.682	-	2.44	0.359	-	-	-	-
MW-18	2/25/1992	UNK	5100	2980	7.4	-	-	40	47	830	322	18	638	2470	-	0.07	-	0.44	0.775	-	2.94	0.353	-	-	-	-
MW-18	10/23/1992	UNK	-	1980	7.4	-	-	52	51	945	352	0.17	620	2770	-	0.05	-	0.4	0.68	-	2.7	0.37	-	-	-	-
MW-18	3/9/1993	UNK	5600	3120	7.6	-	-	45	51	842	306	16	635	2480	-	0.06	-	0.46	0.692	-	2.86	0.415	-	-	-	-
MW-18	9/23/1993	UNK	5900	3400	7.5	-	-	46	48	930	336	13	675	2490	-	0.07	-	0.45	0.761	-	3.29	0.501	-	-	-	-
MW-18	3/14/1994	UNK	6390	3680	7.4	-	-	47	47	1070	387	18	755	2810	-	0.07	-	0.54	0.896	-	3.19	0.534	-	-	-	-
MW-18	10/3/1994	UNK	6120	3350	7.2	-	-	40	42	104	330	14	745	2700	-	0.06	-	0.5	0.84	-	4.26	0.44	-	-	-	-
MW-18	3/15/1995	UNK	7100	4200	7.3	-	-	32	40	1200	436	14	845	3140	-	0.08	-	0.51	0.786	-	0.413	0.287	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-18	10/15/1995	UNK	7700	4660	7.6	-	-	25	43	1300	445	12	936	2480	-	0.07	-	0.66	0.82	-	0.46	0.23	-	-	-	-
MW-18	4/4/1996	UNK	7930	4530	7.5	-	-	23	45	1440	407	10	956	3740	-	0.08	-	0.67	0.864	-	3.6	0.196	-	-	-	-
MW-18	10/4/1996	UNK	8030	4640	8.7	-	-	25	46	1460	415	6.2	920	3680	-	0.07	-	0.65	0.837	-	0.475	0.146	-	-	-	-
MW-18	6/4/1997	UNK	7980	4700	7.5	-	-	40	64	1360	408	6.8	916	3830	-	0.07	-	0.64	0.894	-	0.435	0.275	-	-	-	-
MW-18	3/24/1998	UNK	7400	4600	7.4	-	-	45	79	1400	450	-	910	3100	1.3	-	-	0.5	1.1	-	0.43	0.31	-	-	-	-
MW-18	8/25/1998	UNK	8200	4600	7.5	-	-	46	79	1300	470	ND	870	3200	ND	ND	-	0.49	1.1	-	0.59	0.34	-	-	-	-
MW-18	4/20/1999	BSK	7900	4600	7.4	3200	30.9	44	82	1500	510	<200	860	3904	<20	<10	-	0.4	1.1	-	0.6	0.34	-	-	-	-
MW-18	5/21/2000	BSK	6700	4000	7.5	3200	21.6	54	54	940	600	<150	630	3904	<15	<7.5	-	0.4	1.4	-	0.54	0.27	-	-	-	-
MW-18	12/19/2000	BSK	7200	3800	7.4	3000	18.6	52	54	800	550	<200	720	3660	<20	<10	-	0.4	1.3	-	0.44	0.26	-	-	-	-
MW-18	6/6/2001	BSK	6800	3700	7.4	2800	21.9	44	46	870	580	<200	780	3360	-	<10	-	0.4	1.2	-	0.58	0.24	-	-	-	-
MW-18	10/3/2001	UNK	6900	3600	7.4	-	-	39	57	950	530	ND	760	2800	ND	ND	-	0.4	1.1	-	0.6	0.18	-	-	-	-
MW-18	5/2/2002	BSK	7200	4100	7.8	2700	-	36	48	1100	380	<240	870	2700	<24	<12	-	0.4	1	-	0.4	0.19	-	-	-	-
MW-18	9/19/2002	TL	7100	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-18	12/10/2002	BSK	6900	3800	7.8	2400	-	25	28	770	400	ND	770	-	-	ND	-	0.4	0.95	-	0.66	0.15	-	-	-	-
MW-18	1/13/2003	TL	7500	4000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-18	3/22/2003	BSK	7000	3900	8.0	2600	-	26	28	1700	520	ND	820	-	-	ND	-	0.5	0.99	-	0.79	0.14	-	-	-	-
MW-18	3/23/2003	BSK	7000	3900	8.0	2600	-	26	28	1700	520	<120	820	3170	<0.9	<6	-	0.5	0.99	-	0.79	0.14	-	-	-	-
MW-18	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	-	-	-	-	-	9.6	<0.4	-	-
MW-18	9/30/2003	TL	5700	3600	7.6	190	-	27	24	940	590	20	690	230	<1.8	-	-	0.51	0.89	<0.05	2.1	<0.03	-	-	-	<0.05
MW-18	10/25/2003	BSK	6600	3700	8.1	2500	-	31	28	970	460	ND	790	-	-	ND	-	0.4	0.86	-	0.91	0.13	-	-	-	-
MW-18	3/4/2004	TL	5200	2800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-18	3/31/2004	BSK	5000	2700	8.1	2000	-	19	17	660	450	<2	540	2440	<0.9	<0.1	-	0.5	0.66	-	1	0.09	-	-	-	-
MW-18	4/1/2004	UNK	5000	2700	8.1	2000	-	19	17	660	450	ND	540	2000	ND	ND	-	0.5	0.66	-	1	0.09	-	-	-	-
MW-18	11/14/2004	BSK	5000	2800	8.0	2000	-	27	29	660	430	44	550	2440	<18	<2	-	0.5	0.66	-	0.27	0.12	-	-	-	-
MW-18	3/8/2005	TL	4700	2600	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	0.12	<25	-	-	-
MW-18	4/6/2005	UNK	4200	2400	8.0	1800	-	29	27	670	260	ND	470	1800	ND	ND	-	0.56	0.48	-	0.22	0.17	-	-	-	-
MW-18	8/11/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	105	31	-	-
MW-18	8/11/2005	TL	7100	5200	7.1	1800	-	89	71	1700	210	550	1100	2100	470	-	-	0.41	0.31	0.05	0.53	0.87	-	-	<0.025	-
MW-18	10/13/2005	UNK	5000	2800	8.0	1800	-	48	43	860	210	ND	610	1800	62	ND	-	0.6	0.43	-	0.14	0.39	-	-	-	-
MW-18	4/20/2006	UNK	5176	2740	7.5	1644	-	37	32	867	176	48	634	1644	ND	ND	-	0.34	0.36	-	0.13	0.41	-	-	-	-
MW-18	4/20/2006	TL	4600	2800	7.2	1100	-	39	35	930	220	54	600	-	<2	-	-	-	-	<0.01	6.5	0.4	-	-	-	<0.01
MW-18	9/26/2006	UNK	6715	3915	7.7	1451	-	47.5	38.4	1116	82.8	581	781	1451	276.2	ND	-	0.39	0.11	-	0.06	0.22	-	-	-	-
MW-18	9/26/2006	TL	5900	4100	7.4	1500	-	51	41	1400	120	480	710	-	260	-	<50	0.41	0.15	0.029	0.64	0.21	160	<100	<0.025	-
MW-18	3/28/2007	TL	4500	2800	7.4	1400	-	48	41	880	150	150	600	1700	-	-	ND	0.4	0.48	ND	0.18	0.47	23	ND	0.048	-
MW-18	9/24/2007	TL	4900	2800	7.2	1600	-	45	45	1100	150	100	600	2000	-	-	ND	0.44	0.35	0.031	0.61	0.45	-	-	-	ND
MW-18	4/5/2008	BCL	4010	2500	7.61	-	-	-	-	-	-	140	560	1464	<0.9	-	-	-	-	-	-	-	-	-	-	-
MW-18	9/4/2008	BCL	3500	2200	7.6	-	-	-	-	-	-	150	510	1220	2.3	-	-	-	0.16	-	-	-	-	-	-	-
MW-18	4/2/2009	BCL	4440	3500	7.7	1300	-	36	33	980	68	160	710	1600	ND	-	-	-	-	0.0023	3.8	0.42	-	-	-	0.0065
MW-18	4/2/2009	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-	-	-
MW-18	10/2/2009	BSK	4300	2500	8.1	-	-	-	-	-	-	150	620	2074	<20	-	-	-	-	-	-	-	-	-	-	-
MW-18	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13	<0.4	-	-
MW-18	10/20/2009	BCL	4320	2700	7.59	1300	-	38	38	920	98	150	640	1600	<2.2	-	8.5	0.35	0.3	0.00092	5.7	0.36	-	-	-	0.0065
MW-18	5/20/2010	BCL	3670	2400	7.72	1100	-	29	28	740	77	150	600	1300	ND	-	-	-	-	0.0021	4.3	0.24	-	-	-	0.0057
MW-18	9/15/2010	SSC	2100	1300	7.7	-	-	-	-	-	-	110	250	740	<2	-	-	-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-18	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.6	ND	-
MW-18	9/15/2010	BCL	1990	1500	8.03	560	-	8	7	430	32	120	260	690	ND	-	-	4.1	0.25	0.049	0.0019	1.1	0.072	-	-	0.0038
MW-19	12/9/1988	BCL	16500	9840	8.0	-	53.9	24	24	1560	2800	77	1420	8922	<1	0.3	-	10	0.2	2.5	-	1.2	0.11	-	<5	-
MW-19	12/20/1988	UNK	9600	6375	7.6	-	-	15	16	1060	1700	70	998	5333	1133.3	-	-	-	-	-	-	1.7	0.13	-	-	-
MW-19	12/8/1989	UNK	15900	9600	7.8	-	-	24	30	1620	1360	74	1381	7796	-	-	-	-	-	-	-	1.307	0.142	-	-	-
MW-19	5/21/1990	UNK	-	3200	-	-	-	-	-	-	2560	-	-	7900	-	-	-	-	-	-	-	-	-	-	-	-
MW-19	11/16/1990	UNK	-	8100	7.7	-	-	-	-	-	1850	-	1312	3219	-	-	-	-	-	1.92	-	2.03	0.218	-	-	-
MW-19	6/18/1991	UNK	13300	7500	7.9	-	-	-	-	-	1670	-	1248	6835	-	-	-	-	-	2.01	-	-	-	-	-	-
MW-19	10/22/1991	UNK	13500	7320	7.8	-	-	12	20	1320	1920	50	1130	6650	-	0.4	-	0.28	1.54	-	2.74	0.118	-	-	-	-
MW-19	2/25/1992	UNK	12800	8400	8.0	-	-	12.3	25	1300	1850	19	1080	6360	4	0.42	-	0.33	1.51	-	3.02	0.108	-	-	-	-
MW-19	10/23/1992	UNK	7500	5360	7.7	-	-	8.4	23	1080	1340	29	925	3480	-	0.29	-	0.29	1.16	-	2.82	0.099	-	-	-	-
MW-19	3/9/1993	UNK	11100	5750	7.8	-	-	9.4	36	1140	1470	12	920	5470	-	0.33	-	0.32	1.03	-	2.85	0.094	-	-	-	-
MW-19	9/23/1993	UNK	10300	5350	7.7	-	-	8	30	1010	1470	105	815	4930	-	0.28	-	0.3	1.09	-	2.86	0.082	-	-	-	-
MW-19	3/14/1994	UNK	9500	4950	7.6	-	-	6.9	28	1010	1420	120	764	4570	-	0.36	-	0.32	0.983	-	2.34	0.052	-	-	-	-
MW-19	10/3/1994	UNK	8720	4350	7.6	-	-	6.6	24	800	1120	148	669	4190	-	0.25	-	0.3	0.88	-	1.98	0.051	-	-	-	-
MW-19	3/15/1995	UNK	8100	4250	7.5	-	-	5.5	21	798	1120	208	605	3770	-	0.29	-	0.31	0.657	-	1.1	0.04	-	-	-	-
MW-19	10/15/1995	UNK	7210	3980	7.8	-	-	5.5	18	652	935	135	525	3420	-	0.26	-	0.35	0.56	-	1.21	0.035	-	-	-	-
MW-19	4/4/1996	UNK	6620	3240	7.8	-	-	5.5	17	608	866	120	440	3310	-	0.26	-	0.33	0.478	-	1.01	0.035	-	-	-	-
MW-19	10/4/1996	UNK	5900	2820	8.7	-	-	4.9	14	522	748	88.8	336	2890	-	0.28	-	0.38	0.421	-	1.09	0.029	-	-	-	-
MW-19	6/4/1997	UNK	5660	2800	7.8	-	-	6.9	15	514	722	86	324	2810	-	0.27	-	0.41	0.41	-	0.811	0.078	-	-	-	-
MW-19	3/24/1998	UNK	4600	2500	7.8	-	-	7.8	16	530	590	70	270	2100	5.8	-	-	0.46	0.35	-	0.44	0.08	-	-	-	-
MW-19	8/25/1998	UNK	5000	2500	7.8	-	-	6.8	12	480	520	520	280	2100	ND	ND	-	0.45	0.35	-	1.1	0.1	-	-	-	-
MW-19	4/21/1999	BSK	4700	2500	7.9	2000	24.3	7.7	14	490	540	<100	260	2440	<10	<5	-	0.4	0.32	-	0.65	0.16	-	-	-	-
MW-19	5/21/2000	BSK	4100	2200	7.6	2100	23	6.4	10	400	470	<100	240	2100	<10	<5	-	0.5	0.28	-	0.93	0.15	-	-	-	-
MW-19	12/17/2000	BSK	4300	2200	7.5	1800	23.1	7.4	13	450	480	<100	270	2196	<10	<5	-	0.4	0.28	-	0.45	0.13	-	-	-	-
MW-19	6/6/2001	BSK	4200	2100	7.5	1800	21.7	8.3	13	430	490	<100	300	2196	-	<5	-	0.5	0.29	-	0.9	0.14	-	-	-	-
MW-19	6/10/2001	UNK	4200	2100	7.5	-	-	8.3	13	430	490	ND	300	1800	ND	ND	-	0.5	0.29	-	0.9	0.14	-	-	-	-
MW-19	10/3/2001	UNK	4400	2100	7.4	-	-	8.3	15	450	480	ND	310	1700	70.8	ND	-	0.4	0.29	-	0.81	0.13	-	-	-	-
MW-19	5/2/2002	BSK	4400	2200	7.8	1700	-	7.4	13	400	420	<120	300	1700	<12	<6	-	0.4	0.28	-	0.7	0.11	-	-	-	-
MW-19	12/11/2002	BSK	4300	2100	7.7	1700	-	7.5	14	390	390	ND	320	-	-	ND	-	0.4	0.29	-	0.6	0.11	-	-	-	-
MW-19	3/23/2003	BSK	4300	2200	8.0	1600	-	7.8	15	380	390	ND	320	-	-	ND	-	0.4	0.3	-	0.77	0.11	-	-	-	-
MW-19	10/25/2003	BSK	4200	2000	-	1700	-	8.1	17	390	440	ND	300	-	-	ND	-	0.4	0.28	-	0.4	-	-	-	-	-
MW-19	4/1/2004	UNK	3900	2000	7.8	1700	-	9.8	26	390	410	ND	260	1700	ND	ND	-	0.4	0.29	-	0.53	0.14	-	-	-	-
MW-19	11/14/2004	BSK	4200	2200	8.0	1900	-	11	26	520	510	57	270	2320	<18	<2	-	0.4	0.35	-	0.75	0.13	-	-	-	-
MW-19	4/7/2005	UNK	4700	2300	7.9	2000	-	13	29	430	550	92	310	2000	ND	ND	-	0.4	0.39	-	0.23	0.13	-	-	-	-
MW-19	10/14/2005	UNK	5400	2800	8.2	2200	-	22	45	590	700	190	390	2200	ND	ND	-	0.5	0.7	-	0.6	0.13	-	-	-	-
MW-19	4/19/2006	DL	6140	2973	7.9	2142	-	37	85	838	1158	74	394	2142	<0.1	<0.1	-	0.28	0.53	-	0.31	0.12	-	-	-	-
MW-19	9/25/2006	UNK	7310	3563	7.6	2213	-	31.1	81.2	619	608	557	554	2213	9.7	ND	-	0.37	0.31	-	0.24	0.24	-	-	-	-
MW-19	3/29/2007	TL	7100	4100	7.5	2200	-	54	120	720	790	710	500	2700	<50	<2.5	45	0.41	0.2	<0.005	-	-	<5	-	<0.005	-
MW-19	9/24/2007	TL	8300	4800	7.4	-	-	-	-	-	-	920	680	2700	190	-	-	-	-	-	-	-	-	-	-	-
MW-19	4/5/2008	BCL	8590	5200	7.6	-	-	-	-	-	-	1200	750	3050	12.4	-	-	-	-	-	-	-	-	-	-	-
MW-19	9/3/2008	BCL	8700	5000	7.6	-	-	-	-	-	-	2700	1700	2928	12.8	-	-	-	0.11	-	-	-	-	-	-	-
MW-19	4/3/2009	UNK	8620	5300	7.5	-	-	-	-	-	-	1100	770	2400	ND	-	-	-	0.09	-	-	-	-	-	-	-
MW-19	10/1/2009	BSK	7600	3700	7.9	-	-	-	-	-	-	930	660	2806	<20	-	-	-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-19	10/19/2010	SSC	7100	4200	7.3	-	-	-	-	-	-	700	610	2700	2	-	-	-	-	-	-	-	-	-	-	-	
MW-20	5/21/1990	UNK	4000	2520	7.6	-	-	111	46	700	18	218	360	1545	-	-	-	-	-	-	-	1.445	2.059	-	-	-	
MW-20	11/16/1990	UNK	-	2450	7.2	-	-	-	-	-	260	-	392	1106	-	-	-	0.43	0.379	-	-	3.12	1.95	-	-	-	
MW-20	6/18/1991	UNK	4000	2340	7.2	-	-	-	-	-	30	-	408	1655	-	-	-	-	0.329	-	-	-	-	-	-		
MW-20	10/22/1991	UNK	3200	2125	7.2	-	-	106	46	630	24	218	356	1410	-	0.06	-	0.37	0.237	-	2.33	1.74	-	-	-		
MW-20	2/25/1992	UNK	3500	2040	7.6	-	-	115	44	585	22	210	333	1280	-	0.05	-	0.51	0.264	-	3.05	2.01	-	-	-		
MW-20	10/23/1992	UNK	3100	1810	7.3	-	-	96	42	545	23	193	307	1210	-	0.06	-	0.25	0.19	-	2.5	1.6	-	-	-		
MW-20	3/9/1993	UNK	3000	1700	7.8	-	-	91	41	518	20	205	305	1130	-	0.06	-	0.4	0.191	-	2.38	1.62	-	-	-		
MW-20	9/23/1993	UNK	2440	2440	7.5	-	-	64	31	471	20	165	236	1010	-	0.06	-	0.36	0.23	-	1.43	1.24	-	-	-		
MW-20	3/14/1994	UNK	2430	1510	7.4	-	-	71	33	447	22	155	226	1020	-	0.06	-	0.34	0.25	-	1.83	1.43	-	-	-		
MW-20	10/3/1994	UNK	2420	1490	7.4	-	-	75	33	480	15.5	175	231	1030	-	0.07	-	0.35	0.232	-	-	1.43	-	-	-		
MW-20	3/15/1995	UNK	2280	1380	7.6	-	-	70	30	406	12.2	165	215	818	-	0.06	-	0.38	0.2	-	-	1.29	-	-	-		
MW-20	10/15/1995	UNK	2160	1320	7.8	-	-	66	29	389	11.6	170	203	871	-	0.06	-	0.38	0.193	-	-	1.29	-	-	-		
MW-20	4/4/1996	UNK	2010	1150	8.48	-	-	56	26	376	10.7	158	176	818	-	0.06	-	0.42	0.183	-	-	1.14	-	-	-		
MW-20	10/4/1996	UNK	2000	1220	7.6	-	-	58	24	362	10.9	157	170	803	-	0.06	-	0.45	0.172	-	-	1.06	-	-	-		
MW-20	6/4/1997	UNK	1800	1300	7.4	-	-	67	28	430	11	170	200	630	-	-	-	0.46	0.18	-	-	1.1	-	-	-		
MW-20	3/24/1998	UNK	2700	1590	7.4	-	-	74	34	468	21	170	243	1000	-	0.07	-	0.35	0.195	-	1.99	1.55	-	-	-		
MW-20	8/25/1998	UNK	2100	1300	7.7	-	-	61	27	420	14	180	210	670	18.6	ND	-	0.41	0.18	-	ND	1.1	-	-	-		
MW-20	4/21/1999	BSK	2000	1300	7.5	670	11.7	57	25	420	10	190	190	817	<4	<2	-	0.4	0.15	-	<0.05	1	-	-	-		
MW-20	6/30/2000	UNK	2200	1300	7.5	600	-	54	25	380	10	220	170	600	ND	ND	-	0.4	0.12	-	ND	0.94	-	-	-		
MW-20	12/19/2000	BSK	2200	1400	7.5	600	11.4	56	26	410	10	310	200	732	<5	<2.5	-	0.4	0.13	-	<0.05	0.89	-	-	-		
MW-20	6/6/2001	BSK	2100	1400	7.3	580	10	64	28	380	11	300	220	708	-	<2.5	-	0.4	0.11	-	<0.05	1	-	-	-		
MW-20	10/3/2001	UNK	2200	1400	7.4	-	-	58	27	420	10	280	200	560	ND	ND	-	0.3	0.11	-	ND	0.88	-	-	-		
MW-20	5/2/2002	BSK	2400	1500	7.6	540	-	60	27	380	9	320	250	540	<6	<3	-	0.4	0.11	-	<0.05	1	-	-	-		
MW-20	12/11/2002	BSK	2400	1500	8.0	600	-	56	26	410	10	300	260	-	-	ND	-	0.3	0.11	-	ND	0.93	-	-	-		
MW-20	3/23/2003	BSK	2400	1500	7.9	620	-	58	28	400	9	290	280	-	-	ND	-	0.4	0.11	-	ND	1	-	-	-		
MW-20	10/25/2003	BSK	2600	1600	8.2	660	-	66	31	430	11	-	-	-	-	ND	-	0.4	0.11	-	ND	1.1	-	-	-		
MW-20	4/1/2004	UNK	2500	1600	8.0	680	-	73	36	480	10	290	320	680	ND	ND	-	0.4	0.13	-	ND	1.1	-	-	-		
MW-20	11/15/2004	BSK	2400	1500	7.9	670	-	64	31	430	10	280	260	820	<2.7	<0.3	-	0.4	0.11	-	<0.05	1	-	-	-		
MW-20	4/7/2005	UNK	2500	1500	8.0	690	-	67	32	460	11	310	300	690	ND	ND	-	0.4	0.14	-	ND	1.1	-	-	-		
MW-20	10/14/2005	UNK	2600	1600	8.4	720	-	67	31	550	12	290	280	690	ND	ND	-	0.4	0.13	-	ND	1.2	-	-	-		
MW-20	4/20/2006	DL	2610	1560	7.9	718	-	54	25	460	17	264	265	718	<0.1	<0.1	-	0.31	0.14	-	<0.01	0.98	-	-	-		
MW-20	9/26/2006	UNK	2892	1703	7.9	667	-	59.8	27.8	533	17.6	353	336	667	ND	-	-	0.39	0.13	-	ND	1.15	-	-	-		
MW-20	3/29/2007	TL	2600	1700	7.7	670	-	56	26	510	26	260	280	820	<20	<1	<10	0.41	0.17	<0.005	-	-	27	-	<0.005		
MW-20	9/24/2007	TL	2700	1600	7.6	-	-	-	-	-	-	140	290	880	<50	-	-	-	-	-	-	-	-	-	-		
MW-20	4/6/2008	BCL	2930	1900	7.78	-	-	-	-	-	-	280	340	1000	<0.4	-	-	-	-	-	-	-	-	-	-		
MW-20	9/4/2008	BCL	2940	1800	7.8	-	-	-	-	-	-	300	340	1013	<0.4	-	-	-	0.15	-	-	-	-	-	-		
MW-20	4/3/2009	UNK	2760	1800	7.7	-	-	-	-	-	-	300	350	750	ND	-	-	-	0.12	-	-	-	-	-	-		
MW-20	10/1/2009	BSK	2600	1600	8.1	-	-	-	-	-	-	280	290	964	<10	-	-	-	-	-	-	-	-	-	-		
MW-20	10/19/2010	SSC	2800	1700	7.5	-	-	-	-	-	-	320	310	880	<2	-	-	-	-	-	-	-	-	-	-		
MW-21	5/21/1990	UNK	5500	3120	7.1	-	-	135	75	730	265	84	521	2573	5.8	-	-	-	-	-	0.077	1.513	-	-	-		
MW-21	11/16/1990	UNK	-	2530	6.9	-	-	-	-	-	140	-	433	2097	-	-	-	0.32	0.954	-	0.716	2.76	-	-	-		
MW-21	6/18/1991	UNK	3900	2400	7.2	-	-	-	-	-	97	-	408	1667	-	-	-	-	0.719	-	-	-	-	-	-		
MW-21	10/22/1991	UNK	4000	2340	7.0	-	-	159	59	580	83	279	415	1450	12	0.06	-	0.44	0.208	-	3.22	2.47	-	-	-		

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-21	2/25/1992	UNK	4000	2510	7.3	-	-	180	62	610	95	278	408	1520	-	0.05	-	0.72	0.258	-	4.62	2.98	-	-	-	-	
MW-21	10/23/1992	UNK	3800	2230	7.1	-	-	145	47	575	123	279	347	1420	-	0.05	-	0.53	0.163	-	3.8	1.85	-	-	-	-	
MW-21	3/9/1993	UNK	3800	2100	7.4	-	-	56	12.2	748	46	7	418	1630	-	-	-	0.2	0.761	-	4.08	0.784	-	-	-	-	
MW-21	9/23/1993	UNK	4200	2470	7.2	-	-	145	61	643	122	210	390	1770	-	0.07	-	0.48	0.493	-	7.2	1.8	-	-	-	-	
MW-21	3/14/1994	UNK	4300	2690	7.0	-	-	140	65	730	142	145	404	2010	-	-	-	0.47	0.969	-	6.88	1.37	-	-	-	-	
MW-21	10/3/1994	UNK	3180	2560	7.0	-	-	128	60	690	92	177	405	1790	-	-	-	0.47	0.66	-	0.29	1.29	-	-	-	-	
MW-21	3/15/1995	UNK	5000	2630	7.1	-	-	136	68	724	71	210	436	1820	-	-	-	0.45	0.48	-	-	1.26	-	-	-	-	
MW-21	10/15/1995	UNK	3960	2380	7.4	-	-	120	57	639	71	256	426	1430	-	-	-	0.56	0.21	-	-	1.21	-	-	-	-	
MW-21	10/4/1996	UNK	3520	2050	8.4	-	-	0.88	44	598	98	229	374	1350	-	-	-	0.48	0.272	-	-	0.768	-	-	-	-	
MW-21	6/4/1997	UNK	2600	1530	7.5	-	-	54	26	435	64	223	270	923	-	0.07	-	0.4	0.172	-	-	0.474	-	-	-	-	
MW-21	3/24/1998	UNK	2000	1400	7.4	-	-	56	25	380	61	200	250	700	-	2.3	-	0.24	0.16	-	-	0.52	-	-	-	-	
MW-21	8/25/1998	UNK	2200	1300	7.7	-	-	23	4.6	460	28	44	260	700	ND	ND	-	0.017	0.29	-	0.24	0.32	-	-	-	-	
MW-21	4/22/1999	BSK	2400	1400	7.2	730	12.6	51	25	440	78	200	230	891	<6	<3	-	0.4	0.17	-	<0.05	0.4	-	-	-	-	
MW-21	5/21/2000	BSK	2200	1500	7.3	680	11.5	52	24	400	80	250	250	830	<5	<2.5	-	0.4	0.12	-	<0.05	0.5	-	-	-	-	
MW-21	12/19/2000	BSK	2300	1400	7.4	640	12.1	44	21	390	63	200	240	781	<5	<2.5	-	0.3	0.13	-	<0.05	0.4	-	-	-	-	
MW-21	6/4/2001	BSK	2100	1300	7.3	580	10.5	51	23	360	60	210	250	708	<4	<2	-	0.3	0.11	-	<0.05	0.5	-	-	-	-	
MW-21	6/10/2001	UNK	2100	1300	7.3	-	-	51	23	360	60	210	250	580	ND	ND	-	0.3	0.11	-	ND	0.5	-	-	-	-	
MW-21	10/4/2001	UNK	5600	2600	7.4	2200	-	20	14	590	680	ND	440	2200	ND	ND	-	0.3	0.17	-	0.27	0.23	-	-	-	-	
MW-21	5/2/2002	BSK	7200	3900	7.9	2600	-	23	15	580	740	72	620	2600	<6	<3	-	0.3	0.12	-	0.22	0.27	-	-	-	-	
MW-21	12/11/2002	BSK	3400	1800	8.1	1100	-	38	22	400	190	210	300	-	-	ND	-	0.3	0.1	-	ND	0.33	-	-	-	-	
MW-21	3/22/2003	BSK	3300	1800	-	1000	-	47	27	390	170	210	320	-	-	ND	-	0.3	0.13	-	ND	0.61	-	-	-	-	
MW-21	10/25/2003	BSK	2700	1600	7.9	880	-	62	31	410	120	190	-	-	-	ND	-	0.3	0.12	-	ND	0.79	-	-	-	-	
MW-21	3/31/2004	BSK	2300	1400	7.8	750	-	69	34	390	66	210	260	920	<0.9	<0.1	-	0.3	0.11	-	<0.05	0.86	-	-	-	-	
MW-21	11/14/2004	BSK	2300	1400	8.0	840	-	57	31	390	73	170	230	1020	<4	<0.5	-	0.3	0.09	-	<0.05	0.69	-	-	-	-	
MW-21	4/7/2005	UNK	2300	1300	7.9	780	-	54	28	380	66	160	230	780	ND	ND	-	0.2	0.08	-	ND	0.59	-	-	-	-	
MW-21	4/2/2009	UNK	2840	1600	7.7	-	-	-	-	-	-	180	280	1000	ND	-	-	-	0.19	-	-	-	-	-	-	-	
MW-21	10/1/2009	BSK	2800	1600	8.0	-	-	-	-	-	-	190	250	1220	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-21	10/19/2010	SSC	2900	1800	7.3	-	-	-	-	-	-	190	250	1342	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-23	4/12/1990	UNK	8400	4460	7.5	-	-	78	69	900	559	132	777	3756	-	-	-	-	-	-	0.195	0.566	-	-	-	-	
MW-23	11/19/1990	UNK	-	4060	7.2	-	-	-	-	-	580	-	783	2616	-	-	-	0.25	2.94	-	0.573	0.717	-	-	-	-	
MW-23	6/19/1991	UNK	8000	4200	7.2	-	-	-	-	-	595	-	776	3838	-	-	-	-	2.69	-	-	-	-	-	-	-	
MW-23	10/23/1991	UNK	7500	3930	7.1	-	-	101	78	920	565	122	748	3480	-	-	-	0.23	2.42	-	6.45	0.635	-	-	-	-	
MW-23	3/12/1992	UNK	7400	3900	7.4	-	-	98	70	840	615	102	644	3410	-	-	-	0.43	3.16	-	6.81	0.592	-	-	-	-	
MW-23	10/26/1992	UNK	6500	3380	7.2	-	-	88	64	820	470	125	570	2940	-	-	-	0.26	2.1	-	5.11	0.561	-	-	-	-	
MW-23	3/5/1993	UNK	6500	3340	7.3	-	-	102	75	825	487	135	585	2970	-	0.05	-	0.33	1.24	-	6.6	0.674	-	-	-	-	
MW-23	9/24/1993	UNK	6000	3000	7.4	-	-	108	78	781	385	120	580	2730	-	0.06	-	0.27	1.76	-	6.89	0.71	-	-	-	-	
MW-23	4/11/1994	UNK	6000	3210	7.0	-	-	81	62	780	489	80	542	2890	-	0.08	-	0.32	1.91	-	5.2	0.583	-	-	-	-	
MW-23	10/4/1994	UNK	6280	3500	7.0	-	-	87	67	755	506	80	570	2990	-	-	-	0.29	2.02	-	0.91	0.57	-	-	-	-	
MW-23	3/30/1995	UNK	5230	2820	7.0	-	-	61	51	705	390	42	470	2590	-	-	-	0.3	1.29	-	0.15	0.42	-	-	-	-	
MW-23	3/24/1998	UNK	3900	2400	7.5	-	-	48	32	630	380	120	410	1700	-	-	-	0.37	0.81	-	-	0.31	-	-	-	-	
MW-23	4/22/1999	BSK	4900	2700	7.3	1900	16	53	35	610	450	140	400	2318	<5	<5	-	0.38	0.85	-	0.15	0.42	-	-	-	-	
MW-23	5/21/2000	BSK	4100	2500	7.2	1700	16.8	30	24	510	390	140	360	2074	<10	<5	-	0.4	0.49	-	0.07	0.42	-	-	-	-	
MW-23	12/19/2000	BSK	4900	2500	7.4	1700	13.5	51	30	490	360	200	400	2074	<10	<5	-	0.4	0.6	-	0.21	0.43	-	-	-	-	
MW-23	6/4/2001	BSK	4400	2400	7.4	1600	18.6	30	22	550	380	180	390	1952	<8	<4	-	0.4	0.46	-	0.2	0.36	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-23	6/10/2001	UNK	4400	2400	7.4	1600	-	30	22	550	380	180	390	1600	ND	ND	-	0.4	0.46	-	0.2	0.36	-	-	-	-
MW-23	10/3/2001	UNK	4200	2200	7.2	1500	-	44	28	540	350	210	360	1500	ND	ND	-	0.4	0.4	-	0.14	0.38	-	-	-	-
MW-23	5/2/2002	BSK	3800	2400	7.7	1200	-	41	23	450	230	240	340	1200	<10	<5	-	0.4	0.28	-	0.07	0.42	-	-	-	-
MW-23	12/11/2002	BSK	3700	2000	8.1	-	-	40	22	420	230	220	310	-	-	ND	-	0.3	0.21	-	0.1	0.63	-	-	-	-
MW-23	3/22/2003	BSK	1300	1900	7.9	1200	-	17	15	460	210	94	-	-	-	ND	-	0.5	0.23	-	0.14	0.21	-	-	-	-
MW-23	10/24/2003	BSK	3300	1800	7.8	1100	-	36	21	440	230	170	280	-	-	ND	-	0.4	0.24	-	0.09	0.4	-	-	-	-
MW-23	3/31/2004	BSK	3300	1900	7.8	1200	-	18	16	490	230	150	300	1460	<0.9	<0.1	-	0.5	0.21	-	0.08	0.19	-	-	-	-
MW-23	11/14/2004	BSK	3000	1700	8.0	1200	-	16	14	440	210	83	240	1460	<9	<1	-	0.4	0.2	-	0.12	0.17	-	-	-	-
MW-23	4/7/2005	UNK	3400	1800	7.7	1400	-	17	14	470	260	63	260	1400	ND	ND	-	0.4	0.25	-	0.1	0.19	-	-	-	-
MW-23	10/14/2005	UNK	3400	1800	8.2	1400	-	18	17	490	250	82	230	1400	ND	ND	-	0.5	ND	-	0.1	0.22	-	-	-	-
MW-23	4/19/2006	DL	3804	1963	7.7	1575	-	16	15	720	559	34	246	1575	<0.1	<0.1	-	0.29	0.35	-	0.15	0.21	-	-	-	-
MW-23	9/25/2006	UNK	3502	1855	7.5	1100	-	17.5	13.4	423	270	59	264	1100	ND	ND	-	0.36	0.26	-	0.14	0.29	-	-	-	-
MW-23	4/2/2009	UNK	3800	2200	7.7	-	-	-	-	-	-	100	290	1500	ND	-	-	-	0.39	-	-	-	-	-	-	-
MW-23	10/1/2009	BSK	3200	1700	8.0	-	-	-	-	-	-	88	240	1586	<10	-	-	-	-	-	-	-	-	-	-	-
MW-23	10/19/2010	SSC	3300	1800	7.3	-	-	-	-	-	-	99	250	1600	<2	-	-	-	-	-	-	-	-	-	-	-
MW-24	4/12/1990	UNK	1670	1110	7.1	-	-	121	43	157	11	236	276	259	-	-	-	-	-	-	8.731	1.888	-	-	-	-
MW-24	11/19/1990	UNK	-	1180	7.0	-	-	-	-	-	17.2	-	341	291	-	-	-	0.14	-	-	10.9	2.14	-	-	-	-
MW-24	6/19/1991	UNK	2300	1530	7.0	-	-	-	-	-	15.6	-	367	417	-	-	-	-	-	-	-	-	-	-	-	-
MW-24	10/23/1991	UNK	2300	1280	6.9	-	-	140	51	206	14.9	218	326	432	-	0.05	-	0.17	-	-	14.26	1.93	-	-	-	-
MW-24	3/12/1992	UNK	2500	1580	7.0	-	-	160	54	256	14.5	163	339	604	-	0.05	-	0.29	0.11	-	12	2.05	-	-	-	-
MW-24	10/26/1992	UNK	2300	1260	7.3	-	-	132	46	230	21	183	328	503	-	0.06	-	0.2	0.257	-	18.1	2.04	-	-	-	-
MW-24	3/5/1993	UNK	1780	1070	7.1	-	-	113	43	199	9.7	166	294	432	-	0.06	-	0.25	0.111	-	8.51	1.55	-	-	-	-
MW-24	9/24/1993	UNK	1730	1030	7.2	-	-	116	42	194	11.6	145	294	400	-	0.06	-	0.16	0.178	-	58.6	1.98	-	-	-	-
MW-24	4/4/1994	UNK	1940	1170	7.1	-	-	84	36	265	16.7	125	306	483	-	0.05	-	0.26	-	-	11	1.2	-	-	-	-
MW-24	3/30/1995	UNK	2180	1440	7.2	-	-	98	40	324	21	180	341	550	13.7	-	-	0.19	0.19	-	-	0.66	-	-	-	-
MW-24	6/6/1997	UNK	2510	1580	7.3	-	-	149	60	288	21	384	386	450	-	0.05	-	0.27	0.237	-	-	1.99	-	-	-	-
MW-24	3/24/1998	UNK	2500	1600	7.0	-	-	180	69	280	18	390	450	320	-	-	-	-	-	-	-	2.6	-	-	-	-
MW-24	8/29/1998	UNK	2800	1700	6.8	-	-	200	95	300	21	540	440	280	48.7	ND	-	0.24	ND	-	0.19	6.1	-	-	-	-
MW-24	4/22/1999	BSK	2700	2000	6.4	220	4	210	100	280	18	650	440	268	<10	<5	-	0.2	0.07	-	0.22	7.1	-	-	-	-
MW-24	5/21/2000	BSK	2300	1600	6.2	150	3.8	140	81	230	13	490	440	183	<5	<2.5	-	0.2	<0.05	-	1.6	4.8	-	-	-	-
MW-24	12/17/2000	BSK	2600	1800	6.3	200	3.3	200	98	230	14	690	440	244	<6	<3	-	0.1	<0.05	-	2.6	4.1	-	-	-	-
MW-24	6/5/2001	BSK	2400	1700	6.7	220	3.3	200	97	230	14	600	460	268	-	<3	-	0.2	<0.05	-	1	3.9	-	-	-	-
MW-24	6/15/2001	UNK	2400	1700	6.7	220	-	200	97	230	14	600	460	220	ND	ND	-	0.2	ND	-	1	3.9	-	-	-	-
MW-24	10/3/2001	UNK	2600	1800	6.2	190	-	240	110	250	14	640	430	190	ND	ND	-	0.1	ND	-	ND	3.9	-	-	-	-
MW-24	5/2/2002	BSK	2600	1900	6.7	190	-	180	86	210	13	590	430	190	<8	<4	-	0.1	<0.05	-	2.7	3.4	-	-	-	-
MW-24	12/11/2002	BSK	2700	2900	7.7	200	-	200	83	200	12	670	420	-	-	ND	-	0.1	ND	-	3.1	3.6	-	-	-	-
MW-24	3/22/2003	BSK	2800	1900	-	190	-	210	95	190	12	620	500	-	-	ND	-	0.1	ND	-	3.4	4.3	-	-	-	-
MW-24	10/24/2003	BSK	3100	2200	7.4	160	-	240	110	220	15	640	570	-	-	ND	-	ND	ND	-	6.7	4.8	-	-	-	-
MW-24	4/1/2004	UNK	3200	2500	7.2	240	-	290	120	280	14	660	650	240	ND	ND	-	0.1	ND	-	7.2	5.1	-	-	-	-
MW-24	11/14/2004	BSK	2800	1900	7.6	300	-	200	84	280	13	570	500	370	<9	<1	-	0.2	<0.05	-	4.2	3.6	-	-	-	-
MW-24	4/7/2005	UNK	2800	1800	7.5	310	-	180	75	290	16	540	470	310	ND	ND	-	0.2	ND	-	0.29	3.2	-	-	-	-
MW-24	10/14/2005	UNK	2600	1600	7.9	370	-	160	72	300	20	440	400	370	ND	ND	-	0.2	ND	-	0.7	3.2	-	-	-	-
MW-24	4/19/2006	DL	2424	1420	7.4	422	-	128	57	264	36	317	336	422	<0.1	<0.1	-	0.21	0.06	-	1.54	2.2	-	-	-	-
MW-24	9/25/2006	UNK	2012	1512	7.0	426	-	128	58.1	273	25	390	373	426	ND	ND	-	0.2	0.05	-	1.45	2.33	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-24	3/29/2007	TL	2300	1500	7.0	360	-	130	58	300	42	340	300	440	<20	<1		<10	0.25	0.072	<0.005	-	-	<5	-	<0.005
MW-24	9/23/2007	TL	2300	1500	6.9	-	-	-	-	-	-	300	350	450	<20	-		-	-	-	-	-	-	-	-	-
MW-24	4/5/2008	BCL	2150	1400	7.19	-	-	-	-	-	-	250	320	500	-	-		-	-	-	-	-	-	-	-	-
MW-24	9/2/2008	BCL	2320	1400	7.2	-	-	-	-	-	-	310	410	476	<0.9	-		-	-	0.044	-	-	-	-	-	-
MW-24	4/3/2009	UNK	2740	1800	7.0	-	-	-	-	-	-	360	510	440	ND	-		-	-	0.07	-	-	-	-	-	-
MW-24	9/30/2009	BSK	2600	1600	7.9	-	-	-	-	-	-	300	460	549	<10	-		-	-	-	-	-	-	-	-	-
MW-24	10/19/2010	SSC	2900	1800	6.8	-	-	-	-	-	-	350	470	561	<2	-		-	-	-	-	-	-	-	-	-
MW-25	4/12/1990	UNK	3000	2190	7.9	-	-	28	16	620	2.2	160	293	1125	-	-		-	-	-	-	0.239	0.622	-	-	-
MW-25	11/19/1990	UNK	-	1695	7.7	-	-	-	-	-	80	-	273	1149	-	-		-	-	-	-	0.225	0.724	-	-	-
MW-25	6/19/1991	UNK	2800	1625	7.8	-	-	-	-	-	2.1	-	262	1165	-	-		-	-	-	-	-	-	-	-	-
MW-25	10/23/1991	UNK	2900	1635	7.6	-	-	28	21	600	2.5	139	2410	1150	-	0.39		-	0.69	-	-	0.831	0.766	-	-	-
MW-25	3/12/1992	UNK	2900	1640	7.7	-	-	24	20	585	2.4	165	266	1110	-	0.42		-	0.68	-	-	0.587	0.662	-	-	-
MW-25	10/26/1992	UNK	2800	1650	7.8	-	-	22	16.8	575	2.2	154	255	1070	-	0.35		-	0.56	-	-	0.681	0.619	-	-	-
MW-25	3/5/1993	UNK	2800	1620	7.9	-	-	26	17.2	588	2.1	164	260	1100	-	0.32		-	0.61	-	-	0.585	0.611	-	-	-
MW-25	9/24/1993	UNK	2800	1550	8.0	-	-	20	15	578	2	155	260	1030	-	0.2		-	0.65	-	-	0.46	0.47	-	-	-
MW-25	4/13/1994	UNK	2640	1640	7.8	-	-	22	12.8	651	2.1	170	247	1050	-	0.14		-	0.58	-	-	0.431	0.392	-	-	-
MW-25	10/4/1994	UNK	2630	1610	7.8	-	-	18.8	11.5	600	2	180	260	998	-	0.1		-	0.59	-	-	0.45	0.41	-	-	-
MW-25	3/21/1995	UNK	2600	1600	7.9	-	-	18.7	10.6	600	2	186	270	969	-	0.13		-	0.64	-	-	0.07	0.387	-	-	-
MW-25	10/18/1995	UNK	2520	1950	7.9	-	-	17	9.2	558	1.7	225	280	863	-	0.1		-	0.55	-	-	0.061	0.37	-	-	-
MW-25	4/3/1996	UNK	2480	1640	8.0	-	-	16	9.1	552	1.7	215	282	843	-	0.1		-	0.52	-	-	0.169	0.357	-	-	-
MW-25	10/8/1996	UNK	2500	1450	8.8	-	-	17.1	10.7	576	2	212	308	783	-	0.1		-	0.53	-	-	0.059	0.387	-	-	-
MW-25	3/25/1997	UNK	2500	1700	7.7	-	-	25	15	650	3400	270	350	670	-	-		-	0.57	0.1	-	-	0.52	-	-	-
MW-25	6/7/1997	UNK	-	8100	7.9	-	-	13.4	15.6	1440	2040	9	1320	7270	19.5	0.12		-	0.34	1.74	-	1.72	0.02	-	-	-
MW-25	8/27/1998	UNK	2900	1700	7.9	-	-	25	16	660	5700	270	350	710	ND	ND		-	0.56	0.1	-	ND	0.55	-	-	-
MW-25	4/21/1999	BSK	2800	1800	7.9	700	22.6	29	16	610	3	280	350	854	<6	<3		-	0.5	0.09	-	<0.05	0.6	-	-	-
MW-25	11/14/1999	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-
MW-25	5/21/2000	BSK	2300	1600	7.6	760	21.7	24	13	530	2	160	300	927	<5	<2.5		-	0.5	0.08	-	0.14	0.55	-	-	-
MW-25	12/17/2000	UNK	2600	1600	7.6	750	-	22	13	540	300	150	320	750	ND	ND		-	0.5	0.07	-	0.05	0.44	-	-	-
MW-25	12/19/2000	BSK	2600	1600	7.6	750	22.6	22	13	540	3	150	320	915	<6	<3		-	0.5	0.07	-	0.05	0.44	-	-	-
MW-25	6/6/2001	BSK	2400	1500	7.7	800	21.5	23	13	520	3	160	330	976	-	<3		-	0.5	0.07	-	0.1	0.47	-	-	-
MW-25	6/15/2001	UNK	2400	1500	7.7	800	-	23	13	520	300	160	330	800	ND	ND		-	0.5	0.07	-	0.1	0.47	-	-	-
MW-25	10/3/2001	UNK	2500	1600	7.5	710	-	20	13	530	ND	150	300	710	ND	ND		-	0.5	0.07	-	0.12	0.4	-	-	-
MW-25	5/2/2002	BSK	2500	1400	7.1	1000	-	20	12	530	2	200	310	1000	<8	<4		-	0.6	0.07	-	0.11	0.4	-	-	-
MW-25	12/10/2002	BSK	2400	1400	7.8	640	-	18	11	480	3	190	290	-	-	ND		-	0.7	0.06	-	0.16	0.34	-	-	-
MW-25	3/23/2003	BSK	2500	1500	8.0	630	-	16	9.6	470	ND	210	310	-	-	ND		-	0.8	0.06	-	0.18	0.36	-	-	-
MW-25	10/24/2003	BSK	2600	1500	8.4	710	-	18	12	500	3	190	-	-	-	ND		-	0.7	0.06	-	0.14	0.38	-	-	-
MW-25	4/1/2004	UNK	2600	1600	8.2	710	-	23	15	600	3	430	650	710	ND	ND		-	0.8	0.09	-	0.06	0.55	-	-	-
MW-25	11/14/2004	BSK	2600	1600	8.1	820	-	39	31	520	2	180	340	1000	<9	<1		-	0.6	0.1	-	<0.05	1	-	-	-
MW-25	4/7/2005	UNK	2800	1600	8.0	810	-	55	38	510	2	220	360	810	ND	ND		-	0.6	0.13	-	ND	1.3	-	-	-
MW-25	10/13/2005	UNK	2900	1800	8.1	740	-	64	38	570	3	320	370	740	ND	ND		-	0.7	0.15	-	ND	1.4	-	-	-
MW-25	4/19/2006	DL	3528	2078	7.8	777	-	67	37	584	9.3	461	382	777	<0.1	<0.1		-	0.72	0.17	-	<0.01	1.4	-	-	-
MW-25	9/25/2006	UNK	3658	2313	7.8	255	-	70.4	39	679	6.6	572	461	255	ND	ND		-	0.82	0.18	-	0.03	1.52	-	-	-
MW-25	3/29/2007	TL	3700	2500	7.6	910	-	72	41	750	14	460	420	1100	<20	<1		<10	0.98	0.21	0.0065	-	-	74	-	<0.005
MW-25	9/24/2007	TL	3600	2100	7.5	-	-	-	-	-	-	410	390	1100	<50	-		-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-25	4/6/2008	BCL	3520	2300	7.84	-	-	-	-	-	-	400	450	1159	<0.9	-	-	-	-	-	-	-	-	-	-	-	
MW-25	9/4/2008	BCL	3470	2300	7.8	-	-	-	-	-	-	320	430	1208	<0.4	-	-	-	0.13	-	-	-	-	-	-	-	
MW-25	4/3/2009	UNK	3470	2400	7.6	-	-	-	-	-	-	390	460	910	ND	-	-	-	0.16	-	-	-	-	-	-	-	
MW-25	10/2/2009	BSK	3400	2100	8.1	-	-	-	-	-	-	350	440	1171	<20	-	-	-	-	-	-	-	-	-	-	-	
MW-25	10/19/2010	SSC	3600	2200	7.4	-	-	-	-	-	-	350	450	1200	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-26	4/12/1990	UNK	14000	8340	7.8	-	-	6.2	16	1280	2150	64	1145	7553	-	-	-	-	-	-	1.79	0.027	-	-	-	-	
MW-26	11/19/1990	UNK	-	7700	7.8	-	-	-	-	-	1780	-	1102	5694	-	-	-	-	1.95	-	2.73	0.062	-	-	-	-	
MW-26	6/19/1991	UNK	15300	8640	7.6	-	-	-	-	-	1890	-	1241	8693	-	-	-	-	2.15	-	-	-	-	-	-	-	
MW-26	10/23/1991	UNK	16000	8400	7.6	-	-	14	27	1470	2380	54	1220	8130	-	0.2	-	0.3	2.26	-	3.26	0.016	-	-	-	-	
MW-26	3/12/1992	UNK	16300	8520	7.8	-	-	24	31	1420	2580	65	1350	8420	-	0.19	-	0.29	2.6	-	3.12	0.016	-	-	-	-	
MW-26	10/26/1992	UNK	16600	9300	7.8	-	-	32	23	1430	2480	-	1380	8440	-	0.14	-	0.29	2.73	-	2.93	0.02	-	-	-	-	
MW-26	3/5/1993	UNK	17200	8800	7.8	-	-	29	22	1560	2680	6.2	1450	8600	-	0.14	-	0.28	2.44	-	2.69	0.011	-	-	-	-	
MW-26	9/24/1993	UNK	17400	9150	7.9	-	-	27	21	1510	2630	-	1610	8630	-	0.15	-	0.27	2.8	-	2.62	0.012	-	-	-	-	
MW-26	4/13/1994	UNK	17500	9550	7.6	-	-	21	16.2	1880	3130	-	1610	8870	-	0.14	-	0.25	-	-	2.41	-	-	-	-	-	
MW-26	10/4/1994	UNK	17700	9500	7.7	-	-	20	16	1720	2510	3	1620	9040	-	0.16	-	0.25	2.48	-	2.38	0.014	-	-	-	-	
MW-26	3/21/1995	UNK	18400	10700	7.8	-	-	17	16.9	1880	2980	17	1800	9220	19.5	0.11	-	0.22	2.13	-	1.74	0.012	-	-	-	-	
MW-26	10/18/1995	UNK	18200	10800	7.8	-	-	17	13.6	1850	2720	15	1690	8870	-	0.14	-	0.28	2.09	-	2.5	0.013	-	-	-	-	
MW-26	4/3/1996	UNK	17900	9570	7.8	-	-	16	17.2	1780	2700	0.8	1780	8960	-	0.15	-	0.29	2.04	-	2.54	0.019	-	-	-	-	
MW-26	10/8/1996	UNK	16200	9300	8.8	-	-	15	18.5	1690	2660	7	1560	8210	-	0.14	-	0.45	-	-	2.17	0.02	-	-	-	-	
MW-26	6/7/1997	UNK	14500	8100	7.9	-	-	13	15.6	1440	2040	9	1320	7270	19.5	0.12	-	0.34	1.74	-	1.72	0.02	-	-	-	-	
MW-26	3/25/1998	UNK	9600	6500	7.8	-	-	10	12	1300	1800	-	1100	4500	-	-	-	0.36	1.1	-	1.8	0.03	-	-	-	-	
MW-26	4/22/1999	BSK	9300	5200	7.6	3200	45.4	12	15	1000	1300	<200	790	3904	<20	<10	-	0.4	1.1	-	1	0.03	-	-	-	-	
MW-26	5/21/2000	BSK	2500	1500	7.7	1100	12.5	41	22	400	120	79	270	1342	<5	<2.5	-	0.3	2.3	-	0.46	0.28	-	-	-	-	
MW-26	12/17/2000	BSK	7800	4100	7.7	3400	31.2	13	18	740	1000	<200	660	4148	<20	<10	-	0.3	0.91	-	1.3	0.04	-	-	-	-	
MW-26	6/4/2001	BSK	4900	2000	7.5	1900	15	37	35	530	510	180	420	2318	<12	<6	-	0.3	1.3	-	2	0.12	-	-	-	-	
MW-26	6/15/2001	UNK	4900	2000	7.5	1900	-	37	35	530	510	180	420	1900	ND	ND	-	0.3	1.3	-	2	0.12	-	-	-	-	
MW-26	10/3/2001	UNK	7500	3900	7.6	3200	-	12	17	700	995	ND	600	3200	124	ND	-	0.3	0.81	-	1.2	0.03	-	-	-	-	
MW-26	5/2/2002	BSK	7700	4300	7.9	2400	-	9.2	11	600	850	<240	600	2400	<24	<12	-	0.3	0.73	-	1	0.02	-	-	-	-	
MW-26	12/11/2002	BSK	7200	3800	7.8	2800	-	9	11	530	730	ND	560	-	-	ND	-	0.3	0.85	-	0.6	0.02	-	-	-	-	
MW-26	3/22/2003	BSK	6000	3300	7.9	2400	-	11	13	500	780	ND	440	-	-	ND	-	0.4	4.1	-	5.2	0.02	-	-	-	-	
MW-26	10/24/2003	BSK	7200	3800	7.9	2800	-	11	16	590	870	ND	570	-	-	ND	-	0.3	0.68	-	1.2	0.02	-	-	-	-	
MW-26	3/31/2004	BSK	6600	3500	7.9	2800	-	12	17	610	960	<2	560	3420	<0.9	<0.1	-	0.4	0.61	-	1.9	0.03	-	-	-	-	
MW-26	11/13/2004	BSK	7400	4200	8.0	3000	-	17	31	720	995	270	590	3660	<22	<2.5	-	0.4	0.54	-	0.53	0.04	-	-	-	-	
MW-26	4/7/2005	UNK	7500	3900	7.8	3000	-	14	29	730	1000	190	630	3000	ND	ND	-	ND	0.51	-	0.39	ND	-	-	-	-	
MW-26	9/24/2007	TL	7600	4000	7.7	-	-	-	-	-	-	1000	1300	2900	<100	-	-	-	-	-	-	-	-	-	-	-	
MW-26	4/6/2008	BCL	7290	4200	7.88	-	-	-	-	-	-	480	620	2928	8	-	-	-	-	-	-	-	-	-	-	-	
MW-26	9/4/2008	BCL	7000	4000	7.8	-	-	-	-	-	-	450	600	2928	3.5	-	-	-	0.24	-	-	-	-	-	-	-	
MW-26	4/3/2009	UNK	6730	4000	7.7	-	-	-	-	-	-	410	630	2100	4.9	-	-	-	0.23	-	-	-	-	-	-	-	
MW-26	9/30/2009	BSK	6400	3300	8.3	-	-	-	-	-	-	300	600	2806	<50	-	-	-	-	-	-	-	-	-	-	-	
MW-26	9/23/2010	SSC	6700	3900	7.5	-	-	-	-	-	-	370	650	2600	13	-	-	-	-	-	-	-	-	-	-	-	
MW-27	4/12/1990	UNK	4500	2295	8.3	-	-	46	27	380	330	35	268	1835	-	-	-	-	-	-	1.682	0.225	-	-	-	-	
MW-27	11/19/1990	UNK	-	2425	7.4	-	-	-	-	-	730	-	275	2795	-	-	-	-	0.965	-	2.06	0.346	-	-	-	-	
MW-27	6/19/1991	UNK	5000	2520	7.4	-	-	-	-	-	435	-	351	2542	-	-	-	-	0.856	-	-	-	-	-	-	-	
MW-27	10/23/1991	UNK	5600	2560	7.3	-	-	37	33	410	670	21	278	2700	-	0.12	-	0.28	1.01	-	5.7	0.324	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-27	3/12/1992	UNK	5500	2620	7.4	-	-	40	42	425	710	21	340	2810	-	0.09	-	0.29	1.1	-	5.82	0.224	-	-	-	-	
MW-27	10/26/1992	UNK	6000	2820	7.5	-	-	42	29	455	730	-	375	2980	-	0.08	-	0.29	1.22	-	4.79	0.147	-	-	-	-	
MW-27	3/5/1993	UNK	6400	3020	7.8	-	-	45	28	520	819	65	410	3080	-	0.11	-	0.3	1.21	-	4.41	0.112	-	-	-	-	
MW-27	9/24/1993	UNK	6800	3300	7.5	-	-	37	37	576	829	14	515	3300	-	0.08	-	0.29	1.48	-	4.47	0.116	-	-	-	-	
MW-27	4/13/1994	UNK	8530	4150	7.2	-	-	47	40	798	1260	6	683	4180	-	0.14	-	0.3	2.05	-	4.6	0.121	-	-	-	-	
MW-27	10/8/1996	UNK	13800	6900	8.7	-	-	48	40	1390	2120	14.5	1360	7090	-	0.12	-	-	4.25	-	1.35	0.054	-	-	-	-	
MW-27	6/7/1997	UNK	12900	7020	7.8	-	-	38	28	1190	1860	133	1090	6240	-	0.11	-	0.36	3.32	-	1.12	0.057	-	-	-	-	
MW-27	3/30/1998	UNK	9800	6000	7.6	-	-	32	23	1200	1700	240	990	4100	-	-	-	0.29	2.2	-	1.2	0.08	-	-	-	-	
MW-27	8/29/1998	UNK	11000	5700	7.6	-	-	38	30	1000	1600	13	57	4200	ND	ND	-	0.35	2.2	-	1.5	0.14	-	-	-	-	
MW-27	4/21/1999	BSK	9500	5200	7.9	3700	33.7	29	23	1000	1600	210	850	4514	<20	<10	-	0.3	1.8	-	1.1	0.12	-	-	-	-	
MW-27	5/21/2000	BSK	7500	4500	7.4	3500	21.8	44	34	790	1000	220	750	4270	<20	<10	-	0.3	1.4	-	1.3	0.16	-	-	-	-	
MW-27	12/17/2000	BSK	7600	4200	7.5	3200	21.7	42	34	780	940	<200	730	3904	<20	<10	-	0.3	1.4	-	0.8	0.19	-	-	-	-	
MW-27	6/6/2001	BSK	7100	4100	7.4	3000	20.8	45	34	760	930	<200	720	3660	-	<10	-	0.3	1.3	-	1.2	0.21	-	-	-	-	
MW-27	6/15/2001	UNK	7100	4100	7.4	3000	-	45	34	760	930	ND	720	3000	1.3	ND	-	0.3	1.3	-	1.2	0.21	-	-	-	-	
MW-27	10/3/2001	UNK	7100	4000	7.5	2700	-	37	31	720	890	ND	640	2700	ND	ND	-	0.3	1.1	-	0.69	0.15	-	-	-	-	
MW-27	5/2/2002	BSK	7400	4700	7.8	3100	-	30	27	630	700	<240	680	3100	<24	<12	-	0.3	1.1	-	0.72	0.11	-	-	-	-	
MW-27	12/10/2002	UNK	7300	4100	7.8	2700	-	25	21	590	710	ND	630	2700	ND	ND	-	0.3	1.1	-	0.97	0.1	-	-	-	-	
MW-27	3/22/2003	BSK	7500	4200	7.9	3000	-	32	29	700	860	ND	680	-	-	ND	-	0.3	1.2	-	0.96	0.12	-	-	-	-	
MW-27	10/24/2003	BSK	7300	4000	7.9	2900	-	34	30	760	900	ND	640	-	-	ND	-	0.3	1.2	-	1	0.1	-	-	-	-	
MW-27	3/31/2004	BSK	7000	3900	8.0	2900	-	34	28	700	880	130	650	3540	<0.9	<0.1	-	0.3	1.1	-	0.86	0.07	-	-	-	-	
MW-27	11/14/2004	BSK	6500	3600	8.1	2500	-	34	26	670	840	340	510	3050	<22	<2.5	-	0.4	0.78	-	0.71	0.08	-	-	-	-	
MW-27	4/6/2005	UNK	5600	3100	8.0	1900	-	36	26	580	700	490	480	1900	ND	ND	-	0.4	0.39	-	0.46	0.07	-	-	-	-	
MW-27	10/13/2005	UNK	5500	3100	8.0	1700	-	60	31	650	680	500	470	1700	ND	ND	-	0.5	0.19	-	0.47	0.26	-	-	-	-	
MW-27	4/20/2006	DL	6004	3443	7.9	2111	-	54	40	1004	1326	289	570	2111	<0.1	<0.1	-	0.28	0.27	-	0.59	0.08	-	-	-	-	
MW-27	9/25/2006	UNK	7980	4040	7.5	2219	-	70.6	38.2	743	612	333	788	2219	8	ND	-	0.32	0.36	-	0.31	0.39	-	12	-	-	
MW-27	3/29/2007	TL	7000	4000	7.6	2300	-	50	28	810	760	220	690	2800	<50	<2.5	41	0.36	0.43	0.023	-	-	8.1	-	0.14	-	
MW-27	9/24/2007	TL	6200	3400	7.5	-	-	-	-	-	-	250	600	2400	<100	-	-	-	-	-	-	-	-	-	-	-	
MW-27	9/3/2008	BCL	6290	3700	7.7	-	-	-	-	-	-	420	800	2318	6.6	-	-	-	0.3	-	-	-	-	-	-	-	
MW-27	4/3/2009	UNK	5990	3700	7.7	-	-	-	-	-	-	410	720	1900	ND	-	-	-	0.12	-	-	-	-	-	-	-	
MW-27	10/2/2009	BSK	6000	2900	8.2	-	-	-	-	-	-	370	660	2318	<20	-	-	-	-	-	-	-	-	-	-	-	
MW-27	9/23/2010	SSC	6100	3700	7.3	-	-	-	-	-	-	440	720	2100	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-28	10/10/1991	BCL	2900	1650	7.6	-	6.9	152	62	397	7	219	270	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-28	10/26/1992	UNK	1920	1270	7.5	-	-	145	49	212	9.1	287	175	600	-	0.05	-	0.29	0.112	-	2.18	2.14	-	-	-	-	
MW-28	3/5/1993	UNK	2400	1330	7.4	-	-	145	48	275	9.3	275	216	679	-	0.06	-	0.39	0.106	-	2.22	1.98	-	-	-	-	
MW-28	9/24/1993	UNK	1850	1140	7.4	-	-	119	40	235	8.3	315	177	500	-	0.05	-	0.31	0.107	-	1.67	1.65	-	-	-	-	
MW-28	3/30/1994	UNK	1720	1160	7.5	-	-	100	36	242	8.6	345	148	408	-	-	-	0.29	-	-	-	1.14	-	-	-	-	
MW-28	4/13/1994	UNK	1870	1230	7.4	-	-	128	35	241	8.4	325	171	487	-	0.05	-	0.31	-	-	1.53	1.4	-	-	-	-	
MW-28	9/23/1994	UNK	1750	1140	7.4	-	-	114	39	203	8.3	310	152	428	-	0.06	-	0.28	0.1	-	1.61	1.48	-	-	-	-	
MW-28	3/30/1995	UNK	1720	1160	7.5	-	-	100	36	242	8.6	345	148	408	-	-	-	0.29	-	-	-	1.14	-	-	-	-	
MW-28	10/18/1995	UNK	1700	1180	7.5	-	-	110	34	210	6.5	335	162	423	-	0.05	-	0.32	-	-	-	1.21	-	-	-	-	
MW-28	4/8/1996	UNK	1750	1110	8.4	-	-	114	37	218	7.2	392	160	404	-	0.1	-	0.35	-	-	-	1.19	-	-	-	-	
MW-28	10/9/1996	UNK	1800	1180	8.19	-	-	109	37	250	7.7	352	169	448	-	0.05	-	0.33	-	-	-	1.21	-	-	-	-	
MW-28	6/9/1997	UNK	1840	1190	7.4	-	-	109	39	254	7.9	364	172	455	-	0.05	-	0.38	-	-	-	1.53	-	-	-	-	
MW-28	3/26/1998	UNK	1800	-	7.5	-	-	100	36	260	7.8	360	170	360	-	-	-	0.25	-	-	-	1.1	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-28	8/29/1998	UNK	1800	1200	7.4	-	-	140	47	240	12	510	150	320	26.6	ND	-	0.28	ND	-	ND	2.2	-	-	-	-	
MW-28	4/22/1999	BSK	1800	1200	7.3	360	5.4	92	34	240	6	440	150	439	<4	<2	-	0.3	0.06	-	<0.05	1	-	-	-	-	
MW-28	5/20/2000	BSK	1800	1300	7.3	330	5.4	110	38	260	8	450	150	403	4.5	<2	-	0.3	0.06	-	<0.05	1.2	-	-	-	-	
MW-28	12/18/2000	BSK	2100	1300	7.3	290	3.8	130	46	200	8	560	140	354	<5	<2.5	-	0.2	<0.05	-	<0.05	2.4	-	-	-	-	
MW-28	6/5/2001	BSK	1800	1400	7.3	290	4.8	120	44	240	8	550	140	354	<4	<2	-	0.3	<0.05	-	<0.05	2	-	-	-	-	
MW-28	6/15/2001	UNK	1800	1400	7.3	290	-	120	44	240	8	550	140	290	ND	ND	-	0.3	ND	-	ND	2	-	-	-	-	
MW-28	10/3/2001	UNK	2000	1400	7.0	220	-	170	62	200	9	670	100	220	ND	ND	-	0.2	0.05	-	ND	3.4	-	-	-	-	
MW-28	5/2/2002	BSK	2000	1500	7.1	240	-	160	51	180	8	680	120	240	<5	<2.5	-	0.2	<0.05	-	<0.05	2.7	-	-	-	-	
MW-28	12/13/2002	BSK	1800	1200	7.5	290	-	110	38	210	6	500	140	-	-	ND	-	0.2	ND	-	ND	1.9	-	-	-	-	
MW-28	3/23/2003	BSK	1800	1300	7.3	300	-	100	36	230	6	490	130	-	-	ND	-	0.3	ND	-	ND	1.5	-	-	-	-	
MW-28	10/24/2003	BSK	1600	1200	7.6	200	-	120	47	170	-	550	82	-	-	ND	-	0.2	ND	-	1.1	2.6	-	-	-	-	
MW-28	4/1/2004	UNK	1600	1100	7.8	230	-	120	39	190	8	500	87	230	ND	ND	-	0.2	ND	-	0.68	1.4	-	-	-	-	
MW-28	11/15/2004	BSK	1500	1100	7.6	240	-	120	43	160	6	470	93	290	<1.8	<0.2	-	0.2	<0.05	-	<0.05	1.7	-	-	-	-	
MW-28	4/7/2005	UNK	1500	1000	7.8	250	-	120	41	160	6	440	100	250	ND	ND	-	0.2	ND	-	ND	1.3	-	-	-	-	
MW-28	10/14/2005	UNK	1500	1000	8.2	260	-	120	50	150	9.9	400	110	260	ND	ND	-	0.2	ND	-	0.06	2.2	-	-	-	-	
MW-28	4/19/2006	DL	1516	1010	7.7	360	-	107	36	193	14.5	291	146	360	<0.1	<0.1	-	0.28	0.04	-	<0.01	1.15	-	-	-	-	
MW-28	9/26/2006	UNK	1541	978	7.6	348	-	93.4	39.7	205	9.8	314	154	348	ND	ND	-	0.29	0.03	-	0.1	1.49	-	-	-	-	
MW-28	3/29/2007	TL	1600	1100	7.3	380	-	97	37	230	15	280	140	460	<10.2	<0.5	<10	0.33	0.049	<0.005	-	-	16	-	-	0.088	
MW-28	9/25/2007	TL	1600	1100	7.4	-	-	-	-	-	-	310	140	420	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-28	4/6/2008	BCL	1830	1200	7.61	-	-	-	-	-	-	330	180	537	<0.4	-	-	-	-	-	-	-	-	-	-	-	
MW-28	9/4/2008	BCL	1740	1200	7.5	-	-	-	-	-	-	410	160	403	<0.4	-	-	-	0.041	-	-	-	-	-	-	-	
MW-28	4/3/2009	UNK	1730	1200	7.5	-	-	-	-	-	-	350	190	360	ND	-	-	-	0.04	-	-	-	-	-	-	-	
MW-28	10/5/2009	BSK	1800	1100	8.0	-	-	-	-	-	-	300	190	500	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-28	10/6/2010	SSC	2200	1300	7.3	-	-	-	-	-	-	320	240	550	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-29	10/14/1991	BCL	1910	1345	7.6	-	2.5	196	56	157	6.7	308	227	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-29	10/26/1992	UNK	2500	1490	7.3	-	-	220	62	187	7.3	234	262	691	-	0.07	-	0.32	0.277	-	6.7	2.83	-	-	-	-	
MW-29	3/5/1993	UNK	2600	1520	7.2	-	-	200	54	250	7.4	192	266	882	-	0.05	-	0.26	0.233	-	6.8	2.34	-	-	-	-	
MW-29	9/24/1993	UNK	3000	1700	7.3	-	-	242	67	324	8.3	180	324	1110	-	0.05	-	0.4	0.231	-	8.53	2.67	-	-	-	-	
MW-29	3/30/1994	UNK	2900	1640	7.3	-	-	203	60	309	8	165	316	1030	-	0.05	-	0.31	0.252	-	7	2.44	-	-	-	-	
MW-29	4/13/1994	UNK	2190	1380	7.2	-	-	184	47	250	7.2	180	242	786	-	0.05	-	0.28	0.178	-	5.17	1.81	-	-	-	-	
MW-29	9/23/1994	UNK	1750	1270	7.2	-	-	0.156	42	166	6.6	265	166	495	-	0.05	-	0.19	0.16	-	4.95	1.88	-	-	-	-	
MW-29	3/30/1995	UNK	1800	1220	7.3	-	-	156	46	177	6.1	314	172	503	-	0.23	-	-	0.12	-	-	1.63	-	-	-	-	
MW-29	10/18/1995	UNK	1820	1210	7.5	-	-	165	41	178	5.4	310	175	527	-	0.06	-	0.28	0.11	-	-	1.6	-	-	-	-	
MW-29	4/8/1996	UNK	1900	1760	8.1	-	-	176	46	196	6.1	304	194	608	-	-	-	0.31	0.115	-	-	1.71	-	-	-	-	
MW-29	10/9/1996	UNK	1900	1230	8.1	-	-	169	47	210	6.4	302	184	582	-	0.05	-	0.29	0.114	-	-	1.58	-	-	-	-	
MW-29	6/9/1997	UNK	1960	1260	7.2	-	-	170	48	212	6.4	310	198	598	-	0.05	-	0.34	0.122	-	-	1.83	-	-	-	-	
MW-29	3/26/1998	UNK	1600	1200	7.3	-	-	6.4	1.5	230	7	550	410	800	-	-	-	0.22	0.11	-	-	1.5	-	-	-	-	
MW-29	8/29/1998	UNK	2000	1300	7.3	-	-	200	57	230	8.6	420	200	470	27.4	ND	-	0.22	0.12	-	ND	2.5	-	-	-	-	
MW-29	4/22/1999	BSK	1800	1300	7.1	470	3.2	170	45	180	6	290	210	573	<4	<2	-	0.2	0.09	-	<0.05	1.7	-	-	-	-	
MW-29	5/20/2000	BSK	1700	1200	6.8	320	2.2	170	51	130	7	340	180	390	<4	<2	-	0.1	0.06	-	2.5	2.2	-	-	-	-	
MW-29	12/18/2000	BSK	1800	1100	7.4	290	2.2	140	53	120	7	360	170	354	<4	<2	-	0.1	0.07	-	0.46	2.3	-	-	-	-	
MW-29	6/5/2001	BSK	1600	1200	6.7	270	2.1	150	60	120	7	390	170	329	<4	<2	-	0.1	0.07	-	1	2.5	-	-	-	-	
MW-29	10/4/2001	UNK	1600	1200	6.7	210	-	160	61	100	6	440	140	210	ND	ND	-	0.1	0.07	-	0.26	2.8	-	-	-	-	
MW-29	5/2/2002	BSK	1600	1200	6.6	200	-	160	62	88	7	470	140	200	<4	<2	-	<0.1	0.06	-	0.69	2.8	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-29	12/13/2002	BSK	1500	1000	6.9	220	-	130	52	85	6	380	150	-	-	ND	-	0.1	ND	-	1.3	2.3	-	-	-	-	
MW-29	3/23/2003	BSK	1500	1100	6.8	210	-	140	51	83	6	400	-	-	-	ND	-	0.1	0.05	-	3	-	-	-	-	-	
MW-29	10/24/2003	BSK	1500	1100	7.5	180	-	150	62	87	-	510	-	-	-	ND	-	ND	0.05	-	-	3	-	-	-	-	
MW-29	4/1/2004	UNK	1500	1100	7.7	310	-	160	52	110	8	300	170	310	ND	ND	-	0.1	0.05	-	3.1	2.4	-	-	-	-	
MW-29	11/15/2004	BSK	1700	1200	7.6	410	-	170	53	150	7	300	190	500	<2.7	<0.3	-	0.2	0.06	-	0.13	2.2	-	-	-	-	
MW-29	4/7/2005	UNK	1800	1200	7.7	370	-	170	46	160	7	380	180	370	ND	ND	-	0.2	0.06	-	ND	2	-	-	-	-	
MW-29	10/14/2005	UNK	1900	1300	8.2	370	-	180	47	180	8	420	170	370	ND	ND	-	0.2	0.06	-	ND	2	-	-	-	-	
MW-29	4/19/2006	DL	1892	1360	7.4	470	-	147	40	228	11.8	391	181	470	<0.1	<0.1	-	0.19	0.06	-	2.31	1.87	-	-	-	-	
MW-29	3/29/2007	TL	2200	1500	7.2	520	-	160	46	310	16	410	210	630	<6.6	<0.5	<10	0.25	0.084	0.009	-	-	<5	-	-	0.21	
MW-29	9/25/2007	TL	1700	1300	7.1	-	-	-	-	-	-	400	71	420	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-29	4/6/2008	BCL	2180	1500	7.39	-	-	-	-	-	-	370	230	647	<0.4	-	-	-	-	-	-	-	-	-	-	-	
MW-29	9/4/2008	BCL	1800	1300	7.2	-	-	-	-	-	-	470	180	366	<0.4	-	-	-	0.052	-	-	-	-	-	-	-	
MW-29	4/3/2009	UNK	1930	1400	7.3	-	-	-	-	-	-	430	210	400	ND	-	-	-	0.06	-	-	-	-	-	-	-	
MW-29	10/5/2009	BSK	1800	1200	7.7	-	-	-	-	-	-	470	160	366	<10	-	-	-	-	-	-	-	-	-	-	-	
MW-29	10/6/2010	SSC	2000	1200	7.0	-	-	-	-	-	-	250	190	573	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-30	10/11/1991	BCL	240	160	7.3	-	0.8	18	7.7	15	2.3	34	7.1	-	-	-	-	-	-	-	-	-	-	-	-	-	
MW-30	10/26/1992	UNK	250	160	7.3	-	-	18.7	7.2	13.1	2.3	37	6.8	71.3	-	0.1	-	-	-	-	0.123	0.095	-	-	-	-	
MW-30	3/5/1993	UNK	270	175	7.1	-	-	21	8.4	13.9	2.5	51	6.1	71.3	-	0.07	-	-	-	-	0.052	0.02	-	-	-	-	
MW-30	9/24/1993	UNK	290	160	7.2	-	-	24	10	15	2.6	62	6.4	71.3	-	0.07	-	-	-	-	0.167	0.046	-	-	-	-	
MW-30	3/30/1994	UNK	290	140	7.2	-	-	22	10	15.3	2.4	63	6.1	67	-	0.06	-	-	-	-	0.241	0.037	-	-	-	-	
MW-30	4/13/1994	UNK	310	215	7.1	-	-	27	10.6	17	2.7	80	5.4	67	-	0.06	-	-	-	-	0.284	0.044	-	-	-	-	
MW-30	9/23/1994	UNK	288	180	7.2	-	-	21	9.9	17	2.6	61	6.4	70.4	-	0.06	-	-	-	-	0.45	0.045	-	-	-	-	
MW-30	3/30/1995	UNK	288	215	7.2	-	-	21	10.5	18.6	2.5	65	8.9	73.9	-	0.05	-	-	-	-	0.11	0.062	-	-	-	-	
MW-30	10/18/1995	UNK	288	210	7.2	-	-	21	9.6	16.8	2.2	65	8	72.2	-	0.07	-	-	-	-	0.35	0.059	-	-	-	-	
MW-30	4/8/1996	UNK	314	190	8.0	-	-	24	10.8	18.8	2.4	74	11.1	70.4	-	0.05	-	-	-	-	0.164	0.082	-	-	-	-	
MW-30	10/9/1996	UNK	362	235	8.0	-	-	29	14.1	19.1	2.8	74.3	19.4	79.1	-	0.06	-	-	-	-	0.07	0.08	-	-	-	-	
MW-30	6/9/1997	UNK	469	308	7.0	-	-	43	17.8	19.6	3	142	13.5	68.7	-	0.06	-	-	-	-	0.182	0.116	-	-	-	-	
MW-30	3/26/1998	UNK	440	310	7.0	-	-	48	18	26	3.6	140	21	56	-	-	-	-	0.05	-	-	0.16	-	-	-	-	
MW-30	8/29/1998	UNK	900	640	7.1	-	-	110	44	27	6.5	380	14	52	6.2	ND	-	0.24	0.13	-	ND	0.36	-	-	-	-	
MW-30	4/22/1999	BSK	500	370	6.4	60	0.5	46	18	17	3	170	13	73	<2	<1	-	<0.1	<0.05	-	<0.05	0.05	-	-	-	-	
MW-30	5/20/2000	BSK	360	230	6.5	60	-	35	14	16	<2	96	10	73	<1	<0.5	-	<0.1	<0.05	-	0.08	0.06	-	-	-	-	
MW-30	12/18/2000	BSK	400	240	6.4	60	0.6	32	14	16	2	110	9	73	<0.8	<0.4	-	<0.1	<0.05	-	0.08	0.06	-	-	-	-	
MW-30	6/5/2001	BSK	340	250	6.2	56	0.6	32	13	15	3	100	8	68	<0.6	<0.3	-	<0.1	<0.05	-	0.09	0.06	-	-	-	-	
MW-30	6/15/2001	UNK	340	250	6.2	56	-	32	13	15	3	100	8	56	ND	ND	-	ND	ND	-	0.09	0.06	-	-	-	-	
MW-30	10/3/2001	UNK	370	230	6.7	56	-	34	14	16	ND	100	9	56	ND	ND	-	ND	ND	-	ND	0.14	-	-	-	-	
MW-30	5/2/2002	BSK	450	240	6.4	54	-	40	15	14	2	130	10	54	<0.6	<0.3	-	<0.1	<0.05	-	<0.05	0.07	-	-	-	-	
MW-30	12/13/2002	BSK	460	280	6.4	58	-	41	17	15	3	150	10	-	-	ND	-	ND	ND	-	0.06	0.06	-	-	-	-	
MW-30	3/23/2003	BSK	450	310	6.4	54	-	40	17	16	2	150	10	-	-	ND	-	ND	ND	-	0.13	0.08	-	-	-	-	
MW-30	10/24/2003	BSK	590	430	7.5	66	-	57	24	17	4	220	7	-	-	ND	-	ND	0.05	-	0.14	0.1	-	-	-	-	
MW-30	4/1/2004	UNK	550	390	7.3	66	-	59	24	17	3	200	9	66	ND	ND	-	ND	0.05	-	0.35	0.13	-	-	-	-	
MW-30	11/15/2004	BSK	410	290	7.3	60	-	40	18	16	3	130	7	70	<0.9	<0.1	-	<0.1	<0.05	-	0.22	0.16	-	-	-	-	
MW-30	4/7/2005	UNK	360	250	7.5	61	-	35	15	17	2	110	10	61	ND	ND	-	ND	ND	-	0.2	0.15	-	-	-	-	
MW-30	10/14/2005	UNK	470	310	7.9	71	-	42	17	19	4	110	24	71	ND	ND	-	ND	ND	-	0.28	0.19	-	-	-	-	
MW-30	4/19/2006	DL	570	415	7.2	94	-	53	23	28	6.2	139	45	94	<0.1	<0.1	-	0.02	0.06	-	0.69	0.15	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Spreckels)																										
MW-30	9/26/2006	UNK	717	458	7.2	99	-	63.6	28	41	4.6	229	49	99	ND	ND	-	0.02	0.06	-	0.64	0.16	-	-	-	-
MW-30	3/29/2007	TL	780	580	7.0	110	-	73	33	50	7.4	230	47	140	<6.2	<0.3	<10	<0.05	0.084	<0.005	-	-	<5	-	0.65	
MW-30	9/25/2007	TL	740	540	6.9	-	-	-	-	-	-	210	42	130	<6	-	-	-	-	-	-	-	-	-	-	-
MW-30	4/6/2008	BCL	855	550	7.23	-	-	-	-	-	-	220	68	171	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-30	9/4/2008	BCL	852	590	7.8	-	-	-	-	-	-	230	57	146	<0.4	-	-	-	0.062	-	-	-	-	-	-	-
MW-30	4/3/2009	UNK	840	620	7.2	-	-	-	-	-	-	230	69	130	ND	-	-	-	0.08	-	-	-	-	-	-	-
MW-30	10/5/2009	BSK	820	520	7.7	-	-	-	-	-	-	220	47	146	<2	-	-	-	-	-	-	-	-	-	-	-
MW-30	10/6/2010	SSC	820	560	7.0	-	-	-	-	-	-	200	47	146	<2	-	-	-	-	-	-	-	-	-	-	-
MW-31	10/14/1991	BCL	450	305	7.6	-	1.4	37	11	37	3.5	103	20.2	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-31	10/26/1992	UNK	540	330	7.2	-	-	45	14.6	36	4.2	137	22.4	101	-	0.06	-	-	-	-	1.78	0.327	-	-	-	-
MW-31	3/5/1993	UNK	520	335	7.2	-	-	47	15.3	35	4.1	140	19.6	112	-	0.06	-	-	-	-	5.28	0.378	-	-	-	-
MW-31	9/24/1993	UNK	530	350	7.1	-	-	48	16.3	34	4.1	149	18.8	99.1	-	0.07	-	-	-	-	1.66	0.378	-	-	-	-
MW-31	3/30/1994	UNK	540	360	7.1	-	-	51	15.1	33	4.2	150	17.7	94.8	-	0.06	-	-	-	-	1.19	0.328	-	-	-	-
MW-31	4/13/1994	UNK	428	280	7.2	-	-	34	11.3	30	3.8	92	20.3	90.4	-	0.06	-	-	-	-	0.674	0.31	-	-	-	-
MW-31	9/23/1994	UNK	440	315	7.2	-	-	33	11.8	34	3.7	93	17	93.9	-	0.06	-	-	-	-	-	0.33	-	-	-	-
MW-31	10/18/1995	UNK	258	190	7.5	-	-	25	6	14.5	2.1	50	4.9	84.3	-	0.09	-	-	-	-	-	0.033	-	-	-	-
MW-31	4/8/1996	UNK	474	320	8.1	-	-	38	11.8	38	3.5	117	21.2	98.3	-	0.06	-	-	-	-	-	0.27	-	-	-	-
MW-31	10/9/1996	UNK	441	290	8.1	-	-	37	11.9	34	3.7	100	19.8	96.5	-	0.07	-	-	-	-	-	0.266	-	-	-	-
MW-31	6/9/1997	UNK	532	362	7.2	-	-	43	15.2	42	3.7	150	17.5	93.9	-	0.06	-	-	-	-	-	0.643	-	-	-	-
MW-31	3/26/1998	UNK	370	290	7.1	-	-	38	12	35	4.2	110	22	74	-	-	-	-	-	-	0.16	0.45	-	-	-	-
MW-31	8/29/1998	UNK	550	350	6.7	-	-	42	22	38	8.7	180	20	48	4.9	ND	-	ND	ND	-	0.16	1.7	-	-	-	-
MW-31	4/22/1999	BSK	470	320	6.5	68	1.2	39	14	33	3	140	20	83	<1	<0.5	-	<0.1	<0.05	-	<0.05	0.47	-	-	-	-
MW-31	5/20/2000	BSK	820	530	6.4	74	1.2	82	30	48	5	290	39	90	<2	<1	-	<1	<0.05	-	0.37	0.52	-	-	-	-
MW-31	12/18/2000	BSK	920	600	6.3	74	1.2	77	28	49	5	300	44	90	<2	<1	-	<0.1	<0.05	-	0.27	0.53	-	-	-	-
MW-31	6/6/2001	BSK	810	570	7.0	78	1.2	84	30	50	6	300	53	95	-	<1	-	<0.1	<0.05	-	0.16	0.56	-	-	-	-
MW-31	6/15/2001	UNK	810	570	7.0	78	-	84	30	50	6	300	53	78	ND	ND	-	ND	ND	-	0.16	0.56	-	-	-	-
MW-31	10/3/2001	UNK	870	390	6.3	72	-	77	28	55	4	290	48	72	9.3	ND	-	ND	ND	-	ND	0.55	-	-	-	-
MW-31	5/2/2002	BSK	850	570	6.4	78	-	73	25	49	4	200	37	78	<2	<1	-	<0.1	<0.05	-	<0.05	0.53	-	-	-	-
MW-31	12/13/2002	UNK	880	650	6.7	76	-	72	25	55	4	270	130	76	ND	ND	-	ND	ND	-	0.38	0.53	-	-	-	-
MW-31	3/22/2003	BSK	880	610	6.4	80	-	75	26	56	4	310	52	-	-	0.1	-	ND	ND	-	0.48	0.56	-	-	-	-
MW-31	10/25/2003	BSK	910	620	7.6	84	-	72	26	58	5	290	47	-	-	ND	-	ND	ND	-	0.34	0.55	-	-	-	-
MW-31	4/1/2004	UNK	890	630	7.3	90	-	85	30	66	6	300	49	90	ND	0.2	-	ND	ND	-	1.1	0.65	-	-	-	-
MW-31	11/15/2004	BSK	-	630	7.2	84	-	79	30	65	5	310	47	100	<1.8	<0.2	-	<0.1	<0.05	-	0.48	0.65	-	-	-	-
MW-31	4/7/2005	UNK	820	550	7.5	84	-	72	26	59	5	280	44	84	ND	ND	-	ND	ND	-	ND	0.59	-	-	-	-
MW-31	10/14/2005	UNK	940	640	7.8	79	-	81	30	62	7	320	48	79	ND	ND	-	ND	ND	-	0.98	0.68	-	-	-	-
MW-31	4/19/2006	DL	753	525	7.3	84	-	67	24	55	7.2	249	43	84	<0.1	<0.1	-	0.04	0.02	-	0.65	0.54	-	-	-	-
MW-31	3/29/2007	TL	710	530	7.3	86	-	68	22	51	7.4	220	38	100	<4	<0.2	<10	0.05	0.021	<0.005	-	-	<5	-	0.089	
MW-31	9/25/2007	TL	790	580	6.8	-	-	-	-	-	-	260	41	100	<6	-	-	-	-	-	-	-	-	-	-	-
MW-31	4/6/2008	BCL	792	560	7.47	-	-	-	-	-	-	250	40	120	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-31	9/4/2008	BCL	828	590	7.2	-	-	-	-	-	-	260	42	106	<0.4	-	-	-	0.022	-	-	-	-	-	-	-
MW-31	4/3/2009	UNK	776	580	7.0	-	-	-	-	-	-	260	40	85	ND	-	-	-	0.02	-	-	-	-	-	-	-
MW-31	9/30/2009	BSK	780	510	7.8	-	-	-	-	-	-	250	40	105	<2	-	-	-	-	-	-	-	-	-	-	-
MW-31	10/6/2010	SSC	810	560	6.9	-	-	-	-	-	-	250	39	95	<2	-	-	-	-	-	-	-	-	-	-	-
MW-32	10/11/1991	BCL	260	200	7.3	-	0.8	26	6.5	17	2.3	50	5	-	-	-	-	-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Spreckels)																											
MW-32	3/19/1992	UNK	260	185	7.5	-	-	26	6.1	14.5	2.3	47	5	79.1	-	-	-	-	-	-	0.057	0.049	-	-	-	-	
MW-32	10/26/1992	UNK	280	195	7.4	-	-	27	6.5	151	2.4	53	5	79.1	-	0.07	-	-	-	-	-	0.047	-	-	-	-	
MW-32	3/5/1993	UNK	280	185	7.4	-	-	27	6.8	15.1	2.3	53	5	77.4	-	0.08	-	-	-	-	0.083	0.044	-	-	-	-	
MW-32	9/24/1993	UNK	290	185	7.3	-	-	26	6.5	15.6	2.4	49	6	80.9	-	0.08	-	-	-	-	-	0.058	-	-	-	-	
MW-32	4/12/1994	UNK	259	175	7.4	-	-	26	5.9	14.5	2.4	51	5	73	-	0.07	-	-	-	-	-	0.077	-	-	-	-	
MW-32	9/23/1994	UNK	267	180	7.4	-	-	22	7.2	16.9	2.5	52	5	78.3	-	0.06	-	-	-	-	-	0.072	-	-	-	-	
MW-32	10/18/1995	UNK	283	230	7.5	-	-	27	7.1	16	2.5	60	6	82.6	-	0.08	-	-	-	-	-	0.066	-	-	-	-	
MW-32	4/8/1996	UNK	266	-	8.0	-	-	26	5.3	19.1	2.2	51	6	84.3	-	0.08	-	-	-	-	-	0.032	-	-	-	-	
MW-32	10/9/1996	UNK	261	160	8.0	-	-	26	6.2	16.7	2.4	47	5	82.6	-	0.08	-	-	-	-	-	0.035	-	-	-	-	
MW-32	6/9/1997	UNK	281	192	7.4	-	-	27	7.1	15.6	2.2	55	6	67	37.2	0.08	-	-	-	-	-	-	-	-	-	-	
MW-32	3/26/1998	UNK	460	-	7.4	-	-	66	15	23	2.9	63	4	52	-	-	-	-	0.06	-	-	0.02	-	-	-	-	
MW-32	8/29/1998	UNK	490	330	7.5	-	-	60	14	21	7.2	160	9	58	ND	ND	-	ND	ND	-	ND	0.04	-	-	-	-	
MW-32	4/22/1999	BSK	420	310	6.8	54	0.6	48	12	18	3	140	7	66	<0.2	<0.3	-	<0.1	<0.05	-	<0.05	0.12	-	-	-	-	
MW-32	5/20/2000	BSK	280	170	6.9	46	0.7	28	6.7	15	2	70	6	56	<0.6	<0.3	-	<0.1	<0.05	-	<0.05	0.09	-	-	-	-	
MW-32	12/18/2000	BSK	340	210	7.2	56	0.7	30	7.5	17	2	92	7	68	<0.6	<0.3	-	<0.1	<0.05	-	<0.05	0.13	-	-	-	-	
MW-32	6/5/2001	BSK	290	220	6.5	46	0.8	27	7.1	19	3	84	7	56	<0.6	<0.3	-	<0.1	<0.05	-	<0.05	0.1	-	-	-	-	
MW-32	6/15/2001	UNK	290	220	6.5	46	-	27	7.1	19	3	84	7	46	ND	ND	-	ND	ND	-	ND	0.1	-	-	-	-	
MW-32	10/3/2001	UNK	310	-	6.7	48	-	27	6.8	17	ND	80	8	48	3.5	ND	-	ND	ND	-	ND	0.1	-	-	-	-	
MW-32	5/2/2002	BSK	290	160	6.3	48	-	20	4.9	14	2	50	6	48	<0.4	<0.2	-	<0.1	<0.05	-	<0.05	0.08	-	-	-	-	
MW-32	12/13/2002	UNK	280	170	6.7	48	-	24	6.1	15	2	68	6	48	ND	ND	-	ND	ND	-	ND	0.11	-	-	-	-	
MW-32	3/23/2003	BSK	250	170	6.8	48	-	21	5.4	17	ND	60	6	-	-	ND	-	ND	ND	-	ND	0.1	-	-	-	-	
MW-32	10/24/2003	BSK	230	170	7.6	52	-	21	5.7	16	3	54	5	-	-	ND	-	ND	ND	-	ND	0.11	-	-	-	-	
MW-32	4/1/2004	UNK	280	200	7.6	55	-	28	7.1	20	3	74	6	55	ND	ND	-	ND	ND	-	ND	0.16	-	-	-	-	
MW-32	11/15/2004	BSK	250	180	7.5	57	-	24	6.4	16	2	60	5	70	<0.9	<0.1	-	<0.1	<0.05	-	<0.05	0.16	-	-	-	-	
MW-32	4/7/2005	UNK	270	180	7.7	56	-	26	6.7	17	2	66	6	56	ND	ND	-	ND	ND	-	ND	0.17	-	-	-	-	
MW-32	10/14/2005	UNK	280	190	8.0	58	-	26	6.7	16	2	70	6	58	ND	ND	-	ND	ND	-	ND	0.16	-	-	-	-	
MW-32	4/19/2006	DL	266	185	7.5	54	-	25	6.7	17	3.8	68	7	54	<0.1	<0.1	-	0.03	0.04	-	0.02	0.16	-	-	-	-	
MW-32	9/26/2006	UNK	707	183	7.2	62	-	26.8	7.2	16	2.5	79	6	62	ND	ND	-	0.03	0.02	-	ND	0.16	-	-	-	-	
MW-32	3/29/2007	TL	270	190	7.3	50	-	26	6.8	16	3.2	68	6	61	<2	<0.1	<10	<0.05	0.026	<0.005	-	-	<5	-	0.064	-	
MW-32	9/25/2007	TL	250	190	6.9	-	-	-	-	-	-	140	6	61	<2	-	-	-	-	-	-	-	-	-	-	-	
MW-32	4/6/2008	BCL	284	200	7.48	-	-	-	-	-	-	72	5.1	66	<0.4	-	-	-	-	-	-	-	-	-	-	-	
MW-32	9/4/2008	BCL	291	210	7.4	-	-	-	-	-	-	73	5	62	<0.4	-	-	-	0.026	-	-	-	-	-	-	-	
MW-32	4/3/2009	UNK	282	210	7.3	-	-	-	-	-	-	80	5	54	ND	-	-	-	0.03	-	-	-	-	-	-	-	
MW-32	9/30/2009	BSK	290	190	7.9	-	-	-	-	-	-	77	6	71	<1	-	-	-	-	-	-	-	-	-	-	-	
MW-32	10/6/2010	SSC	330	220	7.2	-	-	-	-	-	-	70	6	70	<2	-	-	-	-	-	-	-	-	-	-	-	
SHALLOW (Meyers Farm)																											
MF-1	10/27/2000	TL	1700	1100	-	-	-	-	-	-	-	-	200	-	-	-	-	-	0.24	-	-	-	-	-	<5	-	
MF-1	3/26/2002	FGL	2170	1370	7.0	490	6.4	82	50	296	8	270	220	600	3.2	<0.1	<10	0.2	0.134	<0.01	3.66	1.36	-	<10	<0.02	-	
MF-1	4/23/2002	TL	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-1	9/17/2002	TL	2100	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-1	12/13/2002	UNK	2000	1200	7.7	460	-	65	37	270	5	220	230	460	ND	ND	-	0.2	0.12	-	ND	1	-	-	-	-	
MF-1	1/3/2003	TL	-	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-1	1/13/2003	TL	2100	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-1	4/12/2003	BSK	1700	1000	7.4	680	-	60	28	260	7	<40	170	680	<0.2	<2	-	-	0.21	-	<0.05	0.62	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
MF-1	9/30/2003	TL	1700	1200	7.0	650	-	73	39	310	18	66	170	790	<0.4	-	-	0.24	0.26	<0.05	2.4	1.1	-	-	-	<0.05
MF-1	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	-	4.15	<0.4	-
MF-1	3/5/2004	TL	2200	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MF-1	4/2/2004	UNK	2300	1400	1.6	1000	-	140	74	320	9	ND	260	1000	ND	ND	-	0.3	0.26	-	0.96	2.1	-	-	-	-
MF-1	11/17/2004	BSK	2000	1200	7.6	850	-	100	59	280	6	30	210	850	<0.2	0.3	-	0.3	0.19	-	<0.05	1.5	-	-	-	-
MF-1	3/3/2005	TL	1800	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	1.3	<5	-	-	-
MF-1	3/23/2005	UNK	1800	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	1.3	ND	-	-	-
MF-1	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	-	-	-	-	-	5.1	<0.4	-
MF-1	8/10/2005	TL	1300	870	7.2	480	-	46	29	240	13	54	150	590	<2	-	-	0.3	0.14	<0.005	2.2	0.8	-	-	<0.005	
MF-1	9/1/2005	UNK	1300	870	7.2	480	-	46	29	240	13	54	150	590	-	-	-	0.14	ND	-	ND	2.2	0.8	0.57	ND	ND
MF-1	4/20/2006	TL	950	630	7.2	290	-	27	16	190	8.1	65	130	-	<2	-	-	-	-	<0.005	2	0.44	-	-	-	<0.005
MF-1	9/26/2006	TL	1400	880	7.2	480	-	42	25	250	14	59	160	-	<10	-	19	0.34	0.14	<0.005	2.6	0.88	6.1	<20	0.0059	
MF-1	3/28/2007	TL	1500	900	7.3	440	-	41	21	290	14	90	200	530	-	-	ND	0.36	0.17	ND	1.4	0.75	8.2	ND	ND	
MF-1	9/24/2007	TL	1300	810	7.4	380	-	32	18	260	12	72	150	460	-	-	ND	0.29	0.13	ND	0.42	0.47	-	-	ND	
MF-1	4/6/2008	BCL	937	550	7.64	190	-	22	13	170	5.6	90	120	240	1.8	-	-	-	-	0.0009	0.17	0.23	-	-	0.0061	
MF-1	9/3/2008	BCL	1260	740	7.46	-	-	37	20	200	4.5	73	150	450	-	-	3.1	0.071	0.11	0.0073	0.34	0.82	-	-	0.0058	
MF-1	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.77	<0.4	-	
MF-1	4/2/2009	BCL	1200	840	7.51	310	-	32	20	230	5.3	110	160	380	-	-	-	-	-	0.0015	0.42	0.55	-	-	0.0053	
MF-1	10/20/2009	BCL	1250	780	7.54	370	-	46	26	210	4.9	93	170	450	<0.4	-	9.8	0.28	0.12	0.0014	1.5	0.77	-	-	0.0067	
MF-1	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.95	<0.4	-	
MF-1	5/12/2010	BCL	1290	840	7.73	360	-	45	25	210	4.7	85	160	440	0.69	-	-	-	-	0.001	1.1	0.64	-	-	0.0043	
MF-1	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.75	<0.4	-	
MF-1	9/14/2010	BCL	492	310	7.53	92	-	13	7.3	84	3.4	51	62	110	0.071	-	2	0.27	0.033	0.00085	0.15	0.059	-	-	0.0045	
MF-2	10/27/2000	TL	1700	1000	-	-	-	-	-	-	-	-	220	-	-	-	-	0.27	-	-	-	-	-	<5	-	
MF-2	3/26/2002	FGL	2450	1500	7.1	670	8	93	37	361	7	153	310	810	<0.4	<0.1	<10	0.29	0.243	<0.01	0.16	1	-	<10	<0.02	
MF-2	4/23/2002	TL	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	4/23/2002	UNK	2300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	9/17/2002	TL	2300	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	12/13/2002	UNK	2300	1300	7.6	560	-	95	39	300	5	180	310	560	ND	ND	-	0.3	0.2	-	ND	1.2	-	-	-	
MF-2	1/3/2003	TL	-	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	1/13/2003	TL	2500	1100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	4/12/2003	BSK	2400	1400	7.5	610	-	110	49	300	7	190	350	610	<0.2	<3	-	0.2	0.18	-	<0.05	1.3	-	-	-	
MF-2	9/30/2003	TL	2500	1600	7.1	570	-	110	48	400	17	190	330	700	<0.4	-	-	0.27	0.2	<0.05	0.11	1.2	-	-	<0.05	
MF-2	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	3.9	<0.4	-	
MF-2	12/31/2003	TL	2200	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	3/5/2004	TL	2100	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-2	4/2/2004	UNK	2200	1400	7.7	580	-	110	44	340	8	230	300	580	ND	ND	-	0.3	0.11	-	ND	1.1	-	-	-	
MF-2	11/17/2004	BSK	1900	1200	7.7	490	-	100	46	280	7	250	230	490	<0.2	<0.1	-	0.2	0.08	-	<0.05	1.1	-	-	-	
MF-2	3/3/2005	TL	220	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	1	5.3	-	-	
MF-2	3/23/2005	UNK	2200	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	1	5.3	-	-	
MF-2	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	5.6	<0.4	-	
MF-2	8/10/2005	TL	1600	1100	7.1	430	-	73	31	290	13	180	210	530	3.5	-	-	0.25	0.088	<0.005	<0.1	0.8	-	-	<0.005	
MF-2	9/1/2005	UNK	1600	1100	7.1	430	-	73	31	290	13	180	210	530	-	-	ND	0.25	0.088	-	ND	0.8	5.6	ND	ND	
MF-2	4/20/2006	TL	1600	1000	7.0	400	-	83	41	240	14	210	180	-	<2	-	-	-	-	<0.005	<0.1	1	-	-	<0.005	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
MF-2	9/26/2006	TL	1200	780	7.3	300	-	56	27	180	11	140	130	-	11	-	<10	0.2	0.19	<0.005	0.14	0.45	7.4	<20	<0.005	
MF-2	3/28/2007	TL	920	560	7.3	230	-	34	15	160	8.7	110	110	280	-	-	ND	0.22	0.096	ND	ND	0.23	6.5	ND	ND	
MF-2	9/24/2007	TL	840	510	7.2	200	-	38	17	130	7	93	100	240	-	-	ND	0.25	0.094	ND	0.18	0.61	-	-	ND	
MF-2	7/10/2008	BCL	977	550	7.46	220	-	51	22	130	5.7	85	120	270	-	-	-	-	-	0.0027	0.24	0.62	-	-	0.0078	
MF-2	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.45	<0.4	-	
MF-2	9/3/2008	BCL	864	510	7.3	-	-	44	19	100	4.3	92	110	240	-	-	ND	0.26	0.083	0.0028	0.064	0.42	-	-	0.0088	
MF-2	4/2/2009	BCL	1090	730	7.29	300	-	60	26	160	5.5	92	140	360	-	-	-	-	-	0.0017	0.11	0.41	-	-	0.0046	
MF-2	10/20/2009	BCL	1560	960	7.37	390	-	85	38	230	6.7	150	220	470	<0.4	-	<2	0.24	0.18	0.0017	0.48	0.92	-	-	0.0059	
MF-2	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.15	<0.4	-	
MF-2	5/20/2010	BCL	1560	1000	7.39	370	-	92	41	210	7.7	190	210	450	0.23	-	-	-	-	0.002	0.16	0.75	-	-	0.0074	
MF-2	9/14/2010	BCL	1400	920	7.31	260	-	79	37	200	6.1	270	160	320	2.7	-	ND	0.26	0.088	0.0016	0.13	0.98	-	-	0.0067	
MF-2	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	ND	-	
MF-3	3/26/2002	FGL	1810	1100	7.1	620	5.8	60	51	253	5	103	160	760	<0.4	0.1	<10	0.23	0.059	<0.01	0.65	2.01	-	<10	<0.02	
MF-3	4/23/2002	TL	1800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	9/17/2002	TL	2100	1200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	12/13/2002	UNK	2200	1200	7.6	650	-	78	68	260	3	140	280	650	ND	ND	-	0.3	0.16	-	ND	2.8	-	-	-	
MF-3	1/3/2003	TL	-	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	1/13/2003	TL	2500	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	4/12/2003	BSK	2800	1700	7.5	880	-	77	65	360	4	95	400	880	<0.2	<3	-	0.3	0.2	-	<0.05	2.9	-	-	-	
MF-3	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	3.05	<0.4	-	
MF-3	9/30/2003	TL	3000	1600	7.0	980	-	68	56	570	12	83	400	1200	<0.4	-	-	0.39	0.24	<0.05	2.9	2.5	-	-	<0.05	
MF-3	12/31/2003	TL	2500	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	3/4/2004	TL	2000	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	4/2/2004	UNK	1800	1100	7.8	550	-	29	21	320	3	91	230	550	ND	ND	-	0.4	0.08	-	0.24	1.1	-	-	-	
MF-3	11/17/2004	BSK	1100	690	7.9	310	-	15	10	220	2	90	130	310	<0.2	0.3	-	0.3	<0.05	-	0.5	0.56	-	-	-	
MF-3	3/2/2005	TL	1000	620	-	-	-	-	-	-	-	-	-	-	-	-	-	0.37	-	-	-	0.41	14	-	-	
MF-3	3/21/2005	UNK	1000	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-3	8/10/2005	TL	1100	780	7.5	340	-	14	11	260	3.8	64	67	410	<2	-	-	0.42	0.03	<0.005	0.58	0.56	-	-	<0.005	
MF-3	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	10.9	<0.4	-	
MF-3	9/1/2005	UNK	1100	780	7.5	340	-	14	11	260	3.8	64	67	410	-	-	ND	0.42	0.03	ND	0.58	0.56	0.11	ND	ND	
MF-3	4/20/2006	TL	1000	680	7.5	250	-	11	8.8	240	3.7	130	110	-	<2	-	-	-	-	<0.005	0.46	0.45	-	-	<0.005	
MF-3	9/26/2006	TL	950	610	7.7	240	-	13	9.3	190	3.5	97	90	-	<10	-	<10	0.37	0.017	<0.005	0.46	0.5	12	<20	<0.005	
MF-3	3/28/2007	TL	720	450	7.6	380	-	9	7	150	2.7	79	75	470	-	-	ND	0.35	0.015	ND	0.37	0.38	11	ND	ND	
MF-3	9/25/2007	TL	1500	970	7.2	370	-	42	35	270	7.8	160	170	450	-	-	ND	0.34	0.12	ND	5.6	1.9	-	-	0.12	
MF-3	4/6/2008	BCL	1960	1200	7.49	480	-	41	35	360	4.5	140	270	590	<0.4	-	-	-	-	0.00058	3.4	1.9	-	-	0.0074	
MF-3	9/3/2008	BCL	924	570	7.58	-	-	11	8.9	160	2	140	110	180	-	-	ND	0.23	0.038	0.0016	0.9	0.48	-	-	0.0095	
MF-3	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	20.3	<0.4	-	
MF-3	4/2/2009	BCL	1370	1000	7.48	240	-	26	22	280	3.1	250	160	300	-	-	-	-	-	0.00069	1.9	1.1	-	-	0.0055	
MF-3	10/21/2009	BCL	872	540	7.35	130	-	22	19	150	2.4	130	120	150	<0.4	-	<2	0.28	0.058	0.0014	1.8	0.77	-	-	0.0055	
MF-3	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21	<0.4	-	
MF-3	5/12/2010	BCL	1130	720	7.69	210	-	21	18	180	2.8	160	140	250	ND	-	-	-	-	0.0012	1.7	0.94	-	-	0.0046	
MF-3	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.4	ND	-	
MF-3	9/14/2010	BCL	1420	900	7.59	370	-	21	21	290	3.3	120	180	450	ND	-	1.1	0.36	0.059	0.00077	1.5	0.87	-	-	0.0056	
MF-4	3/27/2002	FGL	2810	1580	6.9	1130	6.3	160	41	343	40	2	270	1380	<0.4	0.2	40	0.28	0.511	<0.01	11.5	2.37	-	<10	<0.02	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
SHALLOW (Meyers Farm)																											
MF-4	4/23/2002	TL	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-4	9/17/2002	TL	2900	1600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-4	12/13/2002	UNK	2900	1500	7.5	1200	-	150	34	300	36	ND	280	1200	ND	ND	-	0.3	0.27	-	0.7	1.8	-	-	-	-	
MF-4	1/3/2003	TL	-	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-4	4/12/2003	BSK	2600	1400	7.3	1100	-	150	36	240	39	<60	270	1100	<0.2	<3	-	0.3	0.36	-	<0.05	2.2	-	-	-	-	
MF-4	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16	-	-	-	-	-	1.2	<0.4	-	-	
MF-4	9/30/2003	TL	2700	1600	7.1	1200	-	180	45	350	62	7.9	270	1500	0.76	-	-	0.3	0.43	<0.05	11	2.8	-	-	<0.05	-	
MF-4	3/4/2004	TL	2600	1500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-4	4/2/2004	UNK	2400	1400	7.6	1000	-	160	42	300	36	ND	260	1000	ND	ND	-	0.4	0.24	-	1.8	2.6	-	-	-	-	
MF-4	11/17/2004	BSK	1900	1100	7.7	760	-	100	30	250	26	24	200	760	<0.2	0.5	-	0.4	0.13	-	<0.05	1.8	-	-	-	-	
MF-4	3/2/2005	TL	1500	850	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	1.1	<5	-	-	-	
MF-4	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	75	-	-	-	-	-	2.1	<0.4	-	-	
MF-4	8/10/2005	TL	1300	890	7.2	500	-	72	20	220	28	57	150	610	<2	-	-	0.29	0.17	<0.005	9	1.3	-	-	<0.005	-	
MF-4	9/1/2005	UNK	1300	890	7.2	500	-	72	20	220	28	57	150	610	-	-	74	0.29	0.17	ND	9	1.3	2	ND	ND	-	
MF-4	4/20/2006	TL	1400	820	7.2	490	-	61	16	220	32	49	150	-	<2	-	-	-	-	<0.005	5.9	1.1	-	-	<0.005	-	
MF-4	9/26/2006	TL	1300	770	7.3	450	-	56	15	190	26	41	130	-	<10	-	70	0.33	0.12	<0.005	6.8	1	5.3	<20	0.0057	-	
MF-4	3/28/2007	TL	1400	820	7.3	520	-	76	21	210	23	23	150	630	-	-	73	0.31	0.17	ND	8.1	1.5	5.1	ND	ND	-	
MF-4	9/25/2007	TL	1500	880	7.3	600	-	78	22	230	33	18	150	740	-	-	45	0.33	0.091	ND	8.1	1.4	-	-	ND	-	
MF-4	4/6/2008	BCL	1380	880	7.56	500	-	73	21	190	19	31	140	610	<0.4	-	-	-	-	0.00029	8.4	1.5	-	-	0.0067	-	
MF-4	9/3/2008	BCL	2110	1200	7.45	-	-	130	36	280	30	3.8	210	1100	-	-	64	0.16	0.33	0.0012	11	2	-	-	0.0062	-	
MF-4	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.03	<0.4	-	-	
MF-4	4/2/2009	BCL	2000	1300	7.43	820	-	120	34	270	28	5.9	200	1000	-	-	-	-	-	0.00047	12	2	-	-	0.005	-	
MF-4	10/21/2009	BCL	1830	990	7.36	730	-	100	28	290	37	2.8	180	890	<0.4	-	56	0.38	0.27	<0.002	9.6	1.3	-	-	0.005	-	
MF-4	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-	
MF-4	5/12/2010	BCL	1750	980	7.64	650	-	82	24	230	27	23	190	790	ND	-	-	-	-	ND	6.2	1.1	-	-	0.0018	-	
MF-4	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	ND	-	-	
MF-4	9/14/2010	BCL	1290	780	7.59	470	-	54	15	220	22	31	140	570	ND	-	49	0.4	0.15	0.00059	5.1	0.71	-	-	0.0046	-	
MF-5	3/27/2002	FGL	2750	1710	6.9	720	7.7	109	55	395	10	270	240	870	<0.4	0.4	<10	0.37	0.216	<0.01	5.85	1.47	-	<10	<0.02	-	
MF-5	4/23/2002	TL	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-5	10/1/2002	UNK	3000	1800	7.0	770	-	120	56	460	19	300	330	940	-	-	ND	0.37	0.28	ND	8.6	1.4	-	ND	ND	-	
MF-5	10/10/2002	TL	3000	1800	7.0	770	-	120	56	460	19	300	330	940	<2	-	<10	0.37	0.28	<0.05	8.6	1.4	-	<10	<0.05	-	
MF-5	12/13/2002	UNK	2500	1500	7.2	540	-	89	44	340	9	330	310	540	ND	ND	-	0.4	0.16	-	ND	1.1	-	-	-	-	
MF-5	1/6/2003	UNK	2100	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-5	1/13/2003	TL	2100	1300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-5	4/12/2003	BSK	1500	900	7.6	450	-	43	43	190	3	83	200	450	<0.2	<3	-	0.4	0.1	-	<0.05	0.59	-	-	-	-	
MF-5	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	7.2	<0.4	-	-	
MF-5	9/30/2003	TL	1300	860	7.0	420	-	39	40	230	4.7	80	170	510	<0.4	-	-	0.42	0.1	<0.05	3.6	0.48	-	-	<0.05	-	
MF-5	3/3/2004	UNK	700	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-5	3/31/2004	TL	700	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-5	4/2/2004	UNK	670	410	7.7	120	-	18	8.3	97	6	52	100	120	ND	ND	-	0.3	ND	-	0.14	0.24	-	-	-	-	
MF-5	5/27/2004	UNK	660	380	6.9	-	-	17	9.5	100	10	60	93	130	-	-	-	-	-	ND	1.5	0.24	-	-	-	ND	
MF-5	11/17/2004	BSK	710	410	7.7	120	-	25	14	95	7	100	84	120	<0.2	0.2	-	0.4	<0.05	-	0.23	0.39	-	-	-	-	
MF-5	3/3/2005	TL	720	410	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	0.31	7.5	-	-	-	
MF-5	3/23/2005	UNK	720	410	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	0.31	7.5	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
SHALLOW (Meyers Farm)																											
MF-5	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	6.1	<0.4	-	
MF-5	8/10/2005	TL	1200	810	6.8	340	-	42	41	190	5.5	110	150	420	<2	-	-	-	0.4	0.098	<0.005	4	0.48	-	-	<0.005	
MF-5	9/1/2005	UNK	1200	810	6.8	340	-	42	41	190	5.5	110	150	420	-	-	-	ND	0.4	0.098	ND	4	0.48	6	ND	ND	
MF-5	4/20/2006	TL	680	430	7.0	190	-	21	18	120	9	59	86	-	<2	-	-	-	-	-	<0.005	3.2	0.27	-	-	0.0062	
MF-5	9/26/2006	TL	1300	800	7.0	380	-	44	43	200	8	100	150	-	<10	-	-	<10	0.41	0.13	0.0082	11	0.56	<5	<20	0.025	
MF-5	3/28/2007	TL	570	870	7.2	180	-	33	39	81	17	55	51	220	-	-	-	280	0.28	0.31	0.071	50	0.96	ND	ND	0.17	
MF-5	9/25/2007	TL	480	320	7.2	90	-	23	13	59	14	49	72	110	-	-	-	ND	0.2	0.045	ND	4.3	0.41	-	-	0.0056	
MF-5	4/6/2008	BCL	638	490	7.5	120	-	36	20	69	12	66	81	140	<0.4	-	-	-	-	-	0.0016	6.5	0.51	-	-	0.0091	
MF-5	9/3/2008	BCL	1100	680	7.51	-	-	68	39	110	17	140	150	250	-	-	-	5.6	0.28	0.24	0.001	29	1.2	-	-	0.076	
MF-5	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	<0.4	-		
MF-5	4/2/2009	BCL	947	730	7.46	150	-	56	28	110	13	150	130	190	-	-	-	-	-	-	0.006	9	0.68	-	-	0.022	
MF-5	10/21/2009	BCL	1300	780	7.33	380	-	43	46	220	4.2	120	150	460	1.8	-	-	1.6	0.45	0.11	0.011	9.1	0.13	-	-	0.02	
MF-5	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.05	<0.4	-		
MF-5	5/12/2010	BCL	1200	740	7.56	190	-	53	36	150	7.9	170	180	240	ND	-	-	-	-	-	0.0017	3.7	0.56	-	-	0.0062	
MF-5	9/14/2010	BCL	483	310	7.52	95	-	19	7.9	72	6.3	52	55	120	ND	-	-	2	0.34	0.03	0.0008	1.4	0.19	-	-	0.0076	
MF-5	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.85	ND	-		
MF-6	10/11/2002	TL	1200	640	7.1	300	-	30	14	200	9	87	130	360	-	-	-	<10	0.32	0.14	<0.05	0.4	0.4	-	<10	<0.05	
MF-6	12/13/2002	UNK	2400	1300	7.2	640	-	55	35	360	2	76	370	640	ND	ND	-	-	0.4	ND	-	0.7	0.92	-	-	-	
MF-6	1/3/2003	TL	-	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-6	1/13/2003	TL	1800	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-6	4/12/2003	BSK	2400	1400	7.0	750	-	64	43	340	2	67	360	750	<0.2	<2	-	-	0.4	0.06	-	0.08	1.3	-	-	-	
MF-6	5/20/2003	TL	2300	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-6	9/30/2003	TL	2300	1400	6.9	720	-	54	33	450	7.1	64	300	880	<0.4	-	-	-	0.39	0.28	<0.05	7.7	1	-	-	<0.05	
MF-6	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	-	-	-	-	4.3	<0.4	-	
MF-6	12/31/2003	TL	2400	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-6	3/4/2004	TL	2300	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-6	4/2/2004	UNK	2400	1400	7.4	740	-	66	41	420	4	74	340	740	ND	ND	-	-	0.4	0.08	-	5.3	1.3	-	-	-	
MF-6	5/27/2004	UNK	2300	1400	6.7	-	-	59	38	450	7.2	80	310	870	-	-	-	-	-	-	ND	11	1.2	-	-	ND	
MF-6	11/17/2004	BSK	2100	1200	7.5	680	-	47	30	380	2	72	190	680	<0.2	0.4	-	-	0.3	0.05	-	0.79	0.87	-	-	-	
MF-6	3/2/2005	TL	1800	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	0.69	5.6	-	-	
MF-6	3/21/2005	UNK	1800	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	0.69	5.6	-	-	
MF-6	8/10/2005	TL	1700	1200	6.9	580	-	38	22	360	5	76	250	710	<2	-	-	-	0.36	0.21	<0.005	4.5	0.66	-	-	<0.005	
MF-6	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	3.5	<0.4	-	
MF-6	9/1/2005	UNK	1700	1200	6.9	580	-	38	22	360	5	76	250	710	-	-	-	-	0.36	0.21	ND	4.5	0.66	-	-	ND	
MF-6	4/20/2006	TL	1100	720	6.9	340	-	24	14	240	4.6	62	140	-	<2	-	-	-	-	-	<0.005	3	0.42	-	-	<0.005	
MF-6	9/26/2006	TL	1700	1100	7.0	550	-	36	21	350	5.4	56	220	-	<10	-	-	<10	0.34	0.2	<0.005	4.9	0.65	<5	<20	<0.005	
MF-6	3/28/2007	TL	850	510	7.0	240	-	17	10	160	4.8	50	110	290	-	-	-	ND	0.2	0.098	ND	2.7	0.33	5.4	ND	ND	
MF-6	9/25/2007	TL	1400	870	7.1	410	-	30	17	290	4.6	66	170	500	-	-	-	ND	0.28	0.046	ND	4	0.55	-	-	ND	
MF-6	4/6/2008	BCL	1460	830	7.34	390	-	35	21	290	2.8	98	180	470	<0.4	-	-	-	-	-	0.00073	5.6	0.56	-	-	0.0056	
MF-6	9/3/2008	BCL	2150	1300	7.26	-	-	44	27	410	2.5	85	280	850	-	-	-	7.9	0.33	0.24	0.031	6	0.86	-	-	0.0083	
MF-6	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.75	<0.4	-		
MF-6	4/2/2009	BCL	1850	1400	7.33	610	-	39	23	390	2.5	92	230	740	-	-	-	-	-	-	ND	4.9	0.6	-	-	0.0056	
MF-6	10/21/2009	BCL	1520	1100	7.38	450	-	38	19	310	5.3	84	190	550	<0.4	-	-	4.3	0.33	0.14	0.0026	4	0.55	-	-	0.0058	
MF-6	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.3	<0.4	-		

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
MF-6	5/12/2010	BCL	1820	1100	7.5	550	-	36	22	360	2.3	87	230	680	ND	-	-	-	-	0.00084	5	0.57	-	-	-	0.0029
MF-6	9/14/2010	BCL	444	280	7.39	86	-	14	5.9	69	6.6	42	53	100	ND	-	7.9	0.25	0.046	0.0008	1.7	0.14	-	-	-	0.0051
MF-6	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	13.1	ND	-	
MF-7	10/1/2002	UNK	4100	2600	7.3	1000	-	75	69	760	18	470	410	1200	-	-	ND	0.88	0.2	ND	1.6	0.65	-	ND	ND	
MF-7	10/11/2002	TL	4100	2600	7.3	1000	-	75	69	760	18	470	410	1200	-	-	<10	0.2	0.88	<0.05	1.6	0.7	-	<10	<0.05	
MF-7	12/13/2002	UNK	4200	2600	7.8	1100	-	65	71	730	8	420	460	1100	66.4	ND	-	0.9	0.1	-	ND	0.55	-	-	-	
MF-7	1/6/2003	UNK	3600	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-7	1/13/2003	TL	3600	2500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-7	4/12/2003	BSK	3200	2000	7.6	1200	-	36	38	340	6	160	280	1200	<0.2	<2	-	0.8	0.06	-	<0.05	0.32	-	-	-	
MF-7	9/30/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	30.2	<0.4	-	
MF-7	9/30/2003	TL	3200	2100	7.7	1200	-	33	38	740	18	240	240	1500	<0.4	-	-	0.75	0.07	<0.05	0.58	0.34	-	-	<0.05	
MF-7	3/4/2004	TL	3200	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-7	4/2/2004	UNK	2600	1700	7.6	440	-	23	19	530	4	340	250	440	239.1	ND	-	0.8	ND	-	ND	0.15	-	-	-	
MF-7	11/17/2004	BSK	1300	800	7.8	240	-	17	14	250	4	190	130	240	12	0.6	-	0.5	<0.05	-	<0.05	0.08	-	-	-	
MF-7	3/3/2005	TL	800	490	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46	-	-	-	0.021	21	-	-	
MF-7	3/23/2005	UNK	800	490	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46	-	-	-	0.021	21	-	-	
MF-7	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	18.5	1.3	-	
MF-7	8/9/2005	TL	980	680	7.2	230	-	3.8	3.2	250	4.3	110	110	280	<2	-	-	0.44	0.015	0.0061	<0.1	0.012	-	-	0.0056	
MF-7	8/30/2005	UNK	980	680	7.2	230	-	3.8	3.2	250	4.3	110	110	280	-	-	ND	0.44	0.015	ND	ND	0.012	19	-	0.0056	
MF-7	4/20/2006	TL	670	480	7.3	190	-	2.7	2.4	170	3.8	60	67	-	17	-	-	-	-	0.0068	1.1	0.019	-	-	0.005	
MF-7	9/26/2006	TL	950	630	7.3	260	-	2.4	2.2	210	4.1	77	72	-	35	-	<10	0.47	0.029	0.0081	3.4	0.29	27	<20	0.0054	
MF-7	3/28/2007	TL	580	400	7.5	200	-	1.3	1.3	140	2.9	35	32	250	-	-	ND	0.33	0.023	0.0061	2.9	0.24	20	ND	ND	
MF-7	9/24/2007	TL	500	310	7.1	97	-	9.4	9.3	85	5	52	67	120	-	-	ND	0.18	0.031	ND	1.8	0.27	-	-	ND	
MF-7	4/6/2008	BCL	770	430	7.65	150	-	19	17	120	3.6	87	98	180	0.57	-	-	-	-	0.0026	2.1	0.2	-	-	0.0082	
MF-7	9/3/2008	BCL	837	480	7.48	-	-	39	28	83	5.3	100	-	190	-	-	ND	0.32	0.083	0.0022	1.8	1	-	-	0.013	
MF-7	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.95	<0.4	-		
MF-7	4/2/2009	BCL	794	510	7.33	160	-	37	30	97	5.3	110	100	200	-	-	-	-	-	0.00096	3.1	0.58	-	-	0.0049	
MF-7	10/21/2009	BCL	946	580	7.33	180	-	52	39	100	6.3	170	110	220	<0.4	-	2.9	0.26	0.15	0.0014	4.7	0.65	-	-	0.0064	
MF-7	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	<0.4	-	
MF-7	5/12/2010	BCL	841	510	6.85	84	-	27	23	120	6.1	140	130	100	4.6	-	-	-	-	0.0023	13	0.9	-	-	0.0052	
MF-7	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.85	2.25	-	
MF-7	9/14/2010	BCL	652	420	7.22	160	-	11	9.1	120	3.1	63	61	200	4.1	-	2.6	0.41	0.031	0.0033	2.1	0.18	-	-	0.0062	
MF-8	10/10/2002	TL	4900	3100	7.5	1300	-	30	22	970	19	370	630	1500	2.5	-	<10	1	0.14	<0.05	<0.1	0.5	-	-	<0.05	
MF-8	12/13/2002	UNK	5000	3000	8.1	1300	-	32	24	1100	7	350	700	1300	ND	ND	-	1	0.07	-	ND	0.5	-	-	-	
MF-8	1/6/2003	UNK	3500	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-8	1/13/2003	TL	3500	2200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-8	4/12/2003	BSK	3500	2100	7.5	880	-	23	20	600	4	310	460	880	<0.2	<2	-	0.8	0.07	-	<0.05	0.98	-	-	-	
MF-8	9/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	-	29.2	2.7	-	
MF-8	9/29/2003	TL	4500	2900	7.1	1300	-	25	18	1100	22	290	600	1600	17	-	-	1.1	0.06	<0.05	<0.1	0.46	-	-	<0.05	
MF-8	3/4/2004	TL	3300	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
MF-8	4/2/2004	UNK	3500	2300	7.8	810	-	28	23	770	4	440	460	810	0.2	ND	-	1	0.12	-	ND	1.7	-	-	-	
MF-8	11/17/2004	BSK	3200	2000	7.8	730	-	25	24	660	5	450	380	730	<0.2	0.6	-	0.9	<0.05	-	-	0.86	-	-	-	
MF-8	3/2/2005	TL	3400	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	0.78	-	-	-	1.1	55	-	-	
MF-8	3/21/2005	UNK	3400	2100	-	-	-	-	-	-	-	-	-	-	-	-	-	0.78	-	-	-	1.1	55	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
MF-8	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	21	0.78	-
MF-8	8/9/2005	TL	2900	2000	6.9	1400	-	130	92	500	26	12	350	1700	<2	-	-	-	0.47	0.39	0.012	<0.1	4.4	-	-	<0.005
MF-8	8/30/2005	UNK	2900	2000	6.9	1400	-	130	92	500	26	12	350	1700	-	-	-	ND	0.47	0.39	0.012	ND	4.4	21	0.8	ND
MF-8	4/20/2006	TL	3000	1900	6.9	1200	-	160	65	480	46	5.2	330	-	<2	-	-	-	-	-	0.011	<0.2	4.1	-	-	<0.01
MF-8	9/26/2006	TL	3000	1900	7.0	1300	-	180	62	450	48	13	310	-	<10	-	-	<20	0.43	0.46	0.02	2.3	4.5	31	<40	0.011
MF-8	3/28/2007	TL	2800	1700	7.2	1200	-	150	49	500	33	ND	310	1400	-	-	-	ND	0.45	0.38	ND	5.1	3.9	44	ND	ND
MF-8	9/24/2007	TL	2800	1400	7.1	1200	-	150	51	480	41	ND	250	1500	-	-	-	ND	0.49	0.3	ND	13	3.4	-	-	ND
MF-8	4/6/2008	BCL	2760	1600	7.37	1200	-	130	48	480	23	3.1	290	1400	<0.4	-	-	-	-	-	0.0039	14	3.6	-	-	0.0065
MF-8	9/3/2008	BCL	2800	1700	7.19	-	-	150	50	420	22	5.8	290	1500	-	-	-	56	0.4	0.5	0.0049	49	3.6	-	-	0.01
MF-8	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	55	<0.4	-	
MF-8	4/2/2009	BCL	2820	1600	7.22	1200	-	160	55	490	23	15	310	1400	-	-	-	-	-	-	0.0054	29	4	-	-	0.0081
MF-8	10/21/2009	BCL	3560	2200	7.24	1200	-	190	68	650	26	140	470	1500	14	-	-	38	0.59	0.59	0.005	36	4.4	-	-	0.0055
MF-8	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18	<0.668	-	
MF-8	5/12/2010	BCL	3480	2100	7.61	1300	-	160	68	570	11	50	440	1600	ND	-	-	-	-	-	0.001	20	4.9	-	-	0.0029
MF-8	9/14/2010	BCL	2930	2000	7.24	1200	-	140	63	480	16	7.1	360	1400	ND	-	-	16	0.56	0.36	0.00097	18	4.5	-	-	0.0051
MF-8	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15.5	<0.4	-	
MF-9	10/10/2002	TL	2300	1500	7.4	500	-	47	23	440	12	330	240	610	<2	-	-	<10	0.59	0.11	<0.05	0.21	0.68	-	<10	<0.05
MF-9	12/13/2002	UNK	2300	1400	7.8	440	-	40	20	390	4	340	240	440	ND	ND	-	-	0.6	0.08	-	ND	0.64	-	-	-
MF-9	1/6/2003	UNK	2300	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MF-9	1/13/2003	TL	2300	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MF-9	3/23/2003	BSK	-	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MF-9	4/12/2003	BSK	2100	1400	7.6	460	-	32	16	350	4	310	230	460	<0.2	<2	-	-	0.6	0.07	-	<0.05	0.53	-	-	-
MF-9	9/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	32.6	<0.4	-	
MF-9	9/29/2003	TL	2400	1500	7.3	280	-	54	27	460	22	410	250	340	<0.4	-	-	-	0.61	0.09	<0.05	0.11	1	-	-	<0.05
MF-9	3/4/2004	TL	2200	1400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MF-9	4/2/2004	UNK	2200	1400	8.1	560	-	47	23	450	6	260	280	560	2.2	ND	-	-	0.6	0.09	-	ND	0.88	-	-	-
MF-9	11/17/2004	BSK	2600	1600	7.9	780	-	63	34	510	7	220	330	780	<0.2	<0.1	-	-	0.6	0.08	-	<0.05	1.1	-	-	-
MF-9	3/2/2005	TL	3300	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.67	-	-	-	1.8	25	-	-
MF-9	3/21/2005	UNK	3300	2000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.67	-	-	-	1.8	25	-	-
MF-9	8/9/2005	TL	3200	2100	7.0	950	-	95	42	630	17	300	380	1200	<2	-	-	-	0.7	0.1	<0.005	0.8	1.4	-	-	<0.005
MF-9	8/9/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	26.1	<0.4	-	
MF-9	8/30/2005	UNK	3200	2100	7.0	950	-	95	42	630	17	300	380	1200	-	-	-	ND	0.7	0.1	ND	0.8	1.4	26	ND	ND
MF-9	4/20/2006	TL	3100	2100	7.3	1000	-	67	33	700	20	280	320	-	<2	-	-	-	-	-	<0.01	1.6	1.4	-	-	<0.01
MF-9	9/26/2006	TL	2800	1800	7.4	920	-	54	24	620	16	190	290	-	<20	-	-	<20	0.8	0.074	<0.01	2.6	0.88	56	<40	0.013
MF-9	3/28/2007	TL	2600	1600	7.5	820	-	49	20	550	15	170	290	1000	-	-	-	ND	0.72	0.073	ND	1.2	0.65	43	ND	ND
MF-9	9/24/2007	TL	1500	860	7.7	400	-	13	6.7	330	9.1	150	120	490	-	-	-	ND	0.56	0.031	ND	0.87	0.29	-	-	ND
MF-9	4/6/2008	BCL	1540	1000	8.06	400	-	14	7	370	5.3	180	150	490	<0.4	-	-	-	-	-	0.00044	1.1	0.27	-	-	0.0054
MF-9	9/3/2008	BCL	2000	1200	7.85	-	-	22	12	440	5.4	8.3	8.3	680	-	-	-	2	0.53	0.059	ND	1.7	0.53	-	-	0.0083
MF-9	9/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	26.2	<0.4	-	
MF-9	4/2/2009	BCL	2200	1400	7.7	630	-	29	16	520	5.7	250	230	770	-	-	-	-	-	-	0.000069	1.7	0.63	-	-	0.0028
MF-9	10/21/2009	BCL	3010	2000	7.44	660	-	53	33	650	7.9	470	380	800	<0.9	-	-	2.1	0.93	0.14	0.0022	4.8	1.2	-	-	0.0052
MF-9	10/21/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	21.6	<0.4	-	
MF-9	5/12/2010	BCL	2960	1900	7.7	620	-	50	33	590	6.7	470	380	760	ND	-	-	-	-	-	0.0071	6.1	1.3	-	-	0.0032
MF-9	9/14/2010	BCL	3120	2100	7.56	830	-	44	32	710	7.6	410	340	1000	ND	-	-	1.2	0.93	0.099	0.0017	3.8	1.1	-	-	0.0049

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
MF-9	9/14/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42	ND	-
EW-1	6/25/2004	TL	1100	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
EW-1	9/13/2004	FGL	1040	650	6.9	-	-	25	16	175	2	133	120	240	<0.4	-	-	<2	0.3	0.06	0.004	1.64	0.37	-	-	<0.01
EW-1	9/13/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.3	<0.4	-
EW-1	8/1/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.3	<0.4	-
EW-1	8/1/2007	TL	760	490	7.4	210	-	22	13	150	3.5	66	80	260	<4	-	-	<10	0.31	0.052	<0.005	1.4	0.42	12	<20	<0.005
EW-1	5/9/2008	BCL	660	440	7.3	-	-	24	16	110	3.3	-	60	180	-	-	-	ND	0.26	0.054	ND	2.2	0.56	-	-	ND
EW-1	5/9/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.33	<0.4	-
EW-1	11/25/2008	BCL	807	480	7.2	130	-	33	22	110	2.7	130	88	160	-	-	-	1.1	0.25	0.07	0.0074	10	0.99	11	ND	0.054
EW-1	3/11/2009	BCL	1090	800	7.62	240	-	45	27	190	2.6	170	120	290	-	-	-	ND	0.32	0.091	0.00057	4.1	1.1	-	-	0.0049
EW-1	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	ND	-
EW-1	8/14/2009	BCL	1100	720	7.73	270	-	34	19	220	2.5	130	150	320	-	-	-	ND	0.35	0.078	0.00086	1.7	0.63	-	-	0.0061
EW-1	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	ND	-
EW-2	8/1/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.78	<0.4	-
EW-2	8/1/2007	TL	1500	960	7.4	520	-	33	16	340	5.2	65	140	630	<6	-	-	<10	0.34	0.054	<0.005	0.67	0.79	12	<20	<0.005
EW-2	6/2/2008	BCL	1530	980	7.58	400	-	35	28	290	2.8	180	180	480	-	-	-	ND	0.34	0.11	ND	1.4	1.6	-	-	0.0052
EW-2	6/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17.5	<0.4	-
EW-2	11/25/2008	BCL	956	580	7.53	160	-	17	14	180	2.3	140	120	200	-	-	-	1.8	0.24	0.08	0.01	11	0.96	21	ND	0.0099
EW-2	8/14/2009	BCL	1390	920	7.81	450	-	27	10	320	1.9	83	170	550	-	-	-	ND	0.28	0.079	0.00092	0.45	0.5	-	-	0.0055
EW-2	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.15	ND	-
EW-3	8/1/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10.9	<0.4	-
EW-3	8/1/2007	TL	1100	730	7.6	390	-	22	8.9	260	3.3	47	99	480	<4	-	-	<10	0.3	0.1	<0.005	0.57	0.43	9.4	<20	<0.005
EW-3	5/9/2008	BCL	960	640	7.5	-	-	26	15	200	3.7	33	84	380	-	-	-	ND	0.28	0.074	ND	3.2	1.1	-	<0.4	ND
EW-3	5/9/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.83	-	-
EW-3	11/25/2008	BCL	796	450	7.42	190	-	31	23	120	2.6	84	86	230	-	-	-	11	0.26	0.15	0.027	20	1.5	12	ND	0.29
EW-3	8/14/2009	BCL	1350	980	7.82	480	-	31	11	310	1.9	73	150	590	-	-	-	ND	0.33	0.077	0.00066	0.49	0.56	-	-	0.0062
EW-3	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	ND	-
EW-4	6/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9.13	<0.4	-
EW-4	6/2/2008	BCL	635	440	7.77	140	-	14	9.3	110	2.1	78	64	180	-	-	-	ND	0.28	0.052	ND	1.6	0.28	-	-	0.0057
EW-4	11/25/2008	BCL	738	430	7.44	130	-	28	16	100	3.3	90	97	150	-	-	-	ND	0.23	0.091	0.0018	2.7	0.51	7.1	ND	0.013
EW-4	3/11/2009	BCL	883	580	7.64	200	-	27	16	160	2.9	100	110	240	-	-	-	ND	0.32	0.084	0.0004	2.1	0.43	-	-	0.0047
EW-4	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	ND	-
EW-5	6/2/2008	BCL	954	620	7.79	250	-	12	7.6	210	1.4	95	110	300	-	-	-	ND	0.41	0.042	ND	1	0.19	-	-	ND
EW-5	6/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.35	<0.4	-
EW-5	11/25/2008	BCL	746	450	7.7	190	-	7.5	4.8	160	1.2	78	72	230	-	-	-	ND	0.33	0.065	0.027	7.7	0.17	10	ND	0.012
EW-5	3/11/2009	BCL	1220	880	7.74	290	-	17	10	280	1.5	160	150	350	-	-	-	ND	0.47	0.053	0.00037	2	0.33	-	-	0.0033
EW-5	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	14	ND	-
EW-5	8/14/2009	BCL	1640	1100	7.78	370	-	15	6.9	360	1.7	150	240	450	-	-	-	ND	0.46	0.061	0.00089	0.92	0.21	-	-	0.0052
EW-5	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9	ND	-
EW-6	6/2/2008	BCL	682	440	7.54	160	-	20	12	110	2.2	67	79	200	-	-	-	ND	0.26	0.045	ND	2.6	0.37	-	-	0.0056
EW-6	6/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.75	<0.4	-
EW-6	11/25/2008	BCL	802	470	7.16	140	-	37	20	110	3.4	110	100	160	-	-	-	1.2	0.26	0.073	0.0026	6.5	0.67	9.3	ND	0.012

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)	
SHALLOW (Meyers Farm)																										
EW-6	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	ND	-
EW-6	3/11/2009	BCL	1070	660	7.61	260	-	28	15	210	2.7	110	140	320	-	-	-	ND	0.38	0.072	0.00037	3	0.43	-	-	0.004
EW-6	8/14/2009	BCL	1180	740	7.67	300	-	24	11	230	2.9	110	160	360	-	-	-	ND	0.37	0.071	ND	1.8	0.37	-	-	0.0058
EW-6	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.65	ND	-	
EW-7	11/12/2008	BCL	1330	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EW-7	3/11/2009	BCL	1550	860	7.8	480	-	52	14	300	2.6	55	200	590	-	-	-	ND	0.21	0.14	0.00042	0.54	0.51	-	-	0.0037
EW-7	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-	
EW-7	8/14/2009	BCL	1410	900	7.83	450	-	43	8.4	290	2.2	28	210	550	-	-	-	ND	0.21	0.096	ND	0.2	0.41	-	-	0.0069
EW-7	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.65	ND	-	
EW-8	11/8/2008	BCL	1130	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
EW-8	3/11/2009	BCL	1090	720	7.9	280	-	48	16	180	2.2	69	160	340	-	-	-	ND	0.23	0.091	0.00076	0.35	0.52	-	-	0.074
EW-8	3/11/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	ND	-	
EW-8	8/14/2009	BCL	1030	670	7.92	280	-	38	10	190	1.8	65	150	350	-	-	-	ND	0.21	0.07	0.0037	0.27	0.52	-	-	0.0072
EW-8	8/14/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.95	ND	-	
DEEP (Spreckels)																										
MW-7	5/6/1983	BCL	960	657	7.8	-	-	54	36	102	7	123	157	192	<1	-	-	<10	-	-	-	3.2	1	-	-	-
MW-7	5/29/1983	UNK	960	657	7.8	-	-	54	36	102	7.4	123	157	192	-	-	-	-	-	-	-	3.2	1	-	-	-
MW-7	11/24/1983	UNK	3000	1837	7.8	-	-	63	12.1	630	5.5	10	406	1221	4	-	-	-	-	-	-	3.4	1.2	-	-	-
MW-7	12/2/1983	UNK	3100	1730	8.0	-	-	6	8	700	6	10	414	1209	-	-	-	-	-	-	-	0.14	0.94	-	-	-
MW-7	3/6/1984	UNK	3000	1740	7.6	-	-	46	10.2	620	3.5	13	389	1140	-	-	-	-	-	-	-	-	-	-	-	
MW-7	5/22/1984	UNK	2800	1663	7.6	-	-	9	6.5	610	3	9	367	1064	12	-	-	-	-	-	-	1.6	0.065	-	-	-
MW-7	7/19/1984	UNK	2600	1590	8.0	-	-	13.5	5.9	600	3.3	10	350	1032	-	-	-	-	-	-	-	1.9	0.6	-	-	-
MW-7	11/27/1984	UNK	2700	1713	7.6	-	-	14	5.1	590	3.1	8	337	1036	-	-	-	-	0.14	-	-	0.76	0.44	-	-	-
MW-7	4/23/1985	UNK	2500	1700	7.8	-	-	26	6.1	615	3.6	11	368	1084	-	-	-	-	-	-	-	-	0.49	-	-	-
MW-7	11/4/1985	UNK	2890	1820	7.7	-	-	27	5.3	570	4.3	-	375	1139	-	-	-	-	-	-	-	1.7	0.59	-	-	-
MW-7	9/23/1986	UNK	3250	1910	7.9	-	-	50	7.5	690	4.8	19	467	1212	-	-	-	-	-	-	-	1.6	0.77	-	-	-
MW-7	4/21/1987	UNK	3200	1845	7.8	-	-	36	9	715	4.7	9	441	1269	-	-	-	-	-	0.31	-	1.4	0.84	-	-	-
MW-7	3/24/1988	UNK	4000	2410	7.3	-	-	92	13	820	6.5	9	536	1620	-	-	-	-	-	0.51	-	1.9	1.4	-	-	-
MW-7	12/19/1988	UNK	4400	2655	7.5	-	-	106	15	910	6	12	584	1776	-	-	-	-	-	-	-	5.4	1.6	-	-	-
MW-7	12/12/1989	UNK	5300	3295	7.1	-	-	178	30	970	30	52	663	2194	-	-	-	-	-	-	-	0.219	2.3	-	-	-
MW-7	4/10/1990	UNK	5300	3310	7.2	-	-	166	27	970	42	30	680	2252	-	-	-	-	-	-	-	10.56	2.04	-	-	-
MW-7	11/14/1990	UNK	-	2340	6.9	-	-	-	-	-	36	-	576	223	-	-	-	-	-	0.521	-	0.077	0.338	-	-	-
MW-7	6/20/1991	UNK	6100	3780	7.1	-	-	-	-	-	97	-	835	2743	-	-	-	-	-	2.95	-	-	-	-	-	-
MW-7	10/29/1991	UNK	6500	3860	6.9	-	-	167	37	1220	116	36	853	2740	1.8	-	-	-	0.17	2.7	-	15.79	2.24	-	-	-
MW-7	2/24/1992	UNK	6600	4040	7.1	-	-	192	45	1270	106	31	947	2640	-	-	-	-	0.17	2.8	-	16.6	2.18	-	-	-
MW-7	10/20/1992	UNK	7100	4350	6.9	-	-	204	44	1290	116	-	970	2990	-	-	-	-	0.23	2.88	-	10.5	2.1	-	-	-
MW-7	3/1/1993	UNK	7100	4240	6.8	-	-	210	53	1330	116	-	1040	3070	-	0.05	-	-	0.24	3.08	-	18.6	2	-	-	-
MW-7	9/27/1993	UNK	7200	5000	6.7	-	-	203	50	1350	131	-	1040	2950	-	-	-	-	0.22	3.29	-	7.59	2.31	-	-	-
MW-7	3/10/1994	UNK	7350	4520	6.9	-	-	184	51	1410	179	-	1040	3170	-	-	-	-	0.19	3.51	-	5.73	1.85	-	-	-
MW-7	9/20/1994	UNK	7070	4600	6.8	-	-	138	48	1350	124	-	1020	2970	-	-	-	-	0.15	2.64	-	19.7	1.59	-	-	-
MW-7	3/16/1995	UNK	7250	4750	6.7	-	-	180	52	1400	163	-	1050	3120	-	-	-	-	0.18	2.3	-	0.422	1.34	-	-	-
MW-7	10/10/1995	UNK	6930	4280	7.0	-	-	169	48	1260	116	-	962	2720	-	-	-	-	0.27	2.24	-	0.41	1.51	-	-	-
MW-7	4/6/1996	UNK	7150	4000	7.0	-	-	172	50	1280	152	-	980	3170	-	-	-	-	-	2.82	-	3.69	1.31	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-7	9/30/1996	UNK	7530	4520	7.73	-	-	175	54	1340	184	-	1060	3250	-	-	-	0.28	2.6	-	0.407	1.27	-	-	-	-
MW-7	6/30/1997	UNK	7600	4610	7.5	-	-	168	54	1390	201	-	997	3500	-	-	-	0.3	2.98	-	0.605	1.25	-	-	-	-
MW-7	3/20/1998	UNK	6300	4500	6.9	-	-	160	51	1400	280	220	240	2700	-	-	-	0.23	3.7	-	0.45	0.62	-	-	-	-
MW-7	8/26/1998	UNK	7500	4400	7.2	-	-	170	44	1300	170	ND	1100	2600	ND	ND	-	0.23	3	-	1.6	1	-	-	-	-
MW-7	4/21/1999	BSK	7000	4400	7.3	2500	26.8	160	47	1500	200	<150	1000	3050	<0.2	<7.5	-	0.2	2.4	-	1.4	0.86	-	-	-	-
MW-7	5/21/2000	BSK	6400	4300	6.8	2700	11.9	170	43	670	100	<200	1100	3294	<20	<10	-	0.2	1.6	-	0.59	0.91	-	-	-	-
MW-7	12/17/2000	BSK	6400	4400	6.9	2400	26.5	150	37	1400	90	<140	1000	2928	<14	<7	-	0.2	1.5	-	0.65	0.6	-	-	-	-
MW-7	6/5/2001	BSK	6500	4500	6.6	1300	23.3	160	46	1300	82	<200	1100	1586	-	<10	-	0.2	1.5	-	0.54	0.74	-	-	-	-
MW-7	10/3/2001	UNK	6600	4000	6.7	-	-	150	43	1400	84	ND	970	2400	ND	ND	-	0.2	1.4	-	0.68	0.58	-	-	-	-
MW-7	5/2/2002	BSK	6700	4000	7.1	2300	-	140	37	1300	80	<220	1100	2300	<22	<11	-	0.2	1.5	-	0.76	0.54	-	-	-	-
MW-7	12/11/2002	BSK	6700	4200	7.8	2300	-	120	34	1100	80	ND	1000	-	-	ND	-	0.2	1.4	-	0.51	0.39	-	-	-	-
MW-7	3/23/2003	BSK	6600	4000	7.5	2300	-	130	39	1300	92	ND	1000	-	-	ND	-	0.2	1.6	-	0.5	0.4	-	-	-	-
MW-7	10/24/2003	BSK	6600	4200	7.4	2400	-	150	46	1400	110	ND	990	-	-	ND	-	0.2	1.8	-	0.56	0.44	-	-	-	-
MW-7	3/31/2004	BSK	6500	4400	7.2	2600	-	160	49	1400	120	<2	1000	3170	<0.9	<0.1	-	0.2	2.2	-	13	0.42	-	-	-	-
MW-7	11/13/2004	BSK	6900	4300	7.3	2500	-	150	51	1300	160	<40	1100	3050	<18	<2	-	0.2	2	-	0.79	0.36	-	-	-	-
MW-7	4/6/2005	UNK	6600	4200	7.4	2400	-	150	51	1300	130	ND	1100	2400	ND	ND	-	0.2	1.9	-	0.99	0.37	-	-	-	-
MW-7	10/13/2005	UNK	6900	4200	7.4	2500	-	170	60	1300	100	ND	1100	2500	ND	ND	-	0.2	2	-	1	0.39	-	-	-	-
MW-7	4/19/2006	DL	7590	4205	7.0	2417	-	135	45	1311	108	0.7	1047	2417	<0.1	<0.1	-	<0.01	1.2	-	0.01	0.28	-	-	-	-
MW-7	9/25/2006	UNK	8190	4545	6.8	2331	-	163	57.2	1110	67.8	ND	1162	2331	ND	ND	-	0.14	0.96	-	12.59	0.37	-	-	-	-
MW-7	3/29/2007	TL	6400	4200	6.9	2300	-	170	58	1300	100	<50	1000	2800	<50	<2.5	<10	0.2	2.2	<0.005	-	-	7.9	-	<0.005	
MW-7	9/23/2007	TL	6800	4200	6.8	-	-	-	-	-	-	<50	1000	2800	<50	-	-	-	-	-	-	-	-	-	-	-
MW-7	4/5/2008	BCL	6920	4400	6.99	-	-	-	-	-	-	<5	1100	2928	-	-	-	-	-	-	-	-	-	-	-	-
MW-7	9/2/2008	BCL	6800	4000	7.0	-	-	-	-	-	-	<10	1200	2928	<4.4	-	-	-	1.7	-	-	-	-	-	-	-
MW-7	4/2/2009	UNK	6600	3700	7.0	-	-	-	-	-	-	ND	1100	2200	ND	-	-	-	1.6	-	-	-	-	-	-	-
MW-7	9/30/2009	BSK	6200	3600	7.8	-	-	-	-	-	-	<100	980	2806	<50	-	-	-	-	-	-	-	-	-	-	-
MW-7	10/19/2010	SSC	6400	3900	6.8	-	-	-	-	-	-	<10	920	2928	11	-	-	-	-	-	-	-	-	-	-	-
MW-8	4/7/1984	UNK	450	270	8.2	-	-	2.5	0.1	106	0.8	8	28.7	175	8	-	-	0.1	-	-	0.11	-	-	-	-	-
MW-8	7/19/1984	UNK	530	327	8.6	-	-	2.2	0.3	120	0.7	9	35.4	213	-	-	-	-	-	-	0.06	-	-	-	-	-
MW-8	11/28/1984	UNK	540	350	8.4	-	-	2.3	0.3	124	0.7	5	38.9	236	-	-	-	0.04	-	-	0.05	-	-	-	-	-
MW-8	4/24/1985	UNK	560	377	8.2	-	-	2.9	0.4	120	0.8	7	40.4	233	-	-	-	-	-	-	-	0.01	-	-	-	-
MW-8	11/5/1985	UNK	560	370	8.1	-	-	4	0.4	132	0.9	-	46	282	-	-	-	-	-	-	-	0.02	-	-	-	-
MW-8	9/24/1986	UNK	650	390	8.0	-	-	5.2	0.6	136	1	9	45	288	-	-	-	-	-	-	0.05	0.02	-	-	-	-
MW-8	3/29/1988	UNK	690	460	8.1	-	-	9.2	1	155	1.4	6	62.7	335	-	-	-	-	-	-	0.09	0.06	-	-	-	-
MW-8	1/13/1989	UNK	725	445	8.4	-	-	10	1.1	164	1.4	6	59.8	325	-	-	-	-	-	-	-	0.06	-	-	-	-
MW-8	12/14/1989	UNK	-	-	-	-	-	9.9	1.2	160	1.2	7	59.8	354	-	-	-	-	-	-	0.411	0.067	-	-	-	-
MW-8	11/14/1990	UNK	-	315	8.0	-	-	-	-	-	1.2	-	50	236	-	-	-	-	-	-	-	0.079	-	-	-	-
MW-8	6/20/1991	UNK	780	510	7.9	-	-	-	-	-	1.7	-	72	372	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	10/29/1991	UNK	790	485	8.2	-	-	14	1.7	175	1.8	-	70.2	371	-	0.06	-	-	-	-	0.141	0.086	-	-	-	-
MW-8	2/24/1992	UNK	810	505	8.1	-	-	13.7	1.8	179	1.7	5	76.6	397	-	0.07	-	-	-	-	1.9	0.143	-	-	-	-
MW-8	10/20/1992	UNK	910	353	8.2	-	-	17.2	2.2	196	2	-	81	410	-	0.06	-	-	-	-	0.254	0.122	-	-	-	-
MW-8	3/1/1993	UNK	940	575	8.1	-	-	20	2.7	207	2	-	86.3	466	-	0.06	-	-	-	-	2.12	0.189	-	-	-	-
MW-8	9/27/1993	UNK	950	540	8.1	-	-	17.8	2.5	207	2.2	-	89	463	-	-	-	-	-	-	0.646	0.148	-	-	-	-
MW-8	3/10/1994	UNK	970	560	8.0	-	-	15.1	2.4	215	2	-	90.5	460	-	-	-	0.19	3.51	-	5.73	1.85	-	-	-	-
MW-8	9/20/1994	UNK	1050	635	8.1	-	-	19.7	3.1	220	2.3	-	96.1	496	-	-	-	-	-	-	-	0.15	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-8	3/16/1995	UNK	1000	650	8.1	-	-	16.7	2.6	217	2.2	-	96	478	-	0.05	-	-	-	-	-	0.117	-	-	-	-
MW-8	10/10/1995	UNK	1000	605	8.2	-	-	14.7	2.2	214	1.9	-	97.5	475	-	0.05	-	-	-	-	-	0.1	-	-	-	-
MW-8	4/6/1996	UNK	1020	610	8.3	-	-	13.3	2.1	218	1.9	-	97.6	481	-	0.06	-	-	-	-	-	0.092	-	-	-	-
MW-8	9/30/1996	UNK	979	585	8.77	-	-	12.4	1.9	214	1.9	-	96.6	416	-	0.05	-	-	-	-	-	0.07	-	-	-	-
MW-8	6/30/1997	UNK	1120	695	8.5	-	-	15.6	2.4	246	2	-	110	465	-	-	-	-	-	-	-	0.092	-	-	-	-
MW-8	3/23/1998	UNK	1200	800	7.8	-	-	29	4.2	330	3.5	21	160	500	-	-	-	-	0.1	-	-	0.19	-	-	-	-
MW-8	8/26/1998	UNK	1200	690	8.1	-	-	19	2.7	270	2.4	ND	120	460	ND	ND	-	ND	0.06	-	ND	0.12	-	-	-	-
MW-8	4/21/1999	BSK	1100	720	8.1	450	15.7	18	2.7	270	2	<30	120	549	<3	<1.5	-	<0.1	0.06	-	<0.05	0.11	-	-	-	-
MW-8	5/20/2000	BSK	1200	760	7.9	480	13.5	21	3.1	250	<2	<30	140	586	<3	<1.5	-	<0.1	0.06	-	<0.05	0.14	-	-	-	-
MW-8	12/17/2000	BSK	1300	830	7.8	490	13.9	24	4	280	2	<32	150	598	<3.2	<1.6	-	<0.1	0.07	-	<0.05	0.16	-	-	-	-
MW-8	6/5/2001	BSK	1300	810	7.8	490	14.2	25	3.9	290	2	<30	160	598	-	<1.5	-	<0.1	0.07	-	<0.05	0.17	-	-	-	-
MW-8	10/3/2001	UNK	1300	800	7.7	-	-	24	4	290	ND	ND	150	490	ND	ND	-	ND	0.06	-	ND	0.14	-	-	-	-
MW-8	5/2/2002	BSK	1400	790	8.0	500	-	22	3.6	280	<2	<40	160	500	<4	<2	-	<0.1	0.07	-	<0.05	0.15	-	-	-	-
MW-8	12/10/2002	BSK	1300	800	7.9	460	-	22	3.4	240	ND	ND	150	-	-	ND	-	0.1	0.08	-	ND	0.14	-	-	-	-
MW-8	3/22/2003	BSK	1400	820	7.9	470	-	21	3.5	260	ND	ND	160	-	-	ND	-	ND	0.07	-	ND	0.14	-	-	-	-
MW-8	10/24/2003	BSK	1400	850	8.3	540	-	19	3	270	3	-	150	-	-	ND	-	ND	0.06	-	ND	0.12	-	-	-	-
MW-8	4/1/2004	UNK	1400	860	8.3	550	-	19	2.8	310	2	ND	170	550	ND	ND	-	ND	0.06	-	ND	0.11	-	-	-	-
MW-8	11/13/2004	BSK	1500	950	8.3	610	-	19	2.9	330	2	<6	180	740	<2.7	<0.3	-	<0.1	0.07	-	<0.05	0.11	-	-	-	-
MW-8	4/6/2005	UNK	1500	890	8.3	590	-	17	2.4	360	3	ND	180	580	ND	ND	-	ND	0.07	-	ND	0.1	-	-	-	-
MW-8	10/13/2005	UNK	1600	920	8.4	590	-	17	2.2	360	ND	ND	170	570	ND	ND	-	0.1	0.07	-	ND	0.1	-	-	-	-
MW-8	4/19/2006	DL	1571	1005	8.2	621	-	17	46	328	5.4	ND	185	621	<0.1	<0.1	-	0.06	0.06	-	0.03	0.1	-	-	-	-
MW-8	9/25/2006	UNK	1310	950	8.2	565	-	15.1	1.9	314	2.3	ND	194	565	ND	ND	-	0.06	0.05	-	0.05	0.09	-	-	-	-
MW-8	3/29/2007	TL	1600	980	7.9	590	-	16	2	370	4.9	<10	170	720	<10.2	<0.5	<10	0.088	0.067	<0.005	-	-	<5	-	<0.005	
MW-8	9/23/2007	TL	1600	980	7.8	-	-	-	-	-	-	<20	170	730	<20	-	-	-	-	-	-	-	-	-	-	-
MW-8	4/5/2008	BCL	1670	1100	8.2	-	-	-	-	-	-	<1	200	744	-	-	-	-	-	-	-	-	-	-	-	-
MW-8	9/2/2008	BCL	1640	1000	82	-	-	-	-	-	-	5	220	756	<0.9	-	-	-	0.089	-	-	-	-	-	-	-
MW-8	4/2/2009	UNK	1500	960	8.1	-	-	-	-	-	-	ND	190	570	ND	-	-	-	0.081	-	-	-	-	-	-	-
MW-8	10/2/2009	BSK	1500	880	8.3	-	-	-	-	-	-	<10	180	659	<5	-	-	-	-	-	-	-	-	-	-	-
MW-8	10/6/2010	SSC	1600	940	7.8	-	-	-	-	-	-	<10	190	690	<2	-	-	-	-	-	-	-	-	-	-	-
MW-10	4/7/1984	UNK	750	427	7.6	-	-	14.1	3.1	150	1.6	17	75	300	-	-	-	0.02	-	-	0.07	0.13	-	-	-	-
MW-10	7/19/1984	UNK	770	460	7.6	-	-	14.7	3.5	159	2.5	17	79.6	319	-	-	-	-	-	-	0.22	0.16	-	-	-	-
MW-10	11/28/1984	UNK	690	417	7.9	-	-	11	2.2	147	1.3	14	68	294	-	-	-	0.06	-	-	0.08	0.11	-	-	-	-
MW-10	4/24/1985	UNK	720	453	8.0	-	-	12	2.3	156	1.2	16	70.8	321	-	-	-	-	-	-	-	0.15	-	-	-	-
MW-10	11/5/1985	UNK	710	450	7.9	-	-	11	2.1	151	1.2	13	70.8	316	1.8	-	-	-	-	-	0.4	0.06	-	-	-	-
MW-10	9/24/1986	UNK	725	450	8.0	-	-	12	2.5	157	1.3	16	70.8	333	-	-	-	-	-	-	0.06	0.11	-	-	-	-
MW-10	3/29/1988	UNK	825	530	8.0	-	-	15	3.3	179	1.6	14	83.2	378	-	-	-	-	-	-	0.1	0.16	-	-	-	-
MW-10	1/13/1989	UNK	600	385	8.1	-	-	9	1.8	130	1	8	60.2	272	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	12/14/1989	UNK	930	595	8.1	-	-	13	2.4	199	1.5	10	84.2	436	-	-	-	-	-	-	0.09	0.096	-	-	-	-
MW-10	11/14/1990	UNK	-	490	7.6	-	-	-	-	-	1.2	-	77.6	350	-	-	-	-	-	-	0.306	0.117	-	-	-	-
MW-10	6/20/1991	UNK	990	625	7.5	-	-	-	-	-	1.8	-	98.9	469	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	10/29/1991	UNK	1000	610	8.2	-	-	13	2.1	230	1.5	-	94.3	478	-	-	-	-	-	-	0.069	0.092	-	-	-	-
MW-10	2/24/1992	UNK	1000	620	8.2	-	-	14.5	2.1	214	1.5	-	91.3	484	-	-	-	-	-	-	0.086	0.1	-	-	-	-
MW-10	10/20/1992	UNK	860	580	7.6	-	-	5.8	1.9	212	1.6	-	91	408	-	-	-	-	-	-	0.105	0.09	-	-	-	-
MW-10	3/1/1993	UNK	1010	610	8.1	-	-	12.2	2.2	230	1.5	-	96.3	503	-	0.06	-	-	-	-	0.063	0.081	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-10	9/27/1993	UNK	1050	670	8.1	-	-	14.5	2.2	233	1.7	-	96	536	-	-	-	-	-	-	0.065	0.097	-	-	-	-
MW-10	3/10/1994	UNK	1080	645	8.1	-	-	13.7	2.3	234	1.6	-	99.3	519	-	-	-	-	-	-	0.133	0.104	-	-	-	-
MW-10	9/20/1994	UNK	1080	645	8.2	-	-	13	2	243	1.6	-	97.3	509	-	-	-	-	-	-	-	0.074	-	-	-	-
MW-10	3/16/1995	UNK	1100	685	8.0	-	-	14.1	2.2	258	1.8	-	102	542	-	-	-	-	-	-	0.06	0.083	-	-	-	-
MW-10	10/10/1995	UNK	1100	650	8.3	-	-	13	1.8	242	1.5	-	100	542	-	-	-	-	-	-	0.052	0.082	-	-	-	-
MW-10	4/6/1996	UNK	1070	605	8.4	-	-	8	0.9	244	1.1	-	96	506	-	-	-	-	-	-	-	0.031	-	-	-	-
MW-10	6/10/1996	UNK	1200	670	8.6	-	-	19.2	4.2	264	1.8	-	109	592	-	-	-	-	-	-	-	0.131	-	-	-	-
MW-10	6/3/1997	UNK	1210	730	8.5	-	-	17.2	2.7	271	1.8	-	106	541	-	-	-	64	-	-	0.064	0.164	-	-	-	-
MW-10	3/23/1998	UNK	1100	680	7.9	-	-	19	2.4	290	5.4	-	130	440	-	-	-	0.21	-	-	-	2.4	-	-	-	-
MW-10	8/26/1998	UNK	1200	720	8.1	-	-	18	2.4	280	2.5	ND	110	490	ND	ND	-	ND	-	-	0.05	0.14	-	-	-	-
MW-10	4/20/1999	BSK	1200	700	7.8	490	12.5	31	4.2	280	2	<30	120	598	<3	<1.5	-	0.1	0.06	-	<0.05	0.35	-	-	-	-
MW-10	5/21/2000	BSK	1200	730	7.8	470	12.6	25	2.9	250	2	<30	130	573	3.3	<1.5	-	<0.1	<0.05	-	0.1	0.25	-	-	-	-
MW-10	12/19/2000	BSK	1200	760	7.9	480	14.5	19	2.2	250	<2	<30	120	586	<3	<1.5	-	<0.1	<0.05	-	0.08	0.15	-	-	-	-
MW-10	6/5/2001	BSK	1200	740	7.8	470	13.1	25	2.9	260	<2	<30	130	573	-	<1.5	-	<0.1	<0.05	-	<0.05	0.22	-	-	-	-
MW-10	10/3/2001	UNK	1300	750	7.8	-	-	20	2.4	280	ND	ND	130	480	20.4	ND	-	ND	ND	-	0.16	0.16	-	-	-	-
MW-10	5/2/2002	BSK	1300	800	8.0	500	-	20	2.4	280	2	<40	130	500	<4	<2	-	0.1	0.05	-	0.06	0.15	-	-	-	-
MW-10	12/11/2002	BSK	1200	740	7.8	460	-	16	2	250	ND	ND	120	-	-	ND	-	ND	ND	-	0.06	0.12	-	-	-	-
MW-10	3/23/2003	BSK	1300	770	8.0	-	-	19	2.3	260	ND	ND	140	-	-	ND	-	ND	ND	-	0.06	0.14	-	-	-	-
MW-10	10/25/2003	BSK	1200	760	8.3	510	-	18	2.2	260	2	ND	120	-	-	ND	-	ND	ND	-	0.05	0.13	-	-	-	-
MW-10	3/31/2004	BSK	1200	770	8.2	520	-	22	2.6	280	<2	<2	140	630	<0.9	<0.1	-	<0.1	0.05	-	0.08	0.17	-	-	-	-
MW-10	4/1/2004	TL	1200	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-10	11/13/2004	BSK	1200	760	8.3	510	-	21	2.8	270	<2	<6	130	620	<2.7	<0.3	-	<0.1	<0.05	-	0.08	0.18	-	-	-	-
MW-10	3/3/2005	TL	1300	780	-	-	-	-	-	-	-	-	-	-	-	-	-	0.094	-	-	-	0.16	<5	-	-	-
MW-10	4/6/2005	UNK	1200	730	8.3	510	-	23	3	280	2	ND	130	510	ND	ND	-	0.1	0.06	-	ND	0.2	-	-	-	-
MW-10	8/10/2005	TL	1000	780	7.9	480	-	22	2.6	290	4.1	2.9	140	580	<2	-	-	0.098	0.055	<0.005	0.13	0.19	-	-	-	0.0098
MW-10	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<6	-	-	-	-	-	<1	<0.4	-	-
MW-10	10/14/2005	UNK	1300	770	8.5	510	-	23	2.7	270	2	ND	140	480	ND	ND	-	0.1	0.05	-	0.08	0.2	-	-	-	-
MW-10	4/20/2006	TL	1200	770	7.7	460	-	24	3.1	290	4.3	11	150	-	<2	-	-	-	-	<0.005	0.16	0.24	-	-	-	<0.005
MW-10	9/26/2006	TL	1300	790	7.9	480	-	28	3.8	270	4.3	18	130	-	<10	-	<10	0.11	0.058	<0.005	0.19	0.33	<5	<20	<0.005	
MW-10	3/29/2007	TL	1200	780	7.8	460	-	31	4.7	270	4.3	15	130	560	<10.2	<0.5	<10	0.11	0.064	<0.005	-	-	<5	-	<0.005	
MW-10	9/24/2007	TL	1300	770	7.9	470	-	24	3.1	290	3.9	11	130	570	-	-	ND	0.11	0.058	ND	0.13	0.24	-	-	-	ND
MW-10	4/6/2008	BCL	1330	820	8.13	-	-	-	-	-	-	5.2	160	622	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-10	9/3/2008	BCL	1330	880	8.2	-	-	-	-	-	-	7	160	573	<0.4	-	-	-	0.056	-	-	-	-	-	-	-
MW-10	4/2/2009	BCL	1330	860	8.1	510	-	31	3.7	330	2.1	8.8	170	620	ND	-	-	-	0.064	ND	0.15	0.22	-	-	-	0.0076
MW-10	10/1/2009	BSK	1400	830	8.3	-	-	-	-	-	-	<6	150	659	<3	-	-	-	-	-	-	-	-	-	-	-
MW-10	10/20/2009	BCL	1430	900	8.16	520	-	36	4.9	330	2.2	6.3	160	640	<0.4	-	<2	0.14	0.073	0.0018	0.2	0.29	-	-	-	0.0055
MW-10	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-
MW-10	5/20/2010	BCL	1370	860	8.2	490	-	26	3.4	320	2.1	5.6	160	600	ND	-	-	-	-	ND	0.14	0.17	-	-	-	0.002
MW-10	9/15/2010	SSC	1300	770	8.0	-	-	-	-	-	-	<10	150	610	<2	-	-	-	-	-	-	-	-	-	-	-
MW-10	9/15/2010	BCL	1300	920	8.22	470	-	24	2.9	310	2	5.3	160	570	ND	-	1.1	0.13	0.053	ND	0.1	0.17	-	-	-	0.0037
MW-10	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	ND	-	-
MW-11	4/7/1984	UNK	1320	807	8.2	-	-	7.5	0.6	313	1	-	100	630	-	-	-	0.14	-	-	0.07	0.09	-	-	-	-
MW-11	7/19/1984	UNK	1350	877	8.4	-	-	8.9	1	326	1.1	7	106	643	-	-	-	-	-	-	0.06	0.08	-	-	-	-
MW-11	11/28/1984	UNK	1320	910	8.2	-	-	9	0.7	329	1.2	-	106	674	-	-	-	0.12	-	-	0.05	0.07	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
MW-11	4/24/1985	UNK	1360	873	8.2	-	-	9.8	0.8	337	1.1	5	106	653	-	-		-	-	-	-	-	0.06	-	-	-	-
MW-11	11/5/1985	UNK	1360	935	8.1	-	-	10	0.9	332	1.2	-	108	723	-	-		-	-	-	-	-	0.09	-	-	-	-
MW-11	9/24/1986	UNK	1360	885	8.2	-	-	11	1.2	333	1.1	10	103	708	-	-		-	-	-	-	-	0.08	-	-	-	-
MW-11	3/29/1988	UNK	1375	885	8.3	-	-	11	1.2	343	1.3	-	7	687	-	-		-	-	-	-	-	0.01	-	-	-	-
MW-11	12/1/1988	BCL	1460	940	8.3	-	36.8	6	1	370	1	6	113	797	<0.4	-		-	-	-	-	<0.05	0.02	-	-	-	-
MW-11	1/13/1989	UNK	1460	940	8.3	-	-	6	0.8	370	1.4	6	113	797	-	-		-	-	-	-	-	-	-	-	-	-
MW-11	12/14/1989	UNK	1590	1050	8.1	-	-	17	2	380	1.4	15	119	858	-	-		-	-	-	-	0.074	0.13	-	-	-	-
MW-11	11/14/1990	UNK	-	995	7.6	-	-	-	-	-	1.6	-	112	899	-	-		-	-	-	-	0.106	0.227	-	-	-	-
MW-11	6/20/1991	UNK	1600	1040	7.9	-	-	-	-	-	1.4	-	131	855	-	-		-	-	-	-	-	-	-	-	-	-
MW-11	10/29/1991	UNK	1590	1000	8.2	-	-	20	2.6	382	1.4	-	132	844	-	-		-	0.17	-	-	0.07	0.187	-	-	-	-
MW-11	2/24/1992	UNK	1560	1040	8.0	-	-	25	28	360	1.4	-	119	823	-	-		-	0.22	-	-	0.107	0.239	-	-	-	-
MW-11	10/20/1992	UNK	1640	1010	7.7	-	-	25	3	360	1.7	-	133	871	-	-		-	0.16	-	-	0.081	0.23	-	-	-	-
MW-11	3/1/1993	UNK	1660	1010	7.9	-	-	25.4	3.9	382	1.5	-	148	899	-	-		-	0.2	-	-	0.125	0.326	-	-	-	-
MW-11	9/22/1993	BCL	1650	1040	7.7	-	16.7	31	4	371	1.8	<5	149	-	-	-		-	-	-	-	-	-	-	-	-	-
MW-11	9/27/1993	UNK	1650	1040	7.7	-	-	31	4	371	1.8	-	149	889	-	-		-	0.19	-	-	0.155	0.448	-	-	-	-
MW-11	3/10/1994	UNK	1770	1070	7.8	-	-	34	4.8	393	1.8	-	164	872	-	-		-	-	-	-	-	-	-	-	-	-
MW-11	9/20/1994	UNK	1750	1080	7.7	-	-	43	6.1	373	1.8	-	167	864	-	-		-	0.2	0.11	-	0.12	0.52	-	-	-	-
MW-11	3/16/1995	UNK	1680	1030	7.6	-	-	40	5.9	374	1.9	-	162	846	-	-		-	0.18	0.107	-	-	0.378	-	-	-	-
MW-11	10/10/1995	UNK	1700	1100	7.9	-	-	40	5.4	350	1.7	-	163	789	-	-		-	0.19	0.11	-	-	0.48	-	-	-	-
MW-11	4/6/1996	UNK	1740	1040	7.7	-	-	40	6	366	1.7	-	175	863	-	-		-	0.2	-	-	-	0.122	-	-	-	-
MW-11	6/10/1996	UNK	1750	1010	8.4	-	-	43	6.5	381	2.5	-	165	876	-	-		-	0.2	0.118	-	-	0.48	-	-	-	-
MW-11	6/3/1997	UNK	1720	1070	8.3	-	-	39	5.7	380	1.8	-	163	822	-	-		-	0.2	0.114	-	-	0.493	-	-	-	-
MW-11	3/23/1998	UNK	1400	1000	7.7	-	-	41	5.8	390	5.2	-	170	660	-	-		-	0.21	0.12	-	-	0.37	-	-	-	-
MW-11	8/26/1998	UNK	1700	1000	8.0	-	-	41	5.4	380	2	ND	170	690	ND	ND		-	0.2	0.12	-	ND	0.41	-	-	-	-
MW-11	4/20/1999	BSK	1600	1000	7.7	-	15.4	41	6	400	2	<40	180	700	<0.2	-		-	0.2	-	-	<0.05	0.4	-	-	-	-
MW-11	11/1/1999	BSK	1800	1000	7.8	-	14.7	40	5	370	2	<40	180	620	<0.2	-		-	0.2	-	-	<0.05	0.4	-	-	-	-
MW-11	5/21/2000	BSK	1600	1100	7.7	700	15	38	4.8	370	2	<40	190	854	<4	<2		-	0.2	0.1	-	0.08	0.39	-	-	-	-
MW-11	12/19/2000	BSK	1900	1200	7.5	680	14.2	40	5.4	360	<2	<40	220	-	<4	<2		-	0.2	0.11	-	<0.05	0.37	-	-	-	-
MW-11	6/5/2001	BSK	1700	1100	7.4	680	15.8	41	6.1	410	2	<40	230	830	-	<2		-	0.2	0.11	-	<0.05	0.43	-	-	-	-
MW-11	10/3/2001	UNK	1900	1400	7.4	-	-	46	7.1	400	ND	ND	220	740	27.9	ND		-	0.2	0.13	-	0.09	0.41	-	-	-	-
MW-11	5/2/2002	BSK	1900	1200	7.8	680	-	46	7.4	380	<2	<60	230	680	<6	<3		-	0.2	0.14	-	<0.05	0.42	-	-	-	-
MW-11	12/10/2002	BSK	1800	1000	7.6	640	-	35	5.6	340	ND	ND	200	-	-	ND		-	0.2	0.11	-	0.06	0.34	-	-	-	-
MW-11	3/23/2003	BSK	1900	1200	7.8	680	-	44	7.1	370	ND	ND	230	-	-	ND		-	0.2	0.13	-	0.05	0.39	-	-	-	-
MW-11	10/25/2003	BSK	1800	1100	8.1	720	-	40	6.3	360	2	-	190	-	-	ND		-	0.2	0.11	-	-	0.4	-	-	-	-
MW-11	3/5/2004	TL	1800	1100	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	-
MW-11	3/31/2004	BSK	1700	1100	7.9	730	-	47	7.9	380	3	<2	220	890	<0.9	<0.1		-	0.2	0.13	-	<0.05	0.43	-	-	-	-
MW-11	11/13/2004	BSK	1900	1200	8.1	750	-	49	8.5	380	<2	<10	220	920	<4	<0.5		-	0.2	0.14	-	<0.05	0.49	-	-	-	-
MW-11	3/3/2005	TL	1900	1200	-	-	-	-	-	-	-	-	-	-	-	-		-	0.19	-	-	-	0.5	<5	-	-	-
MW-11	4/6/2005	UNK	1800	1100	8.0	740	-	55	8.8	400	2	ND	230	740	ND	ND		-	0.2	0.15	-	ND	0.52	-	-	-	-
MW-11	8/10/2005	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		<6	-	-	-	-	-	<1	<0.4	-	-
MW-11	8/10/2005	TL	1800	1200	7.5	750	-	56	8.9	440	5.2	<2	250	910	<2	-		-	0.2	0.17	<0.005	0.41	0.53	-	-	<0.005	-
MW-11	10/14/2005	UNK	2000	1200	8.4	780	-	51	7.7	430	2	ND	230	760	ND	ND		-	0.2	0.15	-	ND	0.54	-	-	-	-
MW-11	4/20/2006	TL	1900	1200	7.5	730	-	46	7	440	5.2	<2	240	-	<2	-		-	-	-	<0.005	0.36	0.47	-	-	<0.005	-
MW-11	9/26/2006	TL	2000	1300	7.5	730	-	47	7.3	410	4.7	<10	240	-	<10	-		<20	0.21	0.15	<0.01	0.44	0.54	<10	<40	<0.01	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-11	3/29/2007	TL	2000	1200	7.4	720	-	50	7.7	430	5.3	<20	230	880	<20	<1		<10	0.22	0.17	<0.005	-	-	<5	-	<0.005
MW-11	9/24/2007	TL	2100	1200	7.5	760	-	54	8.9	440	5.5	ND	260	930	-	-		ND	0.23	0.18	ND	0.89	0.6	-	-	ND
MW-11	4/6/2008	BCL	2200	1400	7.77	-	-	-	-	-	-	<1	290	976	<0.4	-		-	-	-	-	-	-	-	-	-
MW-11	9/3/2008	BCL	2200	1400	7.8	-	-	-	-	-	-	<1	310	952	<0.4	-		-	-	0.19	-	-	-	-	-	-
MW-11	4/2/2009	BCL	2060	1300	7.8	740	-	62	11	470	2.4	2	300	900	ND	-		-	-	0.18	ND	0.76	0.55	-	-	0.0044
MW-11	10/1/2009	BSK	2000	1200	8.1	-	-	-	-	-	-	<10	270	891	<5	-		-	-	-	-	-	-	-	-	-
MW-11	10/20/2009	BCL	2130	1300	7.76	740	-	62	12	470	2.3	<2	290	900	<0.9	-		<2	0.22	0.18	<0.002	0.79	0.55	-	-	0.0048
MW-11	10/20/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	<1	<0.4	-	
MW-11	5/20/2010	BCL	2110	1300	7.82	740	-	63	12	450	2.6	1.6	310	900	ND	-		-	-	-	0.00081	1.6	0.54	-	-	0.0066
MW-11	9/15/2010	BCL	2140	1400	7.77	730	-	64	12	470	2.5	0.67	310	890	ND	-		0.97	0.24	0.2	ND	0.8	0.59	-	-	0.0043
MW-11	9/15/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	<1.4	ND	-	
MW-11	9/15/2010	SSC	2200	1300	7.4	-	-	-	-	-	-	<10	280	952	<2	-		-	-	-	-	-	-	-	-	-
MW-12	4/7/1984	UNK	1350	833	8.2	-	-	8.3	1.5	309	1.3	-	108	625	-	-		-	0.1	-	-	-	0.05	-	-	-
MW-12	7/19/1984	UNK	1360	907	8.4	-	-	8.9	2.2	320	1.4	6	119	624	-	-		-	-	-	-	0.06	0.04	-	-	-
MW-12	11/28/1984	UNK	1350	880	8.2	-	-	9.3	2.5	320	1.5	-	122	645	-	-		-	0.13	-	-	0.07	0.01	-	-	-
MW-12	4/24/1985	UNK	1390	913	8.3	-	-	9.8	2.6	330	1.5	5	130	658	-	-		-	-	-	-	-	-	-	-	-
MW-12	11/5/1985	UNK	1400	980	8.1	-	-	10	2.5	344	1.5	-	133	718	-	-		-	-	-	-	0.05	0.02	-	-	-
MW-12	9/24/1986	UNK	1520	970	8.2	-	-	13	3.6	367	1.6	11	143	754	-	-		-	-	-	-	0.06	0.04	-	-	-
MW-12	4/22/1987	UNK	1500	1005	8.2	-	-	11	3.3	364	1.7	6	137	739	-	-		-	-	-	-	-	0.02	-	-	-
MW-12	3/24/1988	UNK	1725	1165	8.3	-	-	14	3.9	420	1.9	-	165	806	-	-		-	-	-	-	0.05	0.03	-	-	-
MW-12	12/19/1988	UNK	2500	1520	7.8	-	-	12	13	585	2.2	9	265	1170	-	-		-	-	-	-	0.61	0.39	-	-	-
MW-12	12/14/1989	UNK	4400	2640	7.2	-	-	147	38	810	4	30	469	1894	-	-		-	-	-	-	0.706	1.372	-	-	-
MW-12	4/11/1990	UNK	4300	2635	7.3	-	-	134	36	850	4.4	30	481	1984	5.8	-		-	-	-	-	1.031	1.92	-	-	-
MW-12	11/15/1990	UNK	-	955	6.9	-	-	-	-	-	1.2	-	164	501	-	-		-	-	0.413	-	0.138	1.8	-	-	-
MW-12	6/20/1991	UNK	4000	2480	7.3	-	-	-	-	-	5.2	-	466	1946	-	-		-	-	0.532	-	-	-	-	-	-
MW-12	10/29/1991	UNK	4200	2540	7.3	-	-	120	38	830	5.8	12	493	1950	-	-		-	0.2	0.648	-	4.58	2.02	-	-	-
MW-12	2/24/1992	UNK	4300	2620	7.2	-	-	130	43	840	8.3	12	496	1990	25.7	-		-	0.22	0.739	-	6.25	2.15	-	-	-
MW-12	10/20/1992	UNK	5400	3440	6.8	-	-	180	41	1010	9.6	-	580	2540	-	-		-	0.2	0.951	-	8.4	2.52	-	-	-
MW-12	3/1/1993	UNK	4800	2910	6.9	-	-	168	50	950	11.4	-	565	2260	-	-		-	0.23	1.01	-	8.47	2.24	-	-	-
MW-12	9/22/1993	BCL	-	1010	8.0	-	10.6	49	11	314	2.9	180	280	-	-	-		-	-	-	-	-	-	-	-	-
MW-12	9/27/1993	UNK	5000	3180	6.9	-	-	167	49	967	13.4	-	605	2330	-	-		-	0.17	1.22	-	10.2	2.55	-	-	-
MW-12	3/10/1994	UNK	4680	3000	7.0	-	-	143	42	973	13.5	-	570	2190	-	0.06		-	0.18	1.15	-	10	2.05	-	-	-
MW-12	9/20/1994	UNK	5190	3250	7.0	-	-	124	51	1020	23	-	665	2330	-	-		-	0.16	1.14	-	2.81	2.15	-	-	-
MW-12	3/16/1995	UNK	4950	3150	6.8	-	-	154	47	1020	20	-	650	2310	-	-		-	0.16	0.942	-	0.331	1.32	-	-	-
MW-12	10/10/1995	UNK	5370	3540	7.0	-	-	170	50	1070	23	-	710	2490	-	-		-	0.24	1.26	-	0.52	1.26	-	-	-
MW-12	4/6/1996	UNK	5500	3240	7.0	-	-	157	57	1040	35	-	745	2490	-	-		-	0.25	1.98	-	10	1.13	-	-	-
MW-12	6/10/1996	UNK	5330	3310	7.9	-	-	145	48	1090	45	-	702	2400	-	-		-	0.24	1.55	-	0.276	1.49	-	-	-
MW-12	6/3/1997	UNK	5290	3240	7.1	-	-	142	45	984	48	-	670	2490	-	-		-	0.26	1.63	-	0.292	1.59	-	-	-
MW-12	3/23/1998	UNK	4500	3200	7.1	-	-	130	43	1000	74	-	680	1900	-	-		-	0.2	2	-	0.24	0.71	-	-	-
MW-12	8/26/1998	UNK	5400	3200	7.3	-	-	160	43	1000	44	ND	720	2000	ND	-		-	0.23	1.6	-	0.32	1.3	-	-	-
MW-12	4/21/1999	BSK	4900	3100	7.3	1900	22.5	140	46	1200	47	<100	670	2318	<10	<5		-	0.3	1.5	-	0.23	0.88	-	-	-
MW-12	5/20/2000	BSK	4700	3000	7.1	2000	21.7	110	29	990	43	<100	740	2440	12	<5		-	0.3	1.2	-	0.23	0.7	-	-	-
MW-12	12/17/2000	BSK	4400	2800	7.1	1600	18.2	99	27	790	35	<100	650	1952	<10	<5		-	0.3	0.99	-	0.16	0.53	-	-	-
MW-12	6/5/2001	BSK	4700	2800	7.4	1600	21.7	100	29	960	40	<100	710	1952	<10	<5		-	0.3	1.1	-	0.2	0.85	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-12	10/3/2001	UNK	4500	2700	6.9	-	-	110	33	880	31	ND	630	1700	ND	ND		-	0.2	0.89	-	0.15	0.71	-	-	-
MW-12	5/2/2002	BSK	4100	2400	7.5	1500	-	94	25	750	21	<120	600	1500	<12	<6		-	0.2	0.8	-	0.15	0.58	-	-	-
MW-12	12/10/2002	BSK	4300	2600	7.8	560	-	84	21	700	24	-	610	-	-	ND		-	0.2	0.84	-	0.14	0.5	-	-	-
MW-12	3/22/2003	BSK	4300	2700	7.6	1500	-	93	26	750	22	ND	610	-	-	ND		-	0.2	0.79	-	0.18	0.43	-	-	-
MW-12	10/24/2003	BSK	5200	3200	7.6	1900	-	120	37	990	48	ND	710	-	-	ND		-	0.2	1.4	-	0.32	0.71	-	-	-
MW-12	3/31/2004	BSK	5200	3200	7.4	2000	-	120	42	1100	70	<2	790	2440	<0.9	<0.1		-	0.2	1.6	-	0.46	0.69	-	-	-
MW-12	11/13/2004	BSK	5500	3400	7.7	2100	-	120	44	1100	91	<40	790	2560	<18	<2		-	0.3	1.8	-	0.23	0.62	-	-	-
MW-12	4/6/2005	UNK	5400	3300	7.7	2100	-	100	37	1100	79	ND	810	2100	ND	ND		-	0.3	1.6	-	0.27	0.63	-	-	-
MW-12	10/13/2005	UNK	5600	3300	7.9	2000	-	98	39	1100	87	ND	820	2000	ND	ND		-	0.3	1.7	-	0.3	0.73	-	-	-
MW-12	4/19/2006	DL	5625	3115	7.4	1895	-	79	54	891	112	0.4	674	1895	<0.1	<0.1		-	0.16	1.27	-	0.28	0.58	-	-	-
MW-12	9/25/2006	UNK	4750	2470	7.2	1677	-	57.8	23.4	668	88.5	ND	649	1677	ND	ND		-	0.21	0.85	-	0.17	0.54	-	-	-
MW-12	3/29/2007	TL	3300	1900	7.3	1200	-	36	12	580	110	<20	370	1400	<20	<1	<10	0.23	0.86	<0.005	-	-	<5	-	0.0056	
MW-12	9/23/2007	TL	3100	1700	7.2	-	-	-	-	-	-	<20	400	1400	<20	-	-	-	-	-	-	-	-	-	-	
MW-12	4/5/2008	BCL	3250	1900	7.62	-	-	-	-	-	-	<2	420	1464	<0.9	-	-	-	-	-	-	-	-	-	-	
MW-12	9/3/2008	BCL	3530	2100	7.4	-	-	-	-	-	-	<2	550	1464	<0.4	-	-	-	0.46	-	-	-	-	-	-	
MW-12	4/2/2009	BCL	3400	2100	7.6	-	-	-	-	-	-	ND	540	1200	ND	-	-	-	0.5	-	-	-	-	-	-	
MW-12	10/1/2009	BSK	3000	1700	8.0	-	-	-	-	-	-	<20	450	1220	<10	-	-	-	-	-	-	-	-	-	-	
MW-12	9/23/2010	SSC	5100	3100	7.1	-	-	-	-	-	-	<10	730	2200	<2	-	-	-	-	-	-	-	-	-	-	
MW-14	3/31/1984	UNK	1220	707	8.3	-	-	6	0.6	265	1.3	140	140	244	-	-	-	0.1	-	-	-	0.04	-	-	-	
MW-14	11/29/1984	UNK	1400	887	8.1	-	-	26	4.2	287	2.2	195	189	305	-	-	-	0.12	-	-	0.06	0.08	-	-	-	
MW-14	11/5/1985	UNK	1230	765	8.2	-	-	11	1.5	271	1.6	128	154	314	-	-	-	-	-	-	0.05	0.05	-	-	-	
MW-14	9/26/1986	UNK	1300	790	8.2	-	-	23	4.2	260	1.7	160	173	262	-	-	-	-	-	-	0.1	0.12	-	-	-	
MW-14	7/23/1987	BCL	1550	920	8.2	-	12.3	35	6.9	303	2.4	195	233	283	<0.4	0.04	<10	-	<0.1	-	0.06	0.18	-	<5	-	
MW-14	3/1/1988	BCL	1660	1000	8.1	-	12.2	39	8	320	3	196	277	301	0.4	-	-	-	-	-	<0.05	0.2	-	-	-	
MW-14	12/13/1989	UNK	1700	1030	8.1	-	-	47	10	304	2.7	188	282	303	-	-	-	-	-	-	0.13	0.136	-	-	-	
MW-14	11/15/1990	UNK	-	575	8.0	-	-	-	-	-	1.4	-	159	173	-	-	-	-	-	-	0.082	0.18	-	-	-	
MW-14	6/18/1991	UNK	1600	930	7.9	-	-	-	-	-	2.3	-	276	275	-	-	-	-	-	-	-	-	-	-	-	
MW-14	10/25/1991	UNK	1430	860	8.3	-	-	30	6.3	290	2	150	232	288	-	-	-	0.13	-	-	0.069	0.196	-	-	-	
MW-14	3/2/1992	UNK	1360	850	8.3	-	-	33	6.4	254	1.9	130	198	294	-	-	-	0.16	-	-	0.097	0.238	-	-	-	
MW-14	10/22/1992	UNK	1110	710	7.8	-	-	21	4.6	300	2.1	149	213	336	-	-	-	0.14	-	-	0.058	0.148	-	-	-	
MW-14	3/4/1993	UNK	1340	860	8.1	-	-	26	4.7	271	1.9	129	176	343	-	0.05	-	0.14	-	-	0.18	0.152	-	-	-	
MW-14	9/21/1993	UNK	1730	1010	8.0	-	-	49	11.2	314	2.9	180	280	348	-	-	-	0.12	-	-	0.105	0.304	-	-	-	
MW-14	9/22/1993	BCL	1730	1010	8.0	-	10.6	49	11	314	2.9	180	280	-	-	-	-	-	-	-	-	-	-	-	-	
MW-14	3/10/1994	UNK	1360	820	8.2	-	-	16.3	3.5	279	2.2	123	171	342	-	-	-	0.18	-	-	0.072	0.112	-	-	-	
MW-14	3/17/1995	UNK	1440	895	8.0	-	-	22	4.8	304	2.2	136	187	365	-	-	-	0.16	-	-	-	0.138	-	-	-	
MW-14	10/15/1995	UNK	1590	890	8.2	-	-	19	4.4	315	3.1	145	218	339	-	-	-	-	-	-	-	0.12	-	-	-	
MW-14	4/5/1996	UNK	1490	885	8.4	-	-	13.5	3.2	300	1.8	135	202	367	-	-	-	0.19	-	-	-	0.097	-	-	-	
MW-14	10/20/1996	UNK	1630	960	8.6	-	-	32	7.5	332	2.8	150	228	371	-	-	-	0.21	-	-	-	0.222	-	-	-	
MW-14	6/10/1997	UNK	2010	1190	7.7	-	-	96	18.1	326	4.2	201	343	401	-	-	-	0.26	0.171	-	-	0.706	-	-	-	
MW-14	3/18/1998	UNK	1500	940	8.1	-	-	19	3.7	320	2.2	140	190	310	-	-	-	0.19	-	-	-	0.12	-	-	-	
MW-14	3/28/1998	UNK	1660	1000	8.1	-	-	39	7.6	320	2.6	196	277	301	1.8	-	-	-	-	-	-	0.19	-	-	-	
MW-14	8/25/1998	UNK	1800	970	7.8	-	-	72	14	290	3.4	150	260	330	ND	ND	-	0.25	0.13	-	ND	0.54	-	-	-	
MW-14	4/1/1999	BSK	1600	920	8.0	-	12.2	44	7	330	3	160	230	310	<0.2	-	-	0.2	-	-	<0.05	0.2	-	-	-	
MW-14	4/22/1999	UNK	1600	-	-	-	-	44	6.8	-	-	160	-	310	ND	ND	-	-	-	0.09	-	0.24	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-14	11/1/1999	BSK	1500	900	7.9	-	10.8	39	5	270	1	210	300	330	<0.2	-	-	0.2	-	-	<0.05	0.2	-	-	-	-
MW-14	5/20/2000	UNK	1500	-	-	-	-	41	-	-	-	150	-	340	ND	-	-	-	-	-	-	0.21	-	-	-	-
MW-14	5/21/2000	BSK	1500	960	7.9	340	11.6	41	5.8	300	3	<30	200	415	<3	<1.5	-	0.2	0.07	-	<0.05	0.21	-	-	-	-
MW-14	12/17/2000	UNK	1500	-	-	-	-	49	-	-	-	-	-	330	ND	-	-	-	-	-	-	0.34	-	-	-	-
MW-14	12/19/2000	BSK	1500	910	7.7	330	7.8	49	9.9	230	4	120	180	-	<3	<1.5	-	0.2	0.07	-	<0.05	0.34	-	-	-	-
MW-14	6/5/2001	UNK	1600	-	-	-	-	90	-	-	-	-	-	310	ND	-	-	-	-	-	-	-	-	-	-	-
MW-14	6/6/2001	BSK	1600	980	7.4	310	6.1	90	17	240	4	160	260	378	-	<2	-	0.2	0.12	-	<0.05	0.65	-	-	-	-
MW-14	10/3/2001	UNK	1500	910	7.4	-	-	76	16	240	2	150	220	300	22.6	ND	-	0.2	0.1	-	ND	0.55	-	-	-	-
MW-14	5/1/2002	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	5/2/2002	BSK	1500	840	7.8	320	-	55	12	230	2	120	170	320	<5	<2.5	-	0.2	0.09	-	<0.05	0.43	-	-	-	-
MW-14	12/13/2002	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	12/13/2002	BSK	1400	1000	7.7	300	-	65	16	190	3	140	200	300	ND	ND	-	0.2	0.09	-	ND	0.55	-	-	-	-
MW-14	3/23/2003	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.35	-	-	-	-
MW-14	3/23/2003	BSK	1400	840	7.9	310	-	43	10	220	ND	120	180	310	ND	ND	-	0.2	0.07	-	0.05	-	-	-	-	-
MW-14	10/25/2003	BSK	1200	750	8.1	290	-	52	12	190	3	100	150	290	ND	ND	-	0.3	0.08	-	ND	0.42	-	-	-	-
MW-14	10/25/2003	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	4/1/2004	UNK	-	-	-	300	-	60	13	190	2	-	-	-	-	ND	-	0.3	0.09	-	ND	0.5	-	-	-	-
MW-14	4/1/2004	BSK	1200	760	8.0	-	-	-	-	-	-	110	160	300	ND	-	-	-	-	-	-	-	-	-	-	-
MW-14	11/13/2004	BSK	1100	710	8.1	290	-	51	12	190	3	110	140	350	<2.7	<0.3	-	0.3	0.08	-	<0.05	0.42	-	-	-	-
MW-14	11/14/2004	UNK	-	-	-	-	-	-	-	-	-	-	-	290	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	4/7/2005	UNK	1200	690	8.1	290	-	52	12	180	3	120	140	290	ND	ND	-	0.3	0.09	-	ND	0.45	-	-	-	-
MW-14	10/14/2005	UNK	1100	700	8.4	280	-	49	10	180	2.4	110	140	270	ND	ND	-	0.31	0.08	-	0.06	0.38	-	-	-	-
MW-14	4/19/2006	DL	1080	678	8.0	279	-	41	9	183	4.9	100	129	279	<0.1	<0.1	-	0.25	0.08	-	<0.01	0.35	-	-	-	-
MW-14	4/19/2006	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	9/26/2006	UNK	-	-	-	259	-	41.8	9	185	3	-	-	-	-	ND	-	0.29	0.06	-	ND	0.33	-	-	-	-
MW-14	9/26/2006	TL	1014	633	8.1	-	-	-	-	-	-	114	128	259	ND	-	-	-	-	-	-	-	-	-	-	-
MW-14	3/29/2007	TL	1000	640	7.8	260	-	41	9.7	180	5.6	96	120	310	<6	<0.3	<10	0.29	0.075	<0.005	-	-	6.7	-	<0.005	
MW-14	3/29/2007	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	9/24/2007	TL	1000	630	7.7	280	-	45	9.7	180	5.4	100	110	340	ND	-	ND	0.28	0.084	ND	0.11	0.33	-	-	ND	
MW-14	9/24/2007	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-14	4/6/2008	BCL	1100	670	8.12	-	-	-	-	-	-	110	120	378	<0.4	-	-	-	-	-	-	-	-	-	-	-
MW-14	9/3/2008	BCL	1100	640	8.1	-	-	-	-	-	-	100	120	378	<0.4	-	-	-	0.058	-	-	-	-	-	-	-
MW-14	10/2/2009	BSK	1000	630	8.3	-	-	-	-	-	-	95	110	354	<2	-	-	-	-	-	-	-	-	-	-	-
MW-14	10/6/2010	SSC	1200	720	7.7	-	-	-	-	-	-	93	120	403	<2	-	-	-	-	-	-	-	-	-	-	-
MW-16	12/8/1988	BCL	11600	6100	7.4	-	37.2	54	38	1460	1172	38	1094	5752	1	0.1	<10	0.2	3.7	-	0.33	0.18	-	<5	-	-
MW-16	12/20/1988	UNK	-	2190	7.4	-	-	30	30	200	120	25	389	1803	-	-	-	-	-	-	0.05	0.04	-	-	-	-
MW-16	12/19/1989	UNK	10400	6800	7.6	-	-	76	65	1360	696	125	1055	4936	-	-	-	-	-	-	0.577	0.358	-	-	-	-
MW-16	4/10/1990	UNK	9500	5260	7.3	-	-	63	54	1250	760	70	1063	4418	-	-	-	-	-	-	0.665	0.24	-	-	-	-
MW-16	11/16/1990	UNK	-	5060	7.1	-	-	-	-	-	690	-	922	4401	-	-	-	-	3.38	-	1.16	0.248	-	-	-	-
MW-16	6/18/1991	UNK	8400	4650	7.2	-	-	-	-	-	445	-	893	4007	-	-	-	-	3.74	-	-	-	-	-	-	-
MW-16	10/22/1991	UNK	8000	4360	7.1	-	-	77	49	1170	540	22	847	3790	-	-	-	0.28	3.12	-	8.62	0.3	-	-	-	-
MW-16	2/25/1992	UNK	8200	4340	7.5	-	-	79	56	1140	590	28	823	3940	-	-	-	0.26	3	-	7.6	0.221	-	-	-	-
MW-16	10/22/1992	UNK	-	2240	7.1	-	-	44	27	595	275	-	497	1510	-	-	-	0.3	2.64	-	8.31	0.282	-	-	-	-
MW-16	3/8/1993	UNK	7000	3420	7.3	-	-	62	40	955	500	-	620	3320	-	-	-	0.36	2.32	-	4.93	0.197	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-16	9/23/1993	UNK	6200	3250	7.4	-	-	50	34	857	443	-	570	2980	-	-	-	0.31	2.27	-	5.59	0.197	-	-	-	-
MW-16	3/14/1994	UNK	5660	3020	7.3	-	-	49	31	830	410	6	520	2720	-	-	-	0.35	1.93	-	4.33	0.194	-	-	-	-
MW-16	10/3/1994	UNK	5200	2800	7.2	-	-	55	28	795	74	24	505	2460	-	-	-	0.3	1.81	-	5.23	0.21	-	-	-	-
MW-16	3/20/1995	UNK	4910	2900	7.1	-	-	35	23	746	316	34	474	2310	-	-	-	0.3	1.26	-	0.308	0.162	-	-	-	-
MW-16	10/14/1995	UNK	4880	2560	7.3	-	-	33	22	683	314	28	457	2280	-	-	-	0.36	1.24	-	0.25	0.135	-	-	-	-
MW-16	4/8/1996	UNK	4900	2710	8.6	-	-	33	24	720	328	24	447	2410	-	-	-	0.38	1.2	-	0.373	0.13	-	-	-	-
MW-16	10/4/1996	UNK	4810	2400	8.6	-	-	30	21	688	309	25.6	395	2310	-	-	-	0.38	1.24	-	0.177	0.121	-	-	-	-
MW-16	6/6/1997	UNK	4640	2440	7.4	-	-	32	23	711	318	14.9	413	2550	-	-	-	0.4	1.42	-	0.244	0.126	-	-	-	-
MW-16	4/21/1999	BSK	7000	3700	7.7	2900	26.3	49	37	1000	590	<150	630	3538	<15	<7.5	-	0.3	2.6	-	0.59	0.16	-	-	-	-
MW-16	5/21/2000	BSK	6800	3900	7.3	1500	28.1	43	31	990	500	<150	680	1830	<15	<7.5	-	0.3	2.5	-	0.62	0.16	-	-	-	-
MW-16	12/17/2000	BSK	6400	3500	7.4	2900	21.5	42	29	740	440	<140	620	3538	<14	<7	-	0.3	2.2	-	0.82	0.16	-	-	-	-
MW-16	6/6/2001	BSK	6200	3400	7.2	2500	23	44	32	820	510	<80	650	3050	-	<4	-	0.4	2.2	-	0.44	0.16	-	-	-	-
MW-16	10/3/2001	UNK	6000	3000	7.2	-	-	42	30	780	440	ND	520	2600	ND	ND	-	0.3	1.7	-	0.42	0.13	-	-	-	-
MW-16	5/2/2002	BSK	6000	3000	7.6	2400	-	30	22	640	330	<20	58	2400	2.5	<1	-	0.3	1.6	-	0.34	0.11	-	-	-	-
MW-16	12/10/2002	BSK	5600	2800	7.4	2200	-	25	17	610	300	ND	480	-	-	ND	-	0.3	1.5	-	0.38	0.12	-	-	-	-
MW-16	3/22/2003	BSK	5600	3000	7.6	2200	-	33	24	690	320	ND	560	-	-	ND	-	0.3	1.6	-	0.52	0.14	-	-	-	-
MW-16	10/25/2003	BSK	5400	2800	7.8	2300	-	36	27	720	420	ND	430	-	-	ND	-	0.3	1.5	-	0.43	0.13	-	-	-	-
MW-16	4/1/2004	UNK	6300	3300	7.7	2700	-	41	34	780	450	ND	580	2700	ND	ND	-	0.3	1.9	-	0.58	0.15	-	-	-	-
MW-16	11/14/2004	BSK	6200	3300	7.8	2800	-	35	30	840	510	<40	560	3420	<18	<2	-	0.3	1.9	-	0.41	0.14	-	-	-	-
MW-16	4/7/2005	UNK	7300	3900	7.6	3100	-	49	47	1000	590	41	750	3100	ND	ND	-	ND	2.6	-	0.61	0.18	-	-	-	-
MW-16	10/14/2005	UNK	6400	3300	8.0	2600	-	35	37	950	480	ND	640	2600	ND	ND	-	0.4	2	-	0.5	0.16	-	-	-	-
MW-16	4/19/2006	DL	7130	3795	7.5	2846	-	140	37	1114	459	1.1	726	2846	<0.1	<0.1	-	0.09	1.83	-	0.72	0.13	-	-	-	-
MW-16	9/25/2006	TL	7430	3510	7.3	-	-	-	-	-	-	2	710	2481	ND	-	-	-	-	-	-	-	-	-	-	-
MW-16	9/25/2006	UNK	-	-	-	2461	-	41.4	34	729	424	-	-	-	-	0.1	-	0.26	1.44	-	0.55	0.11	-	-	-	-
MW-16	3/29/2007	TL	6700	3600	7.3	2700	-	50	44	880	530	<50	660	3300	<50	<2.5	<10	0.29	2.8	<0.005	-	-	<5	-	<0.005	-
MW-16	9/23/2007	TL	6400	3200	7.3	-	-	-	-	-	-	<50	620	3000	<50	-	-	-	-	-	-	-	-	-	-	-
MW-16	4/5/2008	BCL	6420	3400	7.53	-	-	-	-	-	-	8	660	3050	<2.2	-	-	-	-	-	-	-	-	-	-	-
MW-16	9/2/2008	BCL	6400	3300	7.5	-	-	-	-	-	-	13	750	3172	<2.2	-	-	-	2	-	-	-	-	-	-	-
MW-16	4/2/2009	UNK	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	-	-	-	-	-
MW-16	4/2/2009	BCL	5930	3200	7.5	-	-	-	-	-	-	28	680	2400	ND	-	-	-	-	-	-	-	-	-	-	-
MW-16	10/1/2009	BSK	5700	2700	7.9	-	-	-	-	-	-	74	580	2806	<20	-	-	-	-	-	-	-	-	-	-	-
MW-16	9/23/2010	SSC	5400	2800	7.2	-	-	-	-	-	-	84	510	2500	<2	-	-	-	-	-	-	-	-	-	-	-
MW-22	4/12/1990	UNK	4500	2780	7.3	-	-	55	12	920	52	32	510	2016	-	-	-	-	-	-	0.692	0.991	-	-	-	-
MW-22	11/19/1990	UNK	-	2575	7.1	-	-	-	-	-	63	-	502	1989	-	-	-	-	1.19	-	2.51	1.26	-	-	-	-
MW-22	6/19/1991	UNK	4400	2530	7.3	-	-	-	-	-	62	-	523	1949	-	-	-	-	0.995	-	-	-	-	-	-	-
MW-22	10/23/1991	UNK	4500	2540	7.2	-	-	72	15	935	44	10	498	1910	-	-	-	0.19	-	-	4.75	1.15	-	-	-	-
MW-22	3/12/1992	UNK	4300	2660	7.3	-	-	77	15	910	49	-	492	1870	-	0.05	-	0.22	0.95	-	5.22	1.18	-	-	-	-
MW-22	10/26/1992	UNK	3900	2170	7.2	-	-	52	11	760	42	6.2	426	1650	-	-	-	0.17	0.649	-	3.78	0.725	-	-	-	-
MW-22	3/5/1993	UNK	4100	2390	7.1	-	-	149	59	607	137	235	370	1670	-	0.06	-	0.54	0.33	-	5.84	1.2	-	-	-	-
MW-22	9/24/1993	UNK	3000	1740	7.3	-	-	33	7.3	605	34	18	341	1200	-	-	-	0.15	0.481	-	2.75	0.521	-	-	-	-
MW-22	4/11/1994	UNK	2670	1570	7.2	-	-	27	6.3	580	33	20	326	1100	-	-	-	0.16	0.408	-	2.22	0.41	-	-	-	-
MW-22	10/4/1994	UNK	2290	1310	7.4	-	-	22	4.6	482	22	29	283	901	-	-	-	0.15	0.28	-	1.72	0.33	-	-	-	-
MW-22	3/30/1995	UNK	2300	1440	7.5	-	-	25	5.8	484	26	30	287	935	-	-	-	0.15	0.308	-	0.2	0.342	-	-	-	-
MW-22	10/17/1995	UNK	2190	1320	7.5	-	-	20	3.8	443	22	41	278	843	-	-	-	0.15	0.25	-	0.47	0.28	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
MW-22	4/6/1996	UNK	2260	1250	7.5	-	-	22	4.6	449	29	40	292	886	-	-	-	15	0.278	-	0.219	0.296	-	-	-	-
MW-22	10/4/1996	UNK	2100	1140	8.7	-	-	18	3.6	433	26	39.4	266	796	-	-	-	0.15	0.242	-	0.417	0.261	-	-	-	-
MW-22	6/4/1997	UNK	2210	1280	7.6	-	-	21	4.1	441	27	40.7	270	858	-	-	-	0.17	0.265	-	0.102	0.285	-	-	-	-
MW-22	3/24/1998	UNK	1800	1200	7.6	-	-	24	4.2	480	24	42	270	690	-	-	-	-	0.27	-	0.2	0.32	-	-	-	-
MW-22	8/25/1998	UNK	2200	1300	7.7	-	-	23	4.6	460	28	44	260	700	ND	ND	-	0.17	0.29	-	0.24	0.32	-	-	-	-
MW-22	4/21/1999	BSK	2100	1300	7.5	690	22.6	22	4.1	440	33	55	270	842	<4	<2	-	0.2	0.29	-	0.22	0.26	-	-	-	-
MW-22	5/20/2000	UNK	2000	1200	7.6	-	-	17	3.4	420	33	51	270	700	ND	ND	-	0.2	0.24	-	0.72	0.24	-	-	-	-
MW-22	5/21/2000	BSK	2000	1200	7.6	700	24.3	17	3.4	420	33	51	270	854	<4	<2	-	0.2	0.24	-	0.72	0.24	-	-	-	-
MW-22	12/19/2000	BSK	2100	1200	7.5	640	22.2	15	3	360	26	<50	270	781	<5	<2.5	-	0.1	0.2	-	0.64	0.18	-	-	-	-
MW-22	6/6/2001	BSK	2000	1200	7.4	660	22.3	19	4	410	30	<50	300	805	-	<2.5	-	0.2	0.23	-	0.53	0.26	-	-	-	-
MW-22	10/3/2001	UNK	1700	990	7.3	-	-	12	2.3	360	21	44	190	480	ND	ND	-	0.1	0.13	-	0.55	0.15	-	-	-	-
MW-22	5/2/2002	BSK	2000	1200	7.7	580	-	12	2.7	380	23	50	260	580	<5	<2.5	-	0.1	0.18	-	0.56	0.16	-	-	-	-
MW-22	12/11/2002	BSK	1800	980	7.8	470	-	10	2	330	16	66	230	-	-	ND	-	0.1	0.12	-	0.51	0.14	-	-	-	-
MW-22	3/22/2003	BSK	1800	1000	7.7	500	-	11	2.3	330	17	59	250	-	-	ND	-	0.1	0.14	-	0.57	0.16	-	-	-	-
MW-22	10/25/2003	BSK	1800	-	8.2	480	-	11	2.2	330	12	74	230	-	-	ND	-	0.1	0.1	-	0.56	0.16	-	-	-	-
MW-22	4/1/2004	UNK	1800	1100	8.0	510	-	14	2.8	410	15	75	250	510	ND	ND	-	0.2	0.15	-	0.7	0.2	-	-	-	-
MW-22	11/14/2004	BSK	1700	1000	8.2	500	-	13	2.5	350	11	82	230	610	<4	<0.5	-	0.1	0.11	-	0.56	0.17	-	-	-	-
MW-22	4/7/2005	UNK	1800	1000	7.9	520	-	16	2.7	380	11	84	250	520	ND	ND	-	0.1	0.14	-	0.57	0.19	-	-	-	-
MW-22	10/14/2005	UNK	1800	1000	8.4	500	-	14	2.3	420	10	86	230	480	ND	ND	-	0.1	0.13	-	0.49	0.18	-	-	-	-
MW-22	4/19/2006	DL	1866	1178	7.8	578	-	16	2.7	376	22	74	249	578	<0.1	<0.1	-	0.09	0.15	-	0.23	0.19	-	-	-	-
MW-22	9/25/2006	UNK	1719	1187	7.9	605	-	15.1	2.7	402	15.5	88	288	605	ND	ND	-	0.11	0.13	-	0.19	0.19	-	-	-	-
MW-22	3/29/2007	TL	2000	1200	7.6	600	-	19	3.1	440	25	68	250	740	<10.2	<0.5	<10	0.15	0.18	<0.005	-	-	8.9	-	<0.005	
MW-22	9/23/2007	TL	2300	1300	7.5	-	-	-	-	-	-	62	280	890	<20	-	-	-	-	-	-	-	-	-	-	-
MW-22	4/5/2008	BCL	2490	1500	7.8	-	-	-	-	-	-	53	310	1013	<0.9	-	-	-	-	-	-	-	-	-	-	-
MW-22	9/3/2008	BCL	2710	1700	7.6	-	-	-	-	-	-	42	380	1122	<0.4	-	-	-	0.27	-	-	-	-	-	-	-
MW-22	4/2/2009	UNK	2800	1700	7.7	-	-	-	-	-	-	34	390	970	ND	-	-	-	0.3	-	-	-	-	-	-	-
MW-22	10/1/2009	BSK	3000	1600	8.0	-	-	-	-	-	-	24	390	1342	<10	-	-	-	-	-	-	-	-	-	-	-
MW-22	10/19/2010	SSC	3100	1900	7.2	-	-	-	-	-	-	14	400	1400	<2	-	-	-	-	-	-	-	-	-	-	-
PW-1	3/24/1962	UNK	-	235	-	-	-	-	-	-	-	-	60	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	10/24/1963	TL	-	114	8.8	-	-	1	<1	37	-	3	14	58	-	-	-	<0.1	-	-	-	-	-	-	-	-
PW-1	12/14/1964	UNK	-	169	8.2	-	-	2.5	0.5	51	-	3.3	24.8	97.6	-	-	-	0.05	-	-	2	-	-	-	-	-
PW-1	5/17/1965	UNK	-	149	8.3	-	-	2.6	-	48	-	6.2	17.7	85.4	-	-	-	-	-	-	2.8	-	-	-	-	-
PW-1	3/1/1966	UNK	-	177	8.8	-	-	4.9	-	50	-	4.9	28.4	79.3	-	-	-	-	-	-	4	-	-	-	-	-
PW-1	11/12/1968	UNK	-	169	-	-	-	1.4	0.9	92	1	-	30	96	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	7/19/1980	UNK	-	284	8.3	-	-	17	3	-	-	14	-	74	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-1	11/4/1980	UNK	-	300	8.2	-	-	11	3	-	-	11	-	76	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-1	12/13/1980	UNK	-	235	8.7	-	-	12	-	-	-	8	-	72	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-1	5/16/1981	UNK	-	236	8.5	-	-	6	2	-	-	27	-	83	-	-	-	-	-	-	ND	-	-	-	-	-
PW-1	8/6/1981	UNK	-	256	8.8	-	-	6	2	-	-	29	-	55	-	-	-	-	-	-	ND	-	-	-	-	-
PW-1	10/3/1981	UNK	-	232	8.7	-	-	6	2	-	-	27	-	61	-	-	-	-	-	-	ND	-	-	-	-	-
PW-1	11/10/1981	UNK	473	294	8.6	-	-	6	1	93	1	32	57	157	1.3	-	-	0.1	-	-	0.4	0.04	-	-	-	-
PW-1	2/2/1982	UNK	-	288	8.7	-	-	7	1	-	-	26	-	67	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-1	5/15/1982	UNK	-	260	8.6	-	-	6	4	-	-	25	-	63	-	-	-	-	-	-	ND	-	-	-	-	-
PW-1	10/8/1982	UNK	-	240	8.2	-	-	28	3	-	-	29	-	74	-	-	-	-	-	-	0.1	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
PW-1	11/24/1982	UNK	460	280	8.6	-	-	3	0.37	96	1.2	22	47.4	147.3	-	0.18	-	0.11	-	-	0.05	0.02	-	-	-	-
PW-1	5/6/1983	UNK	-	168	8.5	-	-	4	ND	-	-	38	-	96	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	5/10/1983	BCL	430	223	8.5	-	-	3	<1	98	1	26	44	135	<1	-	<10	-	-	-	0.08	0.02	-	-	-	-
PW-1	12/2/1983	UNK	470	283	8.0	-	-	5.4	0.86	100	1.4	24	53.1	166	-	-	-	-	-	-	0.52	0.04	-	-	-	-
PW-1	3/2/1984	UNK	510	290	8.2	-	-	4.4	0.66	105	0.7	22	56.6	149	-	-	-	-	-	-	-	0.02	-	-	-	-
PW-1	5/22/1984	UNK	500	280	8.2	-	-	6.7	1	95	1	23	49.2	140	-	-	-	-	-	-	0.07	0.04	-	-	-	-
PW-1	6/19/1984	UNK	-	240	7.9	-	-	11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	7/17/1984	UNK	480	303	8.6	-	-	3.9	0.76	101	0.7	22	53.1	136	-	-	-	-	-	-	0.06	0.02	-	-	-	-
PW-1	11/27/1984	UNK	510	327	8.1	-	-	22	4.1	84	2	26	62.3	172	-	-	-	0.2	-	-	0.35	0.18	-	-	-	-
PW-1	4/29/1985	UNK	550	337	8.3	-	-	29	5.7	82	2.7	36	64.1	167	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	11/6/1985	UNK	550	355	8.2	-	-	1.7	0.19	124	0.6	24	58.4	194	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	9/23/1986	UNK	660	400	8.0	-	-	61	11.2	66	3.7	70	72.6	210	-	-	-	-	-	-	-	-	-	-	-	-
PW-1	4/13/1987	UNK	650	415	8.0	-	-	40	7.5	90	3.8	56	70.8	209	-	-	-	-	-	-	0.38	0.29	-	-	-	-
PW-1	4/22/1987	UNK	1860	1135	6.7	-	-	192	27	136	50	15	88.8	1011	-	-	-	-	-	-	1.2	0.83	-	-	-	-
PW-1	4/23/1987	UNK	4000	1975	7.7	-	-	630	86	183	54	15	121	2535	-	-	-	-	-	-	0.49	0.19	-	-	-	-
PW-1	9/4/1987	UNK	690	420	7.9	-	-	61	12	66	4.2	68	75	219	-	-	-	-	-	-	5.1	0.7	-	-	-	-
PW-1	12/16/1988	BCL	700	420	8.1	-	7.7	18	3	134	2	33	81	254	<1	-	-	-	<0.1	-	0.27	0.14	-	-	-	-
PW-1	12/6/1989	UNK	1100	680	7.8	-	-	41	7.1	198	2.8	86	134	355	-	-	-	-	-	-	0.182	0.299	-	-	-	-
PW-1	11/9/1990	UNK	-	710	-	-	-	-	-	-	3.2	7.6	144	385	-	-	-	-	-	-	0.604	0.358	-	-	-	-
PW-1	4/29/1992	UNK	2400	1350	7.3	-	-	68	-	-	7.1	-	291	853	-	-	-	-	0.355	-	-	-	-	-	-	-
PW-1	10/28/1992	UNK	1510	1000	7.4	-	-	30	4.9	306	3.6	20	224	512	-	0.19	-	0.25	0.159	-	1.66	0.452	-	-	-	-
PW-1	3/11/1993	UNK	2500	1390	7.3	-	-	-	-	-	8.7	-	305	896	-	-	-	-	0.454	-	-	-	-	-	-	-
PW-1	9/28/1993	UNK	1610	930	7.4	-	-	31	5.7	331	4.6	15	247	547	-	0.2	-	0.26	0.208	-	1.51	0.445	-	-	-	-
PW-1	3/7/1994	UNK	2660	1560	8.2	-	-	25	2.8	560	1.6	265	432	476	-	0.09	-	-	-	-	-	-	-	-	-	-
PW-1	10/4/1994	UNK	1950	1110	7.2	-	-	41	8.7	391	9.1	23	281	712	-	0.16	-	0.22	0.41	-	2.96	0.59	-	-	-	-
PW-1	3/22/1995	UNK	-	-	-	-	-	78	16.5	485	-	58	-	-	-	0.06	-	0.12	-	-	0.07	1.02	-	-	-	-
PW-1	4/12/1996	UNK	1480	880	8.6	-	-	24	4.6	296	4.8	21	241	459	-	0.2	-	0.36	0.13	-	0.109	0.26	-	-	-	-
PW-1	10/8/1996	UNK	1770	1000	8.59	-	-	28	6.6	361	10	10.4	282	584	-	0.24	-	0.28	0.295	-	-	0.33	-	-	-	-
PW-1	6/10/1997	UNK	2020	1190	7.2	-	-	41	9.1	376	12.3	15.6	302	714	-	0.18	-	0.28	0.406	-	-	0.487	-	-	-	-
PW-1	3/17/1998	UNK	1700	1000	7.7	-	-	23	4.3	350	7	-	320	360	-	-	-	0.42	0.18	-	0.09	0.26	-	-	-	-
PW-1	4/22/1999	BSK	2400	1500	7.4	830	12	86	16	460	23	55	320	1013	<25	<2.5	<50	0.1	0.65	-	0.09	0.66	-	<20	-	
PW-1	5/20/2000	BSK	2800	1700	6.9	940	11.9	78	16	440	27	66	390	1147	<30	<3	2	0.1	0.81	-	0.09	0.74	-	4	-	
PW-1	12/18/2000	BSK	2200	1200	7.9	560	21.7	16	4.4	380	12	<50	340	683	<25	<2.5	<2	0.2	0.11	-	0.17	0.05	-	4	-	
PW-1	6/4/2001	BSK	3400	2100	7.0	1600	16.3	81	22	640	49	<60	500	1952	<30	<3	2	0.1	1.2	-	0.14	0.83	-	8	-	
PW-1	10/4/2001	UNK	2500	1500	8.0	750	-	14	8.9	510	28	ND	380	750	ND	ND	-	0.2	0.15	-	0.06	0.05	-	-	-	-
PW-1	5/3/2002	UNK	2100	1200	7.4	560	-	22	4.2	360	9	ND	350	560	ND	ND	-	0.3	0.23	-	0.07	0.16	-	-	-	-
PW-1	12/13/2002	UNK	3700	2100	8.0	1300	-	83	21	660	53	ND	530	1300	ND	ND	-	0.2	1.2	-	0.19	0.83	-	-	-	-
PW-1	3/23/2003	BSK	3100	1700	8.0	1000	-	58	14	520	30	ND	420	-	-	ND	-	0.2	0.75	-	0.12	-	-	-	-	-
PW-2	10/24/1963	TL	-	121	8.6	-	-	3	<1	35	-	5	11	67	-	-	-	<0.1	-	-	-	-	-	-	-	-
PW-2	12/14/1964	UNK	-	144	8.3	-	-	1.7	0.5	46	-	4.9	17.7	85.4	-	-	-	0.05	-	-	1.6	-	-	-	-	-
PW-2	5/17/1965	UNK	-	156.2	8.3	-	-	2.6	1	46	-	4.1	17.7	85.4	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	3/1/1966	UNK	-	148	8.8	-	-	3.3	-	48	-	3.3	21.3	73.2	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	11/12/1968	UNK	-	186	-	-	-	2.1	0.9	94	-	-	30	96	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	5/28/1980	UNK	-	376	8.4	-	-	6	2	-	-	20	-	81	-	-	-	-	-	-	0.1	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements									
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
PW-2	7/19/1980	UNK	-	344	8.0	-	-	6	3	-	-	24	-	104	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-2	11/4/1980	UNK	-	400	7.4	-	-	12	1	-	-	24	-	135	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-2	12/13/1980	UNK	-	365	7.7	-	-	12	2	-	-	27	-	150	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-2	5/16/1981	UNK	-	468	7.7	-	-	14	ND	-	-	28	-	124	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-2	8/6/1981	UNK	-	552	7.4	-	-	20	2	-	-	28	-	313	-	-	-	-	-	-	0.4	-	-	-	-	-
PW-2	10/3/1981	UNK	-	392	7.6	-	-	26	4	-	-	50	-	137	-	-	-	-	-	-	0.3	-	-	-	-	-
PW-2	11/10/1981	UNK	761	476	7.6	-	-	13	5	150	-	33	93	260	8.9	-	-	0.3	-	-	0.4	0.17	-	-	-	-
PW-2	2/2/1982	UNK	-	380	8.0	-	-	10	2	-	-	35	-	111	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-2	5/15/1982	UNK	-	552	7.8	-	-	17	11	-	-	28	-	172	-	-	-	-	-	-	0.3	-	-	-	-	-
PW-2	10/8/1982	UNK	-	672	7.1	-	-	32	3	-	-	29	-	259	-	-	-	-	-	-	0.6	-	-	-	-	-
PW-2	11/24/1982	UNK	900	607	7.8	-	-	20	3.7	202	2	25	119	381	-	-	-	-	-	-	0.6	0.3	-	-	-	-
PW-2	5/10/1983	BCL	900	607	7.8	-	-	20	4	202	2	25	119	381	<1	-	<10	-	-	-	0.62	0.3	-	-	-	-
PW-2	11/10/1983	UNK	-	1256	6.9	-	-	70	8	-	-	8	-	449	-	-	-	-	-	-	1.9	-	-	-	-	-
PW-2	11/18/1983	UNK	2200	1273	7.7	-	-	59	12	425	4.3	28	270	838	4	-	-	-	-	-	1.8	0.96	-	-	-	-
PW-2	1/21/1984	UNK	-	1248	6.2	-	-	72	16	-	-	-	-	442	-	-	-	-	-	-	0.6	-	-	-	-	-
PW-2	1/23/1984	UNK	-	1148	7.0	-	-	68	12	-	-	-	-	460	-	-	-	-	-	-	2	-	-	-	-	-
PW-2	2/16/1984	UNK	-	956	7.3	-	-	53	9	-	-	-	-	348	-	-	-	-	-	-	2	-	-	-	-	-
PW-2	2/18/1984	UNK	-	1520	7.3	-	-	40	9	-	-	-	-	318	-	-	-	-	-	-	1	-	-	-	-	-
PW-2	2/22/1984	UNK	-	920	7.4	-	-	36	7	-	-	-	-	268	-	-	-	-	-	-	1	-	-	-	-	-
PW-2	2/29/1984	UNK	-	824	7.3	-	-	33	6	-	-	-	-	268	-	-	-	-	-	-	1	-	-	-	-	-
PW-2	3/7/1984	UNK	-	700	7.2	-	-	30	10	-	-	-	-	279	-	-	-	-	-	-	1	-	-	-	-	-
PW-2	3/14/1984	UNK	-	688	7.0	-	-	28	6	-	-	-	-	281	-	-	-	-	-	-	1	-	-	-	-	-
PW-2	3/20/1984	UNK	690	370	7.8	-	-	46	8.9	84	3.2	75	743	201	-	-	-	-	-	-	0.16	0.04	-	-	-	-
PW-2	3/29/1984	UNK	-	692	6.9	-	-	27	8	-	-	29	-	275	-	-	-	-	-	-	0.8	-	-	-	-	-
PW-2	7/17/1984	UNK	1300	827	7.5	-	-	11	4.5	275	2	26	168	467	-	-	-	-	-	-	1.3	0.51	-	-	-	-
PW-2	11/27/1984	UNK	880	560	7.5	-	-	42	8.3	144	3.4	48	118	291	-	-	-	0.08	-	-	0.62	0.46	-	-	-	-
PW-2	4/29/1985	UNK	1800	1100	8.2	-	-	62	12	334	4.4	27	243	614	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	11/6/1985	UNK	810	500	8.3	-	-	36	6.7	135	2.6	45	105	252	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	9/23/1986	UNK	910	555	7.9	-	-	74	14.1	105	4.1	93	108	285	-	-	-	-	-	-	-	-	-	-	-	-
PW-2	9/3/1987	UNK	2200	1280	7.5	-	-	58	9.7	425	4	30	277	858	-	-	-	-	-	0.26	0.05	0.99	-	-	-	-
PW-2	3/29/1988	UNK	2600	1605	7.1	-	-	74	14	476	13	25	330	956	-	-	-	-	-	0.4	-	-	1.3	-	-	-
PW-3	10/24/1963	TL	-	138	8.7	-	-	1	<1	41	-	4	14	67	-	-	-	<0.1	-	-	-	-	-	-	-	-
PW-3	3/1/1966	UNK	-	293	8.6	-	-	3.3	-	98	-	37	67.4	94.5	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	11/12/1968	UNK	-	143	-	-	-	3.6	1.7	80	-	-	16	93	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	5/28/1980	UNK	-	576	7.7	-	-	14	2	-	-	6	-	165	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	7/19/1980	UNK	-	456	7.6	-	-	13	1	-	-	15	-	161	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-3	11/4/1980	UNK	-	340	8.1	-	-	9	ND	-	-	19	-	98	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	12/13/1980	UNK	-	396	8.5	-	-	7	ND	-	-	14	-	123	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	5/16/1981	UNK	-	372	8.5	-	-	7	ND	-	-	9	-	118	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-3	8/6/1981	UNK	-	432	8.8	-	-	6	2	-	-	9	-	118	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-3	10/3/1981	UNK	-	560	7.4	-	-	20	2	-	-	12	-	205	-	-	-	-	-	-	0.4	-	-	-	-	-
PW-3	11/10/1981	UNK	1003	617	7.6	-	-	15	4	200	-	12	134	369	0.9	-	-	0.2	-	-	0.51	0.21	-	-	-	-
PW-3	2/2/1982	UNK	-	-	7.9	-	-	17	3	-	-	26	-	120	-	-	-	-	-	-	0.4	-	-	-	-	-
PW-3	5/15/1982	UNK	-	536	7.5	-	-	42	12	-	-	36	-	170	-	-	-	-	-	-	1	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
PW-3	10/8/1982	UNK	-	596	7.9	-	-	14	12	-	-	27	-	174	-	-	-	-	-	-	-	0.2	-	-	-	-	-
PW-3	11/22/1982	UNK	800	420	7.7	-	-	36	6	132	4	42	106.2	258.1	-	0.6	-	0.09	-	-	-	1.3	0.33	-	-	-	-
PW-3	5/10/1983	BCL	900	590	8.4	-	-	20	6	186	3	32	131	312	<1	-	<10	-	-	-	-	1.3	0.28	-	-	-	-
PW-3	11/28/1983	UNK	920	553	7.6	-	-	36	7.9	156	3.4	43	124	296	-	-	-	-	-	-	-	0.64	0.34	-	-	-	-
PW-3	3/20/1984	UNK	770	463	7.8	-	-	36	5.4	127	2.4	54	93.1	241	-	-	-	-	-	-	-	0.36	0.26	-	-	-	-
PW-3	7/20/1984	UNK	730	447	8.0	-	-	33	5.5	116	2.5	46	88.2	220	-	-	-	-	-	-	-	0.34	0.25	-	-	-	-
PW-3	11/28/1984	UNK	710	457	7.6	-	-	36	5.9	112	2.7	45	86	232	-	-	-	0.02	-	-	-	0.39	0.2	-	-	-	-
PW-3	4/23/1985	UNK	710	427	8.3	-	-	32	5.5	115	3	47	83.2	210	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	11/6/1985	UNK	660	405	8.3	-	-	31	4.6	107	2.5	44	76.8	210	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	9/25/1986	UNK	-	-	-	-	-	32	4.9	105	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-3	3/29/1988	UNK	670	415	7.9	-	-	31	4.5	114	2.4	49	77.5	235	-	-	-	-	-	-	-	0.37	0.2	-	-	-	-
PW-4	10/24/1963	TL	-	382	8.4	-	-	5	1	117	-	44	99	95	-	-	-	0.2	-	-	-	-	-	-	-	-	-
PW-4	3/1/1966	UNK	-	368	8.5	-	-	3.3	-	127	-	52.7	102.8	97.6	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	11/12/1968	UNK	-	434	-	-	-	4.3	0.9	193	-	-	130	104	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	5/28/1980	UNK	-	1148	8.2	-	-	17	2	-	-	130	-	434	-	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-4	7/19/1980	UNK	-	1096	8.2	-	-	17	2	-	-	130	-	150	-	-	-	-	-	-	-	0.15	-	-	-	-	-
PW-4	11/10/1980	UNK	2060	1189	8.3	-	-	18	4	405	1	247	344	297	0.9	-	-	0.3	-	-	-	0.53	0.06	-	-	-	-
PW-4	2/2/1982	UNK	-	-	8.4	-	-	16	4	-	-	130	-	109	-	-	-	-	-	-	-	0.1	-	-	-	-	-
PW-4	10/8/1982	UNK	-	1304	8.3	-	-	18	28	-	-	150	-	145	-	-	-	-	-	-	-	0.3	-	-	-	-	-
PW-4	11/24/1982	UNK	2200	1220	8.3	-	-	18	2	450	2.8	240	338.1	336.1	-	0.22	-	0.3	-	-	-	0.4	0.07	-	-	-	-
PW-4	5/10/1983	BCL	1750	1227	8.5	-	-	15	2	440	2	244	325	317	<1	-	<10	-	-	-	-	1.1	0.06	-	-	-	-
PW-4	12/3/1983	UNK	2200	1220	7.9	-	-	18	3	415	-	140	319	191	-	-	-	-	-	-	-	1.3	0.06	-	-	-	-
PW-4	3/20/1984	UNK	2200	1170	8.2	-	-	16.3	1.6	430	1.1	230	330	324	-	-	-	-	-	-	-	0.36	0.05	-	-	-	-
PW-4	7/17/1984	UNK	2100	1223	8.3	-	-	16.8	1.3	445	1.3	245	368	300	-	-	-	-	-	-	-	0.37	0.06	-	-	-	-
PW-4	11/30/1984	UNK	1990	1223	8.2	-	-	16	1.6	440	1.3	230	326	330	-	-	-	0.3	-	-	-	0.82	0.02	-	-	-	-
PW-4	4/30/1985	UNK	2200	1227	8.5	-	-	16	1.4	444	1.2	223	330	321	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	11/7/1985	UNK	2300	1265	8.5	-	-	18	2	467	1.3	223	347	368	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	9/23/1986	UNK	2400	1275	8.5	-	-	18	1.8	460	1.2	236	346	343	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	9/4/1987	UNK	2400	1360	8.3	-	-	19	1.9	499	1.3	236	366	385	-	-	-	-	-	-	-	0.21	0.04	-	-	-	-
PW-4	12/15/1988	UNK	1450	890	8.5	-	-	8.6	1.3	306	0.9	175	200	239	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	12/6/1989	UNK	2600	1430	8.4	-	-	22	2.1	495	1.3	258	377	417	-	-	-	-	-	-	-	0.186	0.046	-	-	-	-
PW-4	11/9/1990	UNK	-	1495	8.1	-	-	-	-	-	1.5	-	376	470	-	-	-	-	-	-	-	0.145	0.047	-	-	-	-
PW-4	7/10/1991	UNK	2700	1520	8.1	-	-	-	-	-	1.4	-	407	466	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	10/30/1991	UNK	2700	1505	8.5	-	-	23	2.2	560	1.5	284	429	440	-	0.13	-	0.37	-	-	-	105	44	-	-	-	-
PW-4	4/28/1992	UNK	2400	1280	8.3	-	-	17	-	-	1.3	-	397	356	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	10/28/1992	UNK	2800	1520	8.2	-	-	24	2.3	540	1.6	270	408	415	-	0.11	-	0.39	-	-	-	0.099	0.045	-	-	-	-
PW-4	3/30/1993	UNK	2700	1410	8.4	-	-	-	-	-	1.6	-	420	438	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-4	9/29/1993	UNK	2800	1520	8.2	-	-	25	2.7	550	1.7	263	431	476	-	0.11	-	0.4	-	-	-	0.116	0.048	-	-	-	-
PW-4	3/7/1994	UNK	2660	1560	8.2	-	-	25	2.8	560	1.6	265	432	476	-	0.09	-	-	-	-	-	-	-	-	-	-	-
PW-4	9/26/1994	UNK	2780	1600	7.8	-	-	27	2.9	576	1.7	270	435	519	-	-	-	-	-	-	-	-	0.104	-	-	-	-
PW-4	4/1/1995	UNK	-	-	-	-	-	24	3.1	602	-	270	-	-	-	0.08	-	-	-	-	-	0.04	-	-	-	-	-
PW-4	10/16/1995	UNK	2300	1360	8.3	-	-	16.5	1.8	466	1.3	145	413	380	-	0.18	-	0.39	-	-	-	-	0.032	-	-	-	-
PW-4	4/12/1996	UNK	2700	1540	8.7	-	-	22	2.8	576	1.5	245	441	479	-	0.08	-	0.47	-	-	-	-	0.041	-	-	-	-
PW-4	10/8/1996	UNK	2250	1280	8.6	-	-	15.2	1.6	477	1.3	137	442	388	-	0.23	-	ND	-	-	-	-	0.016	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
PW-4	6/10/1997	UNK	2250	1160	8.3	-	-	15.6	1.4	460	1.3	125	436	398	-	0.24	-	0.43	-	-	-	0.036	-	-	-	-
PW-4	3/19/1998	UNK	2300	1400	8.2	-	-	20	2	520	1.3	130	430	360	-	-	-	0.49	0.08	-	-	0.04	-	-	-	-
PW-4	8/21/1998	UNK	2200	1200	8.2	-	-	17	1.6	480	1	140	450	330	ND	ND	-	0.5	0.07	-	ND	0.03	-	-	-	-
PW-4	4/27/1999	BSK	-	1200	8.4	320	31.1	15	1.4	470	1	120	410	390	<15	<1.5	<40	0.5	0.06	-	<0.05	0.03	-	<40	-	-
PW-4	5/12/1999	UNK	1200	1200	8.4	-	-	15	1.4	470	1	120	410	320	ND	ND	-	0.5	0.06	-	-	0.03	-	-	-	-
PW-4	5/20/2000	BSK	2000	1200	8.1	340	29.6	14	1.2	430	<2	120	400	415	<30	<3	<2	0.4	0.05	-	<0.05	0.03	-	7	-	-
PW-4	12/18/2000	BSK	2200	1200	8.1	350	27.4	14	1.3	400	<2	110	420	427	<25	<2.5	<2	0.5	0.06	-	0.05	0.03	-	7	-	-
PW-4	6/4/2001	BSK	2000	1200	8.0	350	30.3	14	1.2	440	<2	110	410	427	<16	<1.6	<2	0.5	0.05	-	<0.05	0.04	-	7	-	-
PW-4	10/4/2001	UNK	2100	1300	8.0	380	-	18	1.9	460	ND	77	390	380	ND	ND	-	0.5	0.06	-	ND	0.05	-	-	-	-
PW-4	5/3/2002	UNK	2100	1300	8.0	350	-	13	1	350	ND	110	420	350	119.5	ND	-	0.4	ND	-	0.05	0.03	-	-	-	-
PW-5	10/24/1963	TL	-	134	9.0	-	-	1	<1	44	-	10	21	52	-	-	-	<0.1	-	-	-	-	-	-	-	-
PW-5	12/14/1964	UNK	-	206	8.4	-	-	2.6	-	61	-	10.3	46.1	82.4	-	2.2	-	-	-	-	-	-	-	-	-	-
PW-5	3/1/1966	UNK	-	166.8	8.8	-	-	1.7	-	58	-	17.7	28.4	70.2	-	ND	-	-	-	-	-	-	-	-	-	-
PW-5	11/20/1968	UNK	-	242	-	-	-	0.2	1.4	119	1	-	58	86	-	0.05	-	-	-	-	-	-	-	-	-	-
PW-5	5/28/1980	UNK	-	1452	7.1	-	-	50	4	-	-	12	-	434	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	11/4/1980	UNK	-	828	7.1	-	-	24	0.5	-	-	5	-	279	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	12/13/1980	UNK	-	3816	7.0	-	-	32	137	-	-	8	-	1625	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	5/16/1981	UNK	-	1188	7.3	-	-	46	3	-	-	-	-	362	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	8/6/1981	UNK	-	984	7.3	-	-	28	3	-	-	-	-	331	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	11/2/1981	UNK	-	1092	-	-	-	21	8	360	-	17	261	681	3.5	-	-	0.2	-	-	-	-	-	-	-	-
PW-5	11/10/1981	BCL	7120	3999	7.6	-	-	119	67	1050	220	9	977	3000	10	-	<10	-	-	-	9.93	1.22	-	-	-	-
PW-5	8/2/1982	UNK	-	-	-	-	-	137	59	1260	400	17	970	-	15.5	-	-	0.2	-	-	0.71	1.4	-	-	-	-
PW-5	11/24/1982	UNK	7800	4177	7.2	-	-	130	82	1240	350	20	998	3435	-	1.2	-	1.1	-	-	3.5	1.1	-	-	-	-
PW-5	4/28/1983	BCL	4200	2643	8.0	-	-	29	34	840	150	27	595	1705	<1	-	<10	-	-	-	7.5	0.8	-	-	-	-
PW-5	10/7/1983	UNK	7200	4433	6.9	-	-	170	82	1300	220	26	995	3283	5.8	-	-	-	-	-	0.51	1.4	-	-	-	-
PW-5	12/2/1983	UNK	7500	-	-	-	-	-	-	1250	-	-	1032	-	-	-	-	-	-	-	0.65	1.2	-	-	-	-
PW-5	12/16/1983	UNK	-	2304	7.1	-	-	114	4	-	-	7	-	767	-	-	-	-	-	-	13	-	-	-	-	-
PW-5	2/15/1984	UNK	-	1544	7.1	-	-	44	21	-	-	ND	-	470	-	-	-	-	-	-	4	-	-	-	-	-
PW-5	2/29/1984	UNK	-	1488	7.2	-	-	46	10	-	-	6	-	268	-	-	-	-	-	-	3	-	-	-	-	-
PW-5	3/6/1984	UNK	2800	1513	7.3	-	-	36	12.4	518	37	17	354	960	-	-	-	-	-	-	3.2	0.3	-	-	-	-
PW-5	3/14/1984	UNK	-	1400	6.7	-	-	38	10	-	-	-	-	503	-	-	-	-	-	-	3	-	-	-	-	-
PW-5	3/20/1984	UNK	580	327	8.3	-	-	1.9	0.18	124	0.7	18	82.1	149	-	-	-	-	-	-	0.34	0.01	-	-	-	-
PW-5	3/29/1984	UNK	-	1304	6.9	-	-	37	13	-	-	-	-	495	-	-	-	-	-	-	2.5	-	-	-	-	-
PW-5	7/17/1984	UNK	2400	1310	7.4	-	-	26	9.1	444	46	11	340	793	-	-	-	-	-	-	2.1	0.24	-	-	-	-
PW-5	11/27/1984	UNK	2500	1500	7.3	-	-	26	9.3	430	58	13	317	895	-	-	-	0.29	-	-	1.6	0.2	-	-	-	-
PW-5	4/22/1985	UNK	2500	1503	8.4	-	-	25	8.9	435	55	13	309	811	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	11/6/1985	UNK	2550	1570	8.4	-	-	26	8.5	490	58	11	323	902	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	9/23/1986	UNK	710	430	8.2	-	-	3	0.34	160	1	26	105	197	-	-	-	-	-	-	-	-	-	-	-	-
PW-5	4/22/1987	UNK	3400	1800	7.7	-	-	32	14	530	135	13	385	1361	1.8	-	-	-	-	-	1.1	0.22	-	-	-	-
PW-5	9/3/1987	UNK	610	375	8.2	-	-	2	0.34	135	0.8	19	88.2	160	-	-	-	-	-	-	0.06	0.08	-	-	-	-
PW-5	4/29/1988	UNK	390	257	8.5	-	-	1.1	0.5	93	-	10	44.6	147	-	-	-	-	-	-	0.09	0.02	-	-	-	-
PW-6	4/29/1983	UNK	450	310	8.3	-	-	2.6	0.16	106	1.3	28	49.9	158	-	-	-	-	-	-	0.06	0.02	-	-	-	-
PW-6	4/30/1983	BCL	390	300	8.3	-	-	2	-	107	1	27	46	158	<1	-	<10	-	-	-	0.05	0.02	-	-	-	-
PW-6	5/6/1983	UNK	-	168	8.5	-	-	4	ND	-	-	38	-	59	-	-	-	-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
PW-6	12/3/1983	UNK	450	256	8.3	-	-	2	2	96	-	13	47.1	65	-	-	-	-	-	-	-	0.32	0.01	-	-	-	-
PW-6	3/20/1984	UNK	520	310	8.3	-	-	0.9	0.06	111	0.05	25	54.9	149	-	-	-	-	-	-	-	-	-	-	-	-	-
PW-6	5/22/1984	UNK	510	333	8.3	-	-	1.5	0.8	114	0.7	24	57.4	158	1.8	-	-	-	-	-	-	0.08	0.01	-	-	-	-
PW-6	6/19/1984	UNK	-	344	8.7	-	-	7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	7/17/1984	UNK	540	337	8.6	-	-	1.4	0.14	118	0.6	26	57	170	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	11/28/1984	UNK	540	367	8.4	-	-	1.1	0.14	122	0.7	26	55.2	158	-	-	-	0.16	-	-	-	0.07	-	-	-	-	
PW-6	4/29/1985	UNK	530	333	8.3	-	-	1.5	0.12	120	0.7	26	52.8	184	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	11/6/1985	UNK	500	320	8.4	-	-	1.2	0.12	111	0.7	-	61.6	165	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/24/1986	UNK	550	385	8.2	-	-	1.9	0.23	129	0.7	39	52.8	194	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/3/1987	UNK	560	355	8.2	-	-	1.6	0.18	126	1.4	27	62	175	-	-	-	-	-	-	-	0.02	-	-	-	-	
PW-6	3/28/1988	UNK	570	375	8.4	-	-	1.8	0.21	130	0.7	30	65.5	173	-	-	-	-	-	-	-	0.02	-	-	-	-	
PW-6	12/13/1988	BCL	800	495	8.3	-	24	3	<1	184	1	28	86	300	<1	-	-	-	<0.1	-	0.07	0.02	-	-	-	-	
PW-6	12/6/1989	UNK	870	570	8.2	-	-	6.8	0.87	187	1	25	92.4	312	-	-	-	-	-	-	0.144	0.136	-	-	-	-	
PW-6	11/9/1990	UNK	-	605	7.9	-	-	-	-	-	1.4	-	117	379	-	-	-	0.16	-	-	0.259	0.191	-	-	-	-	
PW-6	7/9/1991	UNK	960	605	8.1	-	-	-	-	-	1.3	-	110	368	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	10/29/1991	UNK	1110	680	8.1	-	-	10	1.4	248	1.4	20	137	449	-	0.1	-	0.14	-	-	0.235	0.208	-	-	-	-	
PW-6	10/30/1991	UNK	1110	680	8.1	-	-	10	1.4	248	1.4	20	137	449	-	0.1	-	0.14	-	-	0.235	0.208	-	-	-	-	
PW-6	4/28/1992	UNK	1130	740	8.0	-	-	11.7	-	-	1.4	-	131	465	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	10/28/1992	UNK	1170	690	7.8	-	-	13.3	1.7	258	1.6	21	132	471	-	0.09	-	0.15	0.1	-	0.31	0.254	-	-	-	-	
PW-6	3/10/1993	UNK	1190	720	7.9	-	-	-	-	-	1.7	-	131	489	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/29/1993	UNK	1260	760	7.7	-	-	14.6	2.1	279	1.7	26	146	487	-	0.1	-	0.14	-	-	0.409	0.288	-	-	-	-	
PW-6	3/7/1994	UNK	1060	630	8.0	-	-	11.7	1.7	231	1.5	36	109	414	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/26/1994	UNK	1450	910	7.6	-	-	18.9	2.7	316	1.9	33	155	586	-	-	-	-	-	-	-	-	-	-	-	-	
PW-6	3/22/1995	UNK	-	-	-	-	-	16.7	2.3	305	-	31	-	-	-	0.08	-	0.14	-	-	0.077	0.266	-	-	-	-	
PW-6	10/16/1995	UNK	1640	1040	7.5	-	-	23	3.8	349	2.3	27	202	647	-	0.09	-	0.16	0.11	-	0.4	0.41	-	-	-	-	
PW-6	4/12/1996	UNK	1660	985	8.6	-	-	25	4.2	358	2.2	29	207	649	-	0.08	-	0.21	0.115	-	0.06	0.394	-	-	-	-	
PW-6	10/8/1996	UNK	1900	1120	8.6	-	-	37	7.2	408	4.9	29.4	234	755	-	-	-	ND	0.249	-	-	0.573	-	-	-	-	
PW-6	6/10/1997	UNK	1660	1000	7.4	-	-	27	4.6	350	3.9	33.7	198	672	-	0.06	-	0.14	0.172	-	0.075	0.377	-	-	-	-	
PW-6	3/17/1998	UNK	1600	1000	7.5	-	-	34	6.1	350	4.7	54	190	530	-	-	-	0.12	0.2	-	-	0.47	-	-	-	-	
PW-6	8/21/1998	UNK	1800	1100	7.4	-	-	32	6.1	390	6.1	43	230	590	ND	ND	-	ND	0.2	-	ND	0.47	-	-	-	-	
PW-6	4/22/1999	BSK	1200	720	8.3	400	18	14	1.9	270	3	44	120	488	<15	<1.5	<50	0.1	0.05	-	0.3	0.14	-	<5	-	-	
PW-6	5/20/2000	BSK	1300	800	7.4	430	16.4	17	2.2	270	<2	46	160	525	<16	<1.5	<2	0.1	0.07	-	0.17	0.17	-	2	-	-	
PW-6	12/18/2000	BSK	1800	980	7.3	550	14.8	26	4.3	310	3	43	200	671	<20	2	<2	0.1	0.14	-	0.08	0.32	-	<2	-	-	
PW-6	6/4/2001	BSK	1200	770	7.4	390	13.7	20	3.1	250	2	46	150	476	<10	<1	<2	0.1	0.09	-	0.17	0.24	-	2	-	-	
PW-6	10/4/2001	UNK	1200	770	7.3	390	-	23	3.8	270	2	50	140	390	ND	ND	-	ND	0.1	-	0.14	0.24	-	-	-	-	
PW-6	5/3/2002	UNK	1000	600	7.6	310	-	17	2.4	190	ND	46	110	310	ND	ND	-	0.1	0.05	-	0.07	0.17	-	-	-	-	
PW-6	12/11/2002	UNK	1100	610	7.8	310	-	18	2.5	200	2	55	110	310	ND	ND	-	ND	0.06	-	0.16	0.19	-	-	-	-	
PW-6	3/23/2003	BSK	1000	610	7.7	300	-	18	2.4	200	ND	53	120	-	-	ND	-	ND	0.06	-	0.08	0.18	-	-	-	-	
PW-6	10/24/2003	BSK	1900	-	7.9	650	-	38	6.6	390	8	35	240	-	-	ND	-	0.1	0.27	-	0.07	0.44	-	3	-	-	
PW-6	11/15/2004	UNK	1800	1100	1.9	600	-	42	ND	360	7.9	56	220	600	2.5	ND	-	0.1	0.32	-	0.09	7.9	-	-	-	-	
PW-6	10/13/2005	UNK	2000	1200	1.6	700	-	42	ND	430	7.6	-	240	700	2.4	-	-	0.2	0.32	-	0.06	7.4	-	-	-	-	
PW-6	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.49	-	-	-	-	-	-	1.6	-	-	
PW-6	4/19/2006	DL	1530	940	7.8	534	-	29.6	4.9	306	11.4	47.9	184	534	0.1	<0.1	-	0.08	0.19	-	0.05	0.33	-	-	-	-	
PW-6	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	0.77	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
PW-6	3/29/2007	TL	1600	940	7.4	500	-	30	5.1	330	16	47	170	610	<10.2	-	<10	0.12	0.23	-	-	-	-	-	-	-	
PW-6	9/23/2007	TL	1400	840	7.4	-	-	-	-	-	-	64	150	510	<20	-	-	-	-	-	-	-	-	-	-	-	
PW-6	4/6/2008	BCL	1840	1100	7.59	-	-	-	-	-	-	43	220	756	<0.4	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/4/2008	BCL	1650	1000	9.1	-	-	-	-	-	-	52	230	464	<0.4	-	-	-	0.0067	-	-	-	-	-	-	-	
PW-6	4/3/2009	UNK	1320	810	7.7	-	-	-	-	-	-	54	170	400	ND	-	-	-	0.16	-	-	-	-	-	-	-	
PW-6	10/5/2009	BSK	1000	600	8.3	-	-	-	-	-	-	66	120	366	<2	-	-	-	-	-	-	-	-	-	-	-	
PW-6	9/23/2010	SSC	1100	630	7.8	-	-	-	-	-	-	63	120	380	<2	-	-	-	-	-	-	-	-	-	-	-	
PW-7	5/12/1983	UNK	380	270	8.4	-	-	0.6	0.01	94	-	12	47.1	146	-	-	-	-	-	-	0.06	0.01	-	-	-	-	
PW-7	5/13/1983	BCL	360	280	8.4	-	-	1	-	94	-	12	47	142	<1	-	<10	-	-	-	<0.05	<0.01	-	-	-	-	
PW-7	5/14/1983	UNK	360	280	8.4	-	-	0.6	0.01	94	-	12	47.4	142	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	12/2/1983	UNK	510	308	8.3	-	-	3	7	110	-	18	73	59	-	-	-	-	-	-	0.15	-	-	-	-	-	
PW-7	3/20/1984	UNK	560	277	8.3	-	-	0.9	0.03	100	0.4	17	54.2	137	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	5/22/1984	UNK	460	270	8.3	-	-	0.5	-	100	0.6	18	53.4	120	-	-	-	-	-	-	0.07	-	-	-	-	-	
PW-7	7/17/1984	UNK	400	277	8.7	-	-	0.5	0.05	100	0.6	16	55.2	128	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	11/28/1984	UNK	470	317	8.5	-	-	0.9	0.1	108	0.7	26	51.3	141	-	-	-	0.22	-	-	-	-	-	-	-	-	
PW-7	4/29/1985	UNK	460	307	8.2	-	-	0.8	0.06	104	0.6	19	53.4	146	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	11/6/1985	UNK	480	325	8.3	-	-	0.7	0.07	107	0.6	12	59.8	165	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	9/24/1986	UNK	460	345	8.2	-	-	0.9	0.09	108	0.5	35	45.3	153	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	9/3/1987	UNK	490	340	8.3	-	-	0.7	0.07	113	0.5	19	61.6	142	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	3/28/1988	UNK	500	315	8.4	-	-	0.8	0.08	111	0.7	19	63	137	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	12/16/1988	BCL	470	300	8.7	-	17.9	1	<1	106	1	24	45	140	<1	-	-	-	<0.1	-	<0.05	<0.01	-	-	-	-	
PW-7	12/6/1989	UNK	510	350	8.8	-	-	1.1	0.12	112	0.6	18	60.9	153	-	-	-	-	-	-	-	0.011	-	-	-	-	
PW-7	11/9/1990	UNK	-	335	8.2	-	-	-	-	-	0.6	-	52.5	188	-	-	-	0.12	-	-	-	-	0.018	-	-	-	
PW-7	7/10/1991	UNK	600	365	8.7	-	-	-	-	-	0.7	-	60.2	195	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	10/30/1991	UNK	610	365	8.8	-	-	1.3	0.14	138	0.7	14	72.7	207	-	0.23	-	0.17	-	-	-	-	-	-	-	-	
PW-7	4/28/1992	UNK	650	360	8.5	-	-	2.1	-	-	0.7	-	74.8	218	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	10/28/1992	UNK	720	420	8.4	-	-	2.3	0.2	160	0.9	24	69	241	-	0.09	-	0.12	-	-	-	-	0.013	-	-	-	
PW-7	3/10/1993	UNK	640	435	8.4	-	-	-	-	-	0.9	-	74	324	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	9/29/1993	UNK	700	390	8.5	-	-	1.8	0.16	159	1	19	85	245	-	0.22	-	0.18	-	-	-	-	-	-	-	-	
PW-7	3/7/1994	UNK	740	445	8.5	-	-	2.4	0.25	169	0.9	28	73.8	266	-	0.09	-	-	-	-	-	-	-	-	-	-	
PW-7	9/26/1994	UNK	827	480	8.5	-	-	3.3	0.3	183	1.1	22	88.8	294	-	-	-	-	-	-	-	-	-	-	-	-	
PW-7	3/22/1995	UNK	-	-	-	-	-	2.3	0.21	179	-	19	-	-	-	0.22	-	0.2	-	-	-	-	0.011	-	-	-	
PW-7	10/16/1995	UNK	764	450	8.6	-	-	2.1	0.19	165	0.8	15	92.6	269	-	0.26	-	0.2	-	-	-	-	-	-	-	-	
PW-7	4/12/1996	UNK	734	510	8.5	-	-	2.6	0.22	162	0.9	22	86.5	243	-	0.2	-	0.23	-	-	-	-	0.012	-	-	-	
PW-7	10/8/1996	UNK	737	430	8.44	-	-	2.2	0.21	169	0.9	14.8	86.8	246	-	0.26	-	0.2	-	-	-	-	0.011	-	-	-	
PW-7	6/10/1997	UNK	906	548	8.6	-	-	4.6	0.5	200	1	29.5	95.8	281	-	0.07	-	0.12	-	-	-	-	0.026	-	-	-	
PW-7	3/18/1998	UNK	860	530	8.3	-	-	3.4	0.3	210	1.7	18	100	260	-	-	-	0.24	0.05	-	-	-	0.01	-	-	-	
PW-7	8/21/1998	UNK	910	440	8.3	-	-	3.9	0.42	210	5.5	20	120	290	ND	ND	-	0.2	ND	-	ND	ND	-	-	-	-	
PW-7	4/22/1999	BSK	760	490	8.2	240	27.6	3.1	0.3	190	1	<20	94	293	<10	<1	<50	0.2	<0.05	-	<0.05	0.01	-	<40	-	-	
PW-7	5/20/2000	BSK	890	560	8.3	290	24.4	4.1	0.3	190	<2	24	120	354	11	<1	<2	0.2	<0.05	-	<0.05	0.02	-	2	-	-	
PW-7	12/18/2000	BSK	1000	560	8.1	290	19.5	5.5	0.6	180	<2	34	100	354	<12	<1.2	<2	0.1	<0.05	-	<0.05	0.03	-	<2	-	-	
PW-7	6/4/2001	BSK	960	650	8.1	300	23.6	5.6	0.6	220	<2	35	120	366	<10	<1	<2	0.1	<0.05	-	<0.05	0.04	-	<2	-	-	
PW-7	10/4/2001	UNK	1200	710	8.1	380	-	6.6	0.6	290	ND	ND	140	380	ND	ND	-	0.2	ND	-	ND	0.6	-	-	-	-	
PW-7	5/3/2002	UNK	1200	740	8.0	370	-	5.7	0.5	250	ND	ND	140	370	ND	ND	-	0.2	ND	-	0.05	0.02	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
PW-7	12/11/2002	UNK	1200	680	8.0	360	-	5.7	0.5	240	ND	ND	140	360	ND	ND	-	0.2	ND	-	0.05	0.02	-	-	-	-
PW-7	3/23/2003	BSK	1100	600	8.1	320	-	7.5	0.8	200	-	41	120	-	-	ND	-	0.1	ND	-	0.1	0.05	-	-	-	-
PW-7	10/24/2003	BSK	1200	700	8.4	370	-	6.2	0.6	250	2	14	150	-	-	ND	-	0.2	ND	-	0.08	0.03	-	2	-	-
PW-7	3/31/2004	BSK	1000	670	8.4	370	-	6.9	0.8	250	<2	38	120	440	<4	<0.1	<2	0.1	<0.05	-	0.07	0.04	-	2	-	-
PW-7	11/15/2004	UNK	1200	740	8.3	420	-	7.4	0.8	280	ND	14	160	420	ND	0.3	-	0.2	ND	-	0.13	0.04	-	-	-	-
PW-7	4/6/2005	UNK	1100	660	8.2	370	-	42	7.4	200	2	54	130	370	ND	ND	-	0.1	0.09	-	ND	0.23	-	-	-	-
PW-7	10/13/2005	UNK	1100	660	8.4	360	-	6	0.6	230	ND	ND	140	340	ND	-	-	0.2	ND	-	0.11	0.04	-	-	-	-
PW-7	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.49	-	-	-	-	-	-	<0.34	-	-
PW-7	4/19/2006	DL	930	565	8.4	287	-	3.8	0.4	198	3.4	47.8	98.2	281	0.1	0.1	-	0.1	0.02	-	0.09	0.03	-	-	-	-
PW-7	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	<2	-	-
PW-7	3/29/2007	TL	960	590	8.4	300	-	6.8	0.8	220	2.7	44	97	360	<6.2	-	<10	0.13	0.024	-	-	-	-	-	-	-
PW-7	9/23/2007	TL	1300	770	8.1	-	-	-	-	-	-	11	70	500	<10	-	-	-	-	-	-	-	-	-	-	-
PW-7	4/6/2008	BCL	1180	720	8.4	-	-	-	-	-	-	12	150	439	<0.4	-	-	-	-	-	-	-	-	-	-	-
PW-7	9/4/2008	BCL	1860	1200	7.9	-	-	-	-	-	-	14	250	769	<0.4	-	-	-	0.1	-	-	-	-	-	-	-
PW-7	4/3/2009	UNK	1080	690	8.5	-	-	-	-	-	-	35	130	330	ND	-	-	-	0.03	-	-	-	-	-	-	-
PW-7	10/5/2009	BSK	1700	970	8.3	-	-	-	-	-	-	<20	200	695	<10	-	-	-	-	-	-	-	-	-	-	-
PW-7	9/23/2010	SSC	1300	810	7.8	-	-	-	-	-	-	34	150	540	<2	-	-	-	-	-	-	-	-	-	-	-
PW-8	9/11/1984	UNK	440	265	8.4	-	-	0.8	0.07	90	0.6	25	35	113	-	-	-	-	-	-	0.05	-	-	-	-	-
PW-8	11/28/1984	UNK	420	277	8.6	-	-	0.5	0.1	94	0.5	26	41.1	123	-	-	-	0.1	-	-	-	-	-	-	-	-
PW-8	4/22/1985	UNK	440	327	8.2	-	-	1.1	0.13	100	6.2	26	41.4	152	-	-	-	-	-	-	-	-	-	-	-	-
PW-8	11/6/1985	UNK	550	360	8.3	-	-	1.6	0.015	124	0.7	22	59.5	199	-	-	-	-	-	-	-	-	-	-	-	-
PW-8	9/24/1986	UNK	750	490	7.8	-	-	5.3	0.68	171	1	35	85.3	283	-	-	-	-	-	-	-	-	-	-	-	-
PW-8	7/24/1987	BCL	1030	650	8.2	-	15.4	13	1.7	223	1.4	38	123	371	<0.4	0.06	<10	-	<0.1	-	0.16	0.14	-	<5	-	-
PW-8	3/24/1988	UNK	560	480	8.0	-	-	7.6	1	167	1.2	36	86.5	273	-	-	-	-	-	-	0.12	0.08	-	-	-	-
PW-8	12/13/1988	BCL	1475	1110	7.5	-	23.6	18	2	395	2	43	243	662	<1	-	-	-	<0.1	-	<0.05	0.17	-	-	-	-
PW-8	11/9/1990	UNK	-	340	7.0	-	-	-	-	-	4.2	-	415	206	-	-	-	-	0.511	-	4.82	2.2	-	-	-	-
PW-8	7/23/1991	UNK	3000	1830	7.0	-	-	-	-	-	3.7	-	390	1106	-	-	-	-	0.29	-	-	-	-	-	-	-
PW-8	10/20/1998	UNK	3900	2300	7.01	-	-	150	34	-	10	-	600	-	ND	ND	-	0.1	0.84	-	0.11	1.6	-	-	-	-
PW-8	4/22/1999	BSK	2700	1700	7.2	880	14.2	100	19	590	12	65	370	1074	<30	<3	<50	0.1	0.56	-	0.09	1.1	-	<20	-	-
PW-8	12/18/2000	BSK	2500	1400	7.1	780	13.1	53	13	410	19	60	310	952	<25	<2.5	<2	<0.1	0.67	-	0.09	0.44	-	2	-	-
PW-8	6/4/2001	BSK	2700	1700	7.7	860	14.9	64	17	520	28	65	390	1049	<20	<2	<2	0.1	0.86	-	0.11	0.61	-	5	-	-
PW-8	5/3/2002	UNK	2800	1600	7.1	880	-	57	14	420	26	ND	390	880	ND	ND	-	ND	0.76	-	0.08	0.53	-	-	-	-
PW-9	11/29/1984	UNK	1050	670	7.0	-	-	78	44	60	6.1	18	131	380	-	-	-	0.1	-	-	0.86	2.6	-	-	-	-
PW-9	12/13/1988	BCL	650	390	8.5	-	24.5	1	<1	145	1	18	109	157	<1	-	-	-	<0.1	-	0.06	<0.01	-	-	-	-
PW-9	12/6/1989	UNK	840	530	8.6	-	-	2.4	0.23	182	1.2	19	141	204	-	-	-	-	-	-	0.091	-	-	-	-	-
PW-9	11/9/1990	UNK	-	510	8.0	-	-	-	-	-	1.4	-	147	242	-	-	-	-	-	-	0.102	0.017	-	-	-	-
PW-9	7/10/1991	UNK	860	515	8.6	-	-	-	-	-	1.3	-	164	184	-	-	-	-	-	-	-	-	-	-	-	-
PW-9	10/30/1991	UNK	510	315	8.8	-	-	1.1	0.13	110	0.6	31	60.6	128	-	0.13	-	0.1	-	-	0.062	-	-	-	-	-
PW-9	4/28/1992	UNK	950	575	8.4	-	-	2.9	-	-	1.4	-	186	189	-	-	-	-	-	-	-	-	-	-	-	-
PW-9	10/28/1992	UNK	1000	560	8.5	-	-	2.8	0.22	210	1.6	16	188	185	-	0.26	-	0.31	-	-	-	-	-	-	-	-
PW-9	3/11/1993	UNK	600	360	8.5	-	-	-	-	-	0.7	-	60	173	-	-	-	-	-	-	-	-	-	-	-	-
PW-9	9/29/1993	UNK	1070	620	8.5	-	-	3.1	0.28	221	1.7	17	213	222	-	0.25	-	0.34	-	-	-	-	-	-	-	-
PW-9	3/7/1994	UNK	1050	610	8.5	-	-	3.5	0.33	227	1.5	26	186	230	-	0.18	-	-	-	-	-	-	-	-	-	-
PW-9	9/26/1994	UNK	1140	660	8.3	-	-	3.9	0.38	242	1.6	23	193	260	-	-	-	-	-	-	-	-	-	-	-	-

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements											
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
PW-9	3/22/1995	UNK	-	-	-	-	-	4.4	0.5	175	-	-	-	-	-	0.08	-	-	-	-	0.176	0.033	-	-	-	-	
PW-9	10/16/1995	UNK	1260	730	8.3	-	-	4.9	0.47	256	1.7	21	246	252	-	0.23	-	0.29	-	-	-	0.025	-	-	-	-	
PW-9	4/12/1996	UNK	900	570	8.5	-	-	6.5	0.7	196	1	49	103	301	-	0.06	-	-	-	-	0.192	0.057	-	-	-	-	
PW-9	10/8/1996	UNK	1250	710	8.49	-	-	6.6	0.73	272	1.7	32.9	233	278	-	0.14	-	0.2	-	-	0.108	0.044	-	-	-	-	
PW-9	6/10/1997	UNK	1120	655	8.0	-	-	7.6	0.85	229	1.4	31.4	188	285	-	0.15	-	0.21	-	-	0.094	0.067	-	-	-	-	
PW-9	4/22/1999	BSK	1200	730	7.9	210	27.2	6.9	0.7	280	3	31	260	256	<15	<1.5	<50	0.1	<0.05	-	<0.05	0.04	-	<20	-	-	
PW-9	5/20/2000	BSK	1200	670	8.2	180	26.7	5.3	0.5	240	<2	35	260	220	<15	<1.5	3	0.3	<0.05	-	<0.05	<0.02	-	6	-	-	
PW-9	12/18/2000	BSK	1300	660	8.2	170	26.9	4.7	0.5	230	2	<30	240	207	<15	<1.5	2	0.3	<0.05	-	<0.05	0.02	-	4	-	-	
PW-9	6/4/2001	BSK	1100	680	8.1	170	27.2	4.6	0.5	230	2	38	220	207	<10	<1	<2	0.2	<0.05	-	<0.05	0.03	-	5	-	-	
PW-9	10/4/2001	UNK	1200	700	8.1	190	-	5.5	0.6	240	ND	45	270	190	ND	ND	-	0.2	ND	-	ND	0.03	-	-	-	-	
PW-9	5/3/2002	UNK	1100	670	8.1	190	-	4.7	0.5	200	ND	44	220	190	ND	ND	-	0.2	ND	-	ND	0.02	-	-	-	-	
PW-9	12/11/2002	UNK	900	510	8.2	200	-	3.7	0.4	180	ND	80	99	200	ND	ND	-	ND	ND	-	0.81	0.03	-	-	-	-	
PW-9	3/23/2003	BSK	940	560	8.1	210	-	4.5	0.5	180	ND	76	110	-	-	ND	-	ND	ND	-	0.07	0.03	-	-	-	-	
PW-9	10/24/2003	BSK	1200	720	8.2	290	-	8.1	0.9	240	ND	62	170	-	-	ND	-	ND	ND	-	0.08	0.07	-	3	-	-	
PW-9	3/31/2004	BSK	1400	850	8.2	360	-	13	1.3	300	<2	64	220	440	<4	<0.1	<2	0.1	0.06	-	0.12	0.011	-	4	-	-	
PW-9	11/15/2004	UNK	1800	1100	7.8	560	-	36	4.7	370	ND	70	230	560	ND	ND	-	ND	0.15	-	0.1	0.44	-	-	-	-	
PW-9	4/6/2005	UNK	1800	1100	8.0	420	-	28	3.3	390	3	36	360	420	ND	ND	-	0.3	0.12	-	ND	0.32	-	-	-	-	
PW-9	10/13/2005	UNK	2300	1400	8.0	740	-	69	9.8	500	3	-	290	740	ND	-	-	ND	0.28	-	0.07	0.96	-	-	-	-	
PW-9	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.49	-	-	-	-	-	-	4.2	-	-	
PW-9	4/19/2006	DL	2566	1550	7.7	828	-	74.6	11.4	464	6.5	66	327	828	<0.1	<0.1	-	0.03	0.32	-	0.15	1.13	-	-	-	-	
PW-9	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	1.8	-	-	
PW-9	3/29/2007	TL	2500	1600	7.1	810	-	79	14	490	14	65	310	990	<20	-	<10	0.092	0.5	-	-	-	-	-	-	-	
PW-9	9/23/2007	TL	1700	1000	7.3	-	-	-	-	-	-	85	200	600	<20	-	-	-	-	-	-	-	-	-	-	-	
PW-9	4/6/2008	BCL	2830	1800	7.23	-	-	-	-	-	-	52	370	1147	0.2	-	-	-	-	-	-	-	-	-	-	-	
PW-9	9/4/2008	BCL	3340	2200	7.6	-	-	-	-	-	-	140	1200	1342	<0.4	-	-	-	1	-	-	-	-	-	-	-	
PW-9	4/3/2009	UNK	3100	2000	7.3	-	-	-	-	-	-	64	450	1000	ND	-	-	-	0.93	-	-	-	-	-	-	-	
PW-9	5/27/2009	FGL	2840	1710	6.8	790	-	62	12	519	26	44	450	970	<0.4	0.1	<2	0.2	0.419	<0.01	2.42	0.79	4	-	<0.02	-	
PW-9	5/27/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
PW-9	10/15/2009	BSK	3100	1700	7.8	-	-	-	-	-	-	62	420	1342	<20	-	-	-	-	-	-	-	-	-	-	-	
PW-9	9/23/2010	SSC	3400	2000	7.0	-	-	-	-	-	-	58	440	1400	<2	-	-	-	-	-	-	-	-	-	-	-	
PW-10	12/14/1988	BCL	690	430	8.4	-	10.2	11	2	140	1	35	87	198	3	0.2	<10	-	<0.1	-	0.12	0.05	-	<5	-	-	
PW-10	12/6/1989	UNK	680	420	8.5	-	-	5.3	0.63	140	0.8	35	75.4	195	-	-	-	-	-	-	-	0.021	-	-	-	-	
PW-10	11/9/1990	UNK	-	445	8.1	-	-	-	-	-	1	-	75.5	230	-	-	-	0.19	-	-	-	0.026	-	-	-	-	
PW-10	7/9/1991	UNK	750	455	8.4	-	-	-	-	-	1.2	-	81.5	252	-	-	-	-	-	-	-	-	-	-	-	-	
PW-10	10/29/1991	UNK	720	445	8.5	-	-	11	1.4	147	1.1	30	86.9	237	-	0.19	-	0.18	-	-	-	0.044	-	-	-	-	
PW-10	10/30/1991	UNK	720	445	8.5	-	-	11	1.4	147	1.1	30	86.9	237	-	0.19	-	0.18	-	-	-	44	-	-	-	-	
PW-10	4/28/1992	UNK	840	455	8.2	-	-	20	-	-	1.5	-	92.5	298	-	-	-	-	-	-	-	-	-	-	-	-	
PW-10	10/28/1992	UNK	800	500	8.1	-	-	19.1	2.6	157	1.5	32	86	299	-	0.13	-	0.16	-	-	-	0.079	-	-	-	-	
PW-10	3/11/1993	UNK	920	540	8.0	-	-	-	-	-	1.9	-	99.1	358	-	-	-	-	-	-	-	-	-	-	-	-	
PW-10	9/29/1993	UNK	900	500	8.0	-	-	25	3.8	176	1.8	37	99	336	-	0.07	-	0.12	-	-	0.075	0.109	-	-	-	-	
PW-10	3/7/1994	UNK	880	530	8.0	-	-	23	3.5	175	1.7	40	94.3	325	-	0.05	-	-	-	-	-	-	-	-	-	-	
PW-10	9/26/1994	UNK	922	540	8.0	-	-	24	3.8	173	1.8	38	94.2	336	-	-	-	-	-	-	-	-	-	-	-	-	
PW-10	3/22/1995	UNK	-	-	-	-	-	37	5.7	200	-	40	-	-	-	-	-	-	-	-	-	0.172	-	-	-	-	
PW-10	10/16/1995	UNK	850	470	8.2	-	-	15.5	2.6	165	1.3	33	102	268	-	0.19	-	0.19	-	-	0.062	0.077	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

							Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)	
DEEP (Spreckels)																										
PW-10	4/12/1996	UNK	843	605	8.5	-	-	15	2.2	166	1.3	39	97.6	269	-	0.15	-	0.22	-	-	-	0.066	-	-	-	-
PW-10	10/8/1996	UNK	867	490	8.5	-	-	17	2.8	178	1.5	31.5	108	296	-	0.19	-	0.19	-	-	0.056	0.076	-	-	-	-
PW-10	6/10/1997	UNK	942	565	8.0	-	-	25	3.8	178	1.6	36.4	102	349	-	0.11	-	0.16	-	-	-	0.129	-	-	-	-
PW-10	4/22/1999	BSK	820	510	8.2	250	10.5	18	2.7	180	3	40	99	305	<10	<1	<50	0.1	0.05	-	0.06	0.08	-	<40	-	
PW-10	5/20/2000	BSK	840	510	7.9	250	10.4	18	2.8	180	<2	39	110	305	<10	<1	<2	0.2	<0.05	-	<0.05	0.08	-	2	-	
PW-10	12/18/2000	BSK	930	520	8.0	240	9.8	16	2.6	160	<2	37	110	293	<10	<1	<2	0.2	<0.05	-	0.06	0.07	-	2	-	
PW-10	6/4/2001	BSK	910	590	7.8	260	9.6	21	3.5	180	<2	41	120	317	<10	<1	<2	0.2	<0.05	-	<0.05	0.11	-	2	-	
PW-10	10/4/2001	UNK	890	540	7.8	250	-	19	3.2	190	ND	40	120	250	62	ND	-	0.2	ND	-	ND	0.09	-	-	-	
PW-10	5/3/2002	UNK	1100	660	7.7	330	-	45	7.5	170	2	60	120	330	ND	ND	-	0.1	0.09	-	ND	0.24	-	-	-	
PW-10	12/11/2002	UNK	1100	640	7.8	320	-	33	5.6	190	2	52	120	320	ND	ND	-	0.1	0.07	-	ND	0.17	-	-	-	
PW-10	3/23/2003	BSK	1000	620	7.8	320	-	32	5.4	180	2	45	120	-	-	ND	-	0.1	0.07	-	ND	0.14	-	-	-	
PW-10	10/24/2003	BSK	970	570	8.3	270	-	21	3.7	180	ND	32	130	-	-	ND	-	-	ND	-	ND	0.11	-	2	-	
PW-10	3/31/2004	BSK	1000	650	8.3	340	-	24	3.9	210	3	47	120	410	<4	<0.1	<2	0.2	0.06	-	<0.05	0.12	-	<2	-	
PW-10	11/15/2004	UNK	1000	640	8.2	350	-	34	6.3	200	2	50	120	350	ND	ND	-	0.1	0.08	-	ND	0.27	-	-	-	
PW-10	4/6/2005	UNK	1000	620	8.4	340	-	6.3	0.8	220	ND	45	110	330	ND	ND	-	0.1	ND	-	0.1	0.04	-	-	-	
PW-10	10/13/2005	UNK	1200	680	8.3	380	-	52	8.9	200	2	-	120	370	ND	-	-	0.2	0.1	-	ND	0.29	-	-	-	
PW-10	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.49	-	-	-	-	-	-	0.83	-	
PW-10	4/19/2006	DL	1077	668	8.2	368	-	39.1	7	190	4.6	47.9	117	368	0.1	<0.1	-	0.13	0.09	-	0.01	0.22	-	-	-	
PW-10	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	<2	-	
PW-10	3/29/2007	TL	1000	650	7.8	340	-	45	8.4	190	5.9	56	110	410	<6	-	<10	0.16	0.11	-	-	-	-	-	-	
PW-10	9/23/2007	TL	1100	670	7.7	-	-	-	-	-	-	69	110	400	<10	-	-	-	-	-	-	-	-	-	-	
PW-10	4/6/2008	BCL	1180	720	7.91	-	-	-	-	-	-	72	130	451	0.2	-	-	-	-	-	-	-	-	-	-	
PW-10	9/4/2008	BCL	1120	690	8.1	-	-	-	-	-	-	48	130	464	<0.4	-	-	-	0.093	-	-	-	-	-	-	
PW-10	4/3/2009	UNK	960	650	8.4	-	-	-	-	-	-	14	140	280	ND	-	-	-	0.07	-	-	-	-	-	-	
PW-10	10/5/2009	BSK	1100	600	8.4	-	-	-	-	-	-	33	160	329	<2	-	-	-	-	-	-	-	-	-	-	
PW-10	9/23/2010	SSC	1200	700	7.7	-	-	-	-	-	-	59	130	430	<2	-	-	-	-	-	-	-	-	-	-	
PW-11	10/4/2001	UNK	300	-	8.4	80	-	0.2	ND	63	ND	29	20	76	17.7	ND	-	ND	ND	-	0.07	ND	-	-	-	
PW-11	5/3/2002	UNK	330	200	8.5	84	-	0.2	ND	58	ND	33	17	80	ND	ND	-	ND	ND	-	0.17	ND	-	-	-	
PW-11	12/13/2002	UNK	330	220	8.4	80	-	0.2	ND	67	ND	43	19	76	ND	ND	-	ND	ND	-	ND	ND	-	-	-	
PW-11	3/23/2003	BSK	320	200	8.5	82	-	0.2	ND	66	ND	43	19	-	-	ND	-	ND	ND	-	ND	ND	-	-	-	
PW-11	10/24/2003	BSK	640	380	-	130	-	1	0.1	130	ND	16	100	-	-	ND	-	0.2	ND	-	ND	ND	-	2	-	
PW-11	3/31/2004	BSK	350	230	8.8	94	-	0.2	<0.1	78	<2	51	20	100	<4	<0.1	2	<0.1	<0.05	-	<0.05	<0.01	-	<2	-	
PW-11	11/15/2004	UNK	370	240	8.9	97	-	0.3	ND	84	ND	54	20	84	ND	ND	-	ND	ND	-	ND	ND	-	-	-	
PW-11	4/6/2005	UNK	490	280	8.8	110	-	1.1	0.2	110	ND	51	59	92	ND	ND	-	0.1	ND	-	ND	ND	-	-	-	
PW-11	10/14/2005	UNK	880	500	8.6	160	-	2.6	0.2	190	ND	37	150	150	-	0.3	-	0.2	ND	-	ND	0.01	-	-	-	
PW-11	4/19/2006	DL	704	438	8.5	170	-	3.3	0.3	154	2.3	93.7	65.2	162	0.1	<0.1	-	0.04	<0.01	-	0.05	0.01	-	-	-	
PW-11	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.49	-	-	-	-	-	-	<0.34	-	
PW-11	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	-	-	-	-	<2	-	
PW-11	3/29/2007	TL	500	300	8.8	93	-	0.91	<0.1	100	1.1	52	46	110	<4	-	<10	0.074	<0.01	-	-	-	-	-	-	
PW-11	9/23/2007	TL	720	440	8.7	-	-	-	-	-	-	31	140	150	<6	-	-	-	-	-	-	-	-	-	-	
PW-11	4/6/2008	BCL	444	300	8.94	-	-	-	-	-	-	64	26	95	<0.4	-	-	-	-	-	-	-	-	-	-	
PW-11	9/4/2008	BCL	514	330	8.7	-	-	-	-	-	-	72	41	107	<0.4	-	-	-	0.0074	-	-	-	-	-	-	
PW-11	10/5/2009	BSK	470	270	8.9	-	-	-	-	-	-	70	32	105	<1	-	-	-	-	-	-	-	-	-	-	
PW-11	9/23/2010	SSC	520	320	8.8	-	-	-	-	-	-	76	36	121	<2	-	-	-	-	-	-	-	-	-	-	

Table D-3 (continued)
Summary of Groundwater Quality Laboratory Results (Spreckels Sugar Co. and Meyers Farm Water Bank)

								Cations				Anions					Trace Elements										
Well Owner and Name	Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	Total Alkalinity ³ (mg/L)	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Ba (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
DEEP (Spreckels)																											
PW-12	3/31/2004	BSK	510	320	8.7	110	-	0.9	<0.1	78	<2	51	34	120	<4	<0.1		<2	<0.1	<0.05	-	0.06	<0.01	-	<2	-	
PW-12	11/15/2004	UNK	600	380	8.7	130	-	2.7	0.3	130	ND	97	42	120	ND	ND		-	ND	ND	-	ND	ND	-	-	-	
PW-12	4/6/2005	UNK	590	360	8.7	130	-	3.3	0.3	130	ND	100	47	120	ND	ND		-	ND	ND	-	ND	0.01	-	-	-	
PW-12	10/14/2005	UNK	360	230	8.5	96	-	0.3	ND	75	ND	54	18	89	ND	ND		-	ND	ND	-	0.07	ND	-	-	-	
PW-12	4/19/2006	BCL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		0.49	-	-	-	-	-	-	<0.34	-	
PW-12	4/19/2006	DL	455	280	8.6	94.8	-	0.5	<0.1	104	1.6	50.6	51.4	94.8	0.1	0.1		-	0.08	<0.01	-	0.05	<0.01	-	-	-	
PW-12	9/26/2006	NA	-	-	-	-	-	-	-	-	-	-	-	-	-	-		1	-	-	-	-	-	-	<2	-	
PW-12	3/29/2007	TL	780	480	8.6	170	-	5.4	0.53	170	1.8	100	68	200	<6.2	-		<10	0.063	0.012	-	-	-	-	-	-	
PW-12	9/23/2007	TL	780	510	8.5	-	-	-	-	-	-	110	74	190	<6	-		-	-	-	-	-	-	-	-	-	
PW-12	4/6/2008	BCL	825	510	8.65	-	-	-	-	-	-	110	78	183	<0.4	-		-	-	-	-	-	-	-	-	-	
PW-12	9/4/2008	BCL	843	530	8.6	-	-	-	-	-	-	110	87	195	<0.4	-		-	-	0.012	-	-	-	-	-	-	
PW-12	10/5/2009	BSK	900	520	8.7	-	-	-	-	-	-	110	90	207	<2	-		-	-	-	-	-	-	-	-	-	
PW-12	9/23/2010	SSC	940	570	8.6	-	-	-	-	-	-	98	96	232	<2	-		-	-	-	-	-	-	-	-	-	
DEEP (Meyers Farm)																											
DW-1	12/21/2007	BCL	2400	1400	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
DW-1	4/17/2008	BCL	2000	1100	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
DW-1	4/21/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	3.46	<0.4	-	
DW-1	4/21/2008	BCL	-	-	-	-	-	-	-	-	-	-	-	280	-	-		-	-	-	-	-	-	-	-	-	
DW-1	10/4/2008	BCL	1970	1100	-	-	-	-	-	-	-	-	-	-	-	-		-	-	-	-	-	-	-	-	-	
DW-1	7/22/2009	BCL	2940	1800	-	-	-	-	-	-	-	-	-	-	-	-		-	-	0.079	-	-	-	-	-	-	

1. Laboratory Abbreviations: AT - Agri Tech, Inc., Kerman; BD - Betz Dearborn; BCL - BC Laboratories, Bakersfield; BD - Betz Dearborn; BSK - BSK Analytical Laboratories, Fresno; CLS - California Laboratory Services, Rancho Cordova; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord, Fresno; JML(1) - JM Lord, Fresno (TDS estimated from EC); OBL = Olson Biochemistry Laboratories of South Dakota State University, Brookings, SD; TL - The Twining Laboratories, Inc., Fresno.; UAG - U.S. Agricultural Consultants and Laboratories, Burbank; USGS - U.S. Geological Survey

2. Electrical Conductivity at 25°C

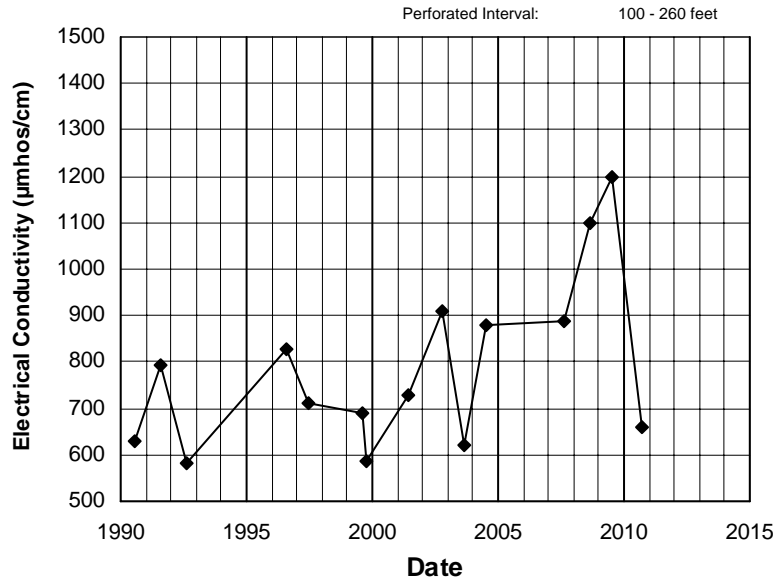
3. HCO₃, Total Alkalinity and NO₃ reported as HCO₃, CaCO₃ and NO₃ respectively. Some 2008 NO₃ results may include NO₂ in reported value.

NA = Not Available; ND = Non Detect (detection limit unknown)

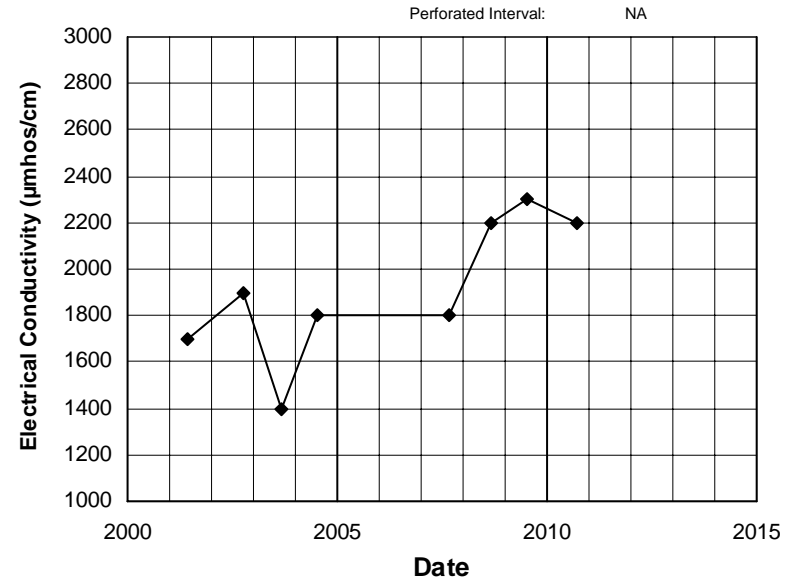
Appendix E

Electrical Conductivity Hydrographs

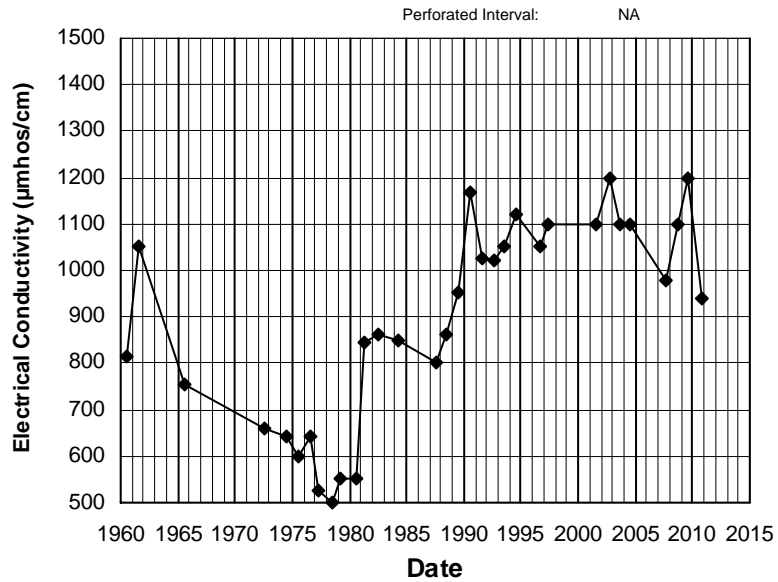
CCID Well No. 5A



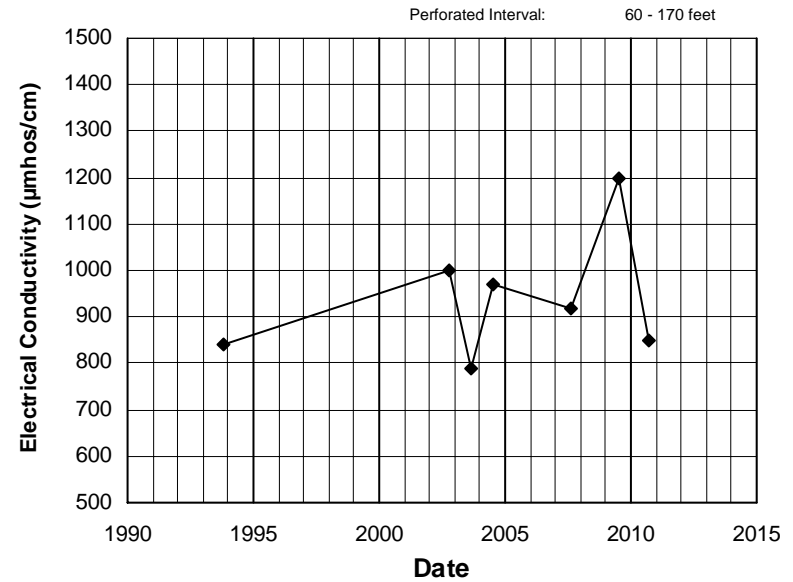
CCID Well No. 12A & 12C



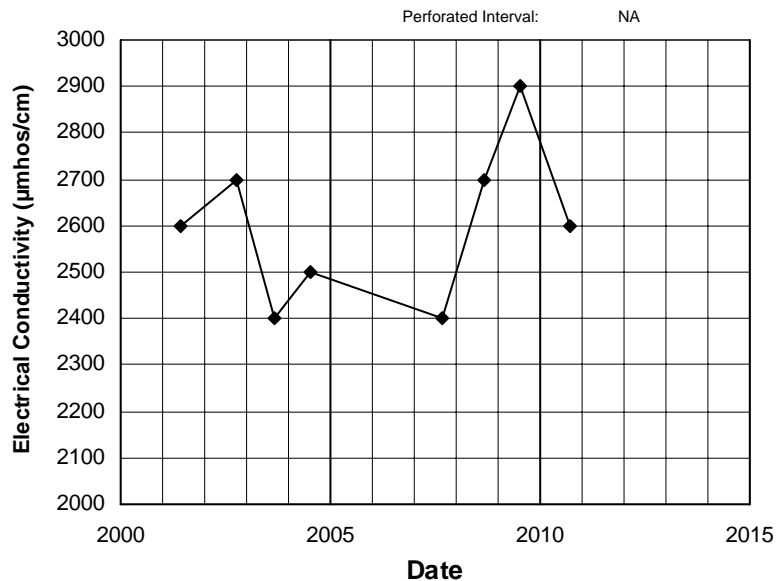
CCID Well No. 15 & 15A & 15B



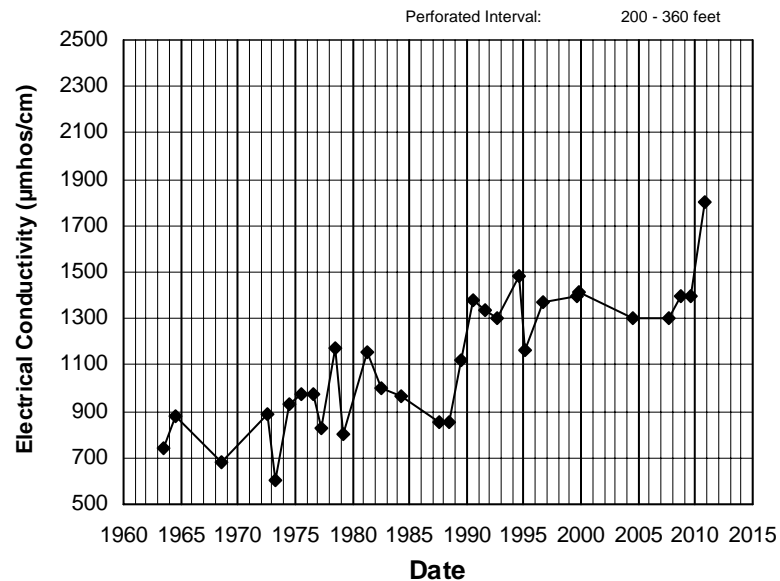
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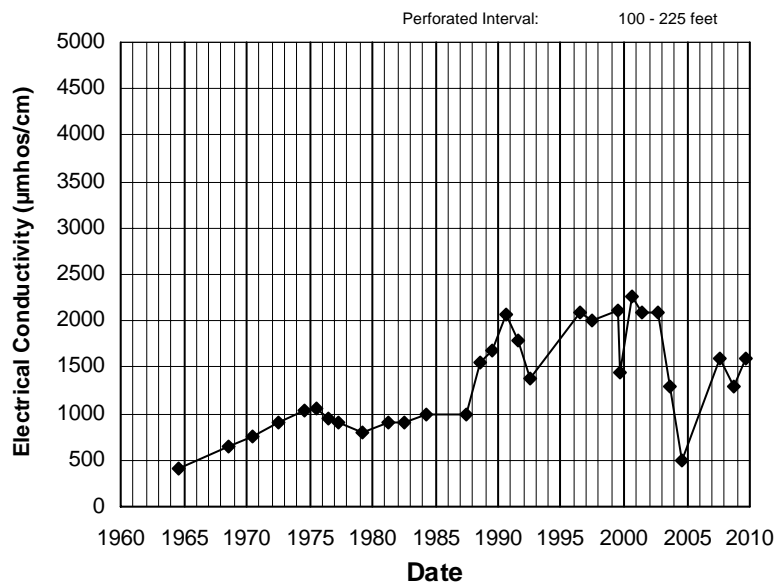
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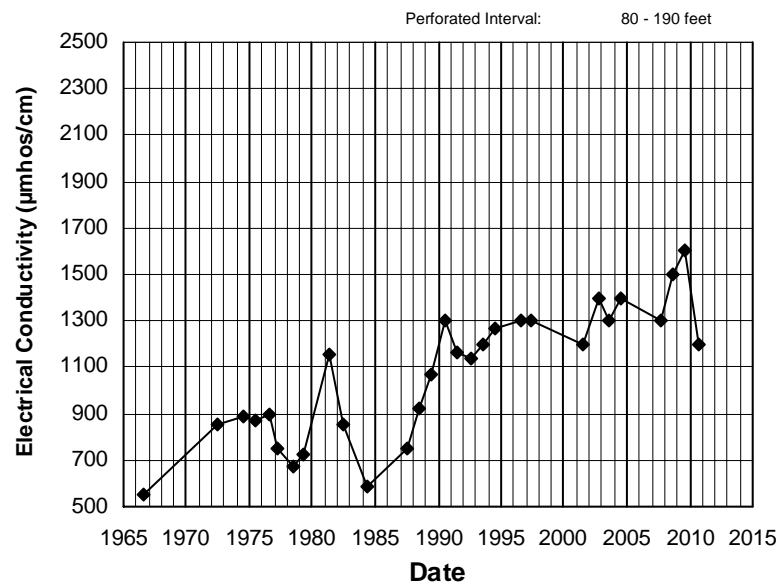
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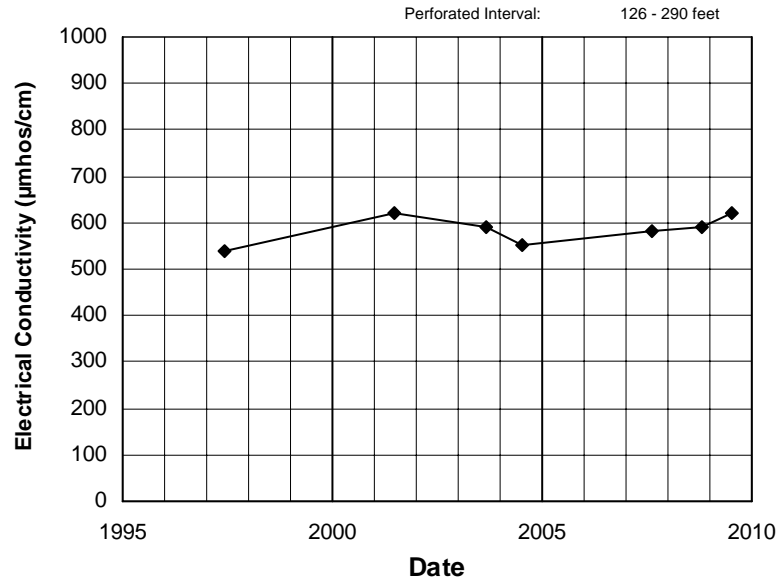
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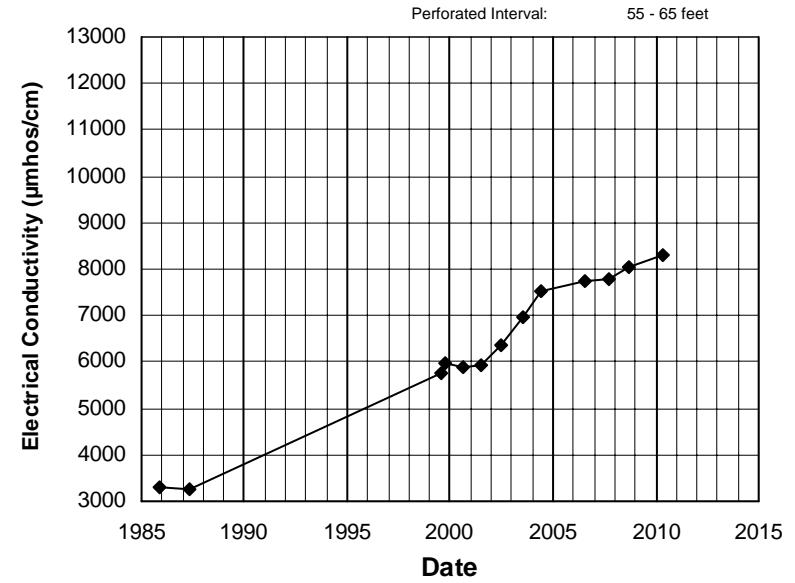
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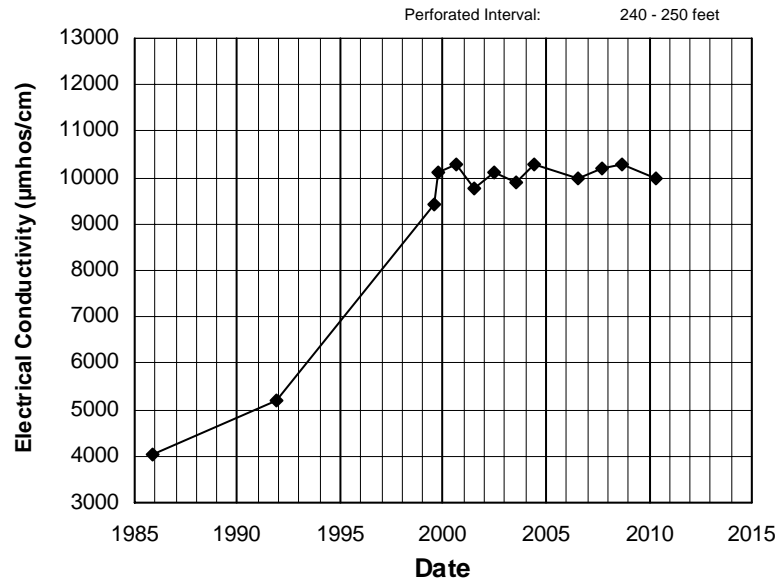
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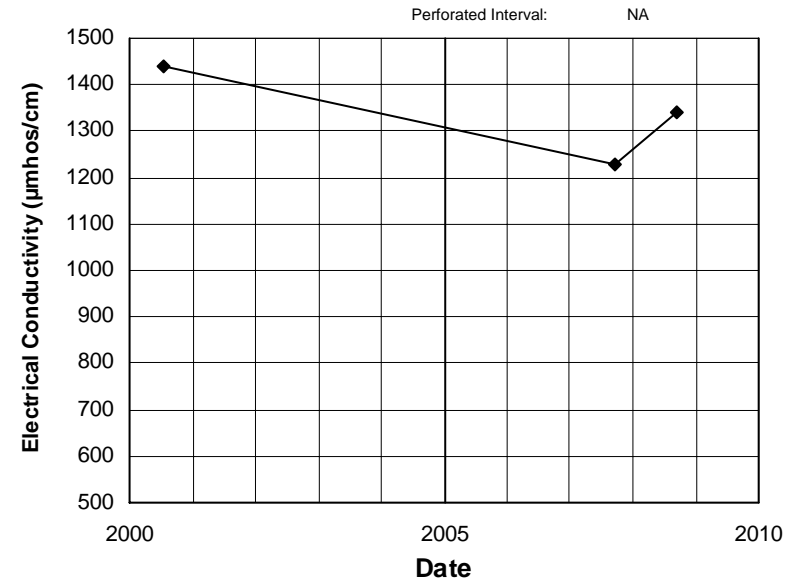
USGS Monitoring Well No. T13S/R15E-31J4



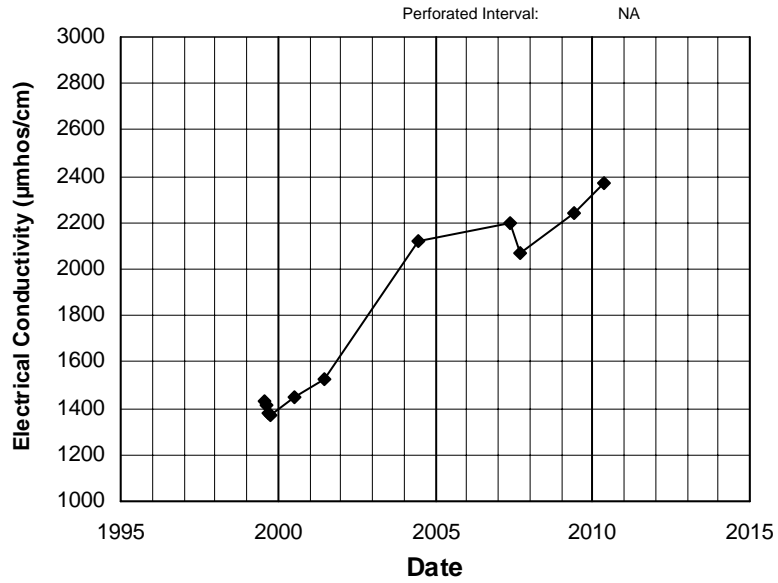
USGS Monitoring Well No. T13S/R15E-31J5



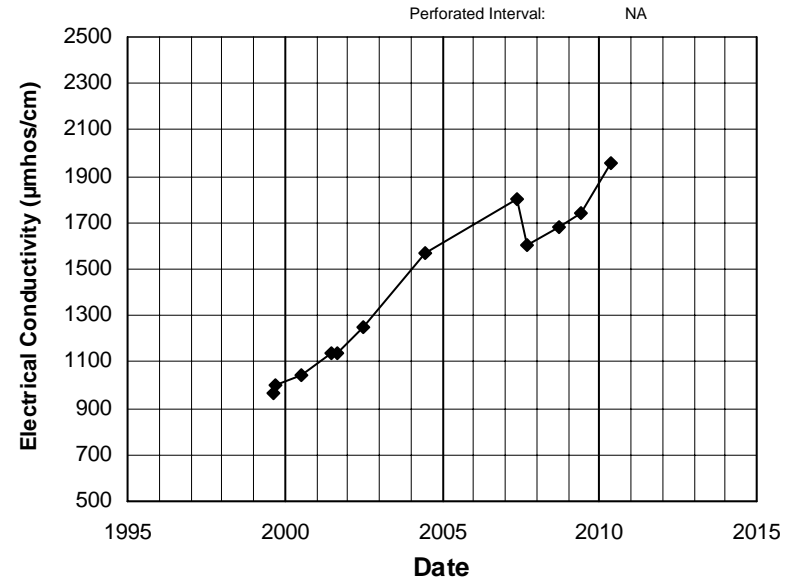
Terra Linda TLF-18d (2)



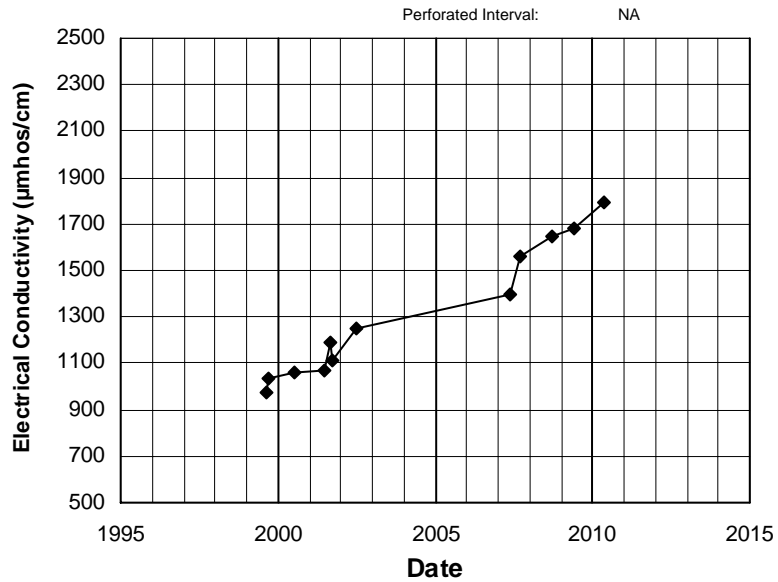
Terra Linda TLF-5d (5)



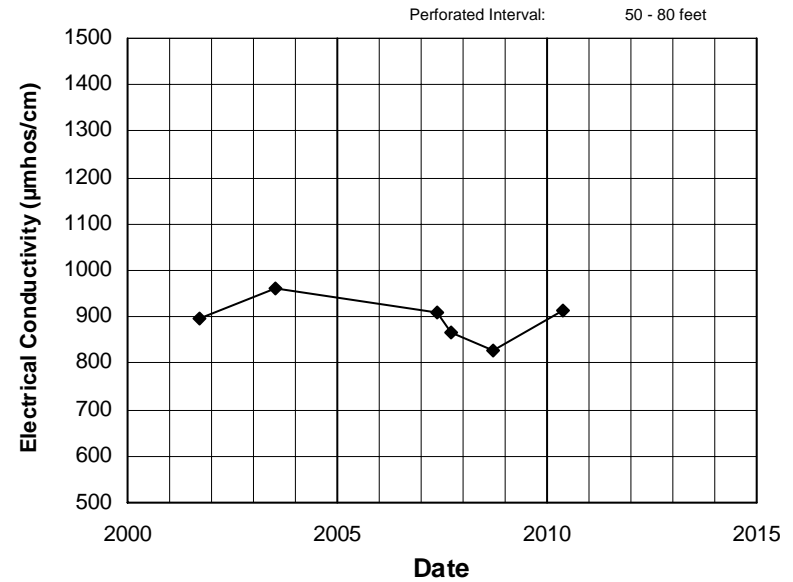
Terra Linda TLF-6d (7)



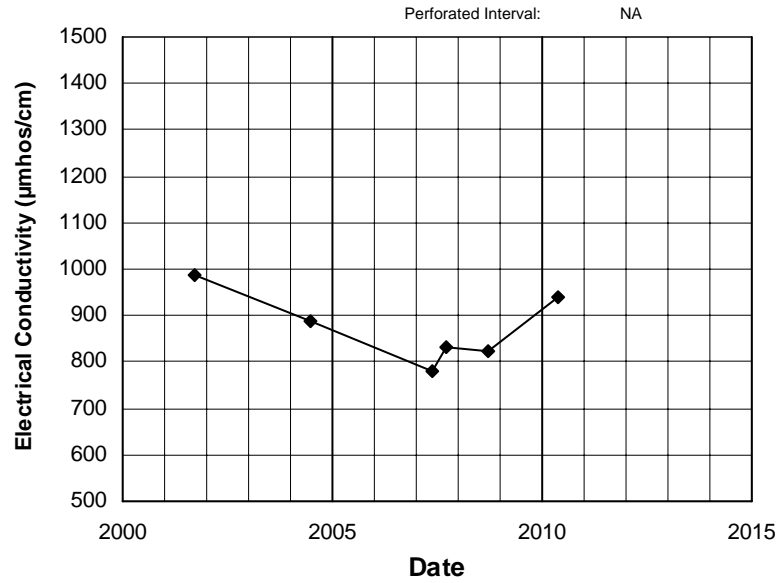
Terra Linda TLF-14d (8)



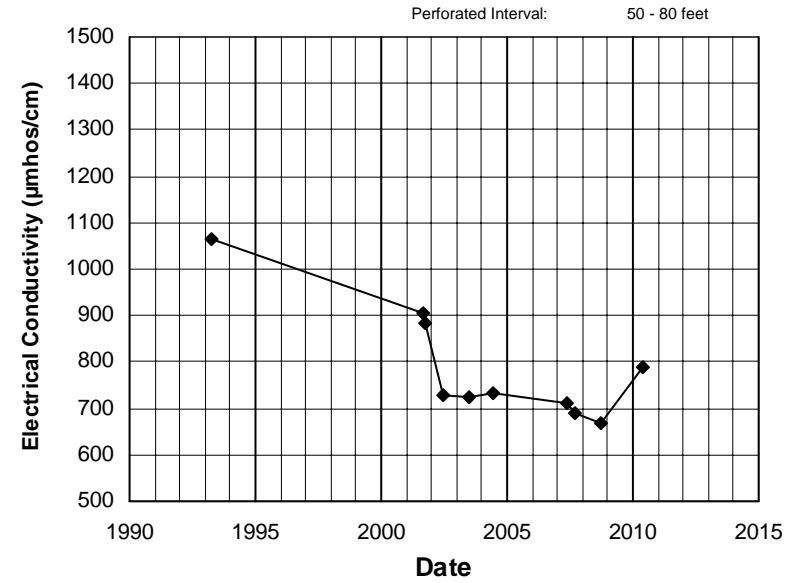
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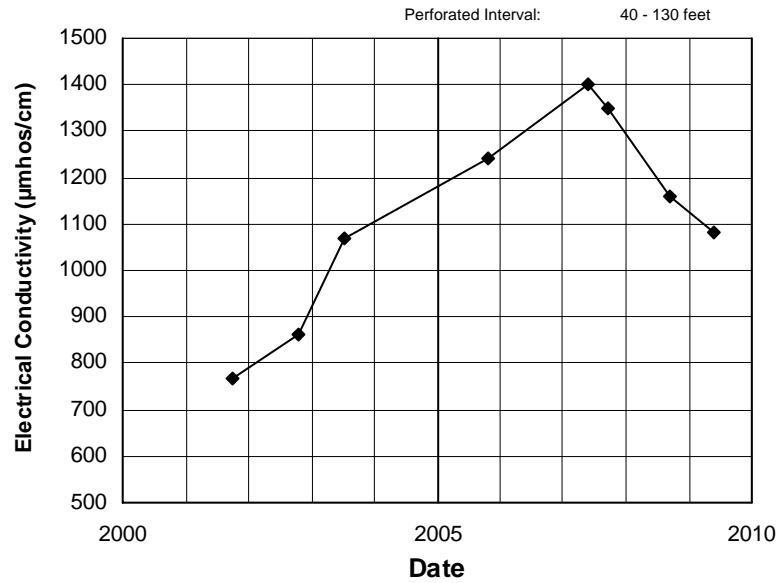
Terra Linda TLF-8s (10B)



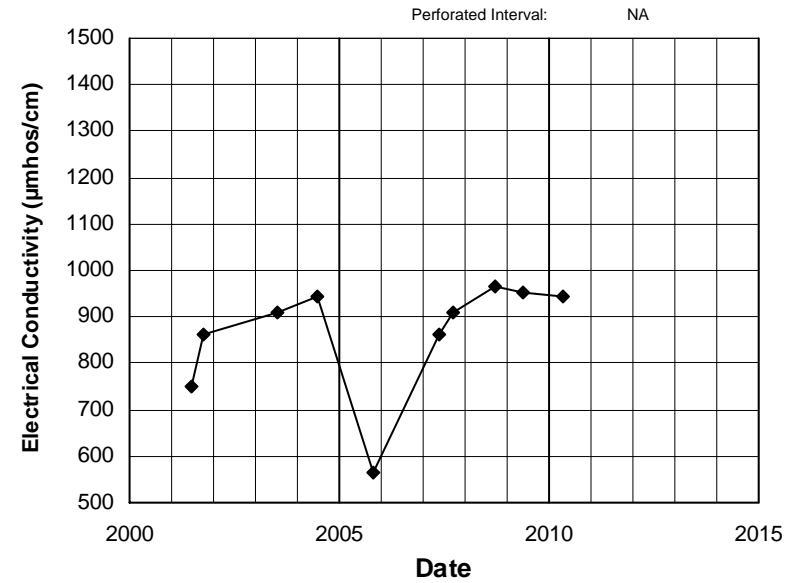
Terra Linda TLF-7s (10C)



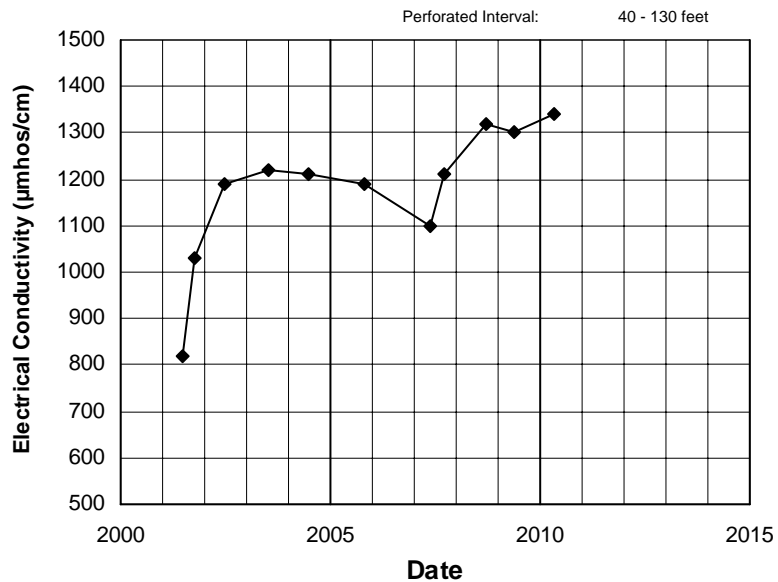
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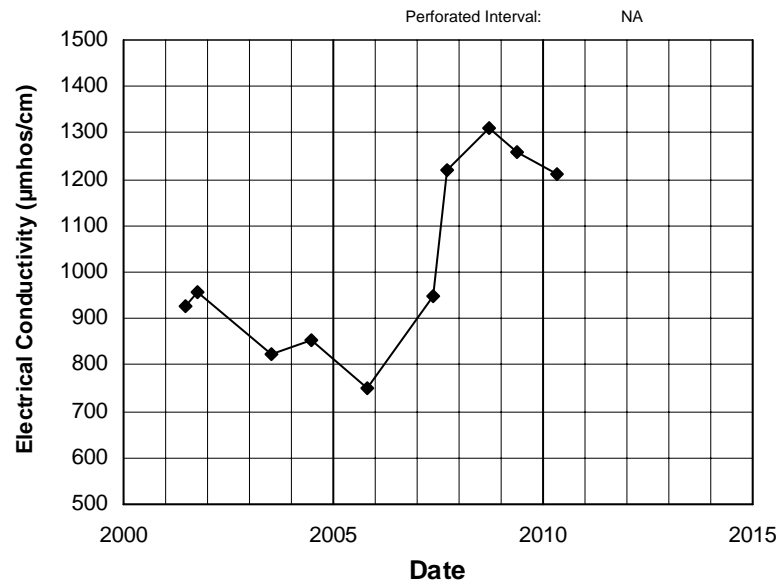
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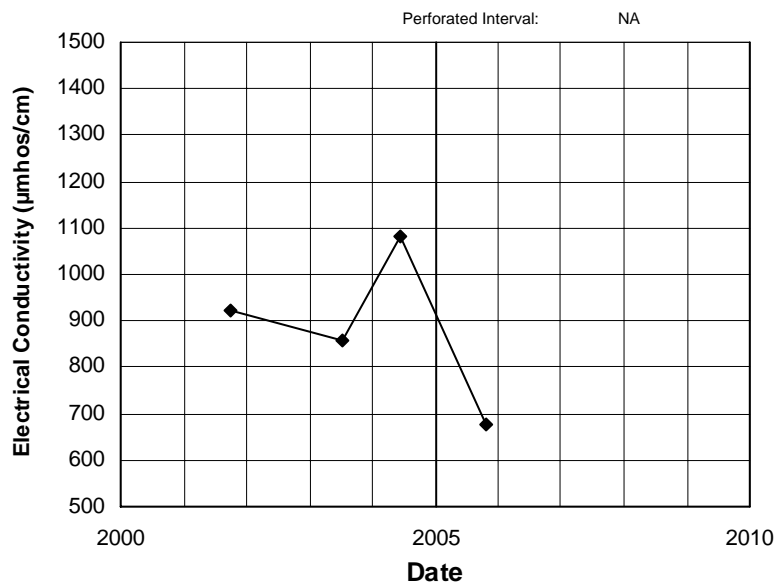
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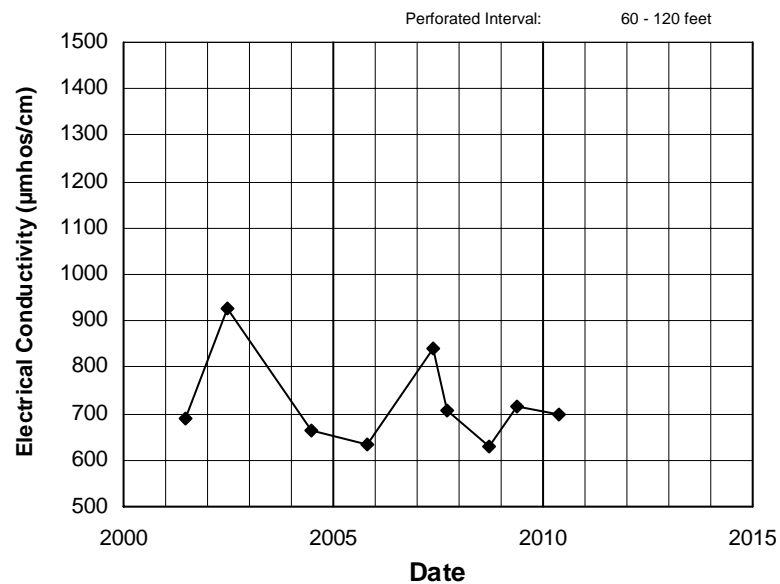
Terra Linda TLF-4s (15)



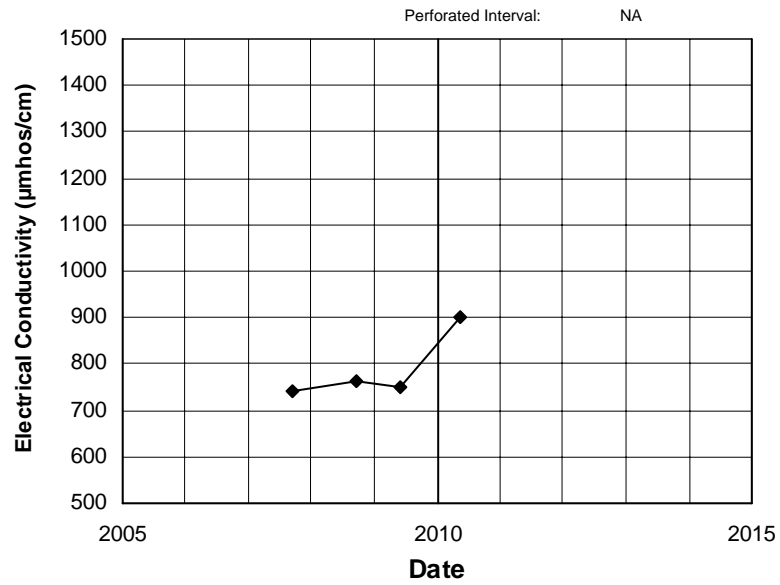
Terra Linda TL-10s (16)



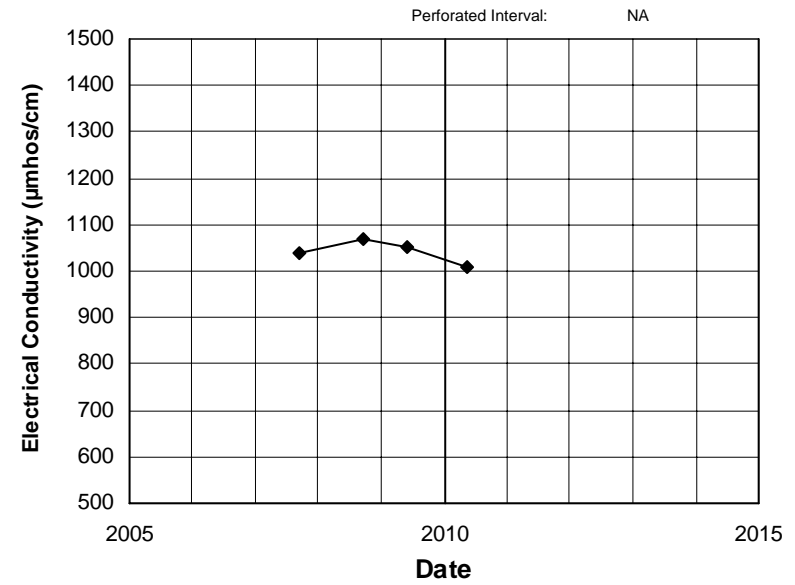
Terra Linda TLF-13s (17)



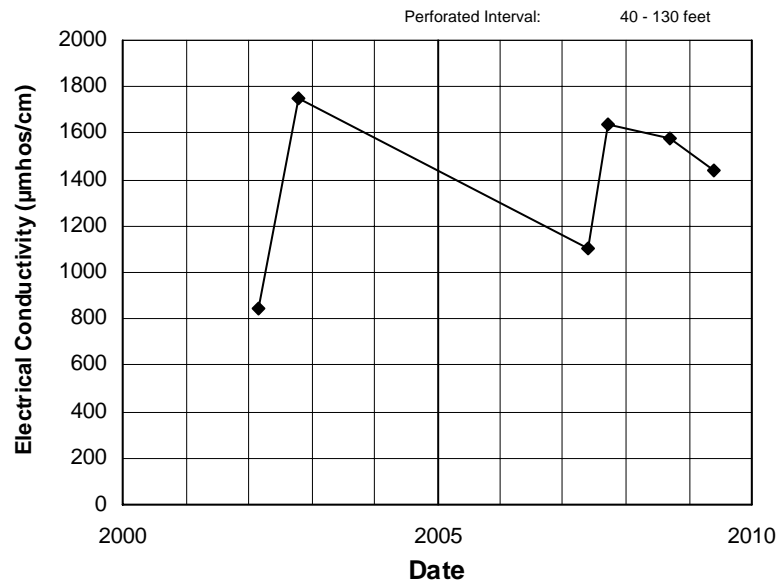
Terra Linda TLF-16s



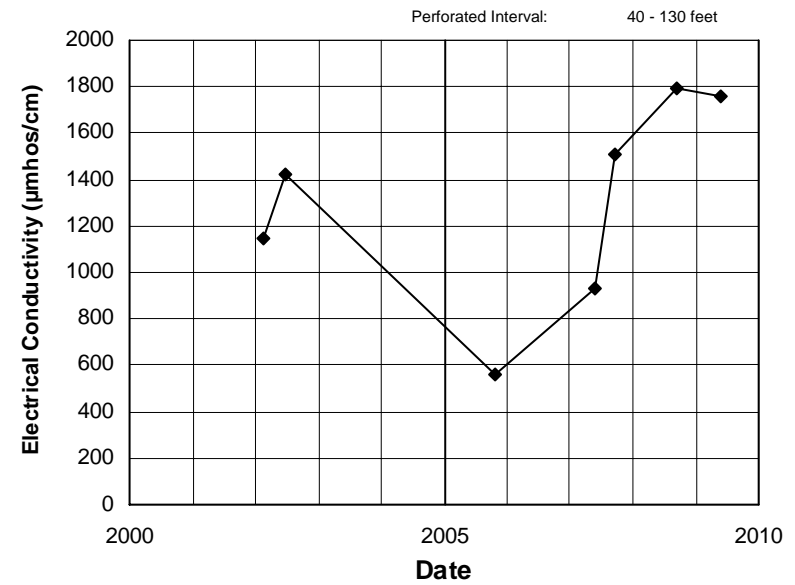
Terra Linda TLF-17s



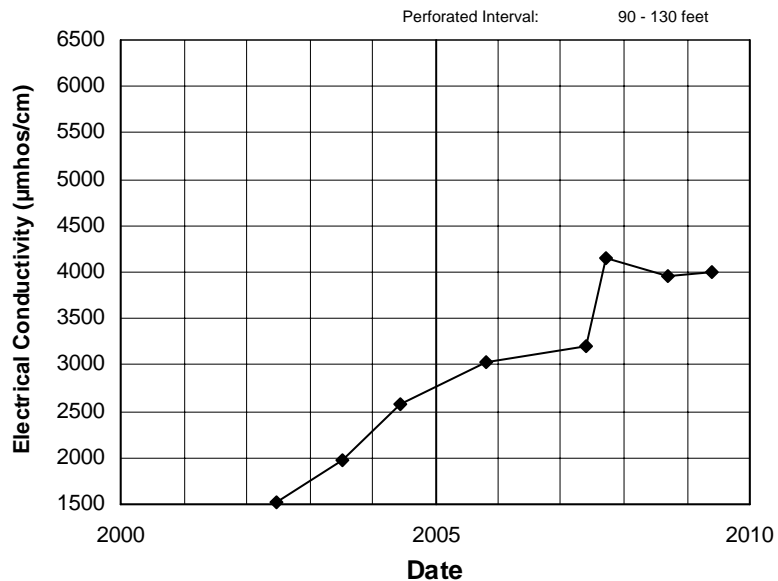
Silver Creek Packing Well 3B



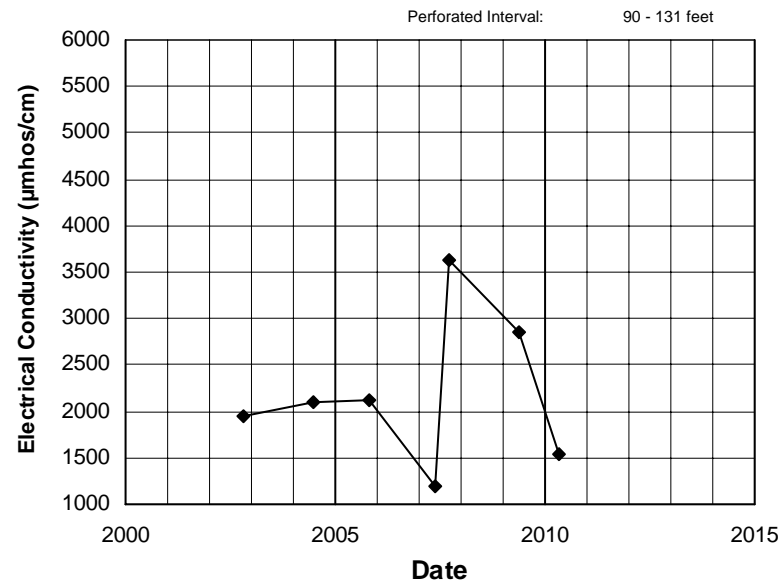
Silver Creek Packing Well 4B



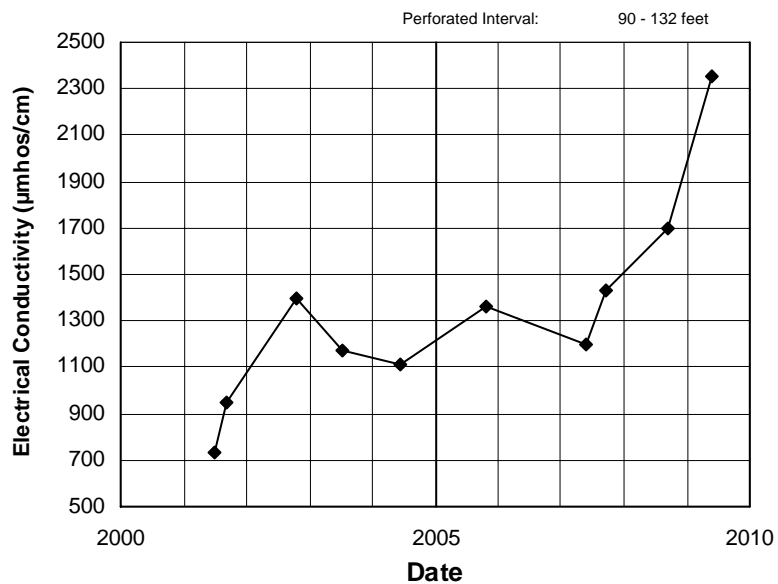
Coelho/Gardner/Hanson CGH-4s (1A)



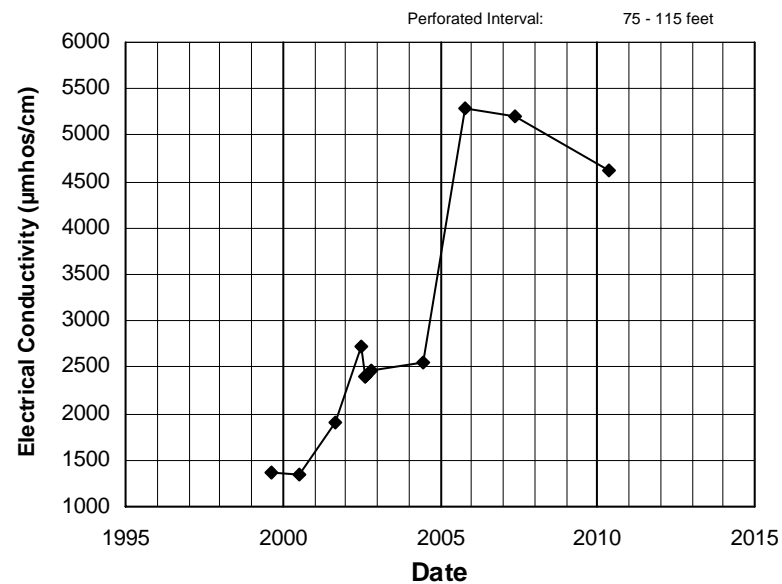
Coelho/Gardner/Hanson CGH-3s (1B)



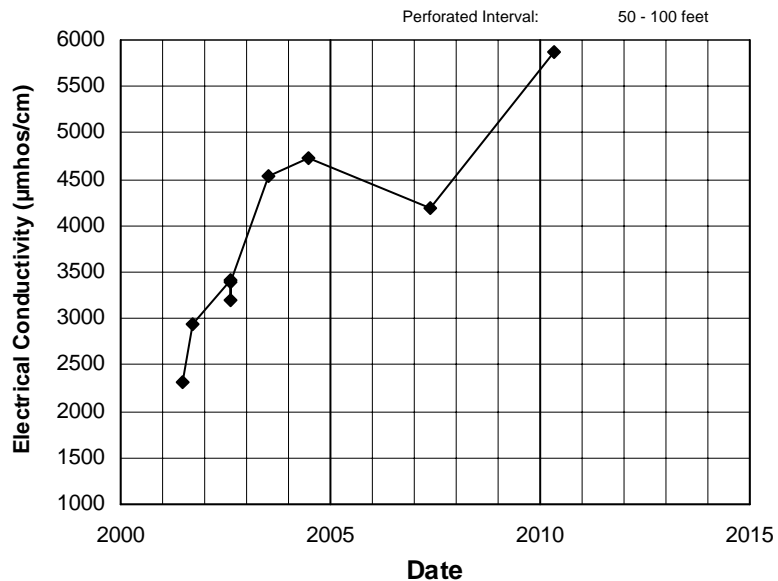
Coelho/Gardner/Hanson CGH-2s (1C)



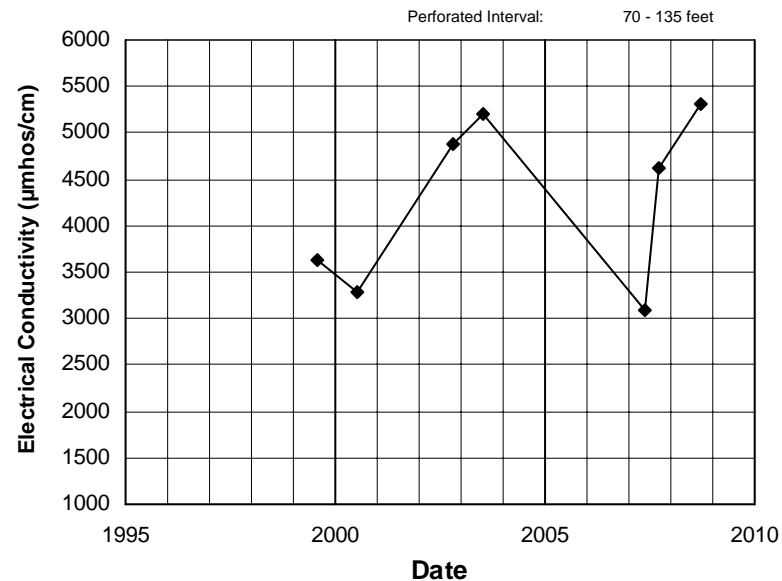
Coelho/Gardner/Hanson CGH-1s (2)



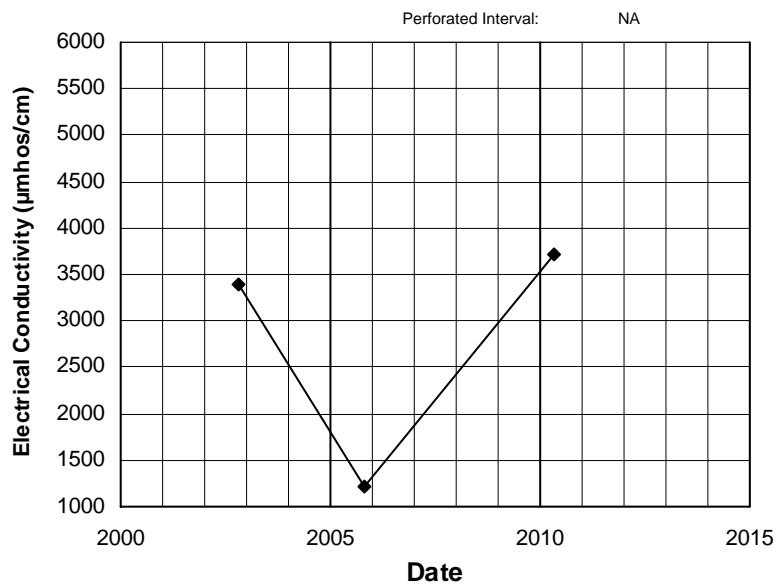
Coelho/Gardner/Hanson CGH-5s (3)



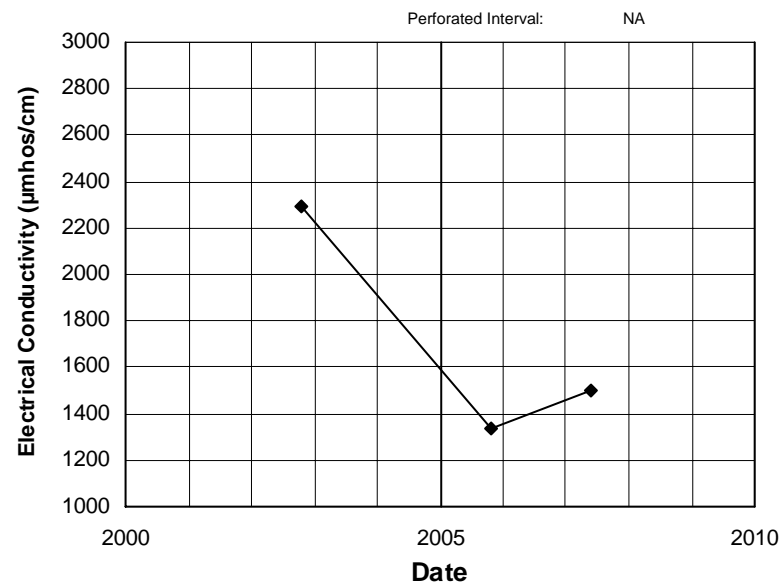
Coelho/Gardner/Hanson CGH-9As (5)



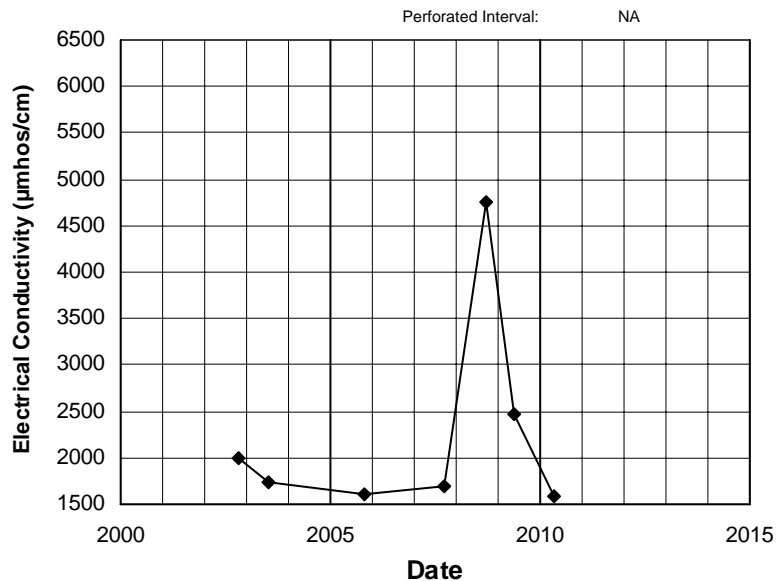
Coelho/Gardner/Hanson CGH-12s (6B)



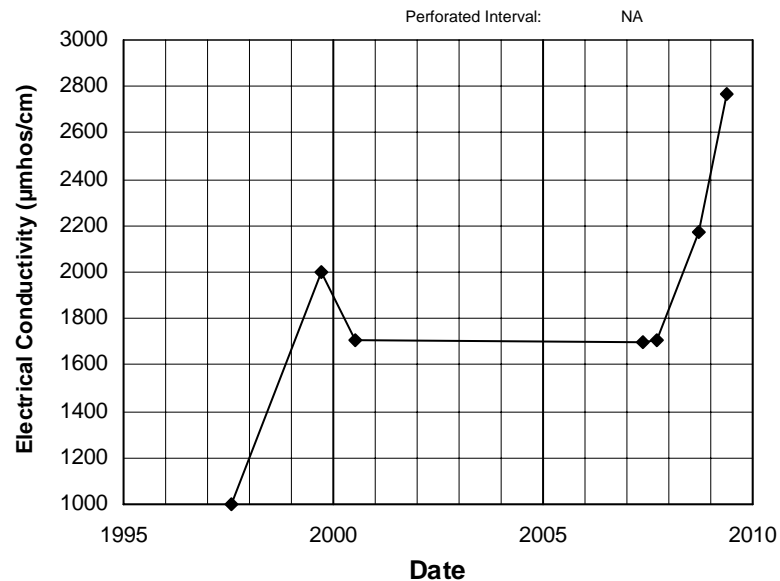
Coelho/Gardner/Hanson CGH-10s (6C)



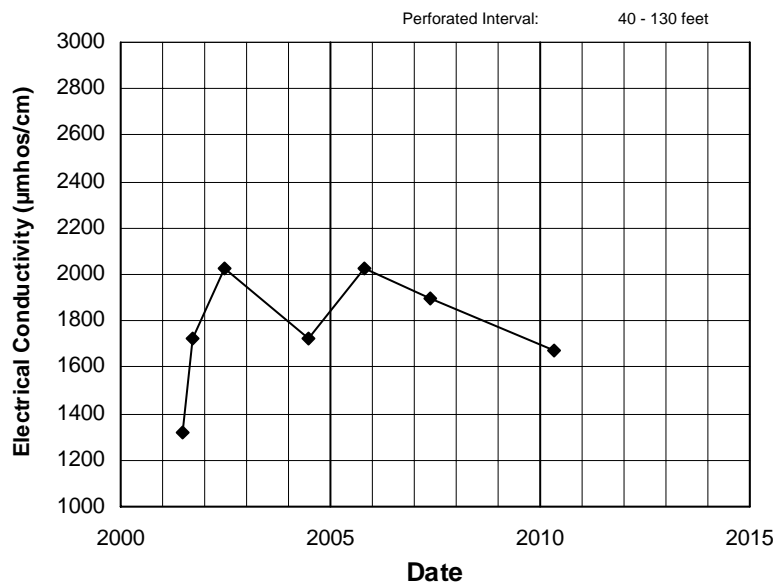
Coelho/Gardner/Hanson CGH-11s (6D)



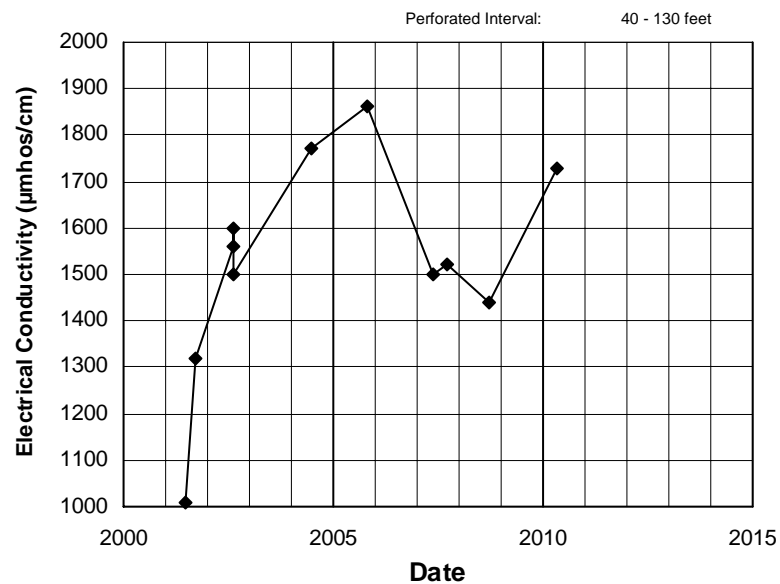
Coelho/Gardner/Hanson CGH-13d (7)



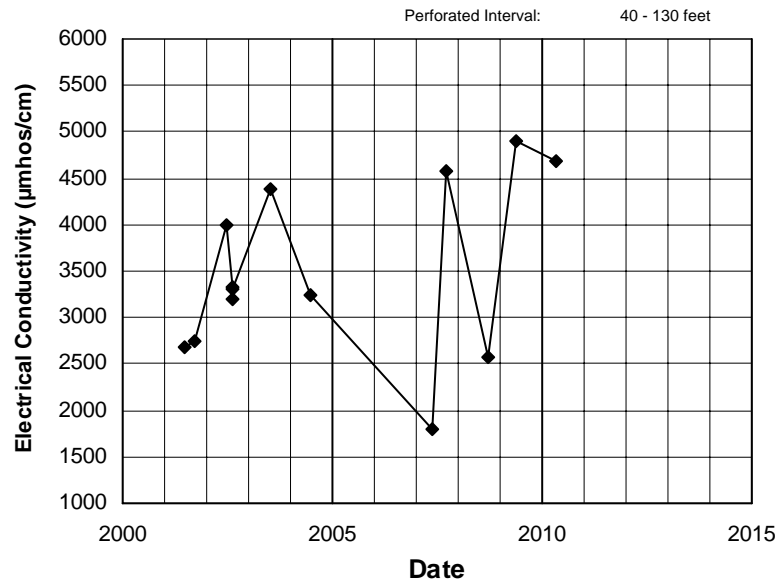
Coelho/Gardner/Hanson CGH-7s (9)



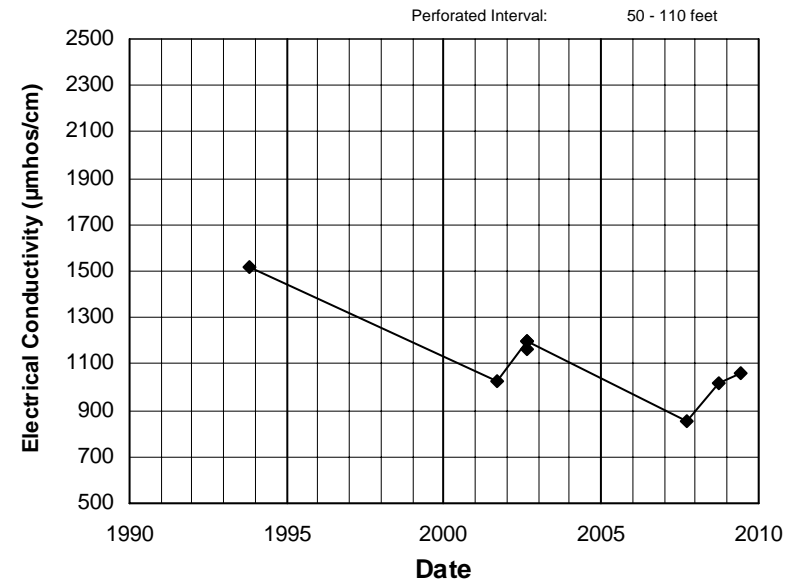
Coelho/Gardner/Hanson CGH-8s (10)



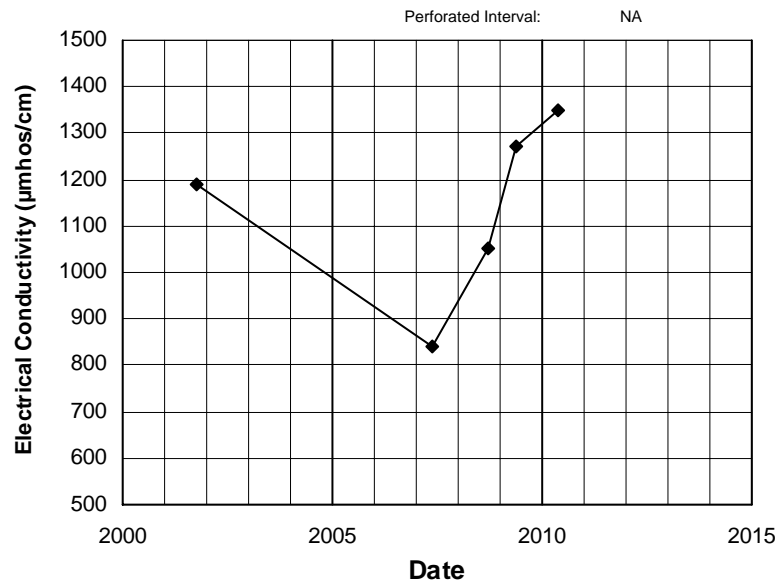
Coelho/Gardner/Hanson CGH-6s (11)



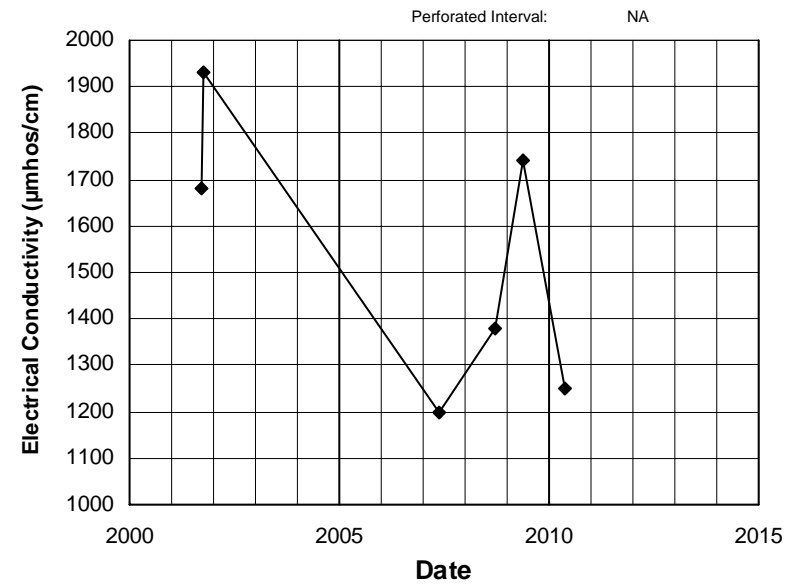
Five Star FS-1



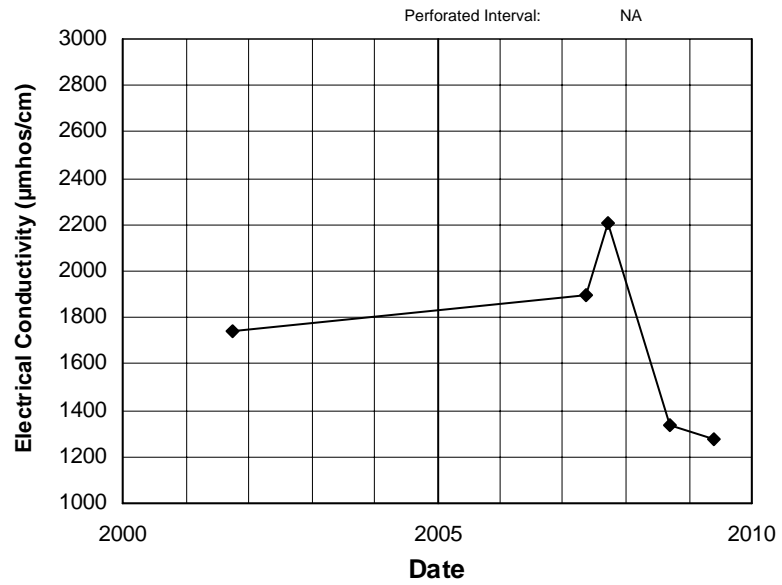
Five Star FS-2



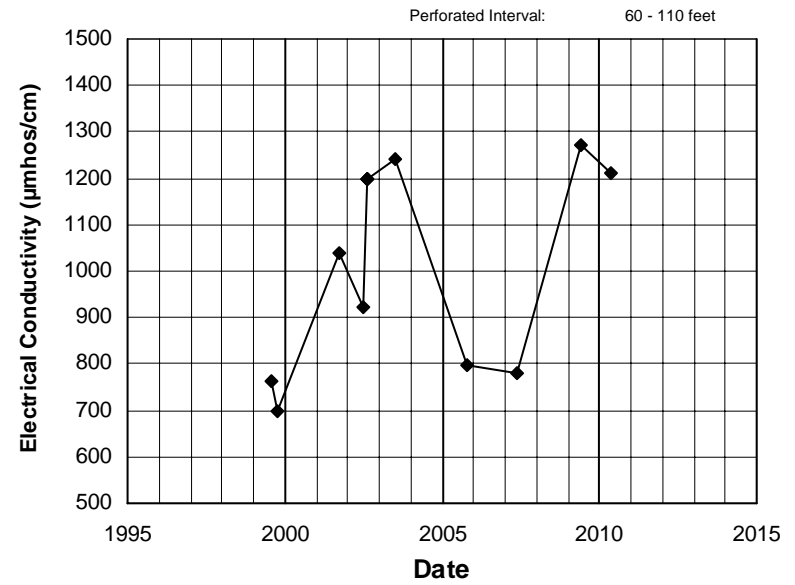
Five Star FS-3



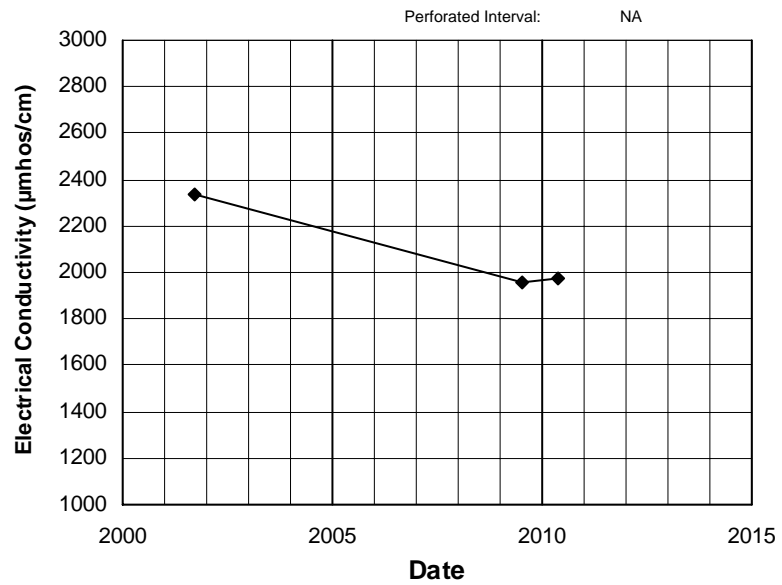
Five Star FS-4



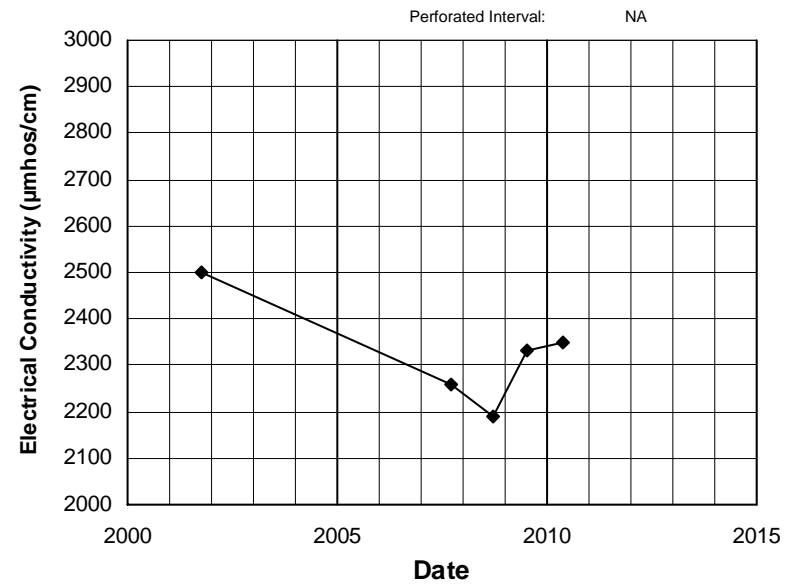
Five Star FS-5



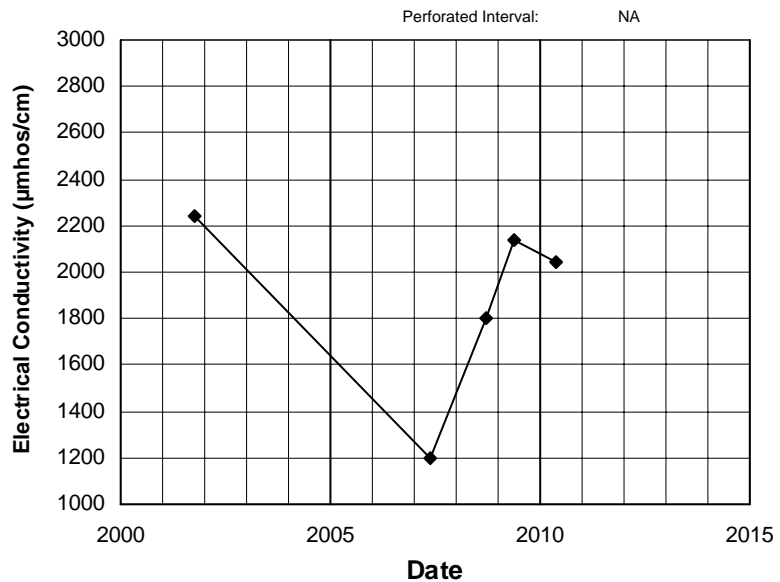
Five Star FS-6



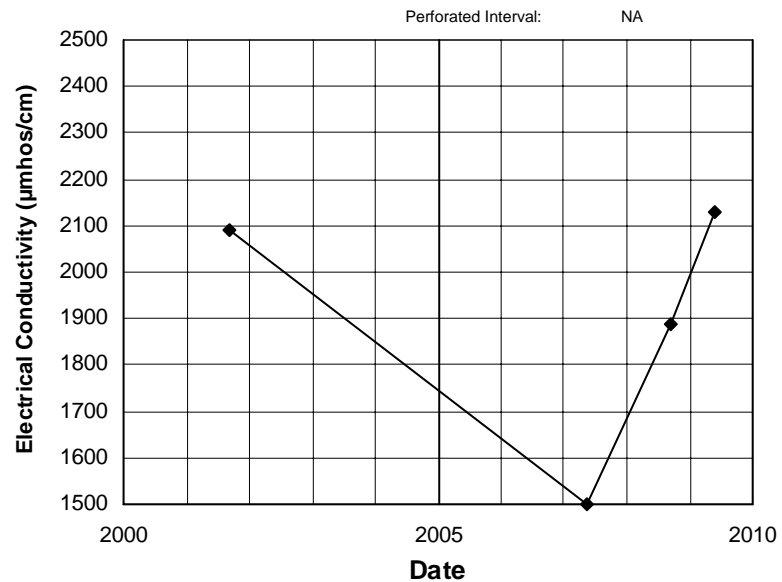
Five Star FS-7



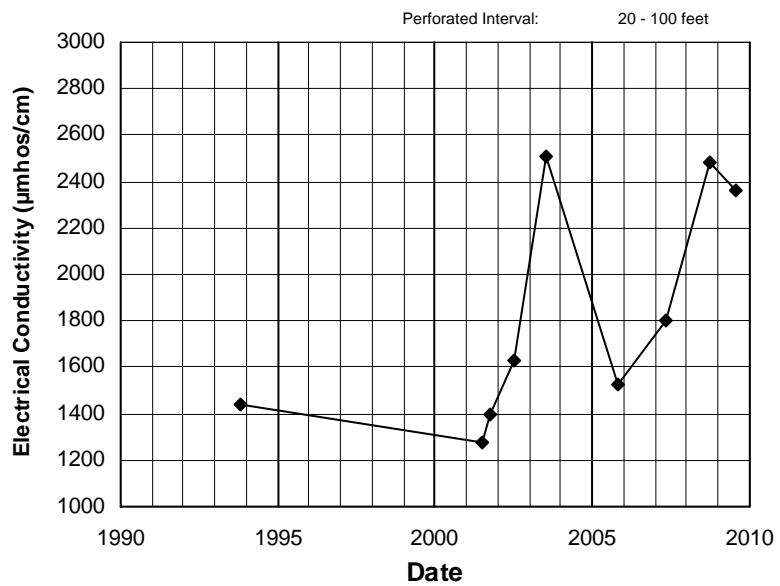
Five Star FS-8



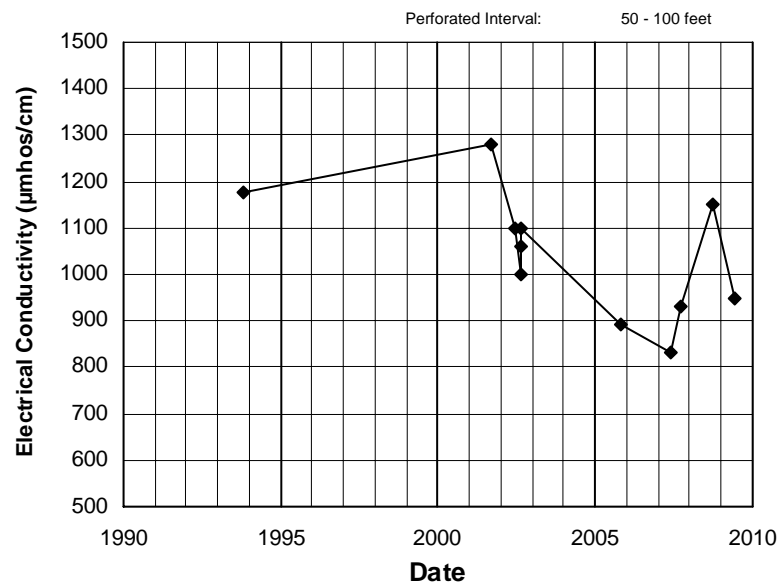
Five Star FS-9



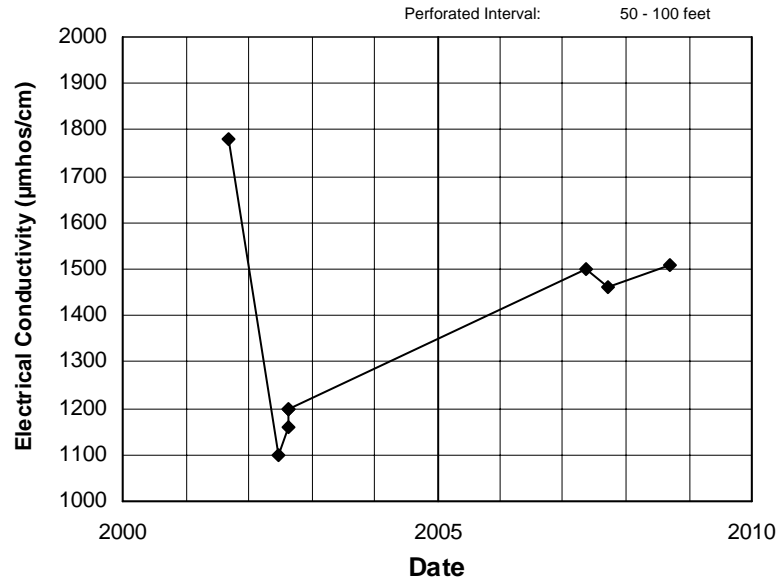
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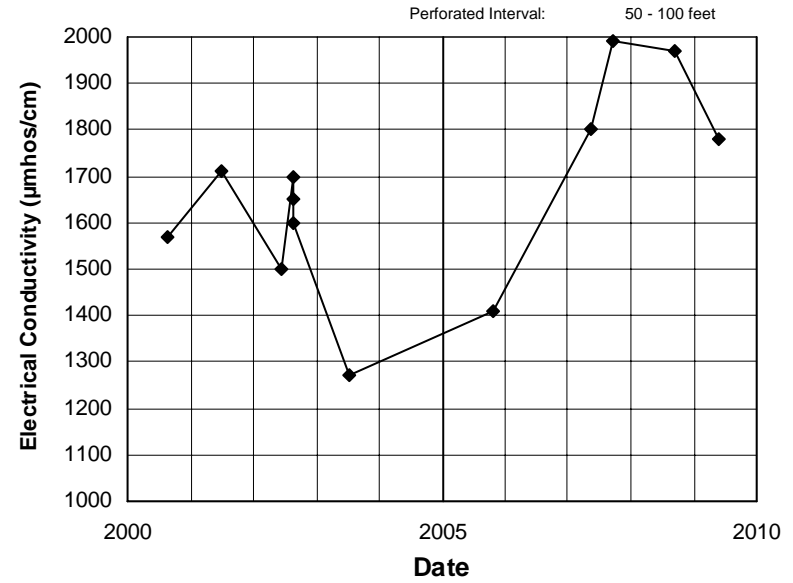
Coelho West CW-1



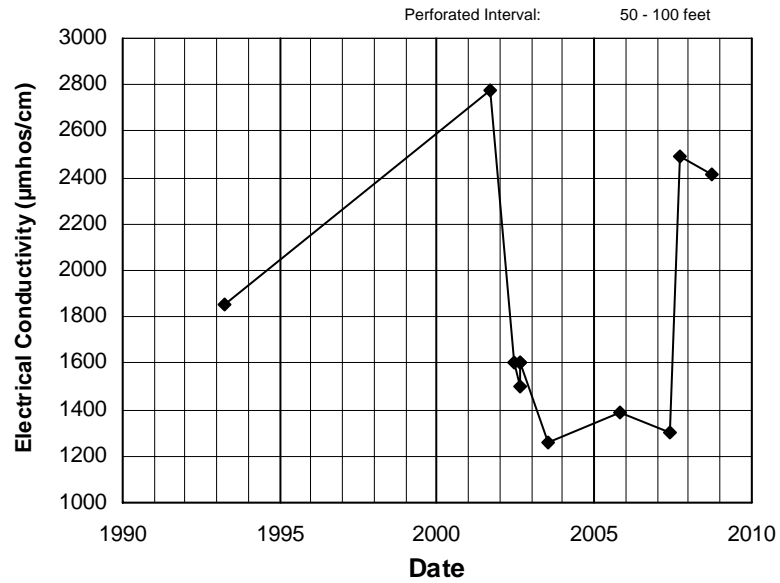
Coelho West CW-2



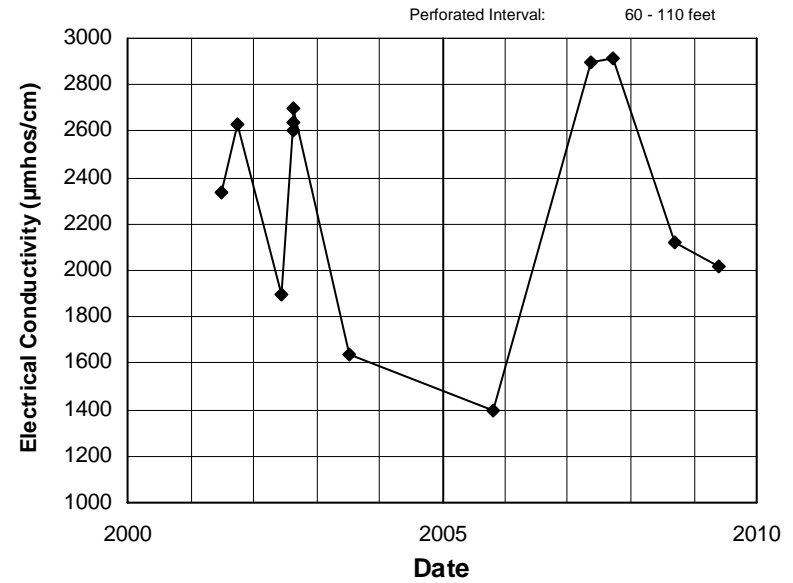
Coelho West CW-3



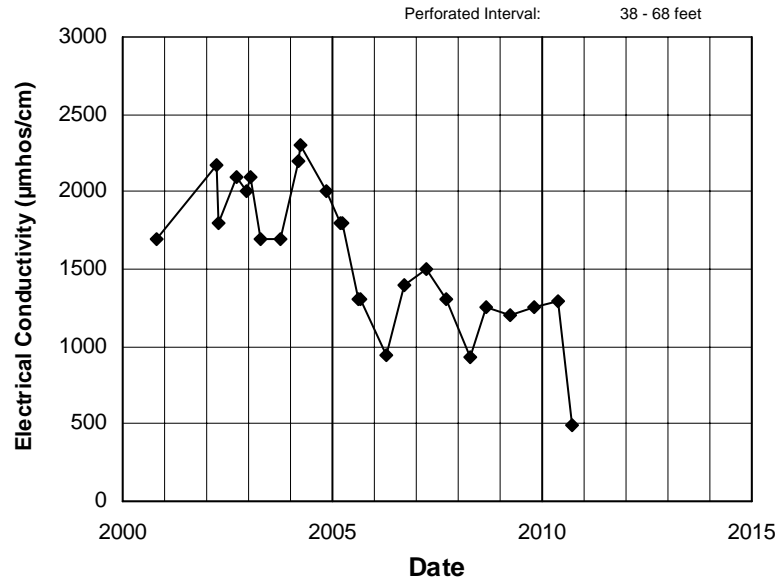
Coelho West CW-4



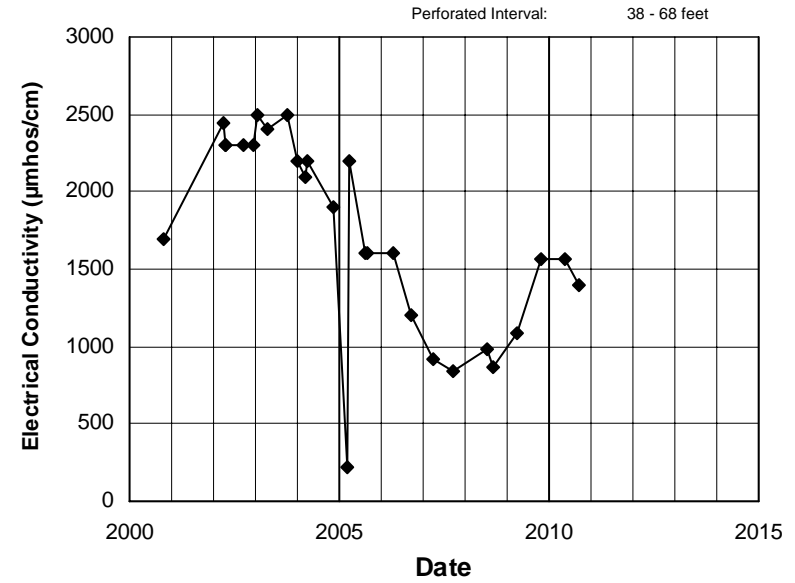
Coelho West CW-5



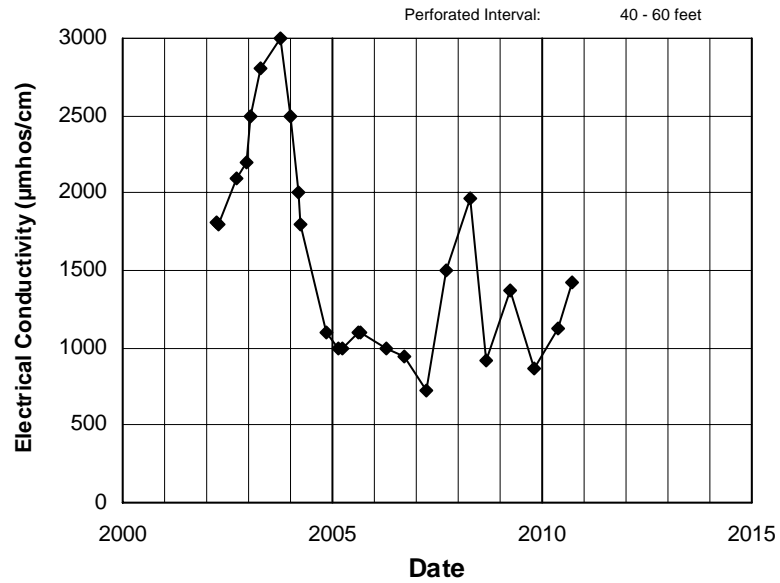
Meyers Farm Water Bank MF-1



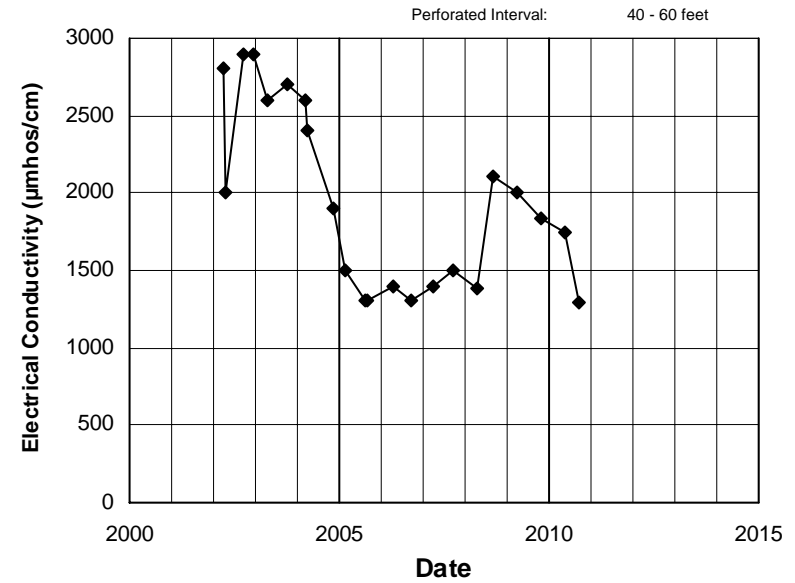
Meyers Farm Water Bank MF-2



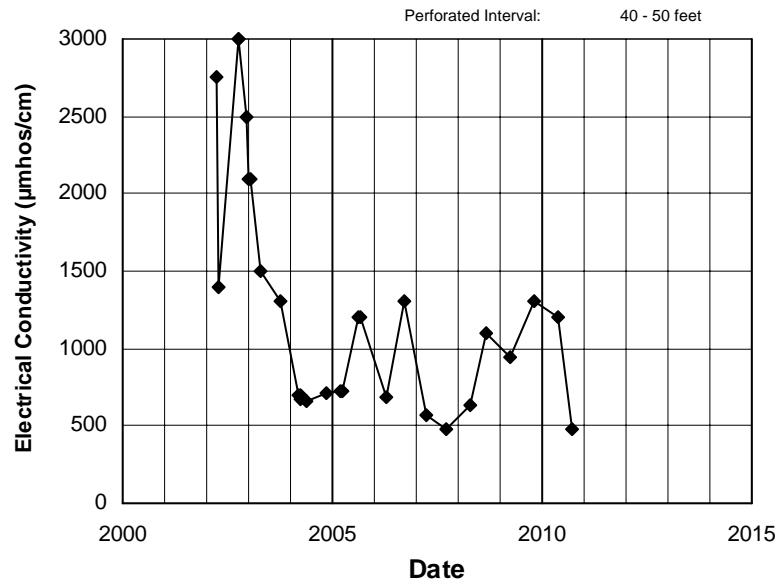
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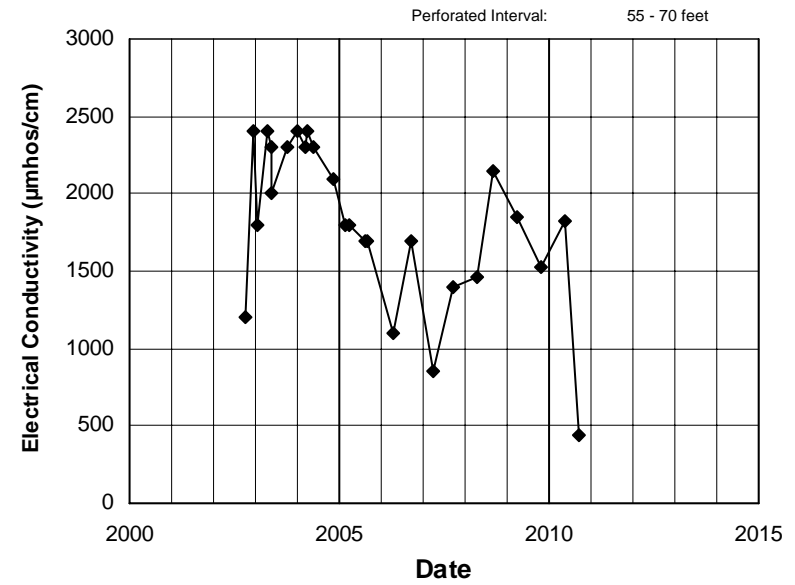
Meyers Farm Water Bank MF-4



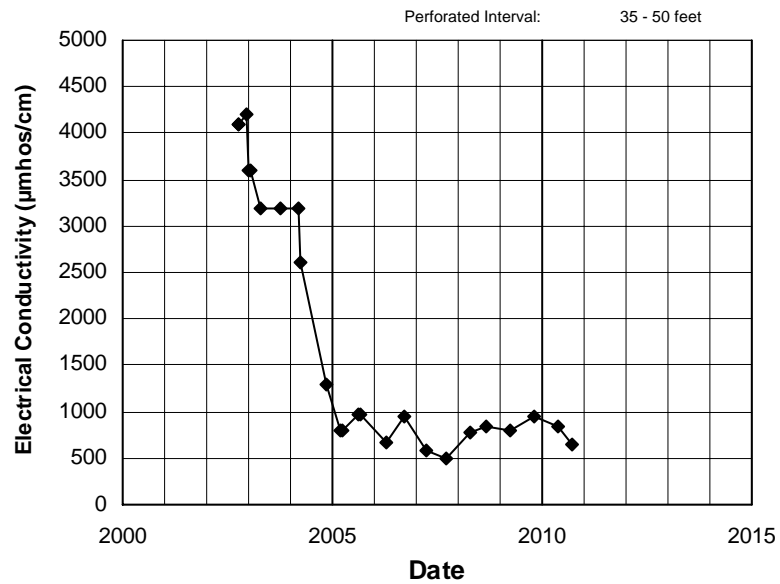
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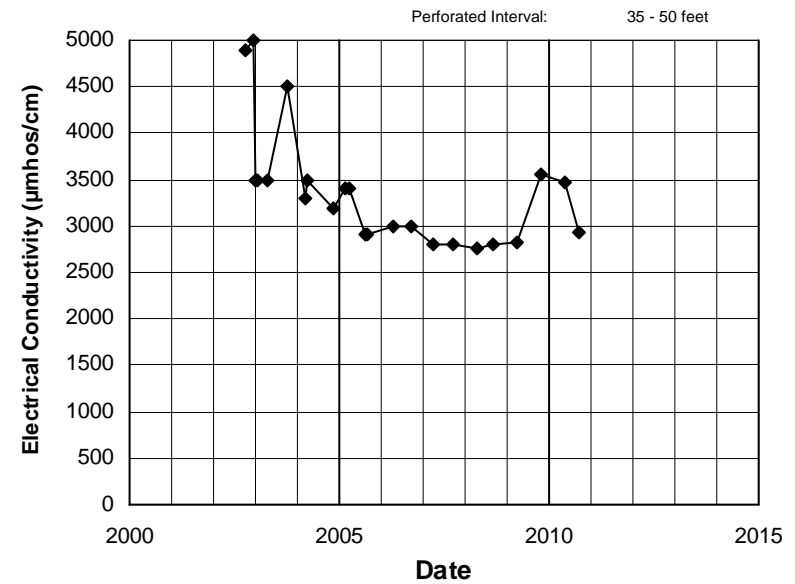
Meyers Farm Water Bank MF-6



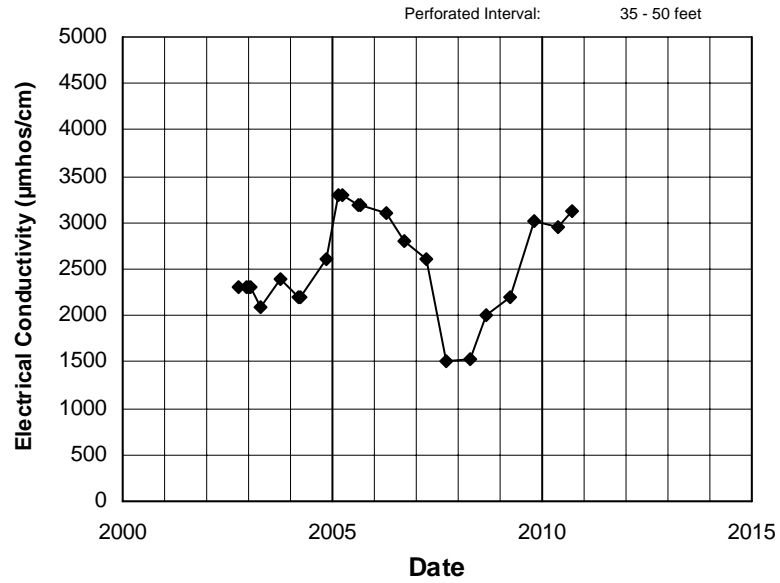
Meyers Farm Water Bank MF-7



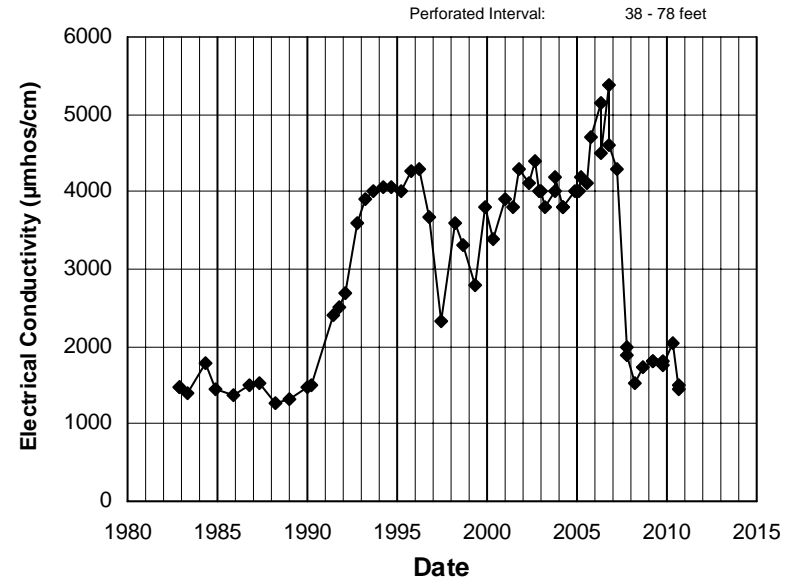
Meyers Farm Water Bank MF-8



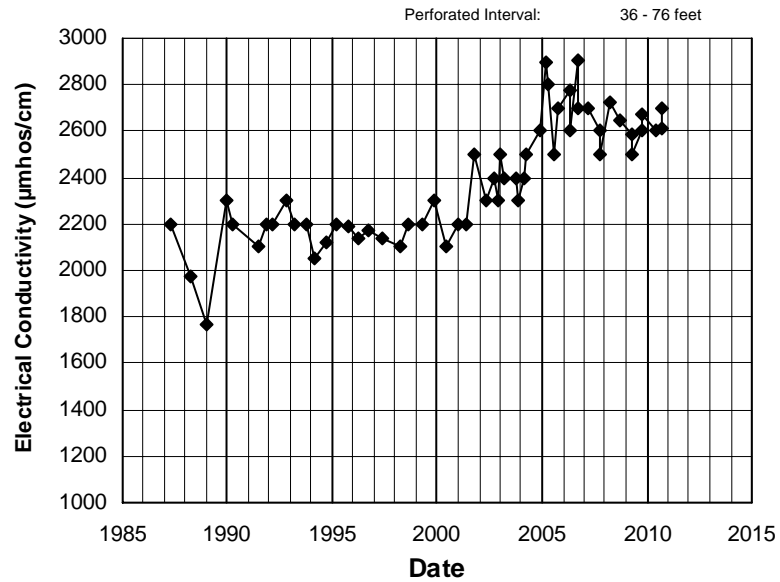
Meyers Farm Water Bank MF-9



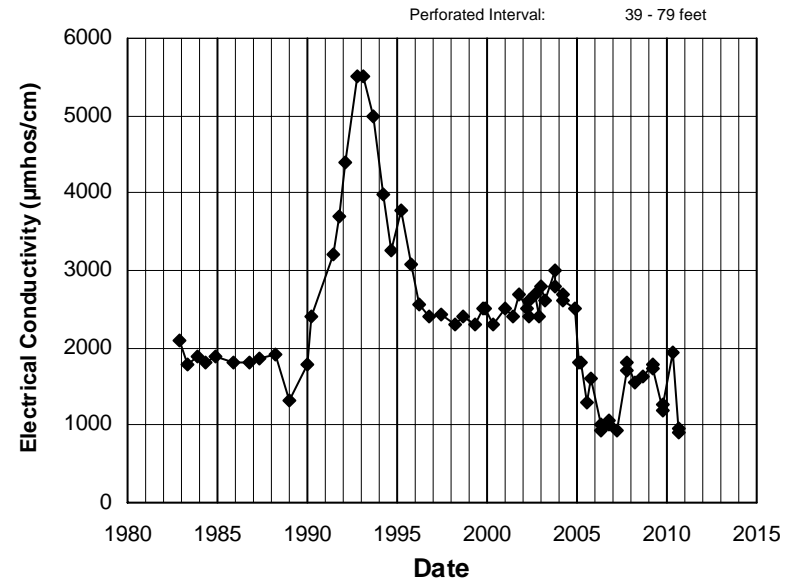
Spreckels Sugar Co. MW-1



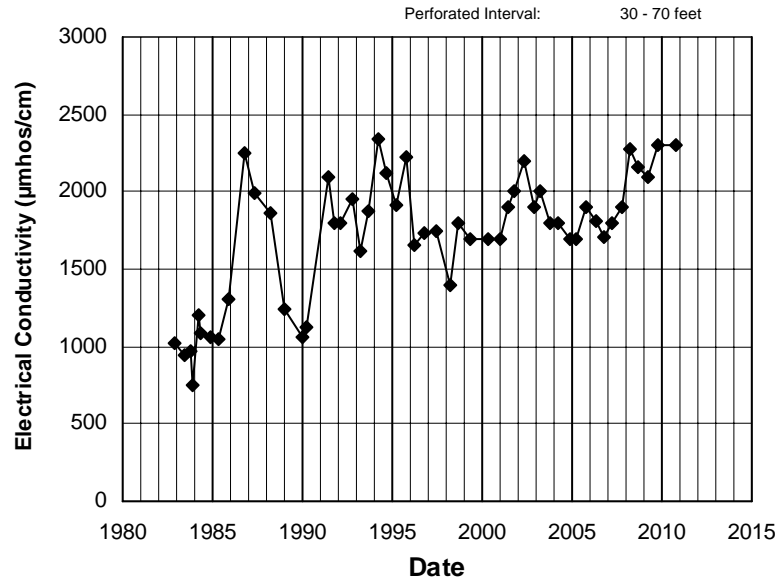
Spreckels Sugar Co. MW-2



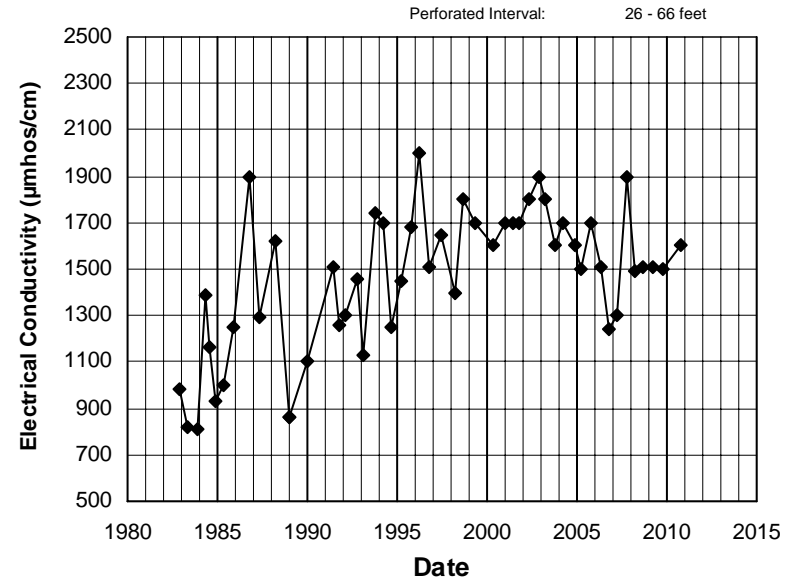
Spreckels Sugar Co. MW-3



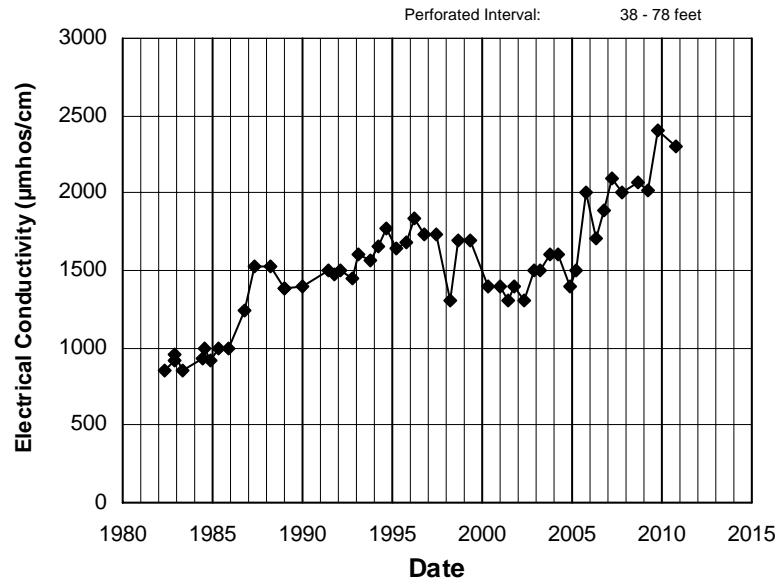
Spreckels Sugar Co. MW-4



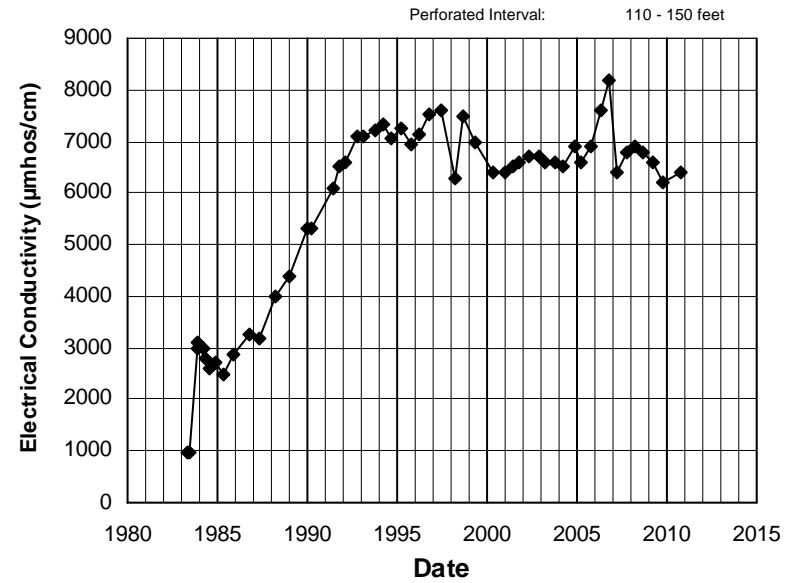
Spreckels Sugar Co. MW-5



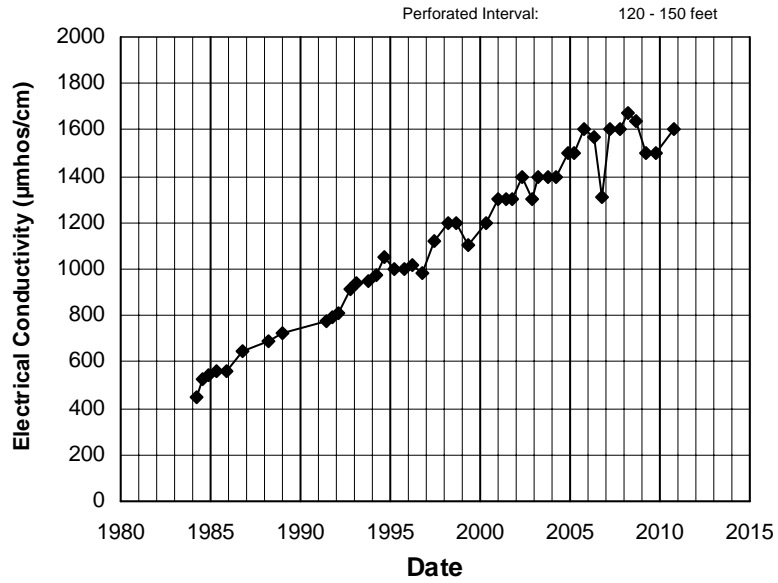
Spreckels Sugar Co. MW-6



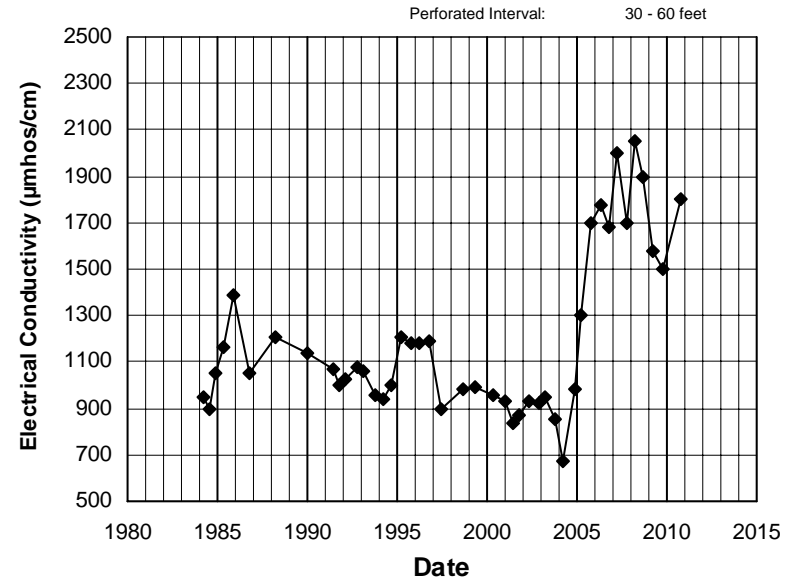
Spreckels Sugar Co. MW-7



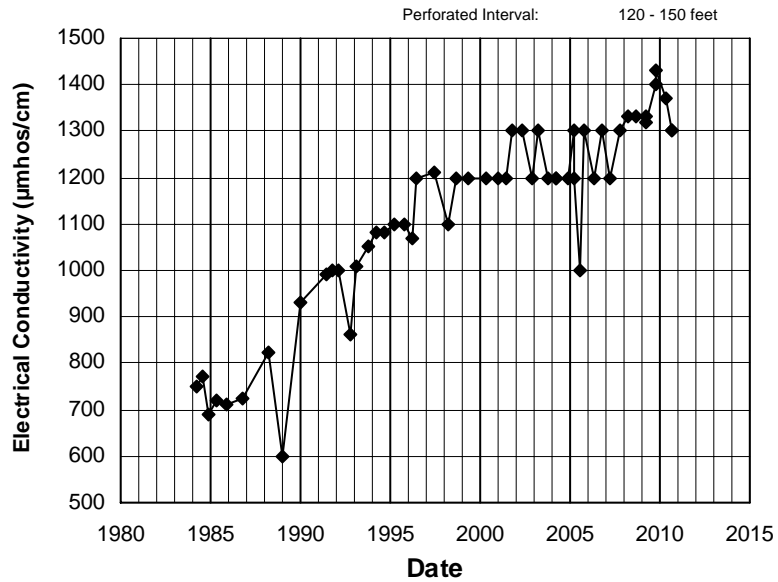
Spreckels Sugar Co. MW-8



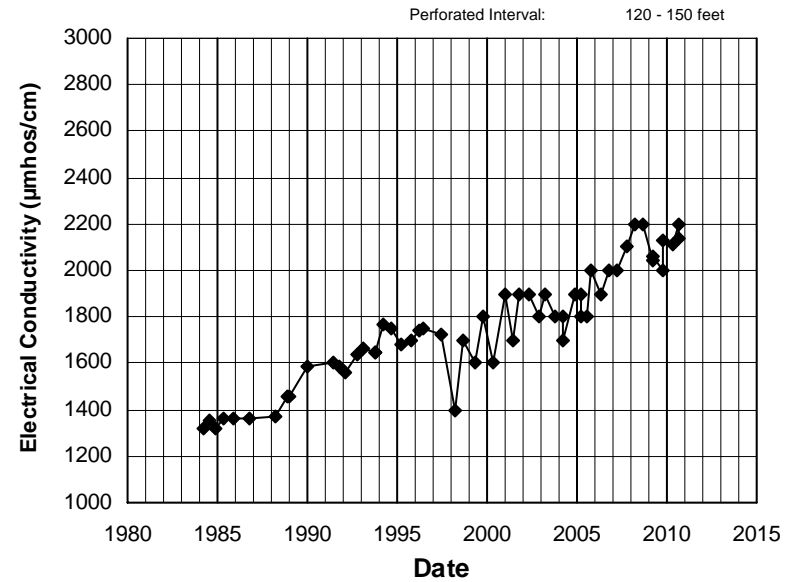
Spreckels Sugar Co. MW-9



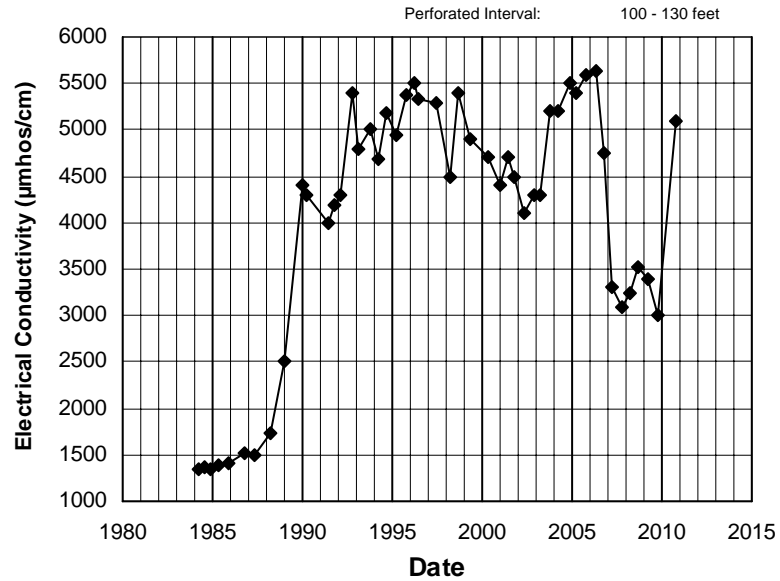
Spreckels Sugar Co. MW-10



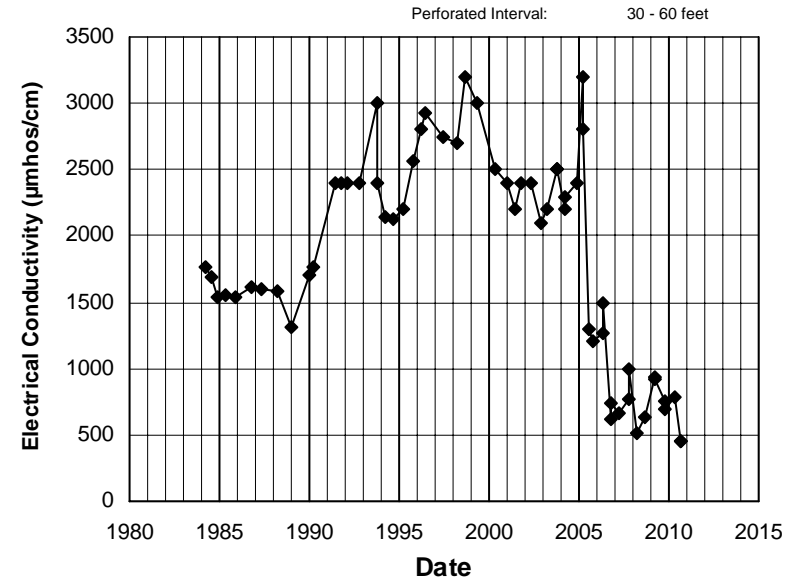
Spreckels Sugar Co. MW-11



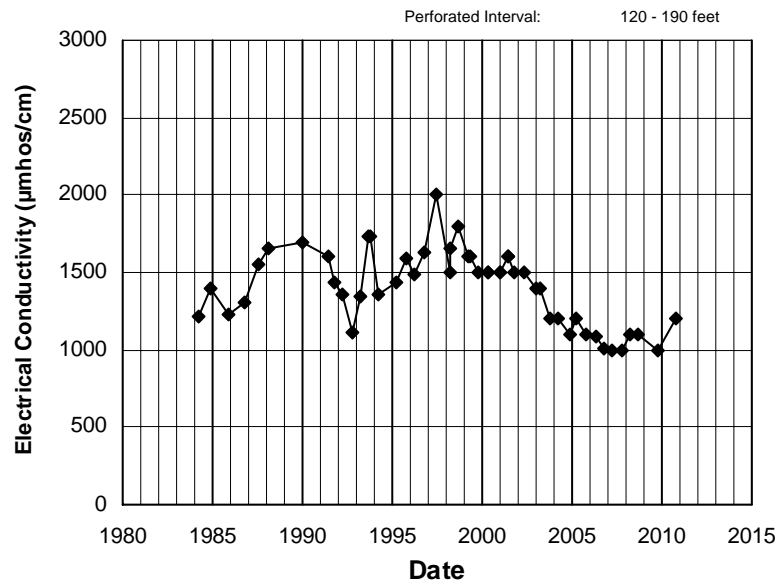
Spreckels Sugar Co. MW-12



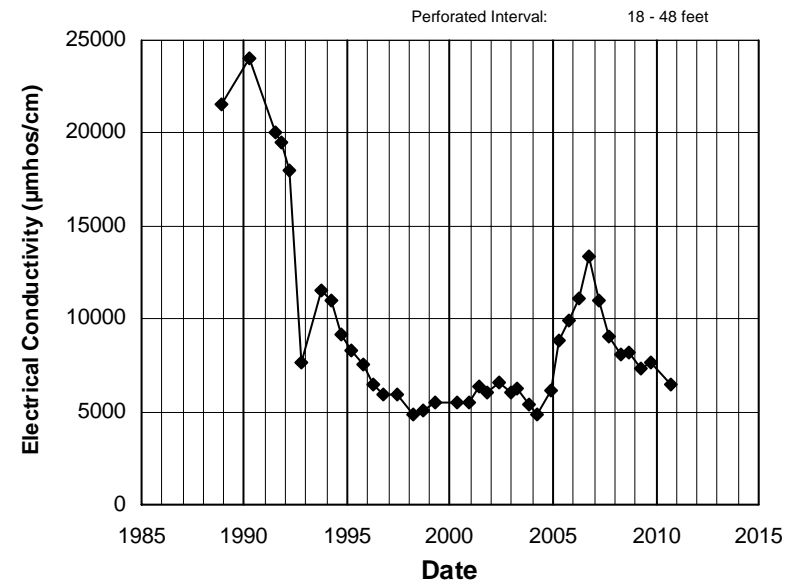
Spreckels Sugar Co. MW-13



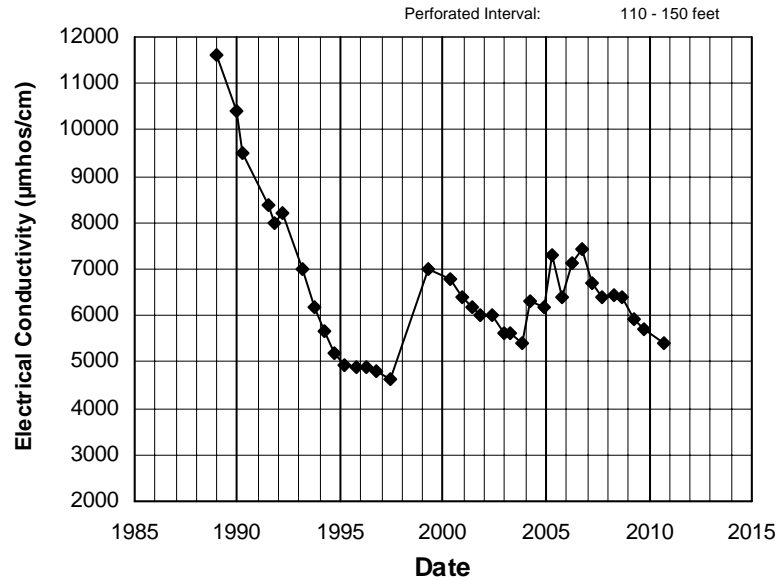
Spreckels Sugar Co. MW-14



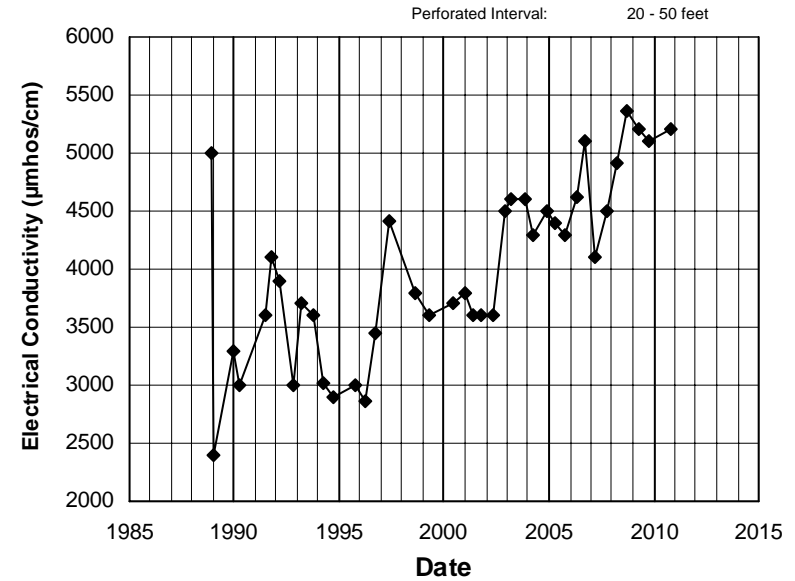
Spreckels Sugar Co. MW-15



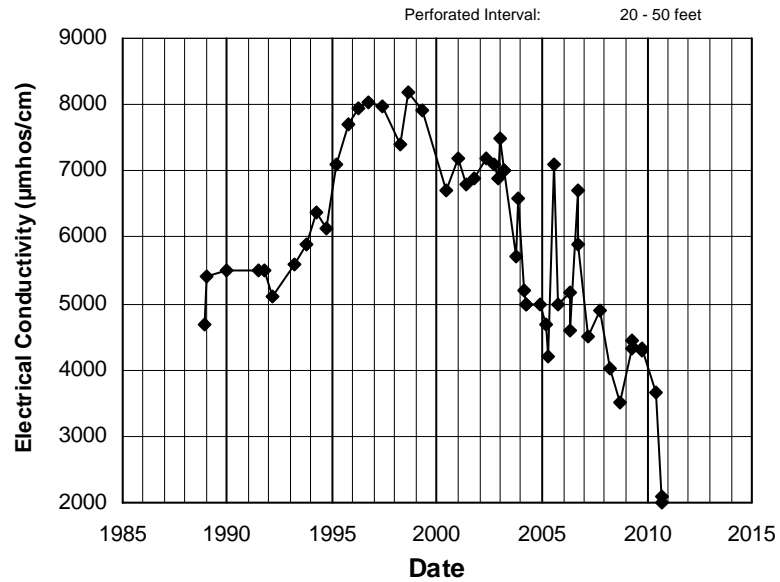
Spreckels Sugar Co. MW-16



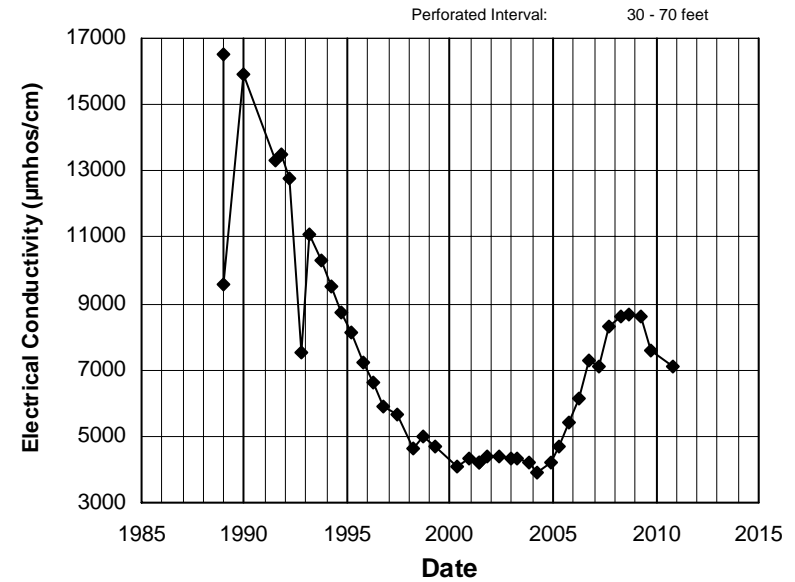
Spreckels Sugar Co. MW-17



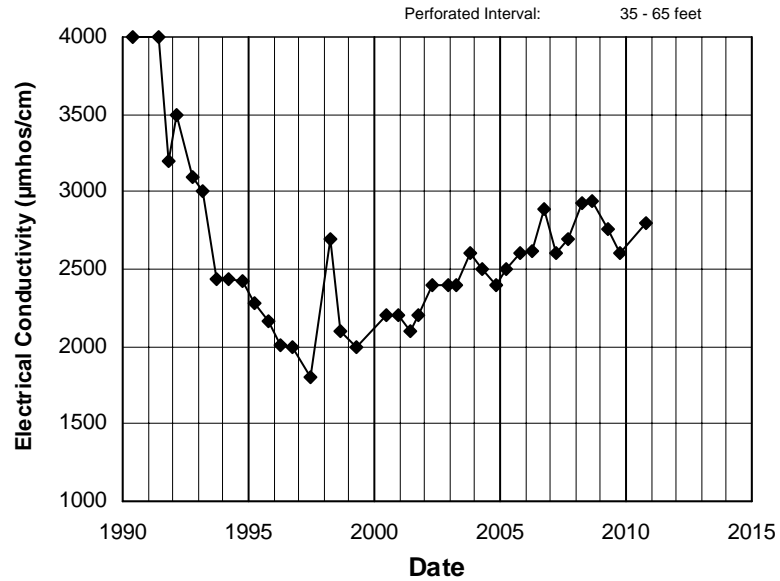
Spreckels Sugar Co. MW-18



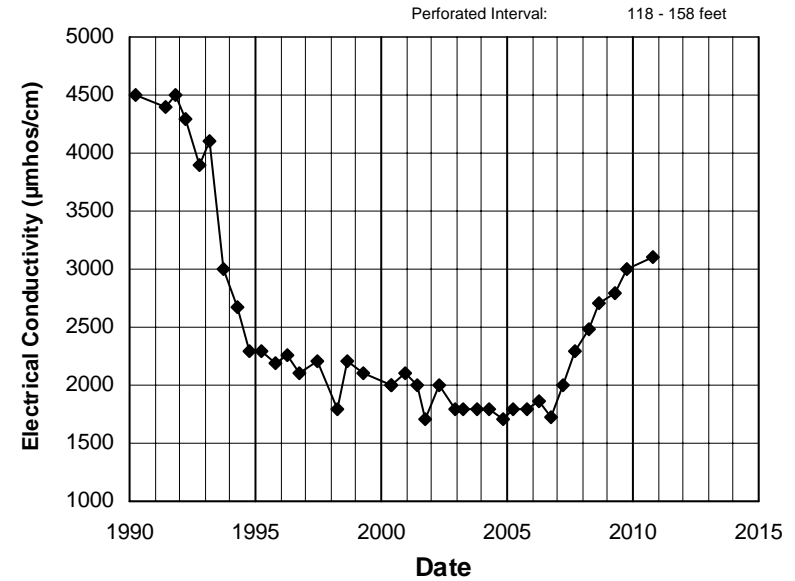
Spreckels Sugar Co. MW-19



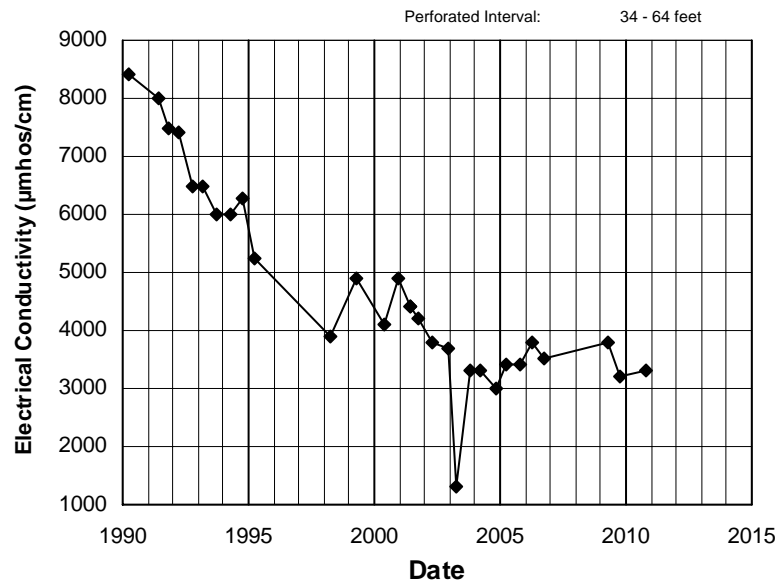
Spreckels Sugar Co. MW-20



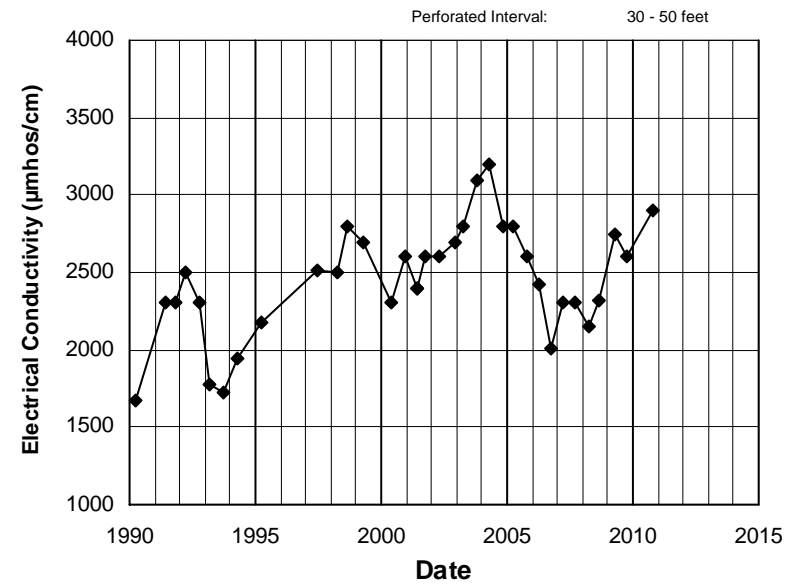
Spreckels Sugar Co. MW-22



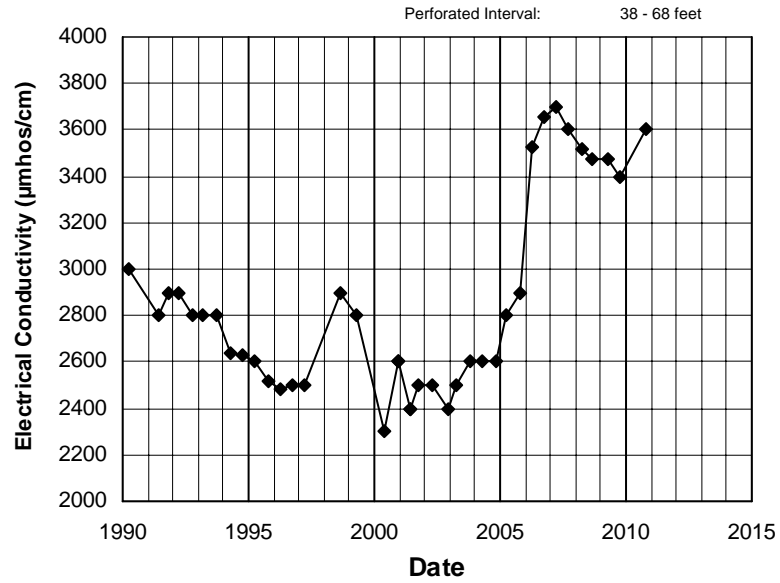
Spreckels Sugar Co. MW-23



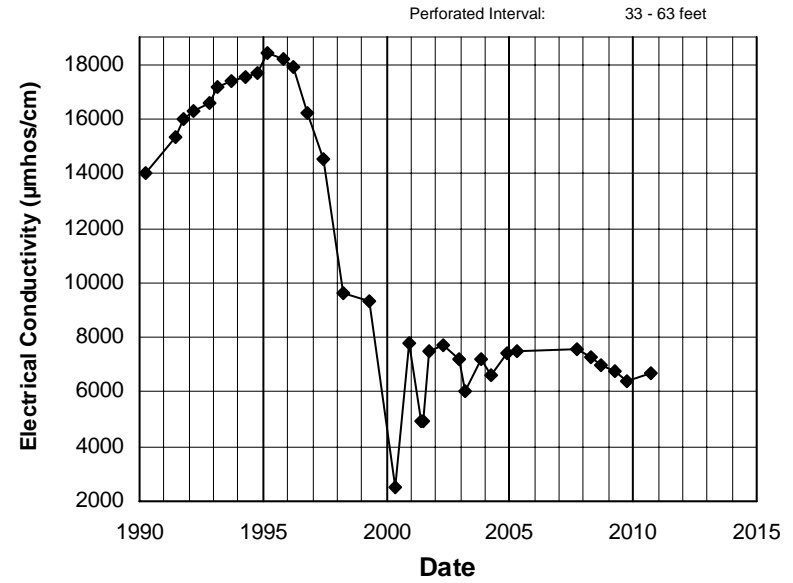
Spreckels Sugar Co. MW-24



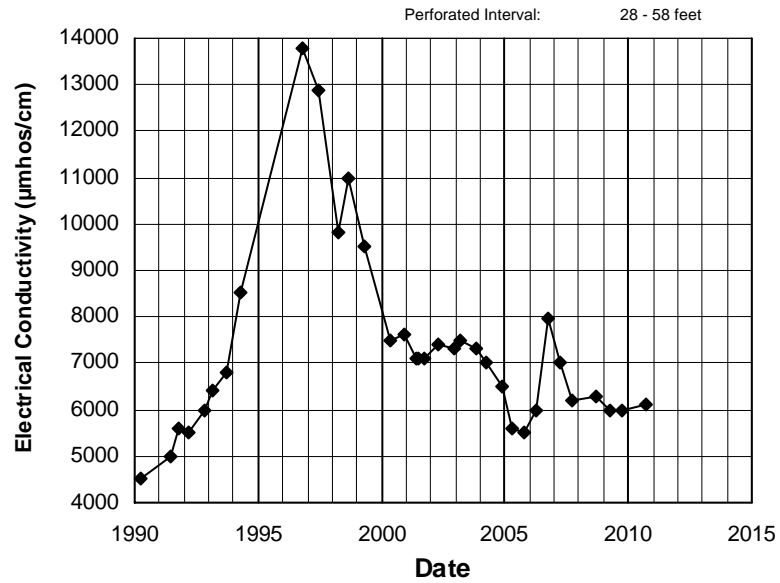
Spreckels Sugar Co. MW-25



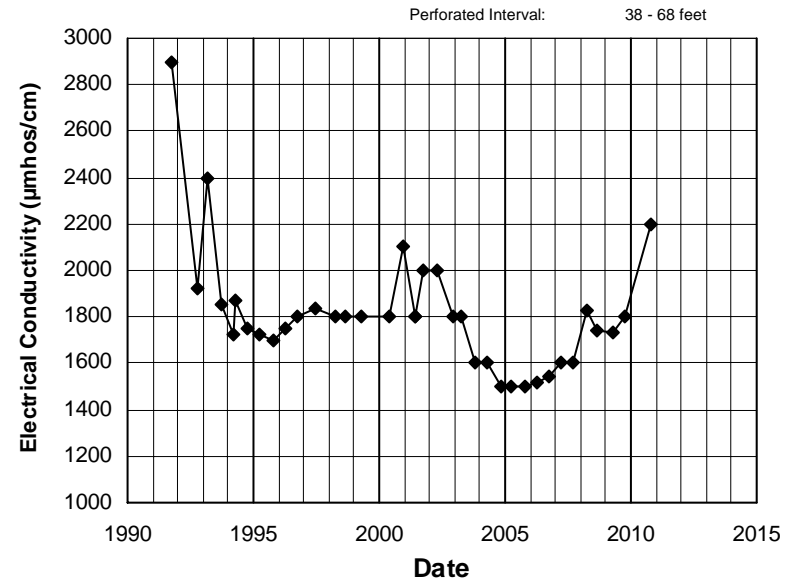
Spreckels Sugar Co. MW-26



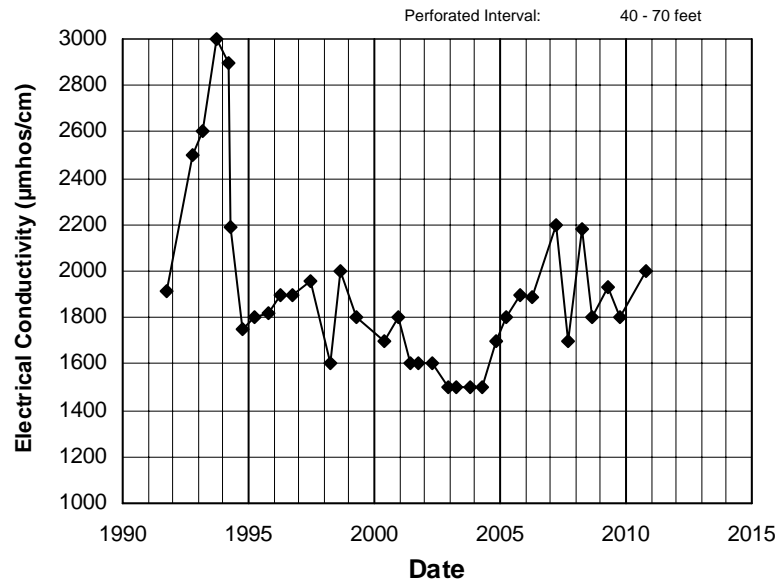
Spreckels Sugar Co. MW-27



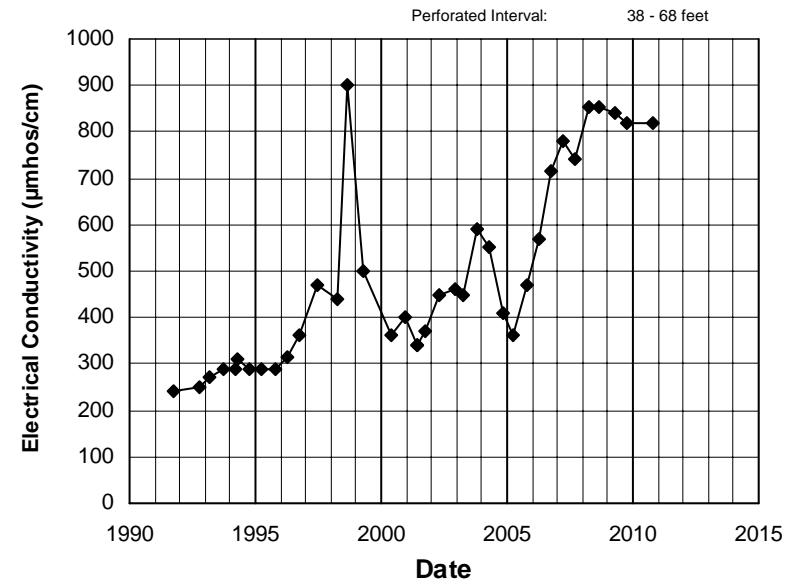
Spreckels Sugar Co. MW-28



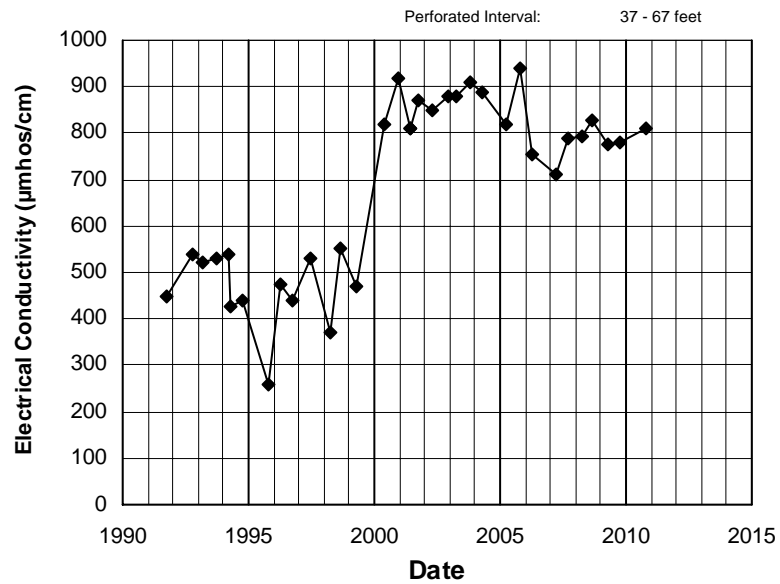
Spreckels Sugar Co. MW-29



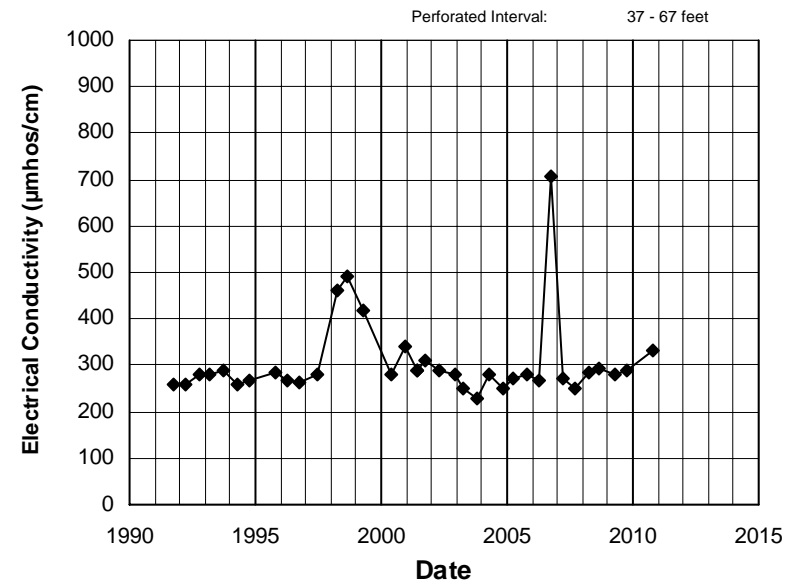
Spreckels Sugar Co. MW-30



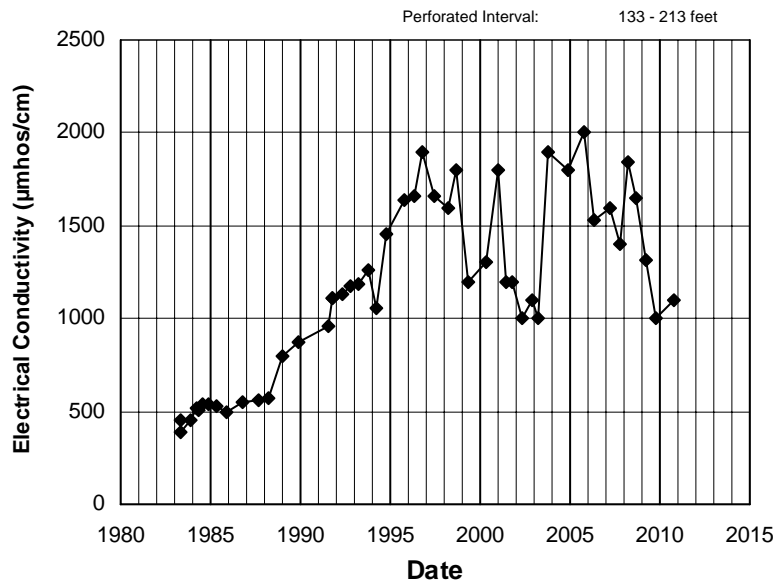
Spreckels Sugar Co. MW-31



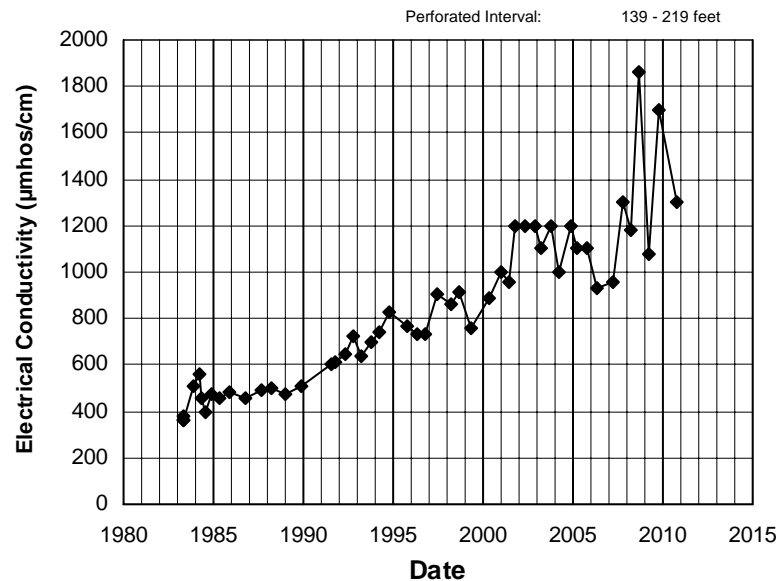
Spreckels Sugar Co. MW-32



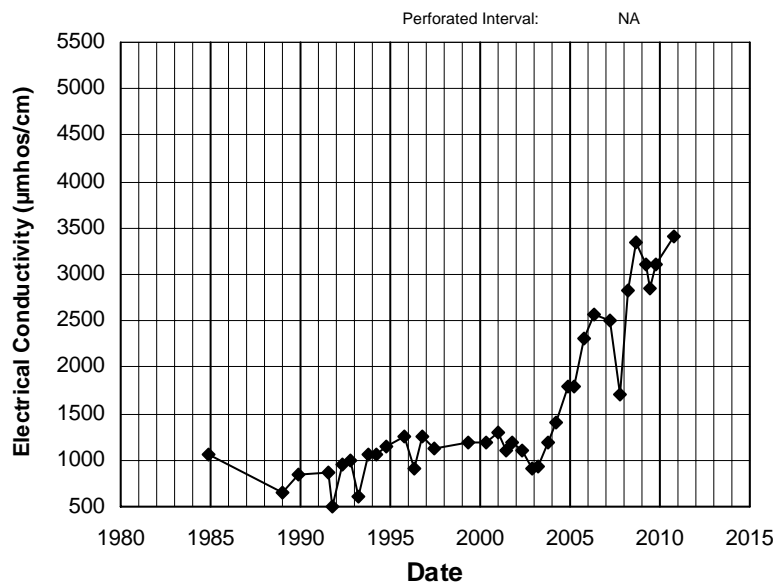
Spreckels Sugar Co. PW-6



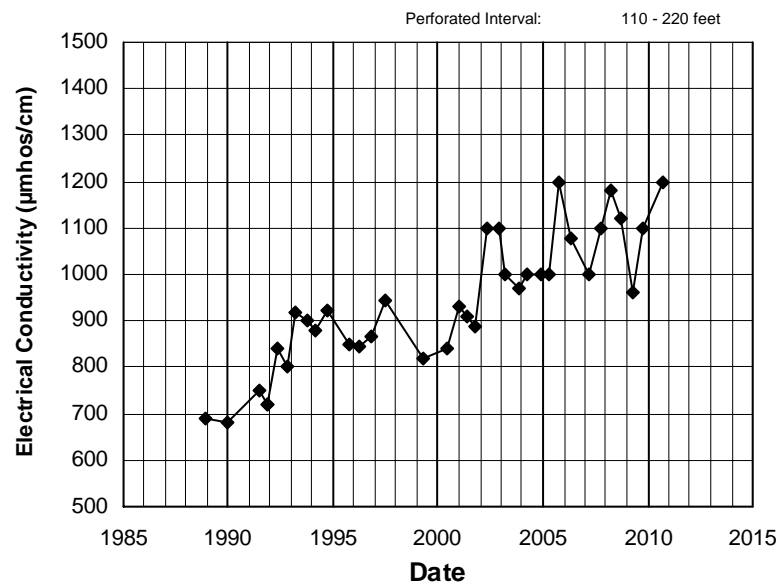
Spreckels Sugar Co. PW-7



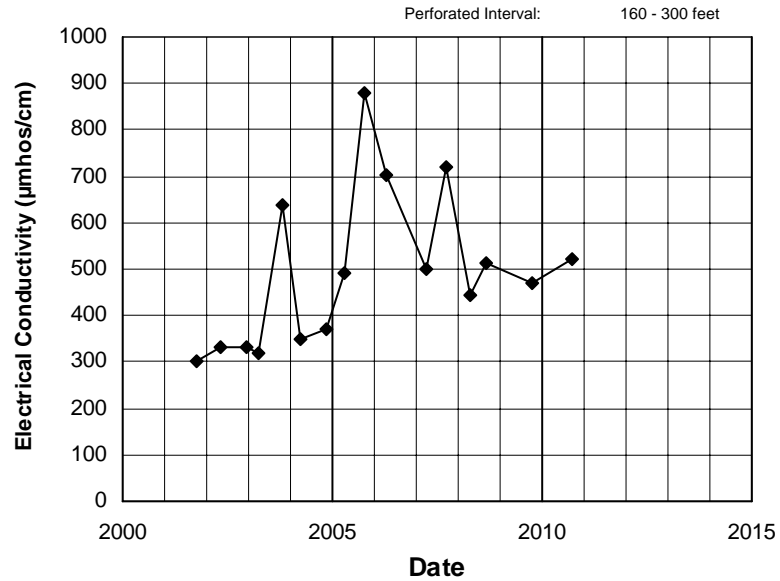
Spreckels Sugar Co. PW-9



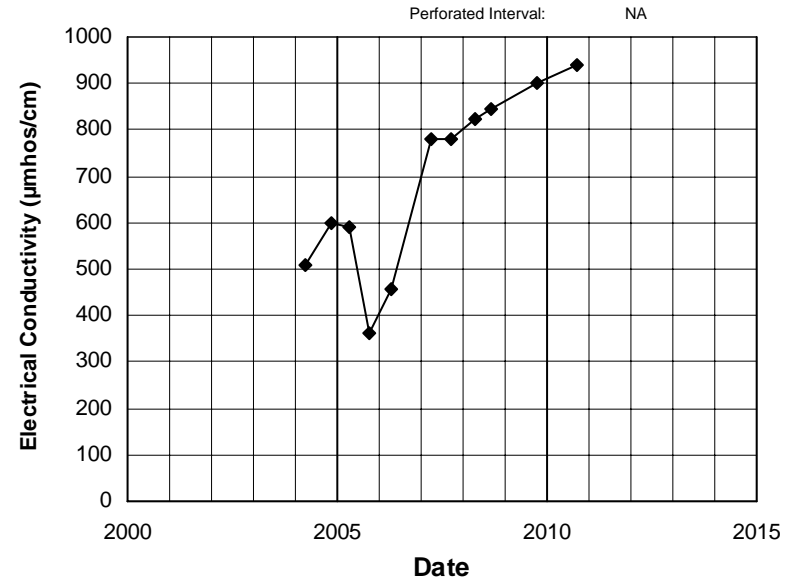
Spreckels Sugar Co. PW-10



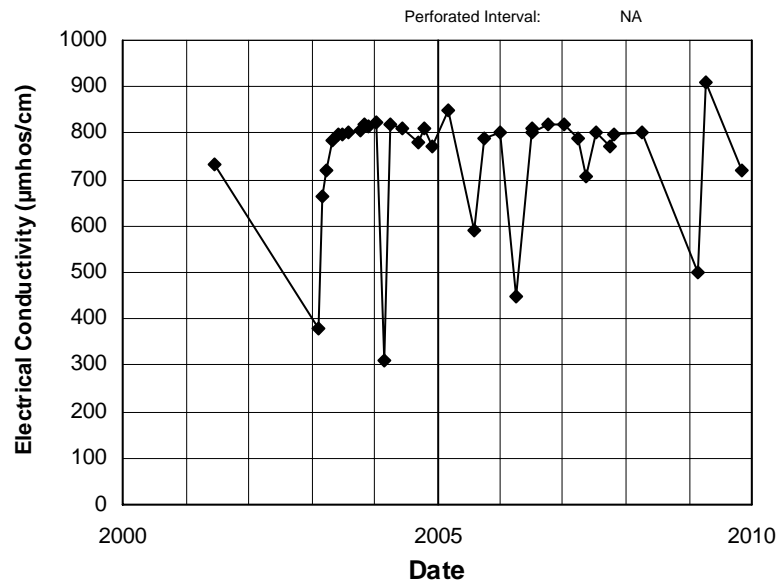
Spreckels Sugar Co. PW-11



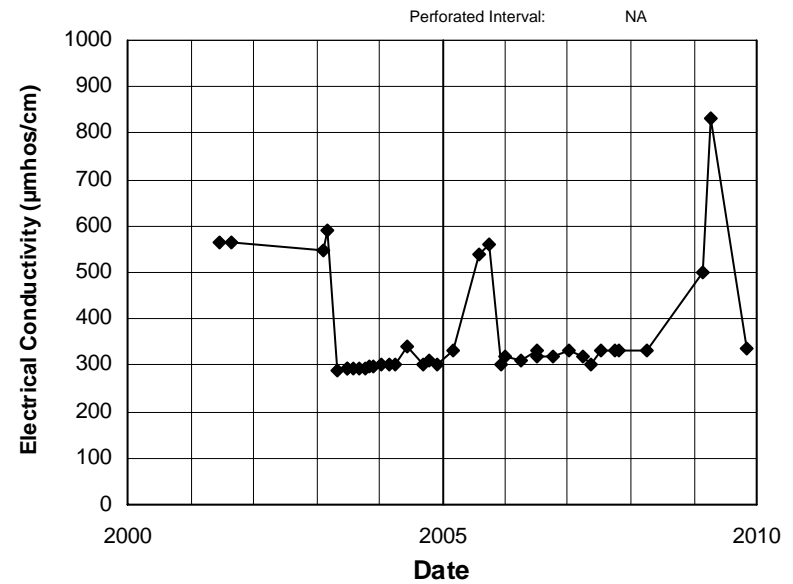
Spreckels Sugar Co. PW-12



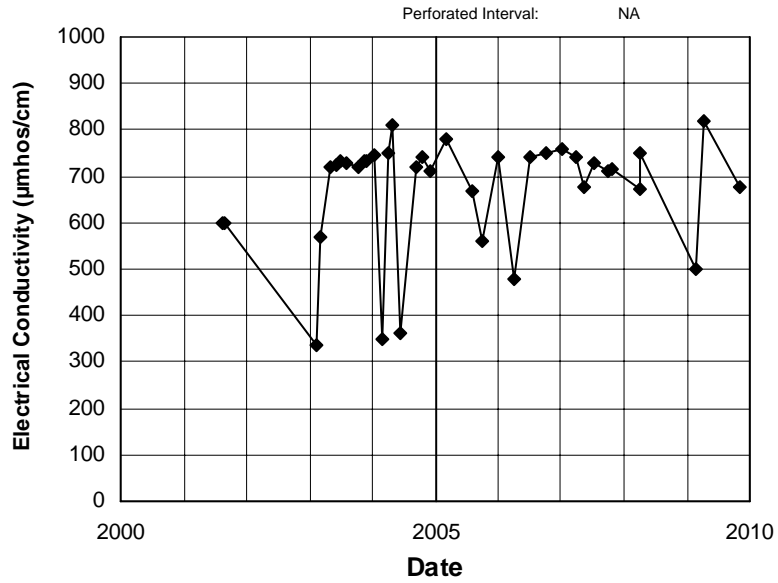
City of Mendota Well No. 7



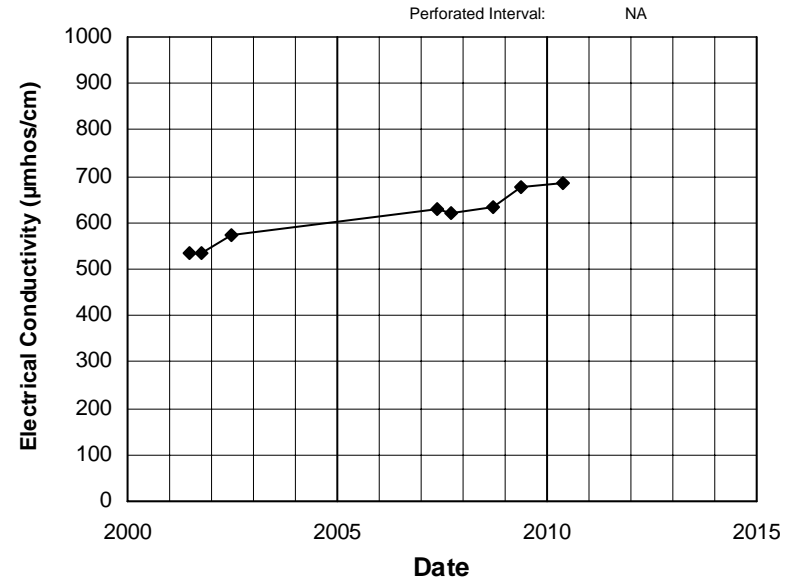
City of Mendota Well No. 8



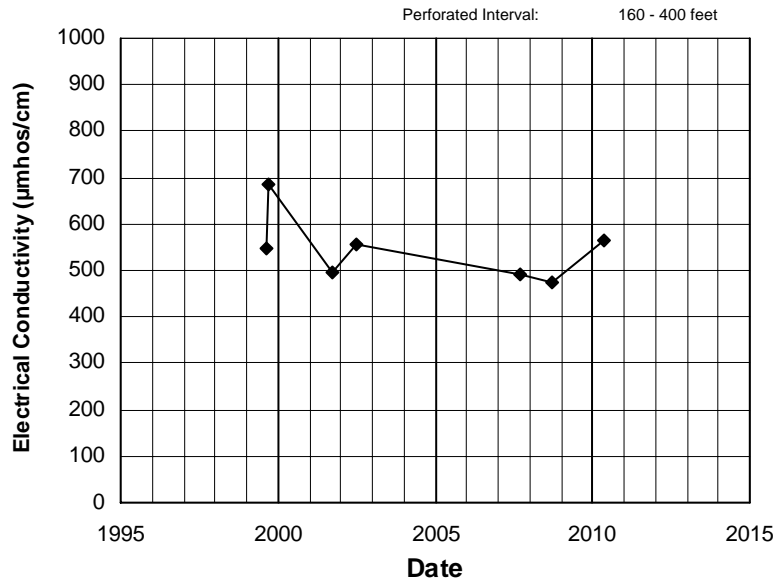
City of Mendota Well No. 9



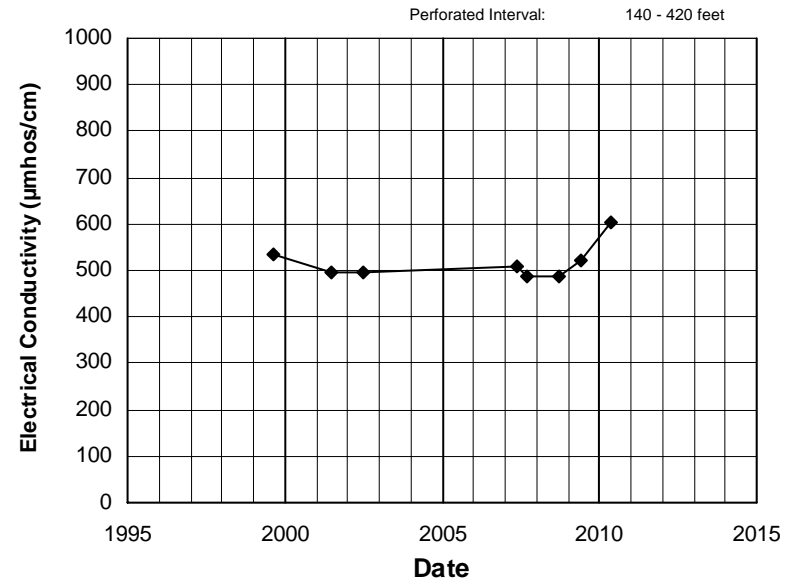
Panoche Creek Farms PCF-1



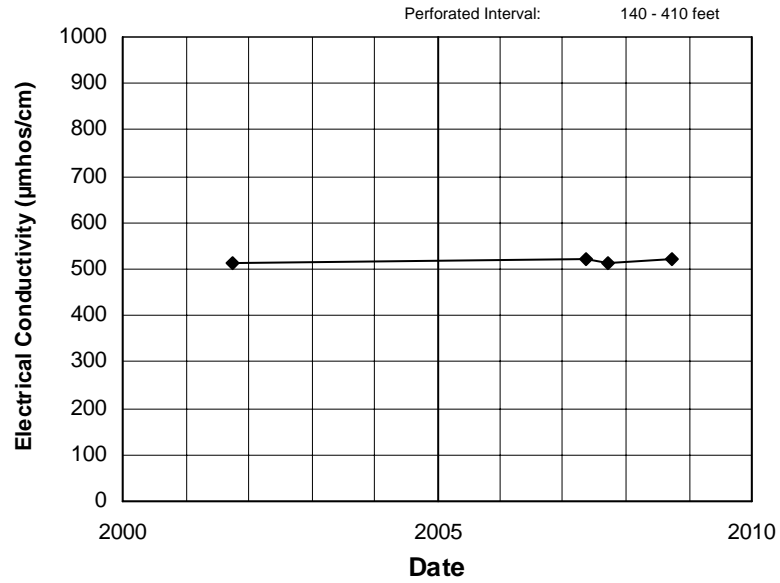
Baker Farming BF-1



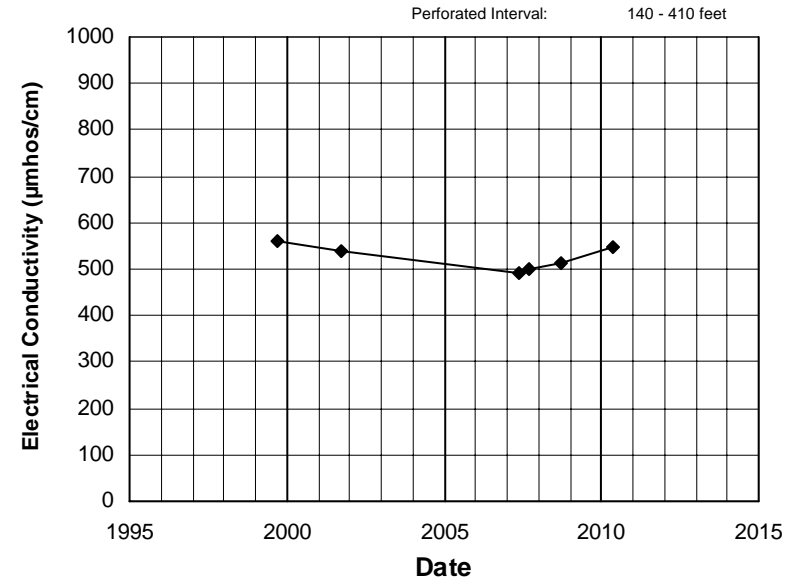
Baker Farming BF-2



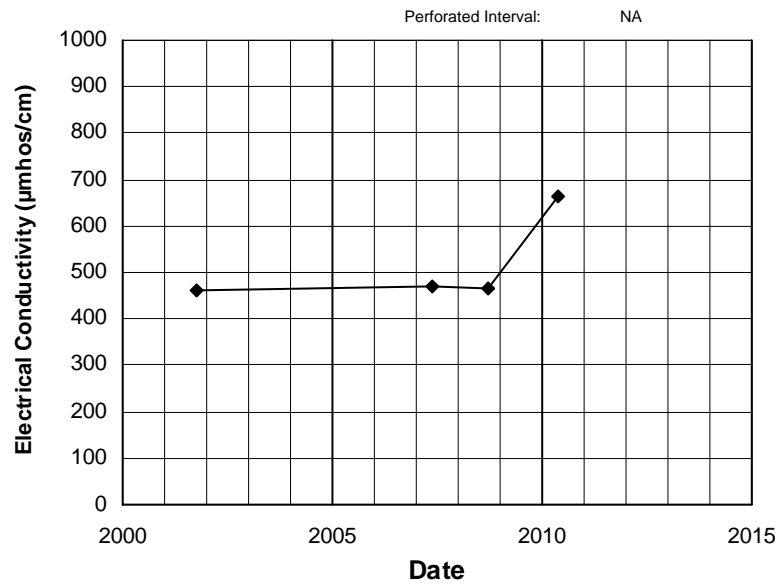
Baker Farming BF-3



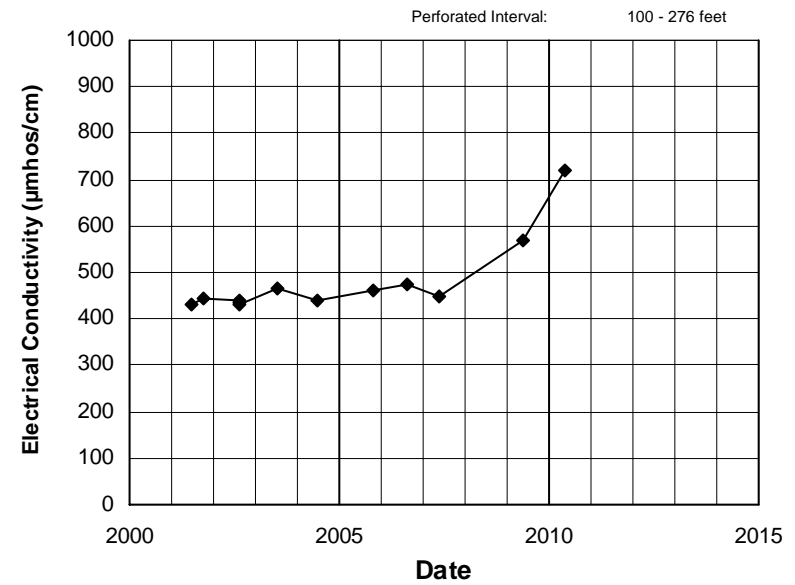
Baker Farming BF-4



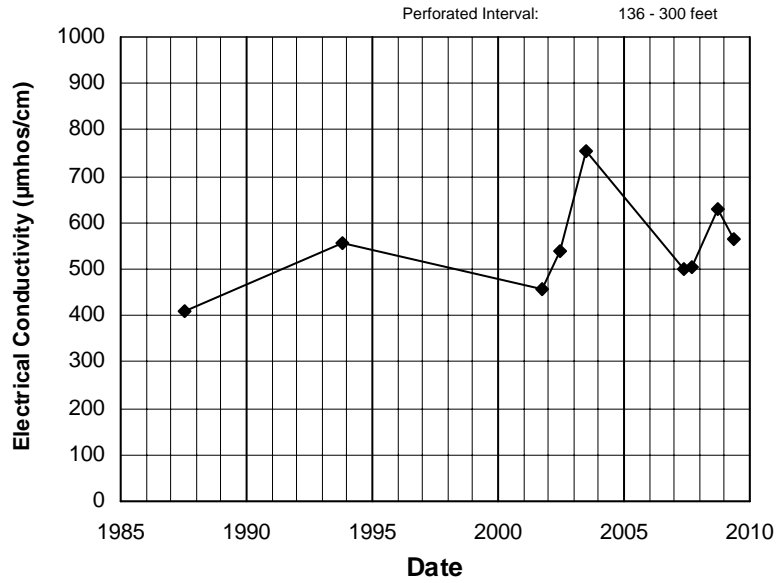
Baker Farming BF-5



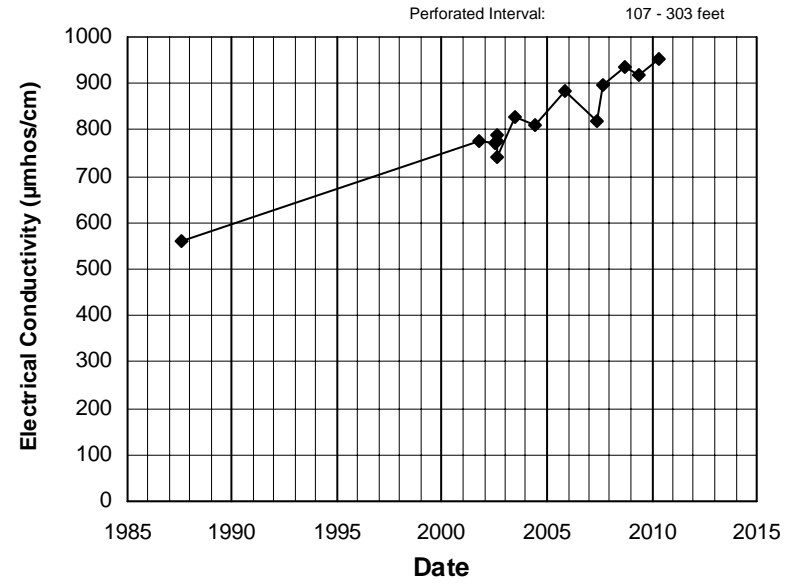
Farmers WD R-1



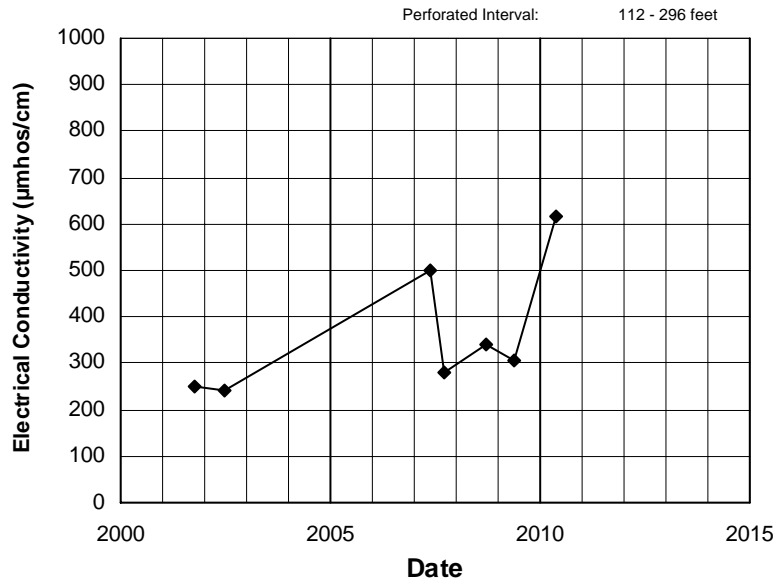
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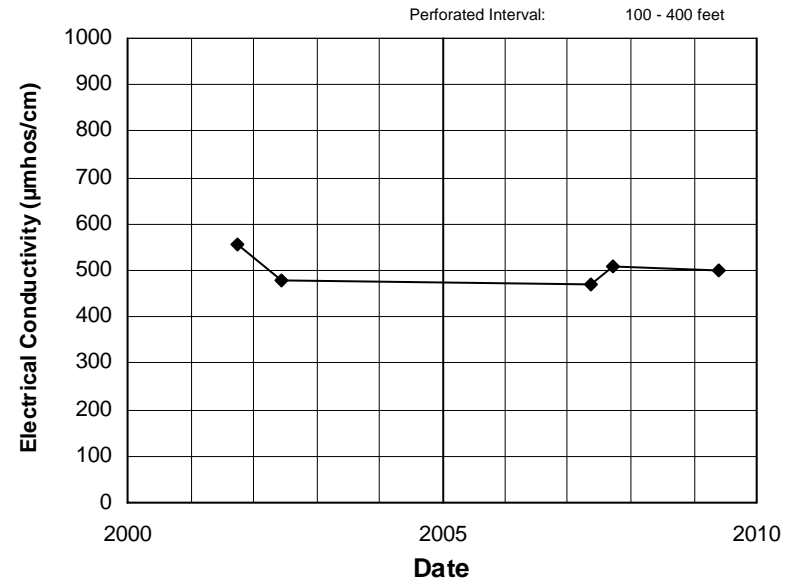
Farmers WD R-3



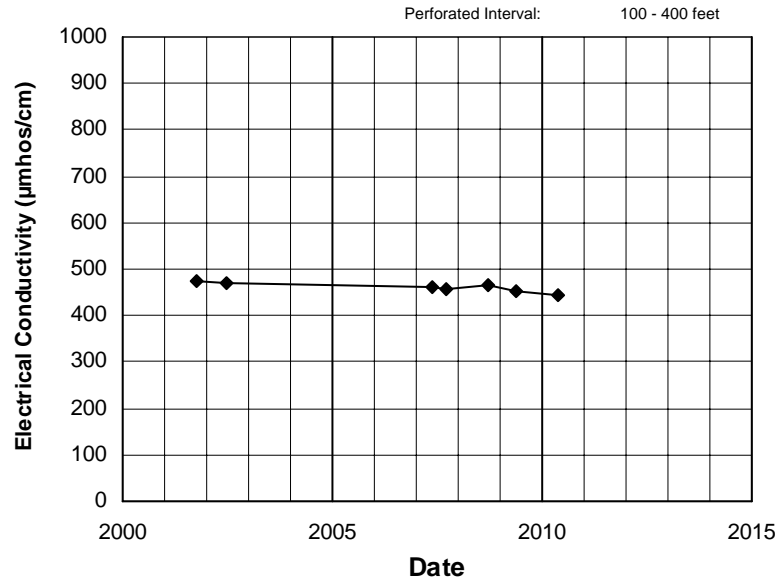
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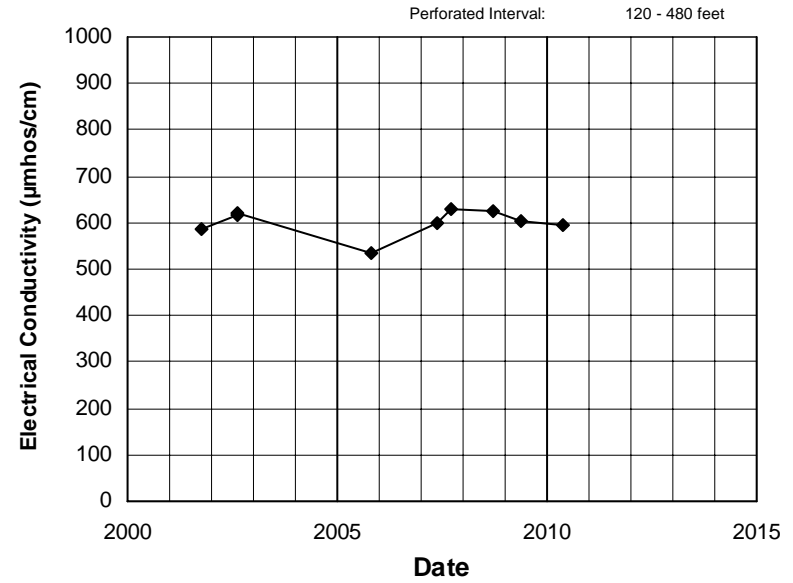
Farmers WD R-6



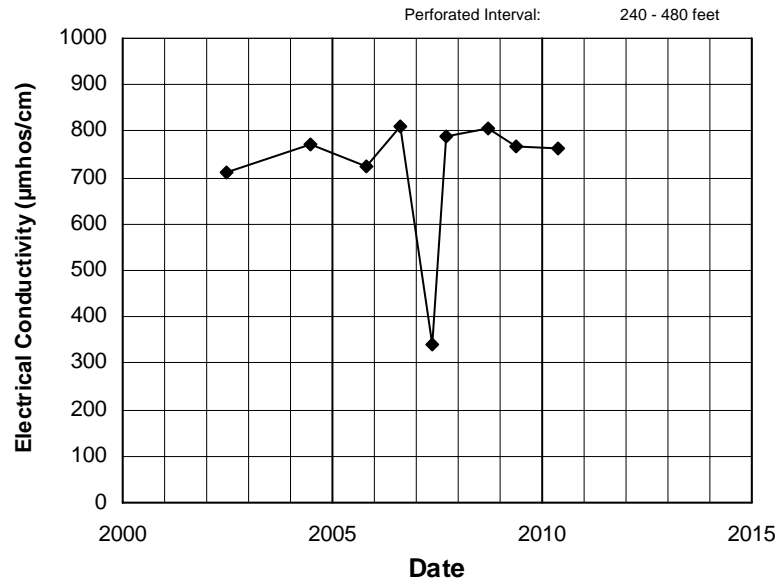
Farmers WD R-7



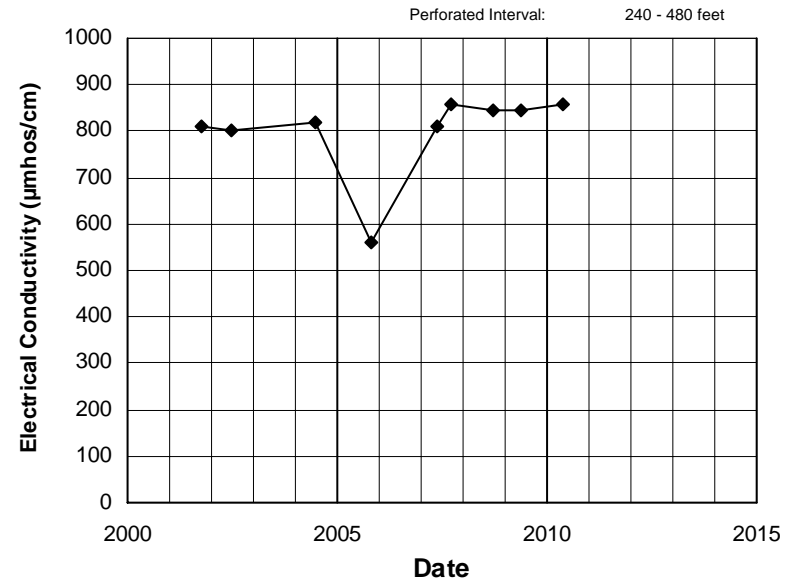
Farmers WD R-8



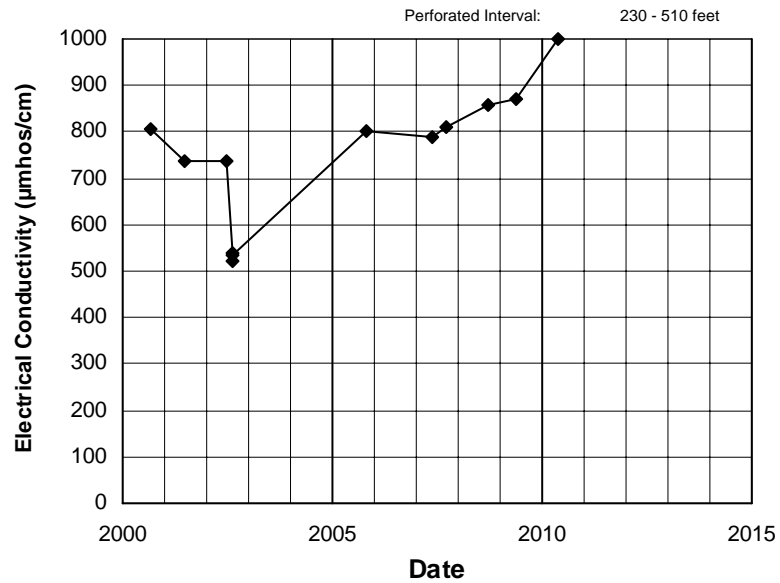
Farmers WD R-9



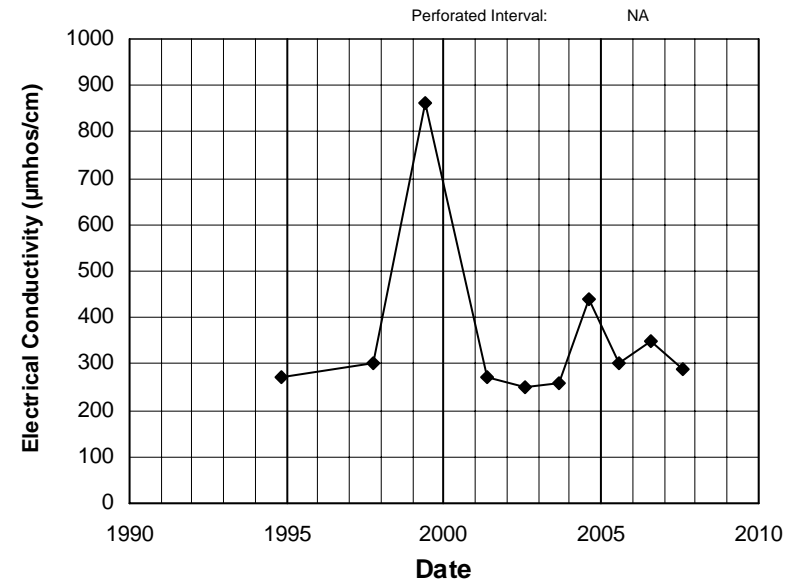
Farmers WD R-10



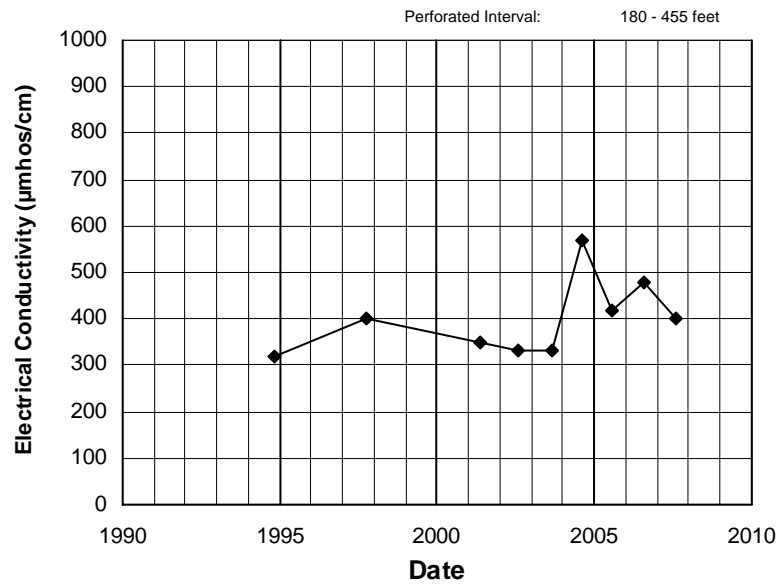
Farmers WD R-11



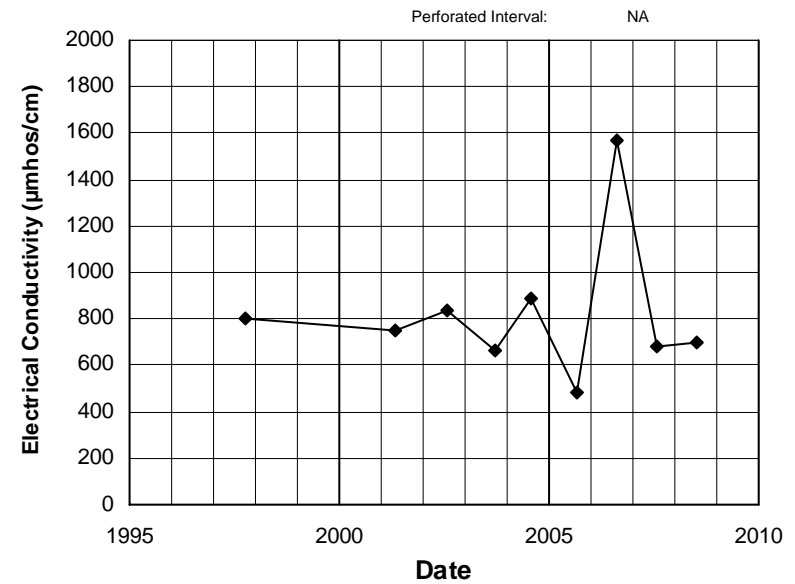
Columbia Canal Company Well CC-1



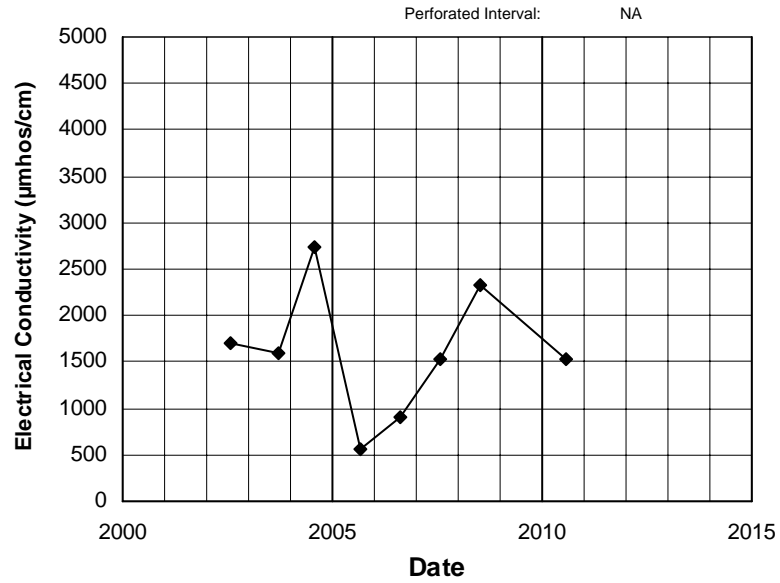
Columbia Canal Company Well CC-2



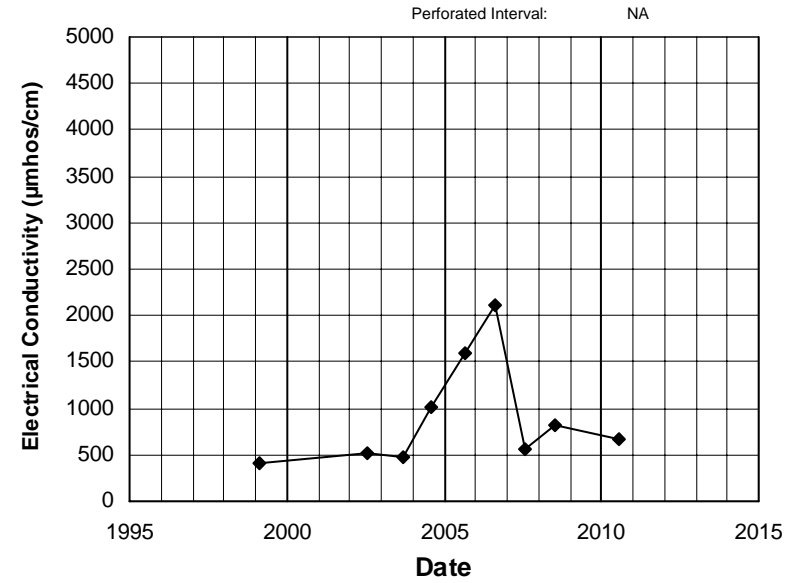
Columbia Canal Company Well Cardella-1 (Lopes)



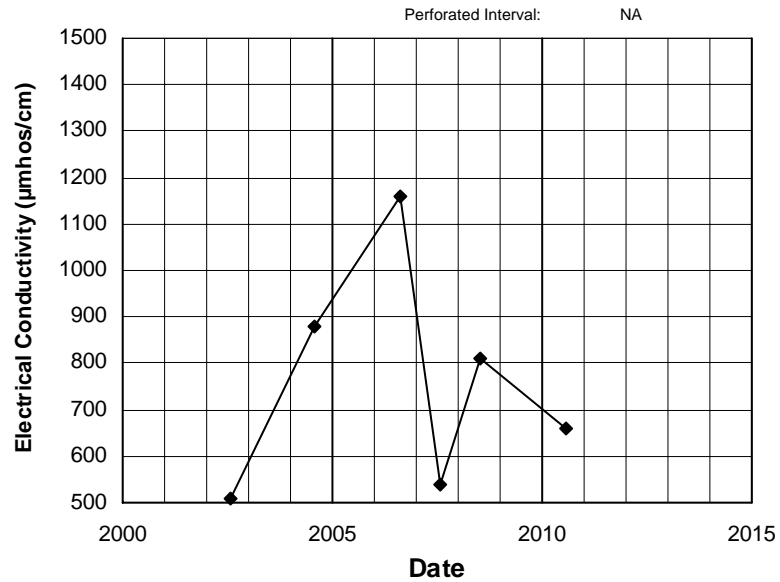
Columbia Canal Company Well Elrod-1



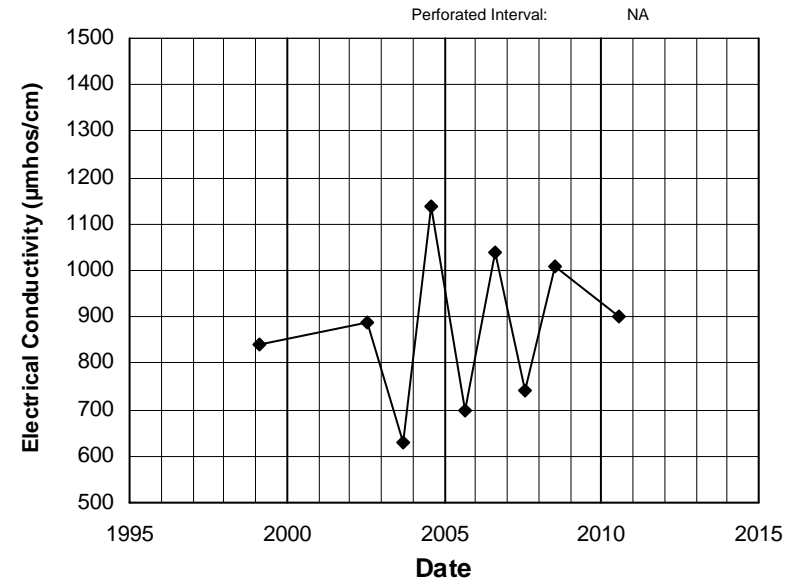
Columbia Canal Company Well Elrod-2



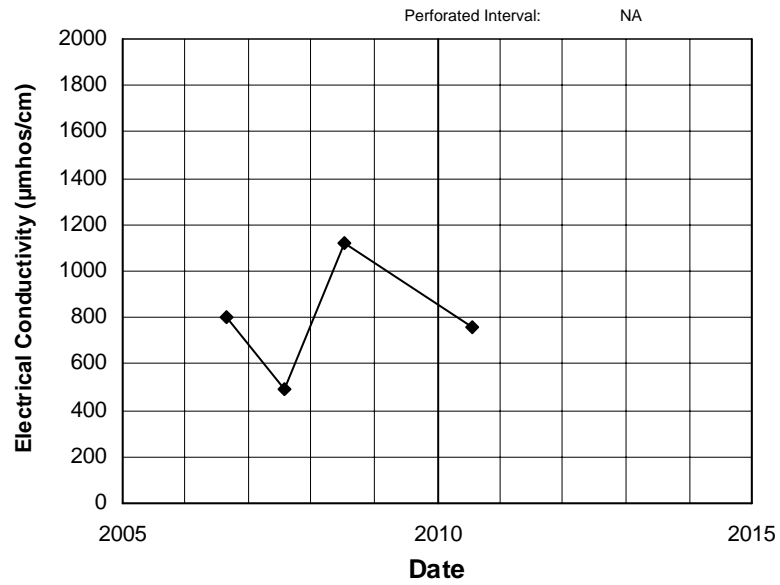
Columbia Canal Company Burkhardt-Heirs



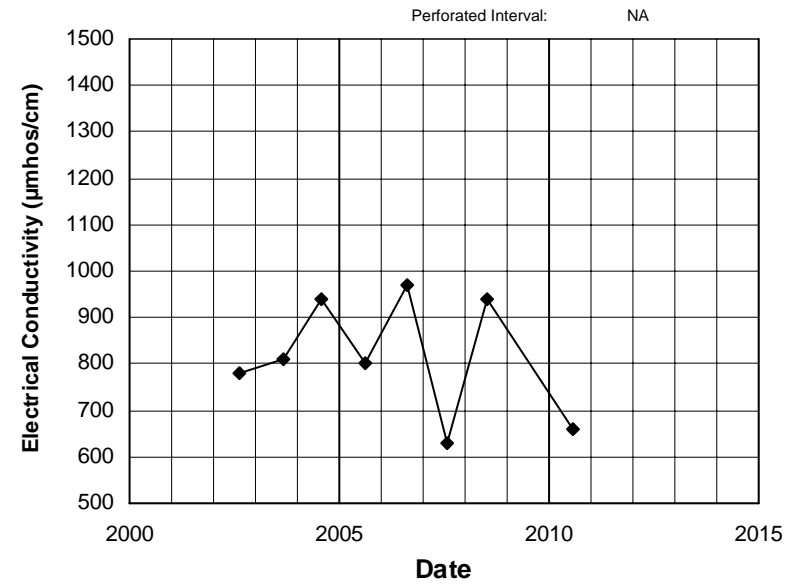
Columbia Canal Company Davis-1



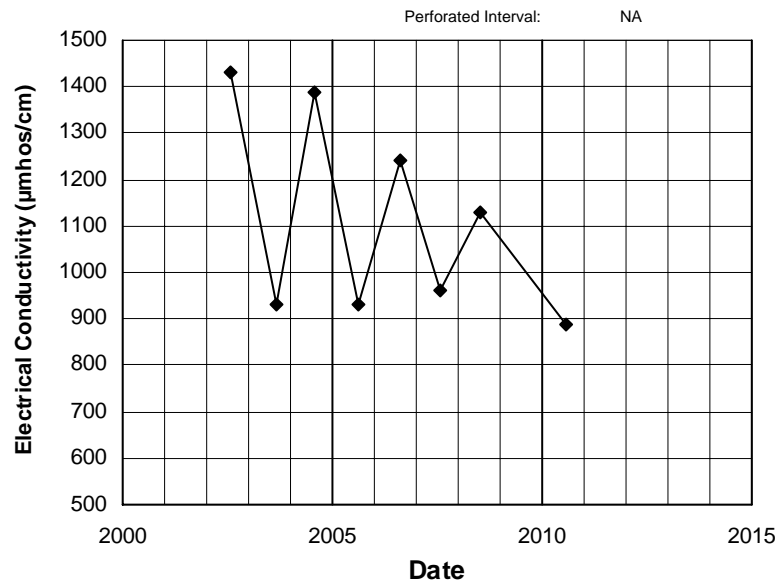
Columbia Canal Company Davis-2



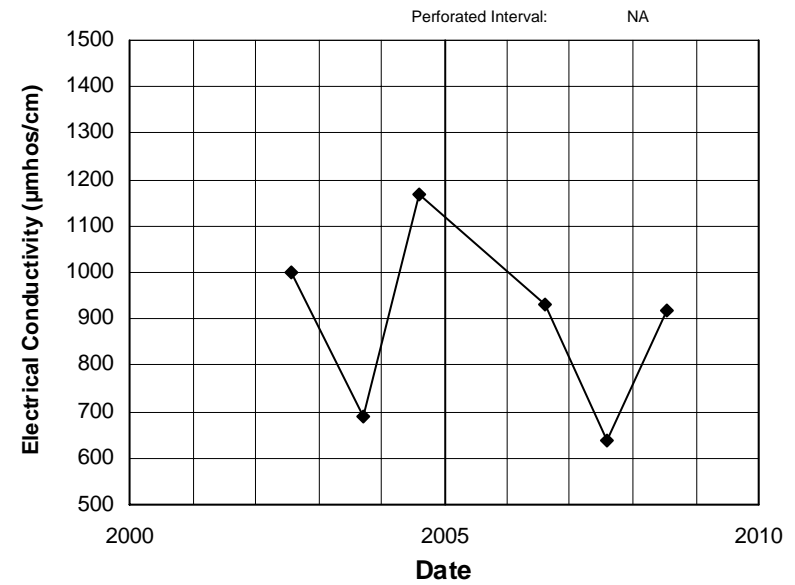
Columbia Canal Company Garcia-1



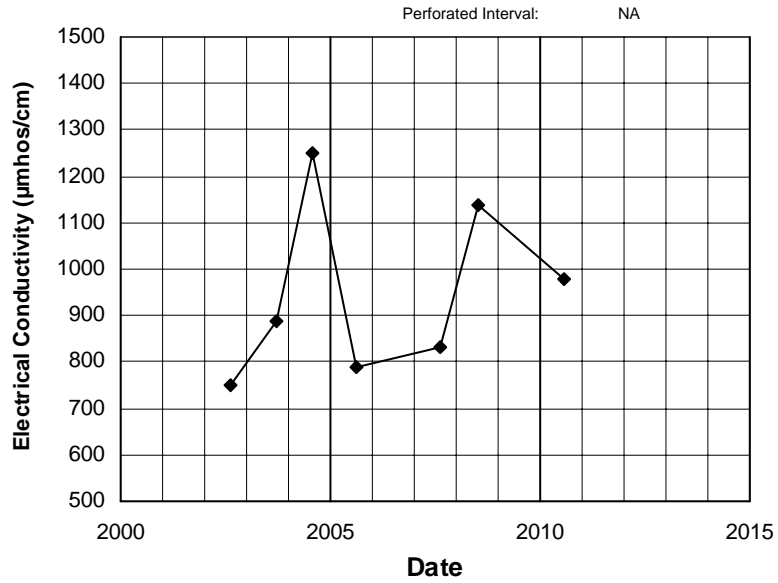
Columbia Canal Company Garcia-2



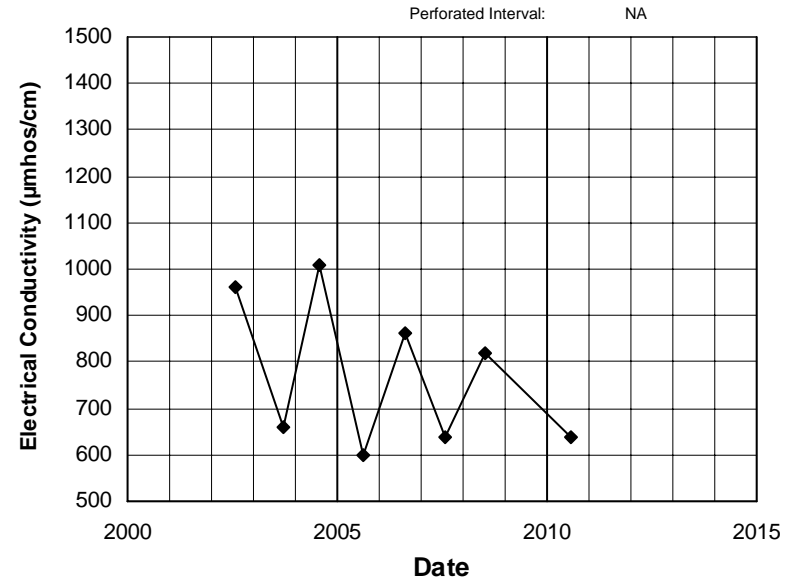
Columbia Canal Company Garcia-3



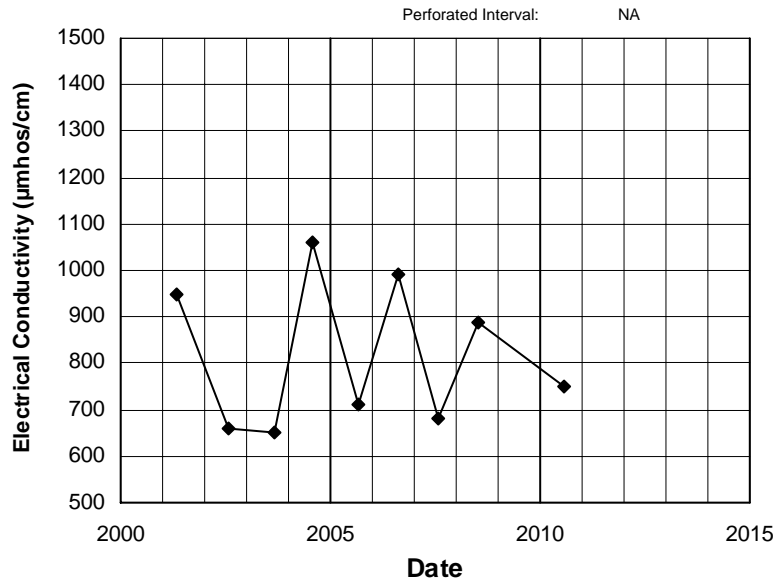
Columbia Canal Company Garcia-4



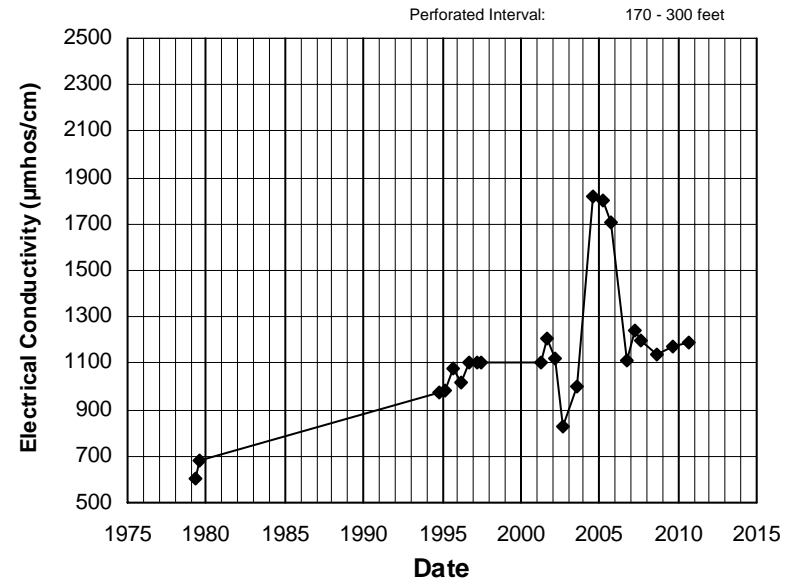
Columbia Canal Company Garcia-5



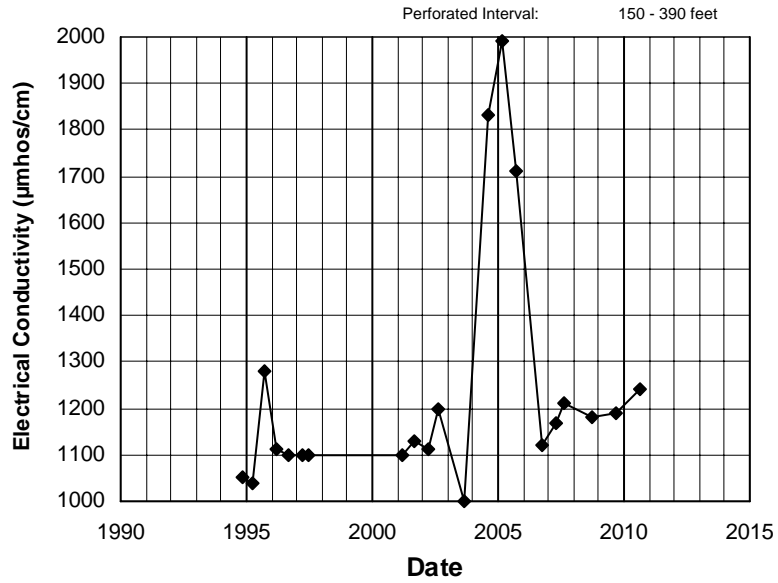
Columbia Canal Company Snyder



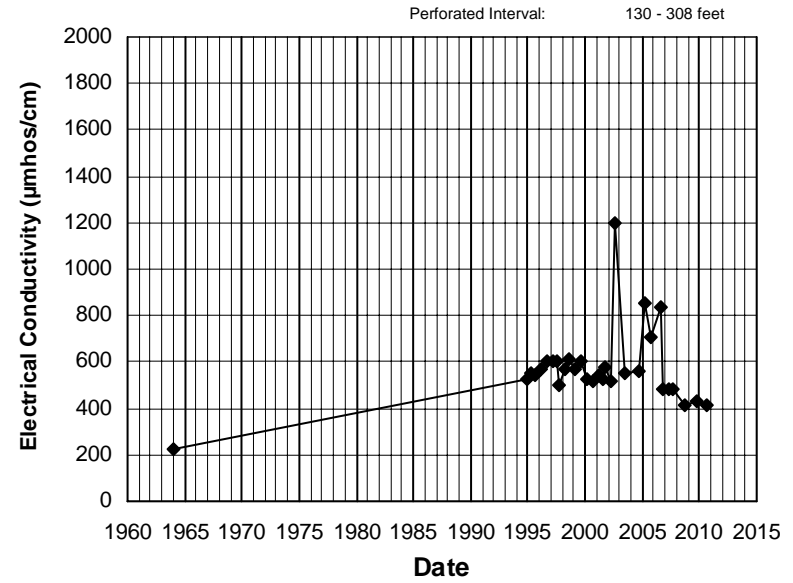
Paramount Farming Co. 3431-61 (W-32)



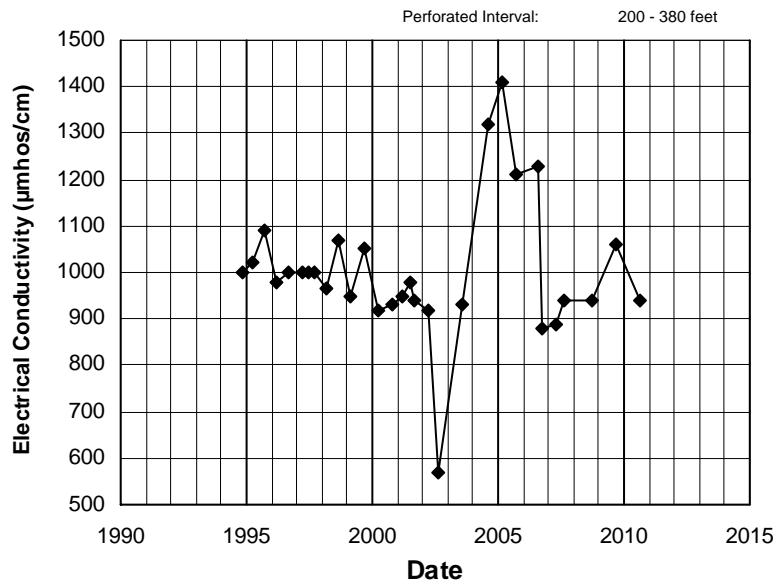
Paramount Farming Co. 2480-66 (W-42)



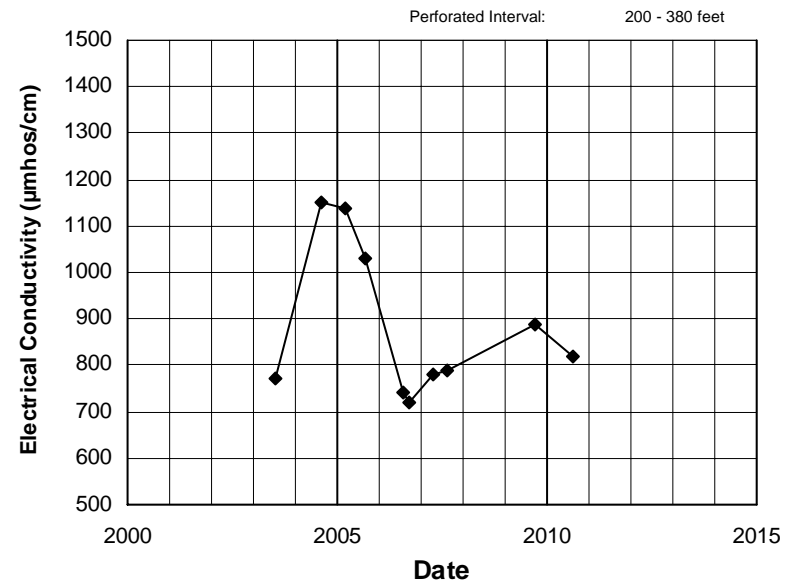
Paramount Farming Co. 3730-65 (W-53)



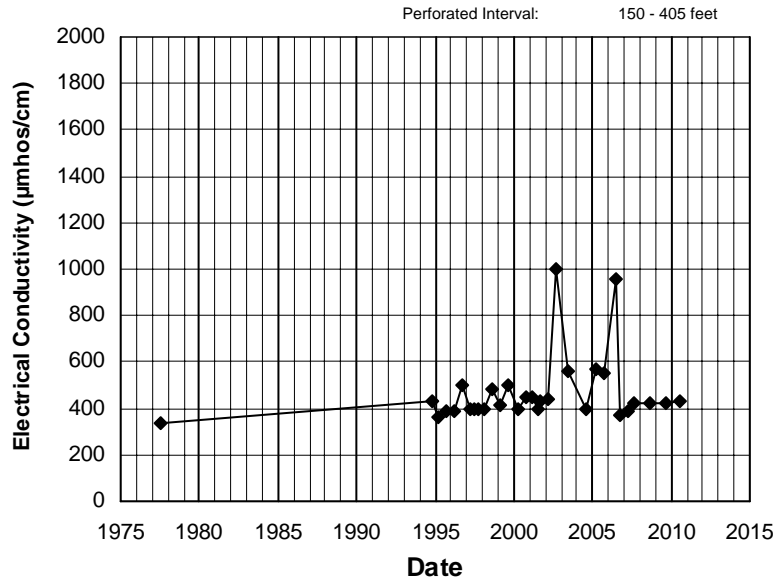
Paramount Farming Co. 3421-62 (W-74)



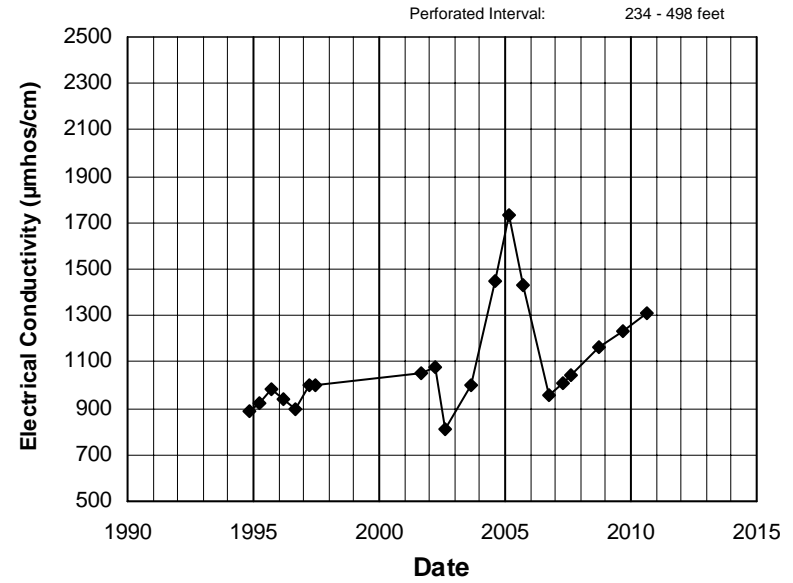
Paramount Farming Co. 3211-69 (W-77)



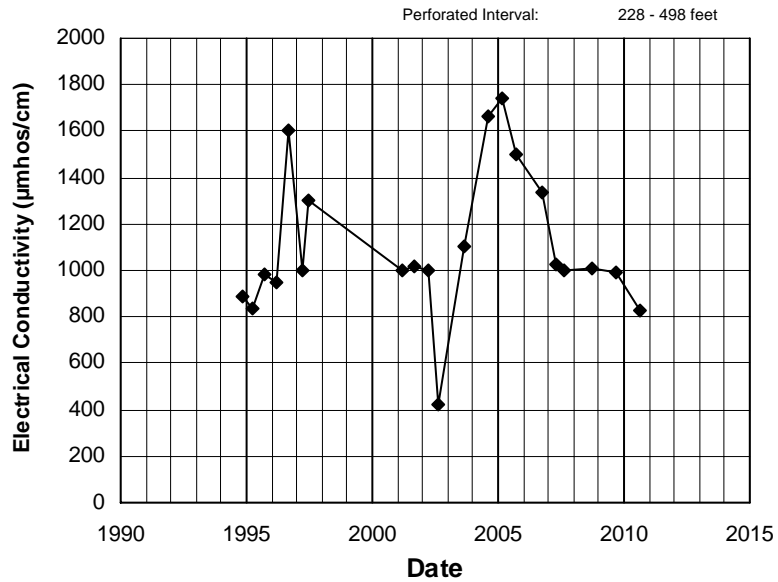
Paramount Farming Co. 2630-61 (W-78)



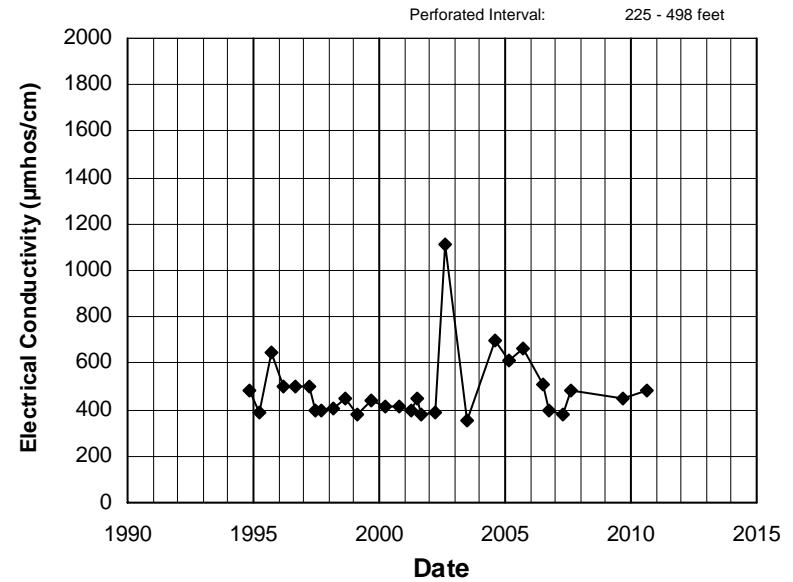
Paramount Farming Co. 3311-61 (W-89)



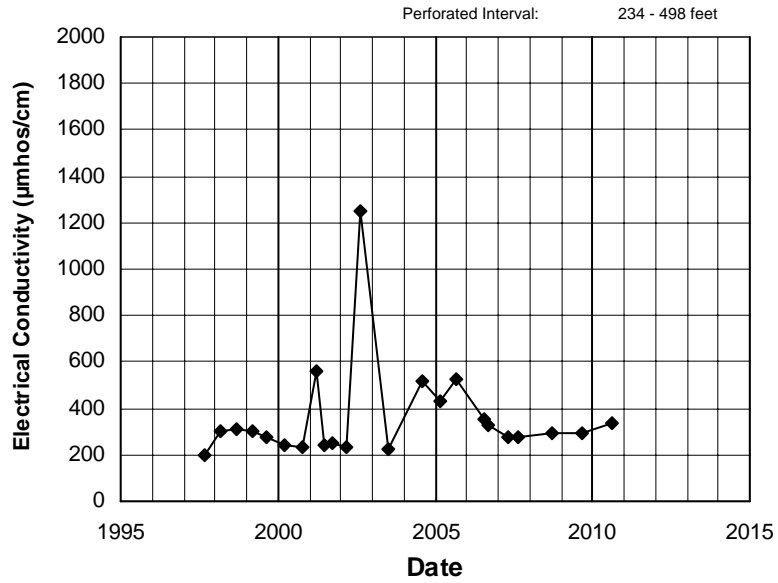
Paramount Farming Co. 3431-62 (W-91)



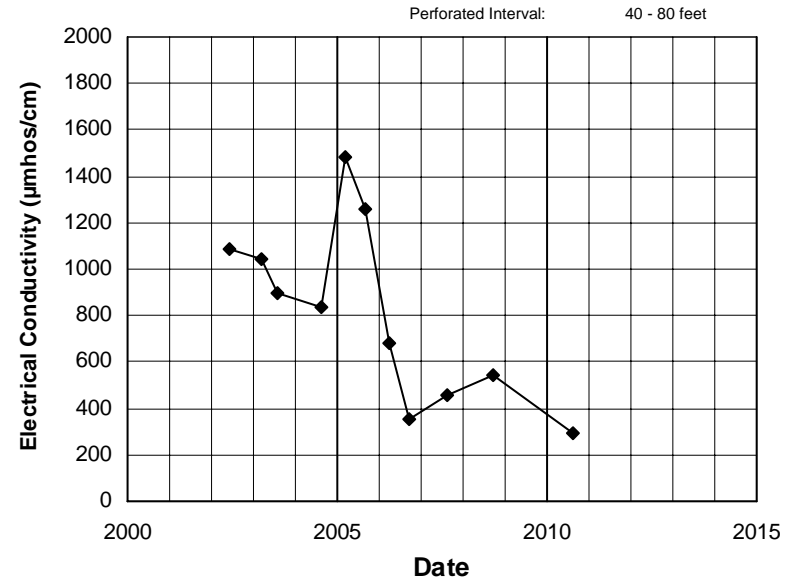
Paramount Farming Co. 3730-62 (W-94)



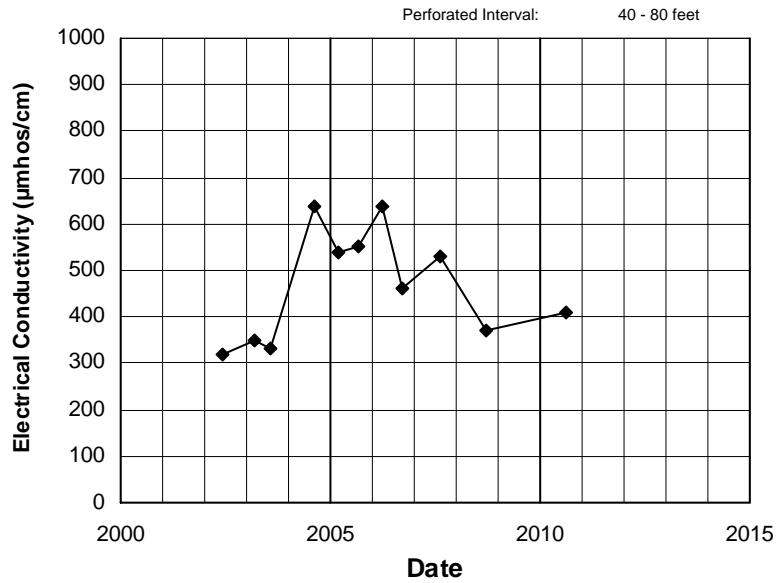
Paramount Farming Co. 3730-61 (W-95)



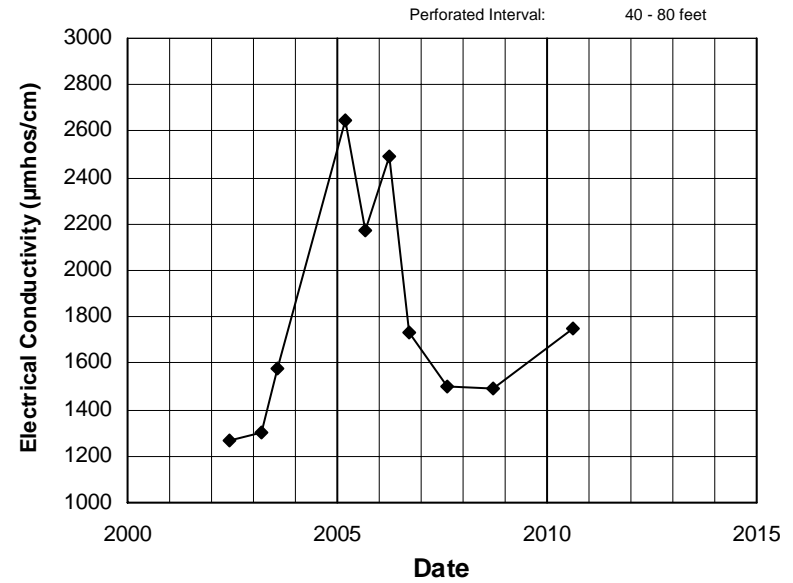
Paramount Farming Co. MW-2



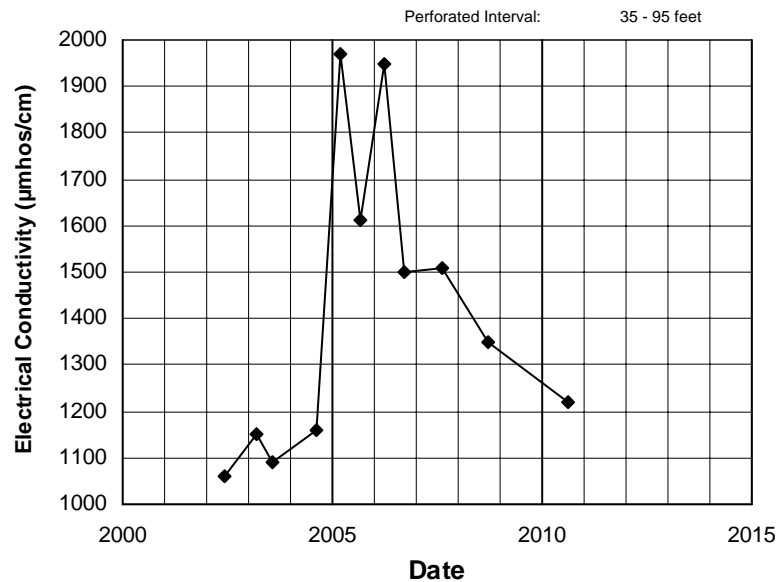
Paramount Farming Co. MW-3



Paramount Farming Co. MW-4



Paramount Farming Co. MW-5



Appendix F

Surface-Water Quality Laboratory Results

Table F-1
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ² (μmhos/cm)	TDS (mg/L)	pH	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	Total Alkalinity ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (μg/L)	B (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (μg/L)	Se (μg/L)	Zn (mg/L)		
Columbia Canal																									
2/3/1999	BSK	220	140	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<2	-	
4/21/1999	BSK	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	2	-	
5/26/1999	BSK	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
6/30/1999	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
7/8/1999	FGL	248	190	8.6	1.4	12	6	23	2	26	25	50	50	0.7	-	-	-	0.1	-	-	-	-	<2	-	
7/28/1999	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/29/1999	BSK	450	-	-	-	-	-	-	-	-	-	-	-	<1	-	-	-	0.2	-	-	-	-	<2	-	
10/27/1999	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
11/17/1999	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/14/2000	FGL	258	150	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
7/10/2000	FGL	348	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/12/2000	FGL	346	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/9/2000	FGL	348	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/25/2000	FGL	324	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/13/2000	FGL	348	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
10/11/2000	FGL	451	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
7/19/2001	FGL	421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/12/2001	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/3/2001	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
2/20/2002	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
4/10/2002	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
5/8/2002	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/12/2002	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/25/2002	FGL	383	240	7.8	1.6	19	10	34	2	35	43	100	80	2.4	<0.1	3	0.16	<0.01	0.56	0.03	-	-	-	<0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.1	0.71	-		
7/10/2002	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/22/2002	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/10/2002	BSK	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2002	BSK	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
3/5/2003	BSK	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	
4/16/2003	BSK	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	3	-	
4/27/2003	FGL	422	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	
5/8/2003	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
5/29/2003	FGL	579	369	8.1	2.4	27	15	63	3	72	84	100	80	4.7	<0.1	-	0.29	<0.01	90	10	-	-	-	<0.02	
6/11/2003	BSK	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	0.79	-		
6/21/2003	FGL	360	229	7.7	1.5	20	10	34	2	41	40	80	70	2	<0.1	<2	0.19	<0.01	0.3	0.03	-	-	-	<0.02	
7/9/2003	BSK	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
7/18/2003	FGL	263	169	7.5	1.2	15	8	23	2	23	26	70	60	1.5	0.2	2	0.13	<0.01	0.41	0.03	-	-	-	<0.02	
8/13/2003	BSK	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/23/2003	BSK	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
3/3/2004	BSK	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	2	-	
4/7/2004	BSK	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	2	-	
5/5/2004	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/2/2004	BSK	600	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
Columbia Canal																									
7/13/2004	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/3/2004	BSK	460	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/1/2004	BSK	380	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/6/2004	BSK	530	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
10/29/2004	FGL	559	350	7.8	2.7	20	14	64	3	41	105	100	80	2.8	0.2	<2	0.2	<0.01	0.1	0.02	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	0.636	-		
6/15/2005	USBR	43	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
8/3/2005	USBR	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
9/7/2005	USBR	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/5/2005	USBR	340	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
7/12/2006	BSK	34	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
8/2/2006	BSK	170	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.11	-	-	-	-	<2	-	
9/6/2006	BSK	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
10/4/2006	BSK	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
11/8/2006	BSK	25	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
3/7/2007	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
5/9/2007	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-	-	-	-	<2	-	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	0.782	-		
6/25/2007	FGL	400	254	6.7	1.7	17	10	35	2	47	49	90	70	3.8	<0.1	3	0.15	<0.01	0.33	0.03	-	-	-	<0.02	
7/3/2007	BSK	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	<2	-	
9/11/2007	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
9/18/2007	FGL	640	364	7.9	3.3	20	15	80	4	41	114	90	80	0.4	<0.1	2	0.13	<0.01	0.25	0.02	-	-	-	<0.02	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	0.55	-		
4/1/2008	BSK	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	-	2.5	-	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.93	0.57	-		
6/23/2008	FGL	590	313	7.7	2.5	24	15	63	3	51	93	60	50	3.8	0.4	3	0.2	<0.01	0.3	0.03	-	-	-	<0.02	
7/2/2008	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	-	<2	-	
8/6/2008	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	
9/10/2008	BSK	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	<2	-	
9/17/2008	FGL	623	372	7.3	3	23	17	77	3	42	109	100	80	1	0.1	3	0.2	<0.01	0.36	0.04	-	-	-	<0.02	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.05	<0.4	-		
10/1/2008	BSK	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	<2	-	
3/13/2009	BSK	760	-	8.5	-	36	21	89	3.7	93	110	121	100	5.5	-	-	-	0.42	-	-	-	-	-	-	
4/1/2009	BSK	640	-	8.5	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	-	-	<1	-	
5/19/2009	BSK	490	-	8.0	-	24	14	56	2.6	58	64	106	87	3.3	-	-	-	0.28	-	-	-	-	-	-	
6/30/2009	FGL	545	345	7.7	-	25	14	59	3	56	85	100	80	2.6	0.2	2	0.2	<0.01	0.25	0.03	2	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.51	-		
7/15/2009	BSK	320	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	-	-	<1	-	
9/25/2009	FGL	588	347	7.0	-	19	14	75	3	40	105	90	80	1.1	0.1	3	0.2	<0.01	0.36	0.04	2	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/30/2009	BSK	590	-	8.6	-	11	7.9	97	2.3	45	90	134	120	<1	-	-	-	0.17	-	-	-	-	-	-	
3/16/2010	BSK	130	-	8.0	-	5.8	1.7	19	<2	5.9	11	52	43	<1	-	-	-	<0.1	-	-	-	-	-	-	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/7/2010	FGL	44	39	7.0	-	3	<1	4	<1	<2	2	30	20	<0.4	<0.1	2	<0.1	<0.01	0.21	<0.01	-	-	-	<0.02	
6/16/2010	APP	174	114	-	-	8.35	3.44	13.6	1.14	13.1	12.6	39	32.2	0.99	-	-	-	0.0687	-	-	-	-	<1	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
Columbia Canal																									
7/21/2010	APP	207	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0762	-	-	-	-	<1	-	
8/18/2010	APP	268	132	8.1	-	12.8	6.87	28	1.62	21.7	31.7	54	43.9	1.2	-	-	-	0.107	-	-	-	-	<1	-	
9/15/2010	APP	366	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.142	-	-	-	-	<1	-	
9/24/2010	FGL	360	200	8.0	-	13	8	40	2	24	63	50	40	<0.4	<0.1	2	0.1	<0.01	0.36	0.03	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.05	0.471	-		
10/6/2010	APP	614	208	7.5	-	16.8	10.5	44.9	2.27	28.2	55.5	74	60.6	2.5	-	-	0.132	-	-	-	-	-	<1	-	
Mendota Dam																									
7/8/1999	FGL	395	240	7.8	1.6	20	10	35	2	47	44	110	90	4.4	-	-	0.2	-	-	-	-	-	-	-	
7/21/1999	FGL	228	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/11/1999	FGL	296	170	-	3.5	16	8	68	4	29	27	80	70	4	-	-	0.1	-	-	-	-	-	-	-	
8/25/1999	FGL	301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/8/1999	FGL	378	230	7.7	1.8	18	10	39	2	37	40	100	80	3.2	-	-	-	-	-	-	-	-	-	-	
9/22/1999	FGL	507	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/11/1999	FGL	601	350	7.8	2.4	25	13	60	3	61	77	110	90	7.3	-	-	0.2	-	-	-	-	-	-	-	
7/10/2000	FGL	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/25/2000	FGL	356	-	-	-	-	-	-	-	30	37	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
11/6/2000	FGL	447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.4	0.59	-	-	
7/19/2001	FGL	390	-	-	-	-	-	-	-	35	52	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	0.59	-	-	
11/5/2001	FGL	668	380	8.0	2.7	26	17	73	4	51	110	120	90	4	<0.1	<2	0.25	<0.01	0.24	0.02	-	-	-	<0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	0.68	-	-	
6/25/2002	FGL	344	210	7.9	1.4	18	10	30	2	31	35	90	70	2.6	<0.1	3	0.15	<0.01	0.63	0.04	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.744	-	-	
6/21/2003	FGL	201	143	7.8	0.9	14	7	16	2	18	14	70	60	1.6	<0.1	3	0.1	<0.01	0.27	0.02	-	-	-	<0.02	
10/29/2003	FGL	538	328	7.7	2.5	21	14	60	3	38	90	100	80	2.3	0.2	<2	0.2	<0.01	0.19	0.02	-	-	-	0.07	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-	
12/17/2003	BSK	540	-	8.0	-	29	16	58	2	41	79	100	100	<2	-	-	0.2	-	-	-	-	-	<2	-	
4/7/2004	BSK	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	2	-	-	
5/5/2004	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
6/2/2004	BSK	580	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	<2	-	
7/13/2004	BSK	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
8/3/2004	BSK	310	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	<2	-	
9/1/2004	BSK	380	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
10/6/2004	BSK	520	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
10/29/2004	FGL	658	410	8.0	2.8	27	16	73	4	72	103	110	90	5.1	0.2	2	0.2	<0.01	0.16	0.03	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.685	-	-	
11/10/2004	BSK	540	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	<2	-	
6/15/2005	USBR	180	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	<2	-	
8/3/2005	USBR	280	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
9/7/2005	USBR	390	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
10/5/2005	USBR	350	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
2/8/2006	BSK	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
7/12/2006	BSK	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	<2	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
Mendota Dam																									
8/2/2006	BSK	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	-	<2	-	
9/6/2006	BSK	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
11/8/2006	BSK	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	<2	-	
1/10/2007	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	-	-	-	-	-	<2	-	
1/31/2007	BSK	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.36	-	-	-	-	-	<2	-	
3/7/2007	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-	-	-	-	<2	-	
5/9/2007	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-	<2	-	
6/25/2007	FGL	465	288	7.0	1.9	21	11	43	2	58	58	90	80	4.7	<0.1	3	0.17	<0.01	0.37	0.05	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	0.851	-		
7/3/2007	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.22	-	-	-	-	-	<2	-	
9/11/2007	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	-	<2	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.7	0.61	-		
9/18/2007	FGL	646	364	8.3	3.3	19	15	79	4	38	118	90	70	1.4	<0.1	2	0.16	<0.01	0.25	0.3	-	-	-	<0.02	
4/1/2008	BSK	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	-	-	-	<2	-	
5/13/2008	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-	<2	-	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.37	0.54	-		
6/23/2008	FGL	578	402	7.6	2.5	24	15	63	3	49	94	150	120	4.1	0.4	3	0.2	<0.01	0.26	0.03	-	-	-	<0.02	
7/2/2008	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	-	-	<2	-	
8/6/2008	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
9/10/2008	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	<2	-	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.45	<0.4	-		
9/22/2008	FGL	713	421	8.4	3.3	25	18	88	4	50	124	110	90	2.4	<0.1	3	0.2	<0.01	0.28	0.06	-	-	-	<0.02	
10/1/2008	BSK	610	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-	<2	-	
11/5/2008	BSK	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
3/4/2009	BSK	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.34	-	-	-	-	-	<1	-	
4/1/2009	BSK	770	-	8.3	-	-	-	-	-	-	-	-	-	-	-	-	0.49	-	-	-	-	-	1.2	-	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.53	-		
6/30/2009	FGL	659	415	7.8	-	30	17	74	3	73	105	110	90	2.9	0.2	3	0.3	<0.01	0.26	0.04	3	-	-	<0.02	
7/15/2009	BSK	280	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-	-	-	-	<1	-	
9/25/2009	FGL	570	342	7.1	-	22	15	67	3	44	99	90	80	1.7	0.1	3	0.2	<0.01	0.29	0.04	2	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/30/2009	BSK	580	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	-	<1	-	
11/4/2009	BSK	480	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	-	<1	-	
3/16/2010	BSK	500	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	1.2	-	
6/7/2010	FGL	328	204	7.8	-	17	8	33	2	43	39	60	50	1.8	<0.1	2	0.2	<0.01	0.6	0.06	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/16/2010	APP	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.178	-	-	-	-	-	<1	-	
7/21/2010	APP	253	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0981	-	-	-	-	-	<1	-	
8/18/2010	APP	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.165	-	-	-	-	-	<1	-	
9/15/2010	APP	498	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.162	-	-	-	-	-	<1	-	
9/24/2010	FGL	578	333	8.2	-	19	13	69	3	35	114	80	70	<0.4	<0.1	2	0.2	<0.01	0.25	0.04	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.475	-		
10/6/2010	APP	624	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	0.218	-	-	-	-	-	<1	-	
11/10/2010	APP	386	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	0.106	-	-	-	-	-	<1	-	
12/8/2010	APP	727	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.439	-	-	-	-	-	1.4	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
SLCC Arroyo Canal																									
2/3/1999	BSK	230	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<2	-	
4/21/1999	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	4	-	
5/26/1999	BSK	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/30/1999	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	3	-	
7/28/1999	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/29/1999	BSK	640	-	-	-	-	-	-	-	-	-	-	-	8	-	-	-	0.3	-	-	-	-	2	-	
10/27/1999	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
11/17/1999	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/14/2000	FGL	470	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
7/17/2000	FGL	460	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
8/9/2000	FGL	420	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
9/13/2000	FGL	436	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
10/11/2000	FGL	509	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
12/13/2000	FGL	641	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
9/12/2001	BSK	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/3/2001	BSK	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	4	-	
2/20/2002	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	2	-	
4/10/2002	BSK	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	
5/8/2002	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	2	-	
6/12/2002	BSK	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
7/10/2002	BSK	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
8/22/2002	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/10/2002	BSK	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2002	BSK	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
2/12/2003	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	3	-	
3/5/2003	BSK	800	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	2	-	
4/16/2003	BSK	830	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	3	-	
5/8/2003	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	2	-	
6/11/2003	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
7/9/2003	BSK	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/13/2003	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/23/2003	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/29/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
3/3/2004	BSK	810	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	3	-	
4/7/2004	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	3	-	
5/5/2004	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/2/2004	BSK	640	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
7/13/2004	BSK	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
8/3/2004	BSK	330	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/1/2004	BSK	440	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/6/2004	BSK	540	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
11/10/2004	BSK	530	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
CCID Main Canal																									
1/8/1999	USBR	366	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Main Canal																									
1/8/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
2/3/1999	BSK	240	130	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	<2	-	
2/4/1999	USBR	254	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
3/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	
3/4/1999	USBR	307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	
4/6/1999	USBR	521	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/21/1999	BSK	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	3	-	
5/6/1999	USBR	376	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	
5/26/1999	BSK	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	<2	-	
6/3/1999	USBR	427	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/3/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
6/30/1999	BSK	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	3	-	
7/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
7/6/1999	USBR	287	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/8/1999	FGL	323	170	7.8	1.4	18	9	29	2	35	32	90	70	3.8	-	-	-	0.1	-	-	-	-	<2	-	
7/28/1999	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
8/4/1999	USBR	277	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
8/11/1999	FGL	280	160	-	1.1	16	8	22	2	28	24	80	70	2.9	-	-	-	0.1	-	-	-	-	<2	-	
9/2/1999	USBR	298	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
9/8/1999	FGL	354	200	8.3	1.6	17	10	34	2	33	39	100	80	2.7	-	-	-	-	-	-	-	-	<2	-	
9/29/1999	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/5/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
10/5/1999	USBR	571	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/27/1999	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
11/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
11/2/1999	USBR	495	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/11/1999	FGL	518	300	7.9	2.4	20	12	54	3	39	81	90	70	4.4	-	-	-	0.1	-	-	-	-	<2	-	
11/17/1999	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	2	-	
12/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
12/2/1999	USBR	965	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/4/2000	USBR	1018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.2	-	
2/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-	
2/2/2000	USBR	767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/29/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
2/29/2000	USBR	223	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	
4/4/2000	USBR	521	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
5/2/2000	USBR	414	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Main Canal																									
5/31/2000	USBR	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
6/14/2000	FGL	460	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
7/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.7	-	
7/6/2000	USBR	285	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/10/2000	FGL	426	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/12/2000	FGL	312	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/1/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
8/1/2000	USBR	316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/9/2000	FGL	321	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/25/2000	FGL	344	-	-	-	-	-	-	-	28	35	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
9/6/2000	USBR	361	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
9/13/2000	FGL	343	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
10/3/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
10/3/2000	USBR	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/11/2000	FGL	469	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	-	-	
10/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
10/31/2000	USBR	422	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/6/2000	FGL	474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/5/2000	USBR	513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/5/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
12/13/2000	FGL	704	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
1/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.65	-	
1/3/2001	USBR	222	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.08	-	
2/7/2001	USBR	595	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/8/2001	USBR	562	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/8/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.32	-	
4/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.96	-	
4/3/2001	USBR	778	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/9/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.56	-	
5/9/2001	USBR	513	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/6/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.99	-	
6/6/2001	USBR	488	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
6/26/2001	USBR	452	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.6	0.6	-	
7/19/2001	FGL	410	-	-	-	-	-	-	-	38	54	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/24/2001	USBR	423	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/24/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.89	-	
8/29/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.78	-	
8/29/2001	USBR	639	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/12/2001	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.48	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Main Canal																									
10/2/2001	USBR	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/3/2001	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/30/2001	USBR	666	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/30/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	0.57	-	-	
11/5/2001	FGL	657	390	8.0	2.8	24	16	72	4	48	115	110	90	3.7	<0.1	<2	0.21	<0.01	0.24	0.02	-	-	-	<0.02	
12/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.82	-	-	
12/5/2001	USBR	982	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/8/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	
1/8/2002	USBR	698	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2002	USBR	197	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	
2/20/2002	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
3/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	
4/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	-	
4/11/2002	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
4/30/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
5/8/2002	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
6/12/2002	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
6/25/2002	FGL	387	240	7.9	1.5	20	11	34	2	36	43	90	80	3	<0.1	3	0.17	<0.01	0.95	0.08	-	-	-	0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	0.79	-	-	
7/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
7/10/2002	BSK	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	
8/22/2002	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
9/10/2002	BSK	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
10/2/2002	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
11/6/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	
12/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	
1/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	
2/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	
2/12/2003	BSK	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	
3/5/2003	BSK	930	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	-	-	2	-	
3/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	
4/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	
4/16/2003	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
4/27/2003	FGL	527	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	<2	-	
5/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	
5/8/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	2	-	
5/29/2003	FGL	545	354	8.0	2.4	26	14	60	3	67	79	100	80	4.9	<0.1	-	0.27	<0.01	0.07	0.01	-	-	-	<0.02	
6/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
6/11/2003	BSK	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Main Canal																									
6/21/2003	FGL	198	142	7.8	0.8	14	7	15	2	18	14	70	60	1.6	<0.1	2	0.1	<0.01	0.56	0.07	-	-	<0.02		
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.747	-		
7/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-		
7/9/2003	BSK	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		
8/6/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-		
8/13/2003	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-		
9/3/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-		
9/23/2003	BSK	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		
10/1/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
10/29/2003	FGL	540	323	7.7	2.5	19	13	57	3	39	90	100	80	2.2	0.2	2	0.2	<0.01	0.17	0.02	-	-	<0.02		
10/30/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-		
11/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
11/19/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
2/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-		
3/3/2004	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-		
3/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
4/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-		
4/7/2004	BSK	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	2	-		
5/4/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-		
5/5/2004	BSK	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-		
6/2/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-		
6/2/2004	BSK	450	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-		
7/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-		
7/13/2004	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		
8/3/2004	BSK	310	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		
8/5/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-		
9/1/2004	BSK	400	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-		
9/8/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-		
10/6/2004	BSK	530	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		
10/6/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10/29/2004	FGL	662	417	8.0	2.8	27	16	74	4	74	97	120	100	5.2	0.2	2	0.2	<0.01	0.17	0.03	-	-	<0.02		
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.854	-		
11/3/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-		
11/10/2004	BSK	520	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-		
1/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
2/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-		
3/3/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-		
4/6/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
5/4/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-		
7/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-		
8/3/2005	USBR	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	0.6	-		
9/7/2005	USBR	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	1	-		
10/5/2005	USBR	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Main Canal																									
11/1/2005	USBR	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
2/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-		
2/8/2006	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	
3/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-		
4/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-		
5/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-		
7/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
7/12/2006	BSK	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	-	<2	-	
8/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-		
8/2/2006	BSK	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
9/6/2006	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	<2	-	
9/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10/4/2006	BSK	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/4/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-		
11/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-		
11/8/2006	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	3.2	-	
1/10/2007	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	<2	-	
1/31/2007	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	-	<2	-	
3/7/2007	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
5/9/2007	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	<2	-	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	0.87	-		
6/25/2007	FGL	482	306	7.0	2	22	11	45	2	60	61	100	80	4.8	<0.1	3	0.17	<0.01	0.56	0.08	-	-	<0.02	-	
7/3/2007	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	-	-	<2	-	
9/11/2007	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/18/2007	FGL	649	368	7.9	3.5	18	15	82	4	34	124	90	70	1.3	<0.1	2	0.13	<0.01	0.3	0.03	-	-	<0.02	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	0.55	-		
4/1/2008	BSK	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.46	-	-	-	-	2.4	-	
5/13/2008	BSK	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	<2	-	
6/23/2008	FGL	573	318	7.7	2.5	23	15	62	3	49	92	70	60	4	0.4	3	0.2	<0.01	0.31	0.03	-	-	<0.02	-	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.17	0.55	-		
7/2/2008	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	-	<2	-	
8/6/2008	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/10/2008	BSK	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.45	<0.4	-		
9/22/2008	FGL	714	424	8.3	3.3	25	18	88	4	50	127	110	90	2.4	<0.1	3	0.2	<0.01	0.42	0.06	-	-	<0.02	-	
10/1/2008	BSK	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	<2	-	
11/5/2008	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
2/3/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
3/4/2009	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	-	<1	-	
3/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
3/13/2009	BSK	740	-	8.1	-	36	20	87	3.4	98	110	122	100	7.5	-	-	0.41	-	-	-	-	-	-	-	
4/1/2009	BSK	680	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	0.45	-	-	-	-	-	1	-	
4/1/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
5/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
CCID Main Canal																									
5/19/2009	BSK	510	-	8.0	-	25	14	56	2.7	62	70	98	80	3.7	-	-	0.28	-	-	-	-	-	-	-	
6/2/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-		
6/30/2009	FGL	654	406	7.8	-	29	16	72	3	71	102	110	90	2.8	0.2	3	0.3	<0.01	0.32	0.04	3	-	<0.02		
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.55	-		
7/15/2009	BSK	260	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<1	-		
8/4/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/25/2009	FGL	549	327	7.3	-	20	14	64	3	39	96	90	80	1.4	<0.1	3	0.2	<0.01	0.47	0.06	1	-	<0.02		
9/30/2009	BSK	570	-	8.2	-	21	15	66	3.1	44	98	109	89	2.4	-	-	0.2	-	-	-	-	-	-		
11/4/2009	BSK	490	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	<1	-		
3/16/2010	BSK	370	-	8.1	-	19	8.5	40	2.2	47	36	83	68	3.1	-	-	0.21	-	-	-	-	-	-		
6/7/2010	FGL	335	217	7.9	-	18	9	34	2	43	39	70	50	1.8	<0.1	2	0.2	<0.01	0.85	0.12	-	-	<0.02		
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/16/2010	APP	400	195	-	-	16.6	8.83	31.8	1.66	37.7	37.7	73	59.6	2.7	-	-	0.151	-	-	-	-	<1	-		
7/21/2010	APP	246	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0974	-	-	-	-	<1	-		
8/18/2010	APP	490	253	7.9	-	25.7	13.4	50.3	2.37	55.3	66.1	93	76.5	3.2	-	-	0.216	-	-	-	-	<1	-		
9/15/2010	APP	473	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.154	-	-	-	-	<1	-		
9/24/2010	FGL	605	347	8.2	-	19	14	73	3	35	123	80	70	<0.4	<0.1	2	0.2	<0.01	0.28	0.04	-	-	<0.02		
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.51	-		
10/6/2010	APP	428	369	7.7	-	32.1	17.6	75.5	3.07	65.9	90.1	120	98.7	7.3	-	-	0.267	-	-	-	-	<1	-		
11/10/2010	APP	387	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	0.102	-	-	-	-	<1	-		
12/8/2010	APP	651	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.354	-	-	-	-	1.1	-		
Mowry Bridge																									
7/8/1999	FGL	291	180	-	-	-	-	-	-	30	27	-	-	-	-	-	-	-	-	-	-	-	-		
7/21/1999	FGL	274	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/11/1999	FGL	266	170	-	-	-	-	-	-	29	22	-	-	-	-	-	-	-	-	-	-	-	-		
8/25/1999	FGL	293	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/8/1999	FGL	343	200	8.3	-	-	-	-	-	29	39	-	-	-	-	-	-	-	-	-	-	-	-		
9/22/1999	FGL	550	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/10/2000	FGL	394	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/25/2000	FGL	312	-	-	-	-	-	-	-	24	28	-	-	-	-	-	0.1	-	-	-	-	-	-		
11/6/2000	FGL	509	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/19/2001	FGL	430	-	-	-	-	-	-	-	43	57	-	-	-	-	-	-	-	-	-	-	-	-		
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.6	0.7	-		
11/5/2001	FGL	652	370	7.9	2.8	23	16	72	4	44	118	110	90	3.4	<0.1	<2	0.2	<0.01	0.25	0.02	-	-	<0.02		
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	0.51	-		
6/25/2002	FGL	359	250	7.7	0.1	19	10	31	2	34	38	90	80	2.8	<0.1	2	0.17	<0.01	0.97	0.07	-	-	<0.02		
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	0.81	-		
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.676	-		
6/21/2003	FGL	206	141	7.8	0.8	14	6	15	2	18	14	70	60	2.3	<0.1	3	0.1	<0.01	0.37	0.04	-	-	<0.02		
10/29/2003	FGL	526	318	7.6	2.4	19	13	56	3	38	87	100	80	2.2	0.2	<2	0.2	<0.01	0.14	0.02	-	-	<0.02		
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.25	<0.4	-		
10/29/2004	FGL	623	386	8.0	2.7	25	15	69	4	58	100	110	90	4.4	0.2	2	0.2	<0.01	0.15	0.02	-	-	<0.02		
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.693	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	Total Alkalinity ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
Mowry Bridge																									
6/25/2007	FGL	487	308	7.3	2	22	11	45	2	61	62	100	80	4.9	0.1	3	0.17	<0.01	0.38	0.04	-	-	<0.02		
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.847	-		
DMC Check 21																									
1/8/1999	USBR	464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/8/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
2/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
2/4/1999	USBR	322	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	
3/4/1999	USBR	308	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/6/1999	USBR	575	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.2	-	
5/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
5/6/1999	USBR	372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/26/1999	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	<2	-	
6/3/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	
6/3/1999	USBR	434	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/30/1999	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
7/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
7/6/1999	USBR	291	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/8/1999	FGL	291	170	7.8	1.3	17	9	26	2	30	26	80	70	3.7	-	-	0.1	-	-	-	-	-	<2	-	
8/4/1999	USBR	264	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
8/11/1999	FGL	269	170	-	1.1	15	8	22	2	28	21	70	60	2.8	-	-	0.1	-	-	-	-	-	<2	-	
9/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
9/2/1999	USBR	309	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/8/1999	FGL	344	130	8.2	1.6	16	9	33	2	29	39	90	70	2.1	-	-	-	-	-	-	-	-	<2	-	
10/5/1999	USBR	448	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/5/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
11/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
11/2/1999	USBR	492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/11/1999	FGL	530	300	8.2	2.5	18	12	56	3	33	87	80	70	3.2	-	-	0.1	-	-	-	-	-	<2	-	
11/17/1999	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
12/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	
12/2/1999	USBR	522	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/4/2000	USBR	536	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	
2/2/2000	USBR	623	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	
2/29/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	
2/29/2000	USBR	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	
4/4/2000	USBR	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/2/2000	USBR	419	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
DMC Check 21																									
5/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
5/31/2000	USBR	516	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/14/2000	FGL	414	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
7/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
7/6/2000	USBR	301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/12/2000	FGL	289	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/1/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
8/1/2000	USBR	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/9/2000	FGL	304	190	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/25/2000	FGL	316	-	-	-	-	-	-	-	25	29	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
9/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
9/6/2000	USBR	351	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/13/2000	FGL	367	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	-	
10/3/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
10/3/2000	USBR	416	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/11/2000	FGL	464	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
10/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
10/31/2000	USBR	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/6/2000	FGL	517	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/5/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
12/5/2000	USBR	492	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/13/2000	FGL	581	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
1/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
1/3/2001	USBR	358	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.75	-	
2/7/2001	USBR	570	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
3/8/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.38	-	
3/8/2001	USBR	543	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.32	-	
4/3/2001	USBR	857	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
5/9/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.84	-	
5/9/2001	USBR	524	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/6/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.86	-	
6/6/2001	USBR	495	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/26/2001	USBR	434	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
7/19/2001	FGL	418	-	-	-	-	-	-	-	40	55	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.1	0.67	-	
7/24/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
7/24/2001	USBR	469	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/29/2001	USBR	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/29/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.66	-	
9/12/2001	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/20/2001	FGL	770	479	8.1	3.6	26	20	99	4	57	150	120	90	<0.4	0.1	3	0.25	<0.01	0.37	0.03	2	2	<0.02	-	
10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.48	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
DMC Check 21																									
10/2/2001	USBR	686	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/3/2001	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	5	-	
10/30/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
10/30/2001	USBR	676	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/5/2001	FGL	651	380	7.9	2.8	24	16	72	4	44	117	110	90	3.4	<0.1	<2	0.2	<0.01	0.22	0.02	-	-	-	<0.02	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.5	-	-	
12/5/2001	USBR	767	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.56	-	-	
1/8/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	-	
1/8/2002	USBR	687	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	
2/7/2002	USBR	698	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/20/2002	BSK	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	
3/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	-	
4/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	-	-	
4/11/2002	BSK	820	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	-	-	<2	-	
4/30/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	-	
5/8/2002	BSK	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
6/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1.19	-	-	
6/5/2002	FGL	504	320	7.9	1.9	25	14	48	3	60	66	100	80	4.8	<0.1	-	0.24	<0.01	0.21	0.02	-	-	-	<0.02	
6/12/2002	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	0.78	-	-	
6/25/2002	FGL	340	220	7.7	0.1	18	10	29	2	32	36	90	70	2.6	<0.1	<2	0.15	<0.01	0.85	0.06	-	-	-	<0.02	
7/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
7/9/2002	FGL	321	210	8.0	1.4	18	10	30	2	26	32	90	70	2.2	<0.1	-	0.15	<0.01	0.41	0.02	-	-	-	<0.02	
7/10/2002	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
8/9/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.79	-	-	
8/9/2002	FGL	474	270	7.5	2.4	16	12	52	3	21	86	80	70	1.4	<0.1	2	0.13	<0.01	0.35	0.03	-	-	-	0.03	
8/22/2002	BSK	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
9/8/2002	FGL	535	304	7.8	2.4	19	13	55	3	27	96	90	80	1.4	<0.1	-	0.14	<0.01	0.21	0.01	-	-	-	<0.02	
9/10/2002	BSK	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/20/2002	FGL	623	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	1.34	-	-	
10/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
10/2/2002	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/4/2002	FGL	637	381	7.9	3.1	20	16	77	4	31	121	110	90	1.8	<0.1	3	0.2	<0.01	0.21	0.02	-	-	-	<0.02	
11/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-	
11/4/2002	FGL	605	353	8.1	3	20	15	73	4	37	102	100	80	2.2	<0.1	<2	0.15	<0.01	0.13	0.01	-	-	-	<0.02	
11/6/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	
12/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
12/26/2002	FGL	817	506	7.8	3.1	37	22	95	4	90	120	130	110	7.5	<0.1	2	0.4	<0.01	0.05	0.01	-	-	-	<0.02	
12/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.3	1.9	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
DMC Check 21																									
1/8/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	-	
1/20/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	0.622	-	
1/20/2003	FGL	771	482	7.8	2.8	36	20	83	4	97	95	140	110	7.4	<0.1	<2	0.42	<0.01	0.43	0.02	-	-	-	<0.02	
1/31/2003	FGL	698	430	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
2/12/2003	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	2	-	
2/25/2003	FGL	548	358	7.6	2.2	28	15	58	3	73	65	110	90	5.6	<0.1	-	0.31	<0.01	0.24	0.02	-	-	-	<0.02	
2/25/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	1.27	-	
3/5/2003	BSK	1000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	-	2	-	
3/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-	
3/23/2003	FGL	870	578	7.9	3.3	41	21	104	3	149	110	140	110	9.9	<1	-	0.58	<0.01	0.15	0.01	-	-	-	<0.02	
4/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	
4/16/2003	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
4/27/2003	FGL	520	336	7.8	2.2	25	14	55	3	64	71	100	80	4.4	<0.1	-	0.25	<0.01	0.35	0.02	-	-	-	<0.02	
5/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
5/8/2003	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
5/29/2003	FGL	516	336	7.9	2.3	24	13	56	3	61	74	100	80	4.7	<0.1	-	0.26	<0.01	0.06	0.01	-	-	-	<0.02	
6/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
6/11/2003	BSK	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
6/21/2003	FGL	212	144	8.0	0.9	14	7	16	2	18	15	70	60	1.5	<0.1	3	0.1	<0.01	0.19	0.06	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.7	-		
7/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
7/9/2003	BSK	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
7/18/2003	FGL	254	165	7.6	1.1	15	8	22	2	21	25	70	60	1.7	<0.1	2	0.12	<0.01	0.66	0.06	-	-	-	<0.02	
8/6/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
8/13/2003	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
8/27/2003	FGL	279	181	7.6	1.3	15	8	25	3	20	30	80	70	1.2	0.2	-	0.11	<0.01	0.21	0.02	-	-	-	<0.02	
9/3/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
9/18/2003	FGL	380	242	8.2	2	17	11	39	2	27	54	90	70	2	0.2	-	0.1	<0.01	0.08	<0.01	-	-	-	<0.02	
9/23/2003	BSK	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
10/1/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
10/29/2003	FGL	519	312	7.7	2.3	19	13	54	3	36	85	100	80	2.3	0.2	2	0.1	<0.01	0.14	0.02	-	-	-	<0.02	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
10/30/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
11/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
11/19/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
2/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
3/3/2004	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	<2	-	
3/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
3/26/2004	FGL	435	288	7.5	1.9	24	12	45	2	61	49	90	70	4.4	0.1	<2	0.2	<0.01	0.35	0.02	-	-	-	<0.02	
3/26/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	1.32	-		
4/7/2004	BSK	670	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	<2	-	
4/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
4/28/2004	FGL	484	310	7.7	2.1	22	13	51	3	47	71	100	80	3.2	0.2	<2	0.2	<0.01	0.15	0.02	-	-	-	<0.02	
5/4/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
DMC Check 21																									
5/5/2004	BSK	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
5/24/2004	FGL	486	311	8.0	2.1	23	13	51	3	49	68	100	80	3.7	0.2	-	-	0.2	<0.01	0.25	0.02	-	-	<0.02	
6/2/2004	BSK	420	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/2/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
6/18/2004	FGL	498	332	7.8	2.2	27	15	58	3	55	71	100	80	3.2	0.2	<2	0.2	<0.01	1.33	0.03	-	-	-	0.26	
7/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
7/13/2004	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/3/2004	BSK	320	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/5/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
9/1/2004	BSK	360	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/8/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
10/6/2004	BSK	530	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
10/6/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
10/29/2004	FGL	573	365	7.9	2.6	22	14	64	4	54	103	100	80	3.7	0.2	2	0.2	<0.01	0.18	0.03	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.6	-	1	-	
11/3/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
11/10/2004	BSK	500	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
1/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	
2/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	
3/3/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	
4/6/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	
5/4/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	
6/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	-	
6/15/2005	USBR	210	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
7/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
8/3/2005	USBR	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	0.4	-	
9/7/2005	USBR	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	0.8	-	
10/5/2005	USBR	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
11/1/2005	USBR	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<2	-	
1/4/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	
2/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	-	
2/8/2006	BSK	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	<2	-	
3/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
4/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	-	
5/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10	-	
6/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	11	-	
7/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
7/12/2006	BSK	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
8/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
8/2/2006	BSK	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
9/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
9/6/2006	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.29	-	-	-	-	<2	-	
10/4/2006	BSK	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/4/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	
11/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
DMC Check 21																									
11/8/2006	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.15	-	-	-	-	4.5	-	
1/10/2007	BSK	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
1/31/2007	BSK	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	<2	-	
3/7/2007	BSK	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
5/9/2007	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	<2	-	
5/21/2007	FGL	471	300	7.9	2.3	20	13	53	4	38	69	100	80	2.4	0.2	-	0.19	<0.01	0.47	0.07	-	-	-	<0.02	
6/25/2007	FGL	489	308	7.3	2	22	11	45	2	61	62	100	80	5	<0.1	3	0.25	<0.01	0.54	0.07	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.6	0.9	-		
7/3/2007	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.17	-	-	-	-	-	<2	-	
7/22/2007	FGL	333	216	7.7	1.6	16	9	33	3	26	47	80	60	2.4	<0.1	3	0.21	<0.01	0.4	0.05	-	-	-	<0.02	
8/13/2007	FGL	474	305	7.7	2.6	20	13	61	3	34	82	90	70	1.8	<0.1	3	0.05	<0.01	0.41	0.05	-	-	-	<0.02	
9/11/2007	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	-	<2	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	0.55	-		
9/18/2007	FGL	646	369	7.7	3.5	17	15	82	4	34	126	90	70	1.2	<0.1	2	0.11	<0.01	0.24	0.03	-	-	-	<0.02	
10/30/2007	FGL	509	318	7.9	2.6	19	13	60	3	37	83	100	80	3.1	0.1	-	0.1	<0.01	0.13	0.02	-	-	-	<0.02	
2/5/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
3/11/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
4/1/2008	BSK	760	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.45	-	-	-	-	-	2.3	-	
4/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
5/7/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
5/13/2008	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	-	<2	-	
6/5/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
6/23/2008	FGL	572	382	7.7	2.6	25	15	66	3	49	90	130	100	4.1	0.4	3	0.2	<0.01	0.31	0.03	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.85	0.56	-		
7/2/2008	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-	-	<2	-	
7/2/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
7/14/2008	FGL	326	185	8.1	1.5	16	10	31	2	27	38	60	50	0.6	0.4	3	0.1	<0.01	0.53	0.08	-	-	-	<0.02	
8/5/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
8/6/2008	BSK	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	-	<2	-	
8/26/2008	FGL	604	351	7.2	2.9	20	14	68	3	50	104	90	70	1.8	<0.1	3	0.2	<0.01	0.25	0.04	-	-	-	<0.02	
9/4/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
9/10/2008	BSK	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	<2	-	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	<0.4	-		
9/22/2008	FGL	705	412	8.0	3.4	24	18	91	4	44	129	100	80	2	<0.1	3	0.2	<0.01	0.31	0.04	-	-	-	<0.02	
10/1/2008	BSK	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
10/13/2008	FGL	602	355	7.6	2.7	21	15	66	3	38	100	110	90	2.1	<0.1	3	0.2	<0.01	0.15	0.02	-	-	-	<0.02	
10/29/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
11/4/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
11/5/2008	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	-	<2	-	
12/3/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
12/9/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	-	
2/3/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
3/4/2009	BSK	700	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.37	-	-	-	-	-	<1	-	
3/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
4/1/2009	BSK	480	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	-	-	1.1	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	Total Alkalinity ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
DMC Check 21																									
4/1/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
4/16/2009	FGL	484	310	8.0	-	26	14	47	3	60	55	100	80	4.7	0.1	-	-	0.3	<0.01	0.45	0.03	-	-	<0.02	
5/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
5/14/2009	FGL	617	380	7.9	-	29	16	69	3	68	92	100	80	3.4	0.1	3	0.3	<0.01	0.35	0.05	-	-	-	<0.02	
6/2/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
6/30/2009	FGL	654	410	7.6	-	30	17	73	3	71	103	110	90	3	0.2	2	0.3	<0.01	0.31	0.04	3	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.55	-	
7/15/2009	BSK	260	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	-	<1	-	
7/23/2009	FGL	248	154	7.7	-	13	7	22	2	19	30	60	50	1.2	<0.1	3	0.1	<0.01	0.37	0.05	-	-	-	<0.02	
8/4/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
8/6/2009	FGL	453	272	7.2	-	15	10	51	3	29	93	70	50	1.1	<0.1	2	<0.1	<0.01	0.31	0.04	-	-	-	<0.02	
8/30/2009	FGL	532	311	7.6	-	17	12	62	3	34	102	80	60	1	<0.1	3	0.1	<0.01	0.17	0.03	-	-	-	<0.02	
9/25/2009	FGL	544	325	7.3	-	20	14	64	3	37	96	90	80	1.3	0.1	3	0.2	<0.01	0.31	0.04	2	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
9/30/2009	BSK	570	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<1	-	
10/26/2009	FGL	537	322	7.7	-	23	13	57	3	54	78	90	80	4.4	<0.1	2	0.2	<0.01	0.15	0.02	-	-	-	<0.02	
11/4/2009	BSK	490	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-	-	<1	-	
3/16/2010	BSK	670	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	0.43	-	-	-	-	-	1.7	-	
5/28/2010	FGL	530	330	7.9	-	24	13	57	3	65	74	90	70	3.5	<0.1	2	0.2	<0.01	0.26	0.04	-	-	-	<0.02	
6/7/2010	FGL	377	237	7.9	-	20	10	39	2	49	45	70	60	2.1	<0.1	2	0.2	<0.01	0.71	0.08	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.447	-	
6/16/2010	APP	377	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.178	-	-	-	-	-	<1	-	
6/28/2010	FGL	344	219	8.0	-	18	9	34	2	43	41	70	60	2.3	<0.1	2	0.1	<0.01	0.45	0.05	-	-	-	<0.02	
7/9/2010	FGL	222	144	7.3	-	13	6	18	1	24	20	60	50	1.5	<0.1	3	0.1	<0.01	0.54	0.07	-	-	-	<0.02	
7/21/2010	APP	236	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.0883	-	-	-	-	-	<1	-	
8/18/2010	APP	526	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.228	-	-	-	-	-	<1	-	
8/29/2010	FGL	464	278	7.8	-	22	12	49	2	45	65	80	70	3	<0.1	3	0.2	<0.01	0.28	0.04	-	-	-	<0.02	
9/15/2010	APP	455	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.159	-	-	-	-	-	<1	-	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.504	-	-	
9/24/2010	FGL	577	334	8.3	-	19	14	69	3	34	115	80	70	<0.4	<0.1	2	0.2	<0.01	0.25	0.03	-	-	-	<0.02	
10/6/2010	APP	687	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	0.197	-	-	-	-	-	<1	-	
10/15/2010	FGL	557	348	7.4	-	27	14	61	3	64	73	100	80	5.6	<0.1	2	0.3	<0.01	0.23	0.03	-	-	-	<0.02	
11/10/2010	APP	477	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	0.124	-	-	-	-	-	<1	-	
12/8/2010	APP	673	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.369	-	-	-	-	-	1.2	-	
CCID Outside Canal																									
1/8/1999	USBR	456	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
1/8/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
2/3/1999	BSK	280	160	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
2/4/1999	USBR	312	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
3/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	
3/4/1999	USBR	307	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
4/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	-	
4/6/1999	USBR	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Outside Canal																									
4/21/1999	BSK	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	4	-	
5/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.5	-		
5/6/1999	USBR	371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/26/1999	BSK	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
6/3/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
6/3/1999	USBR	411	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
6/30/1999	BSK	300	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
7/6/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-		
7/6/1999	USBR	291	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/8/1999	FGL	295	180	7.9	1.3	17	9	26	2	31	28	90	70	3.4	-	-	0.1	-	-	-	-	-	<2	-	
7/28/1999	BSK	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
8/4/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
8/4/1999	USBR	352	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/11/1999	FGL	270	160	-	1.2	14	7	22	2	28	22	80	60	2.8	-	-	0.1	-	-	-	-	-	<2	-	
9/2/1999	USBR	294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
9/8/1999	FGL	346	210	8.5	1.4	16	9	29	2	29	39	90	70	2.3	-	-	-	-	-	-	-	-	<2	-	
9/29/1999	BSK	480	-	-	-	-	-	-	-	-	-	-	-	2	-	-	0.2	-	-	-	-	-	<2	-	
10/5/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-		
10/5/1999	USBR	447	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/27/1999	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
11/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-		
11/2/1999	USBR	471	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/11/1999	FGL	596	350	8.3	2.4	26	14	60	3	63	79	110	90	7.4	-	-	0.2	-	-	-	-	-	<2	-	
11/17/1999	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
12/2/1999	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-		
12/2/1999	USBR	237	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
1/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
1/4/2000	USBR	742	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/2/2000	USBR	754	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	-		
2/29/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-		
2/29/2000	USBR	444	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4/4/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	-		
4/4/2000	USBR	574	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/2/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-		
5/2/2000	USBR	428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/31/2000	USBR	507	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-		
6/14/2000	FGL	478	280	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-		
7/6/2000	USBR	278	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-		
7/10/2000	FGL	426	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/12/2000	FGL	296	200	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-		
8/1/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Outside Canal																									
8/1/2000	USBR	316	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/9/2000	FGL	314	180	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
8/25/2000	FGL	323	-	-	-	-	-	-	-	26	32	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
9/6/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-		
9/6/2000	USBR	371	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/13/2000	FGL	350	200	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
10/3/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
10/3/2000	USBR	398	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/11/2000	FGL	469	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	
10/31/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
10/31/2000	USBR	428	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/6/2000	FGL	504	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12/5/2000	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-		
12/5/2000	USBR	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12/13/2000	FGL	706	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	
1/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
1/3/2001	USBR	592	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/7/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-		
2/7/2001	USBR	514	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
3/8/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.18	-		
3/8/2001	USBR	550	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
4/3/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.69	-		
4/3/2001	USBR	683	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/9/2001	USBR	525	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
5/9/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.95	-		
6/6/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.92	-		
6/6/2001	USBR	463	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
6/26/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/26/2001	USBR	445	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/19/2001	FGL	417	-	-	-	-	-	-	-	40	55	-	-	-	-	-	-	-	-	-	-	-	-		
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.8	0.69		
7/24/2001	USBR	479	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
7/24/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-		
8/29/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.93	-		
8/29/2001	USBR	624	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/12/2001	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	3		
10/2/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-		
10/2/2001	USBR	731	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/3/2001	BSK	680	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2		
10/30/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.49	-		
10/30/2001	USBR	667	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/5/2001	FGL	662	370	8.0	2.9	24	17	75	4	46	119	110	90	3.7	0.1	<2	0.2	<0.01	0.26	0.02	-	-	<0.02		
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.51	-		
12/5/2001	USBR	866	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
12/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.68	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
CCID Outside Canal																									
1/8/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	-	
1/8/2002	USBR	887	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
2/7/2002	USBR	336	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
2/20/2002	BSK	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
3/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	
4/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	-	
4/11/2002	BSK	620	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	
4/30/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
5/8/2002	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
6/12/2002	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	
6/25/2002	FGL	387	250	7.7	0.1	21	11	35	3	40	45	100	80	3.2	<0.1	<2	0.17	<0.01	0.81	0.06	-	-	-	<0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.9	0.83	-	-	
7/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
7/10/2002	BSK	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
8/7/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
8/22/2002	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
9/10/2002	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2002	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
10/2/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
11/6/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
12/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
1/8/2003	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	ND	-	
2/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	
2/12/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
3/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
3/5/2003	BSK	970	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	-	-	<2	-	
4/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	-	
4/16/2003	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	3	-	
4/27/2003	FGL	526	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	<2	-	
5/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.9	-	
5/8/2003	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
5/29/2003	FGL	541	351	8.0	2.4	25	14	60	3	66	78	100	80	4.6	<0.1	-	0.27	<0.01	0.07	0.01	-	-	-	<0.02	
6/7/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.3	-	
6/11/2003	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/21/2003	FGL	205	142	7.8	0.8	14	7	15	2	18	14	70	50	1.5	<0.1	3	0.1	<0.01	0.38	0.04	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.671	-	-	
7/2/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
7/9/2003	BSK	230	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	
8/6/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
8/13/2003	BSK	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/3/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
9/23/2003	BSK	360	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Outside Canal																									
10/1/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	<0.4	-	-	
10/29/2003	FGL	528	322	7.7	2.5	20	13	58	3	38	88	100	80	2.3	0.2	2	0.2	<0.01	0.16	0.02	-	-	-	<0.02	
10/30/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
11/5/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
11/19/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	
2/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	-	-	
3/3/2004	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	2	-	-	
3/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	
4/7/2004	BSK	740	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	2	-	-	
4/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	
5/4/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	
5/5/2004	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
6/2/2004	BSK	430	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
6/2/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	
7/7/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	
7/13/2004	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
8/3/2004	BSK	320	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
8/5/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	-	
9/1/2004	BSK	370	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
9/8/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
10/6/2004	BSK	540	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
10/6/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
10/29/2004	FGL	608	380	8.0	2.7	24	15	68	4	56	98	110	90	4.3	0.2	2	0.2	<0.01	0.19	0.03	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	0.826	-	-	
11/3/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	-	
11/10/2004	BSK	510	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
1/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	-	
2/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	
3/3/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	-	-	
4/6/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	-	-	
5/4/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	-	
6/2/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
6/15/2005	USBR	210	-	7.7	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
7/5/2005	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	-	
8/3/2005	USBR	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	0.7	-	-	
9/7/2005	USBR	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	1	-	-	
10/5/2005	USBR	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
11/1/2005	USBR	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	-	
2/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	-	-	
2/8/2006	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	-	
3/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	-	
4/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	-	-	
5/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
6/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
CCID Outside Canal																									
7/5/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	-	
7/12/2006	BSK	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	-	3.1	-	
8/1/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.7	-	
8/2/2006	BSK	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<2	-	
9/6/2006	BSK	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	
9/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
10/4/2006	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	<2	-	
10/4/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	
11/6/2006	USBR	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.6	-	
11/8/2006	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
1/10/2007	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	<2	-	
1/31/2007	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.32	-	-	-	-	<2	-	
3/7/2007	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
5/9/2007	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	<2	-	
6/25/2007	FGL	489	306	7.1	1.9	22	11	44	2	61	61	100	80	4.9	0.1	3	0.23	<0.01	0.47	0.06	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.8	0.985	-		
7/3/2007	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	<2	-	
9/11/2007	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	<2	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	0.55	-		
9/18/2007	FGL	646	366	7.5	3.4	18	15	80	4	36	123	90	70	<0.4	<0.1	2	0.11	<0.01	0.27	0.03	-	-	-	<0.02	
4/1/2008	BSK	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.45	-	-	-	-	2	-	
5/13/2008	BSK	550	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	<2	-	
6/23/2008	FGL	573	404	7.8	2.5	23	14	61	3	48	91	160	130	4.1	0.4	3	0.2	<0.01	0.25	0.03	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.61	-		
7/2/2008	BSK	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-	<2	-	
8/6/2008	BSK	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	2.1	-	
9/10/2008	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	<0.4	-		
9/22/2008	FGL	711	423	7.8	3.3	25	18	88	4	50	126	110	90	2.3	<0.1	3	0.2	<0.01	0.31	0.04	-	-	-	<0.02	
10/1/2008	BSK	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	
11/5/2008	BSK	570	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	<2	-	
2/3/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	-	
3/4/2009	BSK	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	-	<1	-	
3/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
3/13/2009	BSK	680	-	8.1	-	34	20	79	3.4	82	100	122	100	7.3	-	-	0.36	-	-	-	-	-	-	-	
4/1/2009	BSK	610	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	-	-	<1	-	
4/1/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	
5/5/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.8	-	
5/19/2009	BSK	510	-	8.0	-	25	14	56	2.7	63	70	98	80	3.6	-	-	0.28	-	-	-	-	-	-	-	
6/2/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.5	-	
6/30/2009	FGL	661	414	7.9	-	31	17	75	3	72	103	110	90	2.8	0.1	3	0.3	<0.01	0.39	0.05	3	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.52	-	
7/15/2009	BSK	260	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<1	-	
8/4/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
9/25/2009	FGL	559	334	7.4	-	21	14	65	3	41	98	90	80	1.5	0.1	3	0.2	<0.01	0.29	0.04	2	-	-	<0.02	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
CCID Outside Canal																									
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
9/30/2009	BSK	570	-	8.2	-	22	15	68	3.1	47	96	112	92	3	-	-	0.22	-	-	-	-	-	-	-	
11/4/2009	BSK	480	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	-	<1	-	
3/16/2010	BSK	690	-	8.2	-	38	18	73	3.5	110	71	122	100	6.8	-	-	0.44	-	-	-	-	-	-	-	
6/7/2010	FGL	376	238	7.8	-	20	10	39	2	50	45	70	60	2.2	<0.1	2	0.2	<0.01	0.67	0.08	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.478	-		
6/16/2010	APP	398	193	-	-	16.8	8.93	32.1	1.68	37.4	37.6	73	60	2.5	-	-	0.156	-	-	-	-	-	<1	-	
7/21/2010	APP	268	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.109	-	-	-	-	-	<1	-	
8/18/2010	APP	481	242	7.6	-	23.9	12.5	46.5	2.26	46.8	61.1	89	73.1	2.9	-	-	0.194	-	-	-	-	-	<1	-	
9/15/2010	APP	475	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.155	-	-	-	-	-	<1	-	
9/24/2010	FGL	589	341	8.3	-	19	14	71	3	35	119	80	70	<0.4	<0.1	<2	0.2	<0.01	0.25	0.03	-	-	<0.02		
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.478	-		
10/6/2010	APP	709	364	7.7	-	31.3	17.5	74.8	3.05	66.1	90.5	119	97.7	7	-	-	0.265	-	-	-	-	-	<1	-	
11/10/2010	APP	487	-	7.5	-	-	-	-	-	-	-	-	-	-	-	-	0.135	-	-	-	-	-	<1	-	
Firebaugh Intake Canal																									
2/3/1999	BSK	280	170	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.2	-	-	-	-	-	<2	-	
4/21/1999	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	3	-	
5/26/1999	BSK	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	-	<2	-	
6/30/1999	BSK	290	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	2	-	
7/8/1999	FGL	293	170	7.8	1.2	15	8	24	2	30	27	90	70	3.4	-	-	0.1	-	-	-	-	-	<2	-	
7/28/1999	BSK	260	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	<2	-	
8/11/1999	FGL	269	170	-	1.2	14	8	23	2	28	22	80	60	2.7	-	-	0.1	-	-	-	-	-	<2	-	
9/8/1999	FGL	366	210	8.6	1.6	17	9	32	2	34	41	90	80	2.7	-	-	-	-	-	-	-	-	<2	-	
9/29/1999	BSK	540	-	-	-	-	-	-	-	-	-	-	-	5	-	-	0.3	-	-	-	-	-	2	-	
10/27/1999	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
11/11/1999	FGL	528	300	8.1	2.4	18	11	52	3	38	84	90	70	4.1	-	-	0.1	-	-	-	-	-	<2	-	
11/17/1999	BSK	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
6/14/2000	FGL	492	280	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	-	-	-	
7/10/2000	FGL	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/12/2000	FGL	301	190	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
8/9/2000	FGL	335	190	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
8/25/2000	FGL	338	-	-	-	-	-	-	-	27	35	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
9/13/2000	FGL	350	210	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
10/11/2000	FGL	482	270	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	-	-	-	
11/6/2000	FGL	464	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
12/13/2000	FGL	705	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	-	-	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	<0.25	-	-	-	3.5	0.67	-	-	
7/19/2001	FGL	423	-	-	-	-	-	-	-	42	57	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/12/2001	BSK	660	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
10/3/2001	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
11/5/2001	FGL	664	390	8.0	2.8	25	17	73	4	49	117	110	90	3.9	<0.1	<2	0.22	<0.01	0.26	0.02	-	-	<0.02		
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	0.46	-	-	
2/20/2002	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	-	<2	-	
4/11/2002	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	-	<2	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
Firebaugh Intake Canal																									
5/8/2002	BSK	480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/12/2002	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	0.84	-	-	
6/25/2002	FGL	401	260	7.9	0.1	21	11	36	2	42	46	100	80	3.1	<0.1	2	0.18	<0.01	0.64	0.05	-	-	-	0.03	
7/10/2002	BSK	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	2	-	-	
8/22/2002	BSK	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
9/10/2002	BSK	640	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
10/2/2002	BSK	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
2/12/2003	BSK	710	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	7	-	-	
3/5/2003	BSK	720	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	<2	-	-	
4/16/2003	BSK	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
4/27/2003	FGL	516	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.25	-	-	-	-	<2	-	-	
5/8/2003	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	-	
5/29/2003	FGL	556	359	8.0	2.4	26	14	62	3	68	81	100	80	4.7	<0.1	-	0.28	<0.01	0.08	0.02	-	-	-	<0.02	
6/11/2003	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
6/21/2003	FGL	204	141	7.9	0.8	14	7	15	2	18	14	70	60	1.4	<0.1	<2	0.1	<0.01	0.24	0.02	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.7	-	-	
7/9/2003	BSK	240	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
8/13/2003	BSK	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
9/23/2003	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-	
10/29/2003	FGL	532	323	7.8	2.5	19	13	58	3	37	91	100	80	2	0.2	<2	0.2	<0.01	0.25	0.03	-	-	-	<0.02	
10/30/2003	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
3/3/2004	BSK	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	-	
4/7/2004	BSK	750	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	-	-	2	-	-	
5/5/2004	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
6/2/2004	BSK	430	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
7/13/2004	BSK	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
8/3/2004	BSK	320	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	<0.1	-	-	-	-	<2	-	-	
9/1/2004	BSK	360	-	8.0	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
10/6/2004	BSK	540	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.83	0.654	-	-	
10/29/2004	FGL	633	408	8.0	2.7	26	16	71	4	68	108	110	90	4.6	0.2	2	0.2	<0.01	0.25	0.04	-	-	-	<0.02	
11/10/2004	BSK	530	-	8.1	-	-	-	-	-	-	-	-	-	-	-	-	0.3	-	-	-	-	<2	-	-	
6/15/2005	USBR	220	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
8/3/2005	USBR	270	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
9/7/2005	USBR	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
10/5/2005	USBR	350	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
11/1/2005	USBR	440	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	-	
2/8/2006	BSK	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	-	
7/12/2006	BSK	210	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	-	<2	-	-	
8/2/2006	BSK	250	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<2	-	-	
9/6/2006	BSK	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.1	-	-	-	-	<2	-	-	
10/4/2006	BSK	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<2	-	-	
11/8/2006	BSK	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
Firebaugh Intake Canal																									
1/10/2007	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.28	-	-	-	-	<2	-	
1/31/2007	BSK	630	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.31	-	-	-	-	<2	-	
3/7/2007	BSK	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-	-	-	-	<2	-	
5/9/2007	BSK	460	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-	-	-	-	<2	-	
6/25/2007	FGL	486	307	7.3	1.9	21	11	44	2	62	62	100	80	4.9	<0.1	3	0.21	<0.01	0.45	0.06	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	0.905	-		
7/3/2007	BSK	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-	-	-	-	2	-	
9/11/2007	BSK	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.19	-	-	-	-	<2	-	
9/18/2007	FGL	622	365	7.9	3	20	15	73	3	41	113	100	80	<0.4	<0.1	2	0.13	<0.01	0.4	0.05	-	-	-	<0.02	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	0.64	-		
4/1/2008	BSK	730	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43	-	-	-	-	2.3	-	
5/13/2008	BSK	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.24	-	-	-	-	<2	-	
6/23/2008	FGL	573	332	7.8	2.5	23	14	61	3	47	90	90	80	3.9	0.3	3	0.2	<0.01	0.24	0.03	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.75	0.61	-		
7/2/2008	BSK	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.27	-	-	-	-	<2	-	
8/6/2008	BSK	470	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
9/10/2008	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.16	-	-	-	-	<2	-	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.7	<0.4	-		
9/22/2008	FGL	710	420	7.7	3.2	25	18	87	4	49	125	110	90	2.4	<0.1	3	0.2	<0.01	0.29	0.04	-	-	-	<0.02	
10/1/2008	BSK	650	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.21	-	-	-	-	<2	-	
11/5/2008	BSK	590	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.2	-	-	-	-	<2	-	
3/4/2009	BSK	690	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.37	-	-	-	-	<1	-	
3/13/2009	BSK	710	-	8.2	-	35	20	82	3.4	86	100	122	100	6.8	-	-	-	0.38	-	-	-	-	-	-	
4/1/2009	BSK	690	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.38	-	-	-	-	<1	-	
5/19/2009	BSK	520	-	8.0	-	25	14	57	2.7	63	70	99	81	3.6	-	-	-	0.29	-	-	-	-	-	-	
6/30/2009	FGL	613	375	8.0	-	27	16	66	3	65	95	100	80	2.8	0.2	3	0.3	<0.01	0.35	0.05	3	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.52	-		
7/15/2009	BSK	270	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<1	-	
9/25/2009	FGL	580	346	7.5	-	22	15	68	3	45	101	90	80	1.6	<0.1	3	0.2	<0.01	0.29	0.04	2	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/30/2009	BSK	570	-	8.2	-	22	15	69	3.2	50	95	112	92	3	-	-	-	0.23	-	-	-	-	-	-	
11/4/2009	BSK	480	-	7.9	-	-	-	-	-	-	-	-	-	-	-	-	-	0.26	-	-	-	-	<1	-	
3/16/2010	BSK	760	-	8.2	-	37	17	93	3.7	120	82	134	110	5.6	-	-	-	0.46	-	-	-	-	-	-	
6/7/2010	FGL	375	238	7.9	-	20	10	39	2	50	45	70	60	2.2	<0.1	2	0.2	<0.01	0.59	0.05	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.484	-		
6/16/2010	APP	402	194	-	-	16.8	8.93	32.1	1.69	37.5	37.6	74	60.4	2.5	-	-	-	0.156	-	-	-	-	<1	-	
7/21/2010	APP	301	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.12	-	-	-	-	<1	-	
8/18/2010	APP	428	200	7.9	-	23.1	12.2	45.4	2.28	40.6	54.6	84	69.2	2.4	-	-	-	0.18	-	-	-	-	<1	-	
9/15/2010	APP	496	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.196	-	-	-	-	<1	-	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.64	-		
9/24/2010	FGL	560	326	8.8	-	20	13	66	3	36	108	80	70	<0.4	<0.1	2	0.2	<0.01	0.31	0.05	-	-	-	<0.02	
10/6/2010	APP	658	307	7.8	-	24.6	15.4	65.3	2.95	45.9	85.9	104	85	4.2	-	-	-	0.191	-	-	-	-	<1	-	
11/10/2010	APP	497	-	7.6	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	-	-	-	-	<1	-	
West of Fordel																									

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ² (µmhos/cm)	TDS (mg/L)	pH	SAR	Ca (mg/L)	Mg (mg/L)	Na (mg/L)	K (mg/L)	SO ₄ (mg/L)	Cl (mg/L)	HCO ₃ ³ (mg/L)	Total Alkalinity ³ (mg/L)	NO ₃ ³ (mg/L)	F (mg/L)	As (µg/L)	B (mg/L)	Cu (mg/L)	Fe (mg/L)	Mn (mg/L)	Mo (µg/L)	Se (µg/L)	Zn (mg/L)		
West of Fordel																									
7/8/1999	FGL	402	260	-	-	-	-	-	-	49	46	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/21/1999	FGL	285	-	7.8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/11/1999	FGL	343	210	-	-	-	-	-	-	39	35	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/25/1999	FGL	325	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/8/1999	FGL	417	240	9.0	-	-	-	-	-	45	47	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/22/1999	FGL	469	-	8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/10/2000	FGL	354	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/25/2000	FGL	333	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/6/2000	FGL	494	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/19/2001	FGL	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	0.51	-	
11/5/2001	FGL	675	380	8.7	3	23	16	76	4	45	127	110	90	2.6	-	<2	0.2	<0.01	0.23	0.03	-	-	-	<0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	0.71	-	
6/25/2002	FGL	358	220	8.7	0.1	19	10	31	2	34	39	90	80	3	<0.1	3	0.16	<0.01	0.42	0.03	-	-	-	<0.02	
6/21/2003	FGL	221	148	9.1	1	14	7	18	2	19	17	70	60	1.4	<0.1	3	0.11	<0.01	0.33	0.03	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	1	-	-	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.8	<0.4	-	
10/29/2003	FGL	527	309	7.7	2.5	18	13	58	3	33	92	90	80	1.8	0.2	<2	0.1	<0.01	0.21	0.04	-	-	-	<0.02	
10/29/2004	FGL	621	392	8.8	2.8	24	15	72	4	65	108	100	90	3.5	0.2	2	0.2	<0.01	0.25	0.04	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.63	0.576	-	
6/25/2007	FGL	388	247	7.4	1.7	17	9	35	2	45	46	90	70	3.3	<0.1	3	0.14	<0.01	0.35	0.05	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4	0.832	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	0.61	-	
9/18/2007	FGL	615	359	8.1	3	20	15	74	4	41	105	100	80	<0.4	<0.1	2	0.14	<0.01	0.31	0.06	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.55	0.57	-	
6/23/2008	FGL	577	321	8.3	2.4	22	14	59	3	48	91	80	70	3.8	0.4	3	0.2	<0.01	0.23	0.02	-	-	-	<0.02	
9/17/2008	FGL	611	340	7.6	2.9	22	16	74	3	39	105	80	80	0.6	0.1	3	0.2	<0.01	0.65	0.06	-	-	-	<0.02	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.15	0.44	-	
6/30/2009	FGL	536	320	9.1	-	24	14	57	3	56	84	70	80	2	0.2	3	0.2	<0.01	0.39	0.05	2	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.47	-	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	
9/25/2009	FGL	576	341	7.6	-	21	14	67	3	44	101	90	80	1.3	0.1	3	0.2	<0.01	0.27	0.04	2	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.565	-	
6/7/2010	FGL	381	239	8.7	-	20	10	39	2	51	45	70	60	1.8	<0.1	2	0.2	<0.01	0.66	0.04	-	-	-	<0.02	
9/24/2010	FGL	508	300	8.7	-	21	12	57	3	41	86	80	70	<0.4	<0.1	2	0.2	<0.01	0.44	0.06	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	0.624	-	-	
Etchegoinberry																									
7/8/1999	FGL	380	230	-	-	-	-	-	-	43	42	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/21/1999	FGL	400	-	8.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/11/1999	FGL	364	230	-	-	-	-	-	-	38	40	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/25/1999	FGL	372	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/8/1999	FGL	646	380	8.9	-	-	-	-	-	67	92	-	-	-	-	-	-	-	-	-	-	-	-	-	
9/22/1999	FGL	685	-	8.7	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/10/2000	FGL	471	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
Etchegoinberry																									
8/25/2000	FGL	474	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/6/2000	FGL	507	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
7/19/2001	FGL	423	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
11/5/2001	FGL	854	500	8.2	4.7	24	14	118	4	80	146	150	120	1.5	0.2	<2	0.3	<0.01	0.26	0.08	-	-	-	<0.02	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	0.47	-	-	
6/25/2002	FGL	439	280	8.0	1.9	20	11	43	3	41	54	100	80	2.4	<0.1	3	0.18	<0.01	0.45	0.05	-	-	-	<0.02	
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	0.67	-	-	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	1.01	-	-	
6/21/2003	FGL	299	195	8.0	1.4	17	8	27	2	30	29	80	70	1.6	<0.1	3	0.14	<0.01	0.44	0.08	-	-	-	<0.02	
10/29/2003	FGL	541	329	7.7	2.6	19	13	61	3	38	93	100	80	1.4	0.2	<2	0.2	<0.01	0.12	0.02	-	-	-	<0.02	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-	-	
10/29/2004	FGL	719	470	8.2	4.3	21	12	100	3	85	116	130	100	2.8	0.3	2	0.2	<0.01	0.32	0.06	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	0.512	-	-	
6/25/2007	FGL	480	304	7.2	2.3	19	10	49	2	58	62	100	80	3.5	0.1	3	0.16	<0.01	0.38	0.05	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.3	0.843	-	-	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.1	0.48	-	-	
9/18/2007	FGL	809	498	7.9	5.3	21	13	125	3	68	137	130	100	0.4	0.1	<2	0.23	<0.01	0.31	0.05	-	-	-	<0.02	
6/23/2008	FGL	656	407	8.2	3.2	26	16	84	3	57	107	110	90	3.3	0.4	2	0.2	<0.01	0.35	0.04	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.77	0.6	-	-	
9/17/2008	FGL	850	503	7.0	5	24	15	128	3	66	147	120	110	<0.4	0.2	3	0.2	<0.01	0.37	0.12	-	-	-	<0.02	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.1	<0.4	-	-	
6/30/2009	FGL	614	387	8.1	-	25	14	73	3	64	96	110	90	2.1	0.2	2	0.3	<0.01	0.23	0.03	3	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.4	-	-	
9/25/2009	FGL	796	499	7.6	-	23	15	120	3	72	146	120	100	<0.4	0.1	3	0.2	<0.01	0.22	0.14	2	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
9/24/2010	FGL	581	347	8.5	-	20	11	74	3	47	102	90	70	<0.4	<0.1	<2	0.2	<0.01	0.27	0.06	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.636	-	-	
MWA (Refuge)																									
7/8/1999	FGL	513	310	8.0	2.8	19	9	60	2	55	68	110	90	2.9	-	-	0.2	-	-	-	-	<2	-	-	
8/11/1999	FGL	633	360	-	3.9	18	9	82	2	71	90	130	100	1.6	-	-	0.2	-	-	-	-	<2	-	-	
9/8/1999	FGL	920	530	9.0	6.4	21	10	142	3	89	148	110	120	<0.4	-	-	-	-	-	-	-	<2	-	-	
11/11/1999	FGL	716	440	9.2	3.7	24	13	90	3	77	97	140	110	2.7	-	-	0.2	-	-	-	-	<2	-	-	
7/10/2000	FGL	706	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
8/25/2000	FGL	777	-	-	-	-	-	-	-	75	110	-	-	-	-	-	0.2	-	-	-	-	-	-	-	
10/25/2000	FGL	721	442	8.4	4	25	14	100	4	64	104	130	110	1.3	<0.1	-	0.27	<0.01	0.27	0.02	-	-	-	<0.02	
11/18/2000	FGL	502	314	7.7	2.5	22	12	59	3	42	73	100	80	3	<0.1	-	0.19	<0.01	0.26	0.01	-	-	-	<0.02	
12/15/2000	FGL	801	484	7.7	4.6	25	15	118	4	71	128	120	100	3.3	<0.1	-	0.28	<0.01	0.41	0.02	-	-	-	<0.02	
1/31/2001	FGL	853	540	7.8	4.3	29	17	119	4	94	139	130	110	3.4	<0.1	-	0.28	<0.01	0.78	0.03	-	-	-	<0.02	
2/22/2001	FGL	682	430	7.8	2.7	31	17	76	4	85	89	120	100	6.6	<0.1	-	0.33	<0.01	0.78	0.03	-	-	-	<0.02	
3/28/2001	FGL	670	440	7.9	3.1	29	15	83	4	94	87	120	100	4.1	<0.1	-	0.35	<0.01	0.57	0.03	-	-	-	<0.02	
4/25/2001	FGL	772	490	8.2	4	28	14	103	4	104	96	140	120	3.5	<0.1	-	0.41	<0.01	0.34	0.02	-	-	-	<0.02	
5/30/2001	FGL	1030	650	8.5	6.1	27	14	157	4	118	163	170	140	<0.4	<0.1	<2	0.32	<0.01	0.44	0.07	6	<2	<0.02	<0.02	
6/26/2001	FGL	711	457	8.4	4.1	24	12	98	3	79	100	140	110	1.2	0.2	2	0.26	<0.01	0.31	0.05	4	<1	<0.02	<0.02	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	4.2	0.62	-	-	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
MWA (Refuge)																									
7/19/2001	FGL	573	367	8.8	3.2	23	12	76	3	58	75	120	100	<0.4	0.1	-	0.2	<0.01	0.39	0.04	-	-	<0.02		
8/15/2001	FGL	660	430	9.0	4	22	13	95	3	59	109	130	100	<0.4	0.1	2	0.21	<0.01	0.24	0.04	3	<2	<0.02		
9/10/2001	FGL	1010	600	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/20/2001	FGL	777	492	8.7	4.3	24	16	112	4	60	146	130	110	<0.4	0.1	2	0.21	<0.01	0.37	0.04	3	1	<0.02		
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8.4	<0.4	-		
11/5/2001	FGL	1060	610	8.4	6.2	25	15	158	4	102	172	190	160	<0.4	0.2	<2	0.33	<0.01	0.27	0.04	-	-	<0.02		
6/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.73	-		
6/5/2002	FGL	678	440	8.4	3.3	24	15	84	4	69	109	130	110	1.7	<0.1	-	0.22	<0.01	0.16	0.02	-	-	<0.02		
6/25/2002	FGL	667	410	8.6	0.1	24	12	85	3	72	102	130	110	1.2	0.1	<2	0.23	<0.01	0.41	0.03	-	-	0.03		
6/25/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	0.7	-		
7/9/2002	FGL	533	340	8.6	2.9	21	11	67	2	53	69	120	100	1.2	<0.1	2	0.2	<0.01	0.27	0.02	-	-	<0.02		
7/15/2002	FGL	514	330	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-		
7/25/2002	FGL	500	280	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/9/2002	FGL	659	400	8.4	3.9	19	12	89	3	49	113	110	90	<0.4	<0.1	<2	0.17	<0.01	0.15	0.02	-	-	<0.02		
8/9/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	0.54	-		
8/14/2002	FGL	613	370	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/19/2002	FGL	658	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/8/2002	FGL	849	515	8.3	4.2	25	15	108	3	75	149	140	120	<0.4	<0.1	-	0.25	<0.01	0.24	0.05	-	-	<0.02		
9/20/2002	FGL	824	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.1	0.5	-		
9/27/2002	FGL	823	490	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/4/2002	FGL	850	520	8.3	4.5	24	17	118	4	130	165	130	110	0.5	<0.1	2	0.2	<0.01	0.14	0.04	-	-	<0.02		
10/11/2002	FGL	717	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/17/2002	FGL	654	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/4/2002	FGL	620	366	8.4	2.8	22	15	70	4	42	101	110	90	1.6	<0.1	<2	0.17	<0.01	0.19	0.02	-	-	<0.02		
11/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
12/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1.16	-		
12/26/2002	FGL	630	401	7.9	2.7	27	17	73	4	59	97	120	100	4.4	<0.1	<2	0.27	<0.01	0.1	0.02	-	-	<0.02		
1/20/2003	FGL	695	418	7.8	2.9	28	17	78	5	66	99	120	100	4.9	<0.1	<2	0.29	<0.01	0.49	0.02	-	-	<0.02		
1/20/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.5	0.542	-		
1/31/2003	FGL	688	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/25/2003	FGL	642	414	7.7	2.9	28	15	76	3	84	83	120	100	4.6	<0.1	-	0.31	<0.01	0.23	0.03	-	-	<0.02		
2/25/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.9	1.12	-		
3/23/2003	FGL	743	497	8.5	3.5	31	16	96	3	107	101	140	120	2.6	<0.1	-	0.37	<0.01	0.19	0.02	-	-	<0.02		
4/27/2003	FGL	750	499	8.0	3.5	31	16	97	3	106	103	140	110	2.8	<0.1	-	0.36	<0.01	0.52	0.03	-	-	<0.02		
5/29/2003	FGL	632	413	8.5	3	27	14	78	3	76	92	120	100	2.8	<0.1	-	0.28	<0.01	0.08	0.01	-	-	<0.02		
6/21/2003	FGL	374	246	8.0	1.9	19	9	40	2	42	42	90	70	1.5	<0.1	2	0.17	<0.01	0.32	0.03	-	-	<0.02		
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.7	0.724	-		
7/18/2003	FGL	394	256	7.9	2.3	17	9	48	2	40	50	90	80	<0.4	0.2	2	0.17	<0.01	0.23	0.03	-	-	<0.02		
8/27/2003	FGL	368	232	8.4	2	17	8	39	2	32	44	90	80	<0.4	0.2	-	0.15	<0.01	0.15	0.02	-	-	<0.02		
9/18/2003	FGL	542	355	9.0	3	21	12	68	2	54	78	120	100	<0.4	0.2	-	0.2	<0.01	0.08	0.02	-	-	<0.02		
10/29/2003	FGL	584	344	8.1	2.8	20	14	67	3	37	102	100	80	0.6	0.2	<2	0.1	<0.01	0.09	0.02	-	-	<0.02		
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
3/26/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.54	1.26	-		
3/26/2004	FGL	718	472	7.9	3	34	17	86	3	109	90	130	110	3.3	0.2	<2	0.4	<0.01	160	0.04	-	-	<0.02		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
MWA (Refuge)																									
4/28/2004	FGL	627	403	8.2	2.9	28	15	76	3	86	83	110	100	1.4	0.2	<2	0.3	<0.01	0.21	0.02	-	-	<0.02		
5/24/2004	FGL	605	388	8.2	2.8	26	14	72	3	65	86	120	100	1.6	0.2	-	0.2	<0.01	0.4	0.04	-	-	<0.02		
6/18/2004	FGL	609	410	8.2	3.2	28	15	84	3	71	87	120	100	1.4	0.2	<2	0.3	<0.01	0.55	0.03	-	-	<0.02		
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.4	<0.4	-		
10/29/2004	FGL	580	360	8.1	2.9	20	14	69	3	44	108	100	80	1.9	0.3	5	0.1	<0.01	0.19	0.04	-	-	0.02		
5/21/2007	FGL	955	635	7.9	6.2	27	15	161	4	102	135	190	160	0.7	0.3	-	0.35	<0.01	0.58	0.17	-	-	<0.02		
6/25/2007	FGL	635	398	7.1	3.3	21	11	75	2	77	80	130	110	2.2	<0.1	2	0.2	<0.01	0.29	0.05	-	-	<0.02		
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	0.763	-		
7/22/2007	FGL	599	392	8.2	3.7	21	11	83	3	65	88	120	100	0.8	<0.1	2	0.23	<0.01	0.31	0.06	-	-	<0.02		
8/13/2007	FGL	837	-	8.3	6.1	25	15	156	3	91	-	160	130	<0.4	0.2	3	0.17	<0.01	0.39	0.09	-	-	0.1		
9/18/2007	FGL	1090	708	8.4	7.3	25	15	188	3	120	167	190	150	<0.4	0.2	<2	0.38	<0.01	0.65	0.11	-	-	<0.02		
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.9	0.42	-		
10/30/2007	FGL	708	461	8.2	4	23	15	100	3	61	108	150	120	0.7	0.2	-	0.2	<0.01	0.23	0.05	-	-	<0.02		
6/23/2008	FGL	837	591	8.4	4.8	27	15	125	3	83	116	220	180	1.2	0.4	2	0.3	<0.01	0.31	0.05	-	-	<0.02		
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	0.54	-		
7/14/2008	FGL	704	449	8.8	4	24	13	99	3	76	104	130	100	<0.4	0.3	2	0.3	<0.01	0.15	0.04	-	-	<0.02		
8/26/2008	FGL	929	586	7.4	5.8	24	14	144	3	94	147	160	130	<0.4	0.1	3	0.3	<0.01	0.2	0.06	-	-	<0.02		
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.87	<0.4	-		
9/17/2008	FGL	958	582	7.5	5.7	25	16	149	3	86	153	150	130	<0.4	0.2	2	0.3	<0.01	0.26	0.08	-	-	<0.02		
10/13/2008	FGL	914	558	7.9	5	25	17	131	4	75	156	150	120	0.5	<0.1	2	0.3	<0.01	0.3	0.09	-	-	<0.02		
4/16/2009	FGL	1460	984	8.2	-	36	18	264	4	177	234	250	200	1	0.2	-	0.5	<0.01	0.55	0.08	-	-	<0.02		
5/14/2009	FGL	1500	1000	8.0	-	44	18	281	4	173	243	240	200	0.6	0.2	3	0.5	<0.01	0.77	0.09	-	-	0.03		
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/30/2009	FGL	745	462	8.5	-	27	15	101	3	83	112	120	100	0.4	0.2	2	0.3	<0.01	0.26	0.04	4	-	<0.02		
7/23/2009	FGL	612	393	8.4	-	20	11	91	2	65	84	120	100	<0.4	0.1	3	0.2	<0.01	0.25	0.05	-	-	<0.02		
8/6/2009	FGL	879	596	8.1	-	23	12	146	3	106	146	160	130	<0.4	0.1	3	0.2	<0.01	0.37	0.09	-	-	<0.02		
8/30/2009	FGL	835	514	8.0	-	22	13	127	3	84	145	120	100	<0.4	0.1	3	0.2	<0.01	0.16	0.04	-	-	<0.02		
9/25/2009	FGL	886	555	8.2	-	24	15	140	3	86	157	130	110	<0.4	0.1	2	0.3	<0.01	0.13	0.03	4	-	<0.02		
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10/26/2009	FGL	900	565	7.9	-	27	16	126	3	100	152	140	110	0.9	0.1	<2	0.3	<0.01	0.24	0.06	-	-	<0.02		
5/28/2010	FGL	729	454	8.2	-	27	14	98	3	100	101	110	90	1.4	<0.1	2	0.3	<0.01	0.25	0.05	-	-	<0.02		
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.511	-		
6/7/2010	FGL	669	432	8.4	-	26	14	91	2	100	88	110	90	1.3	<0.1	<2	0.3	<0.01	0.47	0.05	-	-	<0.02		
6/28/2010	FGL	417	268	8.7	-	19	9	51	2	53	54	80	60	0.4	<0.1	2	0.2	<0.01	0.39	0.03	-	-	<0.02		
7/9/2010	FGL	405	249	8.2	-	17	8	50	2	48	53	70	60	1	<0.1	2	0.2	<0.01	0.3	0.04	-	-	<0.02		
8/29/2010	FGL	615	385	8.3	-	22	11	87	2	69	94	100	80	<0.4	<0.1	2	0.2	<0.01	0.28	0.08	-	-	<0.02		
9/24/2010	FGL	541	324	9.1	-	22	13	65	3	47	94	80	70	<0.4	<0.1	<2	0.2	<0.01	0.19	0.03	-	-	<0.02		
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1.4	<0.4	-		
10/15/2010	FGL	529	327	8.1	-	23	13	60	3	44	83	100	80	0.9	<0.1	2	0.2	<0.01	0.09	0.02	-	-	<0.02		
James ID Booster Plant																									
10/25/2000	FGL	836	537	8.2	5.2	26	13	131	3	83	131	150	120	<0.4	0.1	-	0.34	<0.01	0.44	0.01	-	-	<0.02		
11/18/2000	FGL	710	449	8.4	4.2	24	13	102	3	65	102	140	110	<0.4	<0.1	-	0.25	<0.01	0.13	<0.01	-	-	<0.02		
12/15/2000	FGL	848	533	8.2	6	21	10	133	3	84	122	160	130	<0.4	0.1	-	0.38	<0.01	0.4	<0.01	-	-	<0.02		
1/31/2001	FGL	710	450	8.2	4.2	24	12	102	3	60	109	140	110	<0.4	0.1	-	0.3	<0.01	0.34	<0.01	-	-	<0.02		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
James ID Booster Plant																									
3/28/2001	FGL	805	510	8.6	4.1	30	15	110	4	90	131	110	110	1.4	<0.1	-	0.35	<0.01	0.16	<0.01	-	-	-	<0.02	
4/25/2001	FGL	826	550	8.4	6.4	27	5	138	7	53	107	210	170	4.5	0.2	-	0.37	0.02	0.12	0.01	-	-	-	<0.02	
5/30/2001	FGL	824	540	8.7	5.7	29	5	126	6	53	125	190	170	4.2	0.1	10	0.38	<0.01	0.32	0.02	8	<2	<0.02		
6/26/2001	FGL	784	514	8.7	4.4	27	13	110	3	94	117	150	120	<0.4	0.2	2	0.29	<0.01	0.56	0.05	5	1	<0.02		
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<3	-	-	-	-	4.9	0.57	-		
7/19/2001	FGL	665	442	8.6	3.8	26	14	96	3	72	91	140	110	<0.4	0.1	-	0.23	<0.01	1.17	0.06	-	-	-	<0.02	
8/15/2001	FGL	687	440	8.5	3.9	25	14	97	3	66	109	130	110	<0.4	0.1	3	0.21	<0.01	0.51	0.05	3	<2	<0.02		
9/20/2001	FGL	1030	656	8.2	5.6	30	19	160	4	99	174	170	140	<0.4	0.2	3	0.28	<0.01	0.69	0.04	5	2	<0.02		
11/5/2001	FGL	933	580	8.4	4.8	28	17	131	4	81	161	160	-	<0.4	0.2	<2	0.27	<0.01	0.23	0.01	-	-	<0.02		
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.7	0.59	-		
6/5/2002	FGL	708	440	8.0	3.4	26	15	88	4	70	99	140	120	1.3	<0.1	-	0.25	<0.01	0.38	0.02	-	-	<0.02		
6/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	0.95	-		
7/9/2002	FGL	463	300	8.3	2.4	21	11	54	3	44	54	110	90	0.9	<0.1	-	0.22	<0.01	0.63	0.02	-	-	0.06		
7/15/2002	FGL	530	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-		
7/25/2002	FGL	512	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/9/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.2	0.64	-		
8/9/2002	FGL	672	420	7.7	2.5	22	13	88	3	54	109	130	100	<0.4	<0.1	2	0.13	<0.01	0.33	0.03	-	-	0.02		
8/14/2002	FGL	666	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/19/2002	FGL	671	400	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/8/2002	FGL	737	470	8.1	3.6	24	14	110	3	55	134	130	100	<0.4	<0.1	-	0.22	<0.01	0.31	0.2	-	-	<0.02		
9/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	0.69	-		
9/20/2002	FGL	860	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/27/2002	FGL	935	560	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-		
10/4/2002	FGL	940	587	8.1	5.3	27	16	140	4	80	160	160	130	<0.4	<0.1	2	0.25	<0.01	0.18	0.01	-	-	<0.02		
10/11/2002	FGL	893	530	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/17/2002	FGL	874	510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/4/2002	FGL	755	423	8.4	3.6	24	17	94	4	52	112	120	100	<0.4	<0.1	<2	0.19	<0.01	0.16	0.01	-	-	<0.02		
11/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.3	<0.4	-		
12/26/2002	FGL	719	430	8.1	3.7	24	15	94	4	45	128	120	100	<0.4	0.1	<2	0.21	<0.01	0.05	<0.01	-	-	0.02		
12/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.2	0.61	-		
1/20/2003	FGL	691	418	8.1	3.2	24	16	83	5	41	129	120	100	<0.4	<0.1	<2	0.19	<0.01	0.44	<0.01	-	-	<0.02		
1/20/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
1/31/2003	FGL	674	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/25/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.15	0.973	-		
3/23/2003	FGL	730	474	8.6	3.4	30	16	93	4	91	100	140	120	<0.4	<0.1	-	0.33	<0.01	0.13	<0.01	-	-	<0.02		
3/26/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.05	-	-		
4/27/2003	FGL	917	606	8.0	4.2	36	19	124	4	118	134	170	140	1.4	<0.1	-	0.42	<0.01	0.53	<0.01	-	-	<0.02		
5/29/2003	FGL	769	501	8.7	3.9	30	15	105	4	98	109	140	120	<0.4	<0.1	-	0.33	<0.01	0.11	<0.01	-	-	<0.02		
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.55	0.71	-		
6/21/2003	FGL	342	224	7.8	1.7	19	9	35	2	33	35	90	70	0.8	0.2	2	0.17	<0.01	0.41	0.03	-	-	<0.02		
7/18/2003	FGL	406	276	8.2	2.4	19	9	50	2	44	52	100	80	<0.4	0.2	2	0.18	<0.01	0.57	0.03	-	-	<0.02		
8/27/2003	FGL	370	232	7.8	1.9	17	9	38	2	32	44	90	80	<0.4	0.2	-	0.15	<0.01	0.4	0.03	-	-	<0.02		
9/18/2003	FGL	454	297	8.3	2.3	20	11	52	2	43	59	110	90	<0.4	0.2	-	0.2	<0.01	0.27	0.02	-	-	<0.02		
10/29/2003	FGL	543	344	7.4	2.6	22	13	63	3	41	82	120	100	<0.4	0.2	<2	0.2	<0.01	0.27	0.02	-	-	<0.02		
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.2	<0.4	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
James ID Booster Plant																									
3/26/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.12	1.12	-		
3/26/2004	FGL	723	470	8.5	3	34	17	87	4	105	92	120	120	0.5	0.1	3	0.3	<0.01	0.16	0.04	-	-	<0.02		
4/28/2004	FGL	802	533	7.9	3.5	35	18	101	4	109	106	160	140	<0.4	0.2	<2	0.4	<0.01	0.15	0.01	-	-	<0.02		
5/24/2004	FGL	696	451	8.3	3.2	29	15	86	3	82	96	140	110	<0.4	0.2	-	0.3	<0.01	0.3	0.02	-	-	<0.02		
6/18/2004	FGL	651	436	8.5	3	32	17	85	3	86	93	120	100	<0.4	0.2	2	0.3	<0.01	0.74	0.02	-	-	<0.02		
10/29/2004	FGL	571	374	8.1	2.8	23	13	67	3	46	102	120	100	<0.4	0.3	<2	0.2	<0.01	0.17	0.02	-	-	<0.02		
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.1	0.458	-		
5/21/2007	FGL	1020	668	8.5	6.2	31	16	170	4	119	138	190	170	<0.4	0.3	-	0.43	<0.01	0.58	0.05	-	-	<0.02		
6/25/2007	FGL	775	462	8.7	4	24	13	99	2	94	100	120	120	<0.4	<0.1	3	0.27	<0.01	0.25	0.03	-	-	<0.02		
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.7	0.786	-		
7/22/2007	FGL	712	474	7.4	4.4	23	12	105	3	83	98	150	130	<0.4	<0.1	3	0.26	<0.01	0.43	0.04	-	-	<0.02		
8/13/2007	FGL	740	498	7.5	4.9	23	13	118	3	75	106	160	130	<0.4	0.2	3	0.23	<0.01	0.82	0.04	-	-	<0.02		
9/18/2007	FGL	911	570	8.2	5.8	24	14	144	3	87	138	160	130	<0.4	0.2	2	0.27	<0.01	0.45	0.2	-	-	<0.02		
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.9	0.44	-		
10/30/2007	FGL	1070	692	8.2	7	27	15	183	4	104	169	190	160	<0.4	0.2	-	0.3	<0.01	0.33	0.01	-	-	<0.02		
6/23/2008	FGL	906	721	8.2	5.4	28	15	142	3	94	137	300	240	1.2	0.4	3	0.3	<0.01	0.58	0.04	-	-	<0.02		
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.85	0.67	-		
7/14/2008	FGL	820	477	8.4	4.2	27	15	110	3	97	115	100	100	<0.4	0.3	4	0.3	<0.01	0.52	0.03	-	-	<0.02		
8/26/2008	FGL	1000	656	6.8	6.3	27	14	161	3	140	141	170	140	<0.4	0.2	4	0.5	<0.01	0.34	0.03	-	-	<0.02		
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.73	<0.4	-		
9/17/2008	FGL	1000	625	7.2	5.6	29	16	150	3	111	156	160	130	<0.4	0.2	3	0.4	<0.01	0.36	0.03	-	-	<0.02		
10/13/2008	FGL	1120	677	7.6	6.1	28	16	164	4	110	185	170	140	<0.4	0.1	3	0.4	<0.01	0.3	0.01	-	-	<0.02		
4/16/2009	FGL	1270	852	8.4	-	41	21	208	4	154	194	230	190	<0.4	0.2	-	0.5	<0.01	0.32	0.01	-	-	<0.02		
5/14/2009	FGL	1640	1030	8.3	-	20	3	332	6	35	356	280	230	0.8	0.6	8	1.6	<0.01	0.43	0.03	-	-	<0.02		
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.42	-		
6/30/2009	FGL	841	548	8.2	-	29	15	121	3	105	125	150	120	<0.4	0.2	2	0.4	<0.01	0.67	0.04	5	-	<0.02		
7/23/2009	FGL	662	425	8.3	-	23	12	96	3	72	89	130	110	<0.4	0.2	3	0.3	<0.01	0.47	0.04	-	-	<0.02		
8/6/2009	FGL	723	497	8.2	-	23	11	115	3	97	108	140	120	<0.4	0.2	3	0.3	<0.01	0.47	0.03	-	-	<0.02		
8/30/2009	FGL	1000	640	7.9	-	26	13	164	3	107	157	170	140	<0.4	0.2	3	0.3	<0.01	0.27	0.02	-	-	<0.02		
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
9/25/2009	FGL	1060	689	8.1	-	28	15	180	3	132	171	160	130	<0.4	0.2	3	0.4	<0.01	0.4	0.02	7	-	<0.02		
10/26/2009	FGL	993	618	7.8	-	27	15	154	4	116	162	140	120	<0.4	0.2	2	0.3	<0.01	0.28	0.01	-	-	<0.02		
5/28/2010	FGL	960	614	8.2	-	32	16	145	3	134	144	140	120	<0.4	0.1	3	0.4	<0.01	0.27	0.01	-	-	<0.02		
6/7/2010	FGL	862	566	8.6	-	31	16	132	3	120	124	140	110	<0.4	0.1	3	0.4	<0.01	0.4	0.02	-	-	<0.02		
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.484	-		
6/28/2010	FGL	410	262	8.1	-	19	9	49	2	53	50	80	70	<0.4	<0.1	2	0.2	<0.01	0.38	0.03	-	-	<0.02		
7/9/2010	FGL	469	302	8.0	-	21	10	58	2	57	64	90	70	<0.4	<0.1	3	0.2	<0.01	0.44	0.04	-	-	<0.02		
8/29/2010	FGL	555	349	7.8	-	22	11	76	2	58	80	100	80	<0.4	<0.1	3	0.2	<0.01	0.44	0.04	-	-	<0.02		
9/24/2010	FGL	641	409	8.6	-	24	12	88	3	93	89	100	90	<0.4	0.1	2	0.3	<0.01	0.34	0.03	-	-	<0.02		
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.06	<0.4	-		
10/15/2010	FGL	646	388	7.9	-	23	13	85	3	53	111	100	80	<0.4	<0.1	<2	0.2	<0.01	0.23	0.02	-	-	<0.02		
Tranquillity ID Inlet																									
7/25/2002	FGL	540	320	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/9/2002	FGL	712	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
Tranquillity ID Inlet																									
8/14/2002	FGL	703	420	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	
8/19/2002	FGL	672	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	
9/8/2002	FGL	1570	925	8.0	12.2	23	6	255	5	90	296	250	200	<0.4	0.2	-	1.29	0.01	0.05	0.12	-	3	<0.02	-	
9/20/2002	FGL	1790	1080	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	
9/27/2002	FGL	2240	1390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
10/4/2002	FGL	2370	1480	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	
10/11/2002	FGL	2430	1510	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3	-	-	
10/17/2002	FGL	1330	770	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	<0.02	-	
11/4/2002	FGL	977	580	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	
1/31/2003	FGL	698	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-	-	
3/23/2003	FGL	728	473	7.9	3.1	30	17	86	4	94	101	140	120	-	<0.1	-	0.33	<0.01	0.31	0.02	-	-	-	<0.02	
4/27/2003	FGL	918	613	7.8	4.4	35	18	128	5	120	136	170	140	1.3	<0.1	-	0.44	<0.01	0.41	0.01	-	-	-	<0.02	
5/29/2003	FGL	756	497	8.4	3.8	29	16	104	3	95	109	140	120	0.7	<0.1	-	0.32	<0.01	0.13	0.01	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.679	-	-	
6/21/2003	FGL	344	225	7.8	1.7	19	9	35	2	34	35	90	70	0.7	<0.1	<2	0.17	<0.01	0.47	0.03	-	-	-	<0.02	
7/18/2003	FGL	396	267	8.2	2.2	19	9	47	2	41	49	100	80	<0.4	0.2	2	0.17	<0.01	0.66	0.04	-	-	-	<0.02	
8/27/2003	FGL	368	230	7.8	1.8	17	9	36	2	32	44	90	80	<0.4	0.2	-	0.00015	<0.01	0.13	0.03	-	-	-	<0.02	
9/18/2003	FGL	1760	1120	8.2	15	26	5	316	5	209	305	250	210	<0.4	0.4	-	1.4	<0.01	0.29	0.12	-	-	-	<0.02	
10/29/2003	FGL	556	363	8.1	2.8	24	12	67	3	45	82	130	100	<0.4	0.2	<2	0.2	<0.01	0.21	0.03	-	-	-	0.06	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.4	<0.4	-	-	
3/26/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	1.11	-	-	
3/26/2004	FGL	725	468	8.5	3.1	34	17	88	3	102	94	110	120	<0.4	0.2	3	0.4	<0.01	0.2	0.03	-	-	-	<0.02	
4/28/2004	FGL	729	489	7.9	3.1	33	17	88	3	105	93	150	120	<0.4	0.2	<2	0.4	<0.01	0.21	0.02	-	-	-	<0.02	
5/24/2004	FGL	654	424	8.3	3	29	15	79	3	75	92	130	110	0.5	0.2	-	0.3	<0.01	0.42	0.04	-	-	-	<0.02	
6/18/2004	FGL	630	424	8.3	3	31	17	83	3	79	90	120	100	0.5	0.2	<2	0.3	<0.01	1.41	0.04	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	4.47	0.407	-	-	
10/29/2004	FGL	1540	968	8.0	10.6	30	10	263	5	190	259	210	170	0.9	0.3	2	1	<0.01	0.36	0.03	-	-	-	<0.02	
6/23/2008	FGL	923	690	8.3	5.4	29	16	147	3	97	138	260	220	<0.4	0.4	3	0.3	<0.01	0.91	0.07	-	-	-	<0.02	
6/23/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.25	0.62	-	-	
9/17/2008	FGL	996	608	7.9	5.5	28	16	147	3	104	160	150	130	<0.4	0.2	3	0.4	<0.01	0.29	0.03	-	-	-	<0.02	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.45	<0.4	-	-	
6/30/2009	FGL	778	497	8.3	-	28	15	108	3	89	114	140	110	<0.4	0.2	3	0.3	<0.01	0.94	0.06	4	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.45	-	-	
9/25/2009	FGL	1180	756	8.0	-	28	13	213	4	112	216	170	140	<0.4	0.2	3	0.6	<0.01	0.42	0.04	5	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-	-	
6/7/2010	FGL	824	534	8.6	-	31	16	121	3	117	116	130	110	<0.4	0.1	3	0.4	<0.01	0.49	0.05	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.591	-	-	
9/24/2010	FGL	609	381	8.4	-	23	12	80	3	77	86	100	80	<0.4	<0.1	3	0.3	<0.01	0.39	0.03	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.9	<0.4	-	-	
Lateral 6 & 7																									
8/25/1999	FGL	664	390	8.6	3.8	24	12	91	2	71	94	120	110	<0.4	-	-	0.2	-	-	-	-	-	<2	-	
9/29/1999	FGL	1160	670	-	-	-	-	-	-	116	192	-	-	<0.4	-	-	0.2	-	-	-	-	-	<1	-	
10/25/2000	FGL	735	474	8.5	4	28	14	105	3	68	105	150	120	1.4	<0.1	-	0.28	<0.01	0.6	0.04	-	-	-	<0.02	
11/18/2000	FGL	719	451	8.4	4.1	26	13	102	3	64	103	140	120	<0.4	<0.1	-	0.24	<0.01	0.36	0.02	-	-	-	<0.02	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(μmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(μg/L)	(μg/L)	(mg/L)	
Lateral 6 & 7																									
12/15/2000	FGL	605	379	8.2	2.9	28	14	76	3	52	85	120	100	1.3	<0.1	-	0.22	<0.01	0.68	0.03	-	-	-	<0.02	
1/31/2001	FGL	742	480	7.8	3.9	27	14	100	4	73	133	130	110	2.5	0.1	-	0.25	<0.01	1	0.02	-	-	-	<0.02	
2/22/2001	FGL	787	500	8.4	3.5	36	15	100	4	79	117	150	120	1	0.1	-	0.27	<0.01	0.6	0.03	-	-	-	<0.02	
3/28/2001	FGL	680	450	8.4	2.9	33	16	80	4	84	91	140	120	<0.4	<0.1	-	0.32	<0.01	0.47	0.02	-	-	-	<0.02	
4/25/2001	FGL	718	480	8.5	4.5	27	9	106	6	49	87	190	160	2.5	<0.1	-	0.26	<0.01	0.4	0.02	-	-	-	<0.02	
5/30/2001	FGL	1020	650	8.4	5.2	33	17	148	4	122	159	170	140	0.9	<0.1	<2	0.33	<0.01	0.5	0.04	5	<2	<0.02		
6/26/2001	FGL	820	529	9.0	4.5	29	14	117	3	107	119	120	120	<0.4	0.2	4	0.33	<0.01	0.54	0.04	6	1	<0.02		
7/19/2001	FGL	677	446	8.7	3.8	26	14	96	3	75	92	140	110	<0.4	0.1	<3	0.23	<0.01	0.75	0.04	-	-	-	<0.02	
7/19/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.5	0.69	-		
8/15/2001	FGL	685	440	8.7	4.5	24	14	95	3	65	109	130	110	<0.4	0.1	3	0.21	<0.01	0.44	0.05	3	<2	<0.02		
9/20/2001	FGL	1020	650	8.4	5.7	30	18	159	4	99	170	170	140	<0.4	0.2	3	0.27	<0.01	0.79	0.04	5	2	<0.02		
11/5/2001	FGL	889	560	8.5	4.8	27	16	127	4	76	153	160	-	<0.4	0.1	<2	0.26	<0.01	0.48	0.05	-	-	-	<0.02	
11/5/2001	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.4	0.48	-		
6/5/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	0.9	-		
6/5/2002	FGL	720	470	8.2	3.5	27	15	91	4	73	105	150	120	3.4	0.1	-	0.25	<0.01	0.52	0.02	-	-	-	<0.02	
7/9/2002	FGL	459	300	8.2	2.3	22	11	54	3	43	54	110	90	1	<0.1	3	0.23	<0.01	0.75	0.03	-	-	-	0.03	
7/15/2002	FGL	533	340	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-		
7/25/2002	FGL	522	310	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<2	-		
8/9/2002	FGL	675	420	8.0	3.8	22	13	91	3	54	109	130	100	<0.4	<0.1	2	0.21	<0.01	0.8	0.05	-	-	-	0.03	
8/9/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.6	0.51	-		
8/14/2002	FGL	680	390	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
8/19/2002	FGL	680	410	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/8/2002	FGL	742	451	8.2	3.7	25	14	93	4	56	129	130	110	<0.4	<0.1	-	0.22	<0.01	0.49	0.03	-	-	-	<0.02	
9/20/2002	FGL	874	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
9/20/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.8	0.71	-		
9/27/2002	FGL	906	540	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/4/2002	FGL	851	529	8.2	4.5	27	17	122	4	65	154	140	120	<0.4	0.1	2	0.21	<0.01	0.3	0.02	-	-	-	<0.02	
10/11/2002	FGL	872	520	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
10/17/2002	FGL	781	450	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
11/4/2002	FGL	694	400	8.6	3.3	24	16	84	4	43	109	120	100	<0.4	<0.1	<2	0.17	<0.01	0.26	0.02	-	-	-	0.02	
11/4/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.4	<0.4	-		
12/26/2002	FGL	752	476	8.5	3.2	34	17	92	4	61	128	140	120	<0.4	0.1	2	0.21	<0.01	0.8	0.01	-	-	-	0.02	
12/26/2002	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.5	0.9	-		
1/20/2003	FGL	671	409	8.5	2.7	30	16	73	4	45	101	140	110	<0.4	<0.1	<2	0.18	<0.01	0.38	0.01	-	-	-	<0.02	
1/20/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.05	<0.4	-		
1/31/2003	FGL	668	380	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		
2/25/2003	FGL	718	459	8.2	2.9	34	17	82	4	59	113	150	130	<0.4	0.1	-	0.2	<0.01	0.16	0.02	-	-	-	<0.02	
2/25/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	5.17	0.537	-		
3/23/2003	FGL	783	514	8.4	3.1	38	18	93	4	91	110	160	130	<0.4	<0.1	-	0.27	<0.01	0.25	0.01	-	-	-	<0.02	
4/27/2003	FGL	894	607	8.3	3.7	41	19	115	5	110	127	190	160	<0.4	<0.1	-	0.4	<0.01	0.37	0.01	-	-	-	<0.02	
5/29/2003	FGL	772	488	9.1	3.8	32	16	105	4	104	107	100	120	<0.4	<0.1	-	0.37	<0.01	0.12	0.02	-	-	-	<0.02	
6/21/2003	FGL	344	224	8.3	1.7	19	9	35	2	34	34	90	70	0.5	<0.1	<2	0.17	<0.01	0.48	0.04	-	-	-	<0.02	
6/21/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	0.71	-		
7/18/2003	FGL	410	277	8.3	2.3	20	10	50	2	43	52	100	80	<0.4	0.2	3	0.18	<0.01	0.6	0.04	-	-	-	<0.02	
8/27/2003	FGL	446	286	8.3	2	23	10	46	2	42	53	110	90	<0.4	0.2	-	0.18	<0.01	0.8	0.05	-	-	-	<0.02	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions						Trace Elements									
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn		
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)	(mg/L)	
Lateral 6 & 7																									
9/18/2003	FGL	483	322	9.0	2.4	23	11	56	2	47	63	120	100	<0.4	0.2	-	0.2	<0.01	0.25	0.02	-	-	-	<0.02	
10/29/2003	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
10/29/2003	FGL	638	389	8.1	2.9	25	13	73	3	40	105	130	110	<0.4	0.2	<2	0.2	<0.01	0.35	0.01	-	-	-	0.03	
3/26/2004	FGL	752	495	8.4	2.9	39	18	86	4	104	94	140	130	<0.4	0.2	4	0.4	<0.01	0.29	0.02	-	-	-	<0.02	
3/26/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	6.5	0.919	-		
4/28/2004	FGL	856	567	8.2	3.3	43	20	103	4	118	109	170	150	<0.4	0.3	4	0.4	<0.01	0.24	0.02	-	-	-	<0.02	
5/24/2004	FGL	839	554	8.6	3.3	41	20	104	4	115	110	140	150	<0.4	0.2	-	0.4	<0.01	0.36	0.03	-	-	-	<0.02	
6/18/2004	FGL	943	660	8.7	5.1	39	17	152	4	207	91	140	130	<0.4	0.4	7	0.6	<0.01	1.6	0.05	-	-	-	<0.02	
10/29/2004	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<1	<0.4	-		
10/29/2004	FGL	576	376	8.4	2.6	24	14	66	3	43	106	120	100	<0.4	0.3	2	0.2	<0.01	0.32	0.03	-	-	-	<0.02	
5/21/2007	FGL	1170	783	8.3	6.6	48	17	209	5	210	104	180	170	<0.4	0.4	-	0.7	<0.01	1.11	0.17	-	-	-	<0.02	
6/25/2007	FGL	1080	702	8.0	4.9	42	14	143	4	181	128	190	150	<0.4	0.2	7	0.51	<0.01	0.62	0.1	-	-	-	<0.02	
6/25/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	12.8	0.713	-		
7/22/2007	FGL	854	592	8.5	5.7	28	11	140	4	172	87	150	130	<0.4	0.3	6	0.5	<0.01	0.71	0.06	-	-	-	<0.02	
8/13/2007	FGL	858	594	8.7	6.1	30	13	159	3	132	107	140	140	<0.4	0.2	6	0.32	<0.01	0.77	0.07	-	-	-	<0.02	
9/18/2007	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7.9	<0.4	-		
9/18/2007	FGL	941	628	8.3	5.9	29	13	152	3	95	146	190	150	<0.4	0.2	5	0.32	<0.01	0.94	0.6	-	-	-	<0.02	
10/30/2007	FGL	899	596	8.3	5.3	30	15	142	4	84	141	180	150	<0.4	<0.1	-	0.3	<0.01	0.54	0.05	-	-	-	<0.02	
7/14/2008	FGL	1390	874	8.6	9	35	9	230	4	370	105	120	100	<0.4	0.6	12	1	<0.01	0.62	0.06	-	-	-	<0.02	
8/26/2008	FGL	1430	928	7.6	10.6	30	5	238	5	430	79	140	120	<0.4	0.5	12	1.2	<0.01	0.63	0.06	-	-	-	<0.02	
9/17/2008	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	23.87	<0.4	-		
9/17/2008	FGL	1220	807	7.1	9.3	28	7	212	4	330	85	140	110	<0.4	0.6	9	0.9	<0.01	0.49	0.05	-	-	-	<0.02	
10/13/2008	FGL	1220	794	7.9	9	26	7	201	4	327	89	140	110	<0.4	0.3	8	0.9	<0.01	0.29	0.03	-	-	-	<0.02	
4/16/2009	FGL	1700	1210	8.6	-	42	6	346	4	560	110	140	120	<0.4	0.6	-	1.6	<0.01	0.47	0.02	-	-	-	<0.02	
5/14/2009	FGL	1480	1010	8.1	-	33	4	303	5	370	146	150	120	<0.4	0.7	10	1.2	<0.01	0.96	0.05	-	-	-	<0.02	
6/30/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/30/2009	FGL	1350	954	8.1	-	32	6	265	5	410	95	140	110	<0.4	0.6	8	1.1	<0.01	1.09	0.05	31	-	-	<0.02	
7/23/2009	FGL	1240	864	8.2	-	29	6	251	5	330	102	140	110	<0.4	0.6	9	1	<0.01	0.58	0.04	-	-	-	<0.02	
8/6/2009	FGL	1490	1080	8.5	-	38	6	301	5	470	114	150	120	<0.4	0.6	9	1.3	<0.01	0.64	0.04	-	-	-	<0.02	
8/30/2009	FGL	1660	1160	8.1	-	38	5	335	4	540	106	130	110	<0.4	0.7	11	1.5	<0.01	0.49	0.04	-	-	-	<0.02	
9/25/2009	FGL	1350	952	8.2	-	34	7	268	5	380	107	150	120	<0.4	0.9	13	1	<0.01	1.27	0.08	26	-	-	<0.02	
9/25/2009	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
10/26/2009	FGL	1370	950	8.0	-	30	4	271	4	430	80	130	110	<0.4	0.7	10	1.1	<0.01	0.64	0.04	-	-	-	<0.02	
5/28/2010	FGL	943	602	8.4	-	33	16	141	3	131	138	140	120	<0.4	0.2	3	0.4	<0.01	0.33	0.04	-	-	-	<0.02	
6/7/2010	FGL	1330	954	8.3	-	31	5	276	4	420	87	130	110	<0.4	0.7	9	1.2	<0.01	0.55	0.05	-	-	-	<0.02	
6/7/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	<0.4	-		
6/28/2010	FGL	422	270	8.2	-	20	9	52	2	54	53	80	70	<0.4	0.1	3	0.2	<0.01	0.47	0.05	-	-	-	<0.02	
7/9/2010	FGL	490	326	8.1	-	25	10	59	2	60	60	110	90	<0.4	0.1	4	0.2	<0.01	0.47	0.04	-	-	-	<0.02	
8/29/2010	FGL	956	649	8.0	-	37	12	161	4	181	104	150	120	<0.4	0.3	6	0.6	<0.01	1.12	0.1	-	-	-	<0.02	
9/24/2010	FGL	1310	922	8.4	-	28	4	265	4	410	80	130	110	<0.4	0.6	10	1.2	<0.01	0.49	0.05	-	-	-	<0.02	
9/24/2010	OBL	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	30.1	<0.4	-		
10/15/2010	FGL	1320	922	8.1	-	28	4	265	5	410	80	130	100	<0.4	0.5	11	1.1	<0.01	0.4	0.05	-	-	-	<0.02	

Table F-1 (continued)
Surface-Water Quality Laboratory Results

						Cations				Anions							Trace Elements						
Date	Lab ¹	EC ²	TDS	pH	SAR	Ca	Mg	Na	K	SO ₄	Cl	HCO ₃ ³	Total Alkalinity ³	NO ₃ ³	F	As	B	Cu	Fe	Mn	Mo	Se	Zn
		(µmhos/cm)	(mg/L)			(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(µg/L)	(µg/L)

- Laboratory Abbreviations: APP - Appl Inc., Clovis; AT - Agri Tech, Inc., Kerman; BD - Betz Dearborn; BCL - BC Laboratories, Bakersfield; BD - Betz Dearborn; BSK - BSK Analytical Laboratories, Fresno; CLS - California Laboratory Services, Rancho Cordova; FGL - Fruit Growers Laboratory, Santa Paula; JML - JM Lord, Fresno; JML(1) - JM Lord, Fresno (TDS estimated from EC); OBL = Olson Biochemistry Laboratories of South Dakota State University, Brookings, SD; TL - The Twining Laboratories, Inc., Fresno.; UAG - U.S. Agricultural Consultants and Laboratories, Burbank; USGS - U.S. Geological Survey
- Electrical Conductivity at 25°C
- HCO₃, Total Alkalinity and NO₃ reported as HCO₃, CaCO₃ and NO₃ respectively. Some 2008 NO₃ results may include NO₂ in reported value.

NA = Not Available; ND = Non Detect (detection limit unknown)

Appendix G

Electrical Conductivity at DMC and SJREC Canal Intakes

Table G-1
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date		DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
01/01/10		616				
01/02/10		613				
01/03/10		612				
01/04/10		610				
01/05/10		607				
01/06/10		598				
01/07/10		697				
01/08/10		716				
01/09/10		851				
01/10/10		751				
01/11/10		737				
01/12/10		809		808	826	828
01/13/10		840		812	836	838
01/14/10		806		861	834	836
01/15/10		828		861	881	883
01/16/10		862		900	909	911
01/17/10		820		804	819	821
01/18/10		854		895	884	886
01/19/10		796		837	847	849
01/20/10		827		810	839	841
01/21/10		895		832	893	895
01/22/10		880		870	892	894
01/23/10		864		865	873	875
01/24/10		802		852	839	841
01/25/10		837		828	846	848
01/26/10		854		863	882	884
01/27/10		900		862	886	888
01/28/10		899		931	934	936
01/29/10		934		912	941	943
01/30/10		879		929	908	910
01/31/10		956		928	949	951
02/01/10		955		969	979	981
02/02/10		976		992	1002	1004
02/03/10		959		977	985	987
02/04/10		900		938	939	941
02/05/10		735		783	779	781
02/06/10		672		686	688	690
02/07/10		714		723	732	734
02/08/10		729		733	745	747
02/09/10		784		781	810	812
02/10/10		731		767	771	773
02/11/10		714		721	727	729
02/12/10		703		741	732	729
02/13/10		684		705	714	706
02/14/10		660		694	698	695
02/15/10		688		693	697	692
02/16/10		680		702	706	707

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date		DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
02/17/10	Start of MPG Transfer Pumping Period	602		607	616	610
02/18/10		637		661	661	660
02/19/10		618		609	613	612
02/20/10		607		591	589	587
02/21/10		643		656	660	654
02/22/10		652		647	649	638
02/23/10		611		608	613	624
02/24/10		610		604	605	598
02/25/10		635		618	621	614
02/26/10		635		679	678	711
02/27/10		763		731	728	712
02/28/10		722		703	719	704
03/01/10		574		587	581	585
03/02/10		698		594	718	680
03/03/10		716		551	721	676
03/04/10		635		454	616	620
03/05/10		633		447	624	646
03/06/10		649		433	655	642
03/07/10		630		405	643	643
03/08/10		590		399	599	606
03/09/10		580		421	584	590
03/10/10		593		413	585	580
03/11/10		605	51	470	599	597
03/12/10		649	78	483	645	634
03/13/10		642	76	412	646	637
03/14/10		651	78	429	641	643
03/15/10		658	76	481	659	669
03/16/10		725	120	416	718	713
03/17/10		774	122	468	759	750
03/18/10		759	125	493	763	749
03/19/10		729	118	496	755	765
03/20/10		767	109	526	820	838
03/21/10		802	101	498	825	839
03/22/10		793	95	487	793	789
03/23/10		767	96	514	804	812
03/24/10		707	94	473	776	881
03/25/10		669	96	457	693	767
03/26/10		662	96	466	662	686
03/27/10		683	96	493	693	692
03/28/10		696	95	477	713	745
03/29/10		827	93	516	867	851
03/30/10		712	91	460	786	908
03/31/10		710	91	479	754	778
04/01/10		762	88	444	759	756
04/02/10		728	83	395	730	792
04/03/10		724	79	361	725	786
04/04/10		708	76	397	815	922

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date	DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
04/05/10	741	75	338	771	931
04/06/10	594	75	276	667	771
04/07/10	739	74	320	724	723
04/08/10	564	75	256	626	727
04/09/10	765	79	350	866	900
04/10/10	680	79	312	731	739
04/11/10	753	78	403	836	873
04/12/10	767	76	370	887	958
04/13/10	841	72	273	944	961
04/14/10	920	71	285	986	978
04/15/10	874	70	224	920	928
04/16/10	971	69	194	1027	1017
04/17/10	910	75	203	1015	1024
04/18/10	985	75	223	1089	1097
04/19/10	1,001	73	273	1095	1107
04/20/10	916	69	246	997	998
04/21/10	850	67	199	925	949
04/22/10	768	67	100	876	900
04/23/10	477	69	79	917	922
04/24/10	529	75	86	573	617
04/25/10	697	82	85	255	150
04/26/10	313	80	83	166	163
04/27/10	222	75	79	176	88
04/28/10	169	73	78	164	299
04/29/10	599	72	228	572	545
04/30/10	645	70	314	679	611
05/01/10	559	70	276	609	569
05/02/10	502	70	248	533	531
05/03/10	460	70	239	471	421
05/04/10	471	66	207	474	454
05/05/10	479	62	224	484	487
05/06/10	485	61	227	485	487
05/07/10	525	61	274	530	531
05/08/10	511	62	272	514	516
05/09/10	537	63	295	541	542
05/10/10	531	62	295	536	543
05/11/10	526	62	257	531	559
05/12/10	545	62	259	559	559
05/13/10	524	63	294	537	540
05/14/10	498	63	304	512	513
05/15/10	517	63	348	544	543
05/16/10	507	63	269	519	519
05/17/10	508	63	297	524	527
05/18/10	378	62	204	395	405
05/19/10	441	61	226	338	339
05/20/10	501	61	300	518	516
05/21/10	493	63	261	508	508

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date	DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
05/22/10	486	61	263	501	505
05/23/10	385	61	225	398	410
05/24/10	422	60	276	468	501
05/25/10	541	60	394	553	569
05/26/10	499	59	413	513	516
05/27/10	516	59	410	521	522
05/28/10	514	58	320	525	529
05/29/10	397	58	304	418	428
05/30/10	371	56	259	387	395
05/31/10	373	60	280	392	411
06/01/10	370	53	291	386	392
06/02/10	387	46	314	404	409
06/03/10	400	45	345	416	422
06/04/10	397	44	356	416	421
06/05/10	390	43	354	410	417
06/06/10	376	42	348	399	405
06/07/10	369	41	359	394	406
06/08/10	356	41	364	394	399
06/09/10	336	41	346	380	380
06/10/10	313	23	322	345	351
06/11/10	310	39	314	328	334
06/12/10	327	41	337	344	348
06/13/10	357	43	372	378	382
06/14/10	342	45	359	363	370
06/15/10	321	45	335	343	355
06/16/10	296	104	308	312	326
06/17/10	310	126	323	325	309
06/18/10	301	179	314	315	299
06/19/10	276	171	292	292	278
06/20/10	274	180	286	287	274
06/21/10	286	143	300	300	286
06/22/10	282	164	295	295	282
06/23/10	299	196	310	312	297
06/24/10	310	202	330	328	310
06/25/10	309	220	330	325	305
06/26/10	310	251	339	340	319
06/27/10	350	246	366	370	339
06/28/10	317	239	332	336	334
06/29/10	351	204	369	371	352
06/30/10	350	272	365	368	344
07/01/10	364	310	379	381	359
07/02/10	312	305	328	327	315
07/03/10	297	265	304	312	293
07/04/10	302	236	311	316	300
07/05/10	273	221	280	282	267
07/06/10	266	176	268	272	258
07/07/10	265	178	268	274	261

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date	DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
07/08/10	266	205	268	274	261
07/09/10	263	196	263	269	258
07/10/10	263	204	269	273	261
07/11/10	273	210	275	282	267
07/12/10	283	199	291	297	281
07/13/10	296	182	303	309	298
07/14/10	288	179	300	307	287
07/15/10	275	232	279	289	288
07/16/10	274	236	279	288	291
07/17/10	280	233	289	297	298
07/18/10	282	205	280	286	302
07/19/10	271	214	266	278	300
07/20/10	272	202	283	297	300
07/21/10	288	215	293	299	299
07/22/10	288	231	291	291	315
07/23/10	272	237	270	271	289
07/24/10	276	249	275	275	306
07/25/10	283	233	287	283	312
07/26/10	313	235	321	321	339
07/27/10	302	249	306	307	331
07/28/10	296	268	284	300	324
07/29/10	300	302	315	329	358
07/30/10	310	304	307	320	341
07/31/10	326	310	307	308	335
08/01/10	329	304	330	331	360
08/02/10	321	302	329	332	360
08/03/10	330	294	340	340	369
08/04/10	323	295	329	330	364
08/05/10	325	306	330	331	359
08/06/10	314	303	318	321	347
08/07/10	284	288	287	286	315
08/08/10	310	273	315	316	335
08/09/10	334	296	345	343	353
08/10/10	333	313	347	345	352
08/11/10	338	329	352	356	370
08/12/10	348	328	352	363	393
08/13/10	345	320	342	356	380
08/14/10	353	332	363	367	386
08/15/10	351	335	344	358	381
08/16/10	341				
08/17/10	358				
08/18/10	370				
08/19/10	362				
08/20/10	333				
08/21/10	364				
08/22/10	371				
08/23/10	380				

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date	DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
08/24/10	398				
08/25/10	404				
08/26/10	397				
08/27/10	397				
08/28/10	379				
08/29/10	377				
08/30/10	385				
08/31/10	426	375	431	398	411
09/01/10	424	390	424	440	428
09/02/10	413				
09/03/10	414	390	430	425	427
09/04/10	428	383	435	439	437
09/05/10	434	386	448	439	437
09/06/10	433	370	449	450	460
09/07/10	430	381	453	455	458
09/08/10	437	379	452	462	468
09/09/10	450	420	465	457	459
09/10/10	452	433	469	471	472
09/11/10	456	383	484	481	477
09/12/10	491	371	501	497	484
09/13/10	483	356	516	515	506
09/14/10	501	392	511	510	502
09/15/10	507	360	532	531	525
09/16/10	520	341	537	542	529
09/17/10	526	358	546	548	541
09/18/10	509	343	557	555	547
09/19/10	498	353	535	537	535
09/20/10	502	345	522	517	516
09/21/10	495	327	516	509	529
09/22/10	487	332	507	502	508
09/23/10	496	349	520	511	521
09/24/10	512	350	540	531	539
09/25/10	511	353	530	526	529
09/26/10	535	338	557	550	550
09/27/10	522	312	541	540	540
09/28/10	514	319	534	535	533
09/29/10	515	337	536	534	535
09/30/10	511	357	534	533	531
10/01/10	508	397	524	523	524
10/02/10	493	382	514	510	513
10/03/10	481	375	504	508	511
10/04/10	475	361	498	497	493
10/05/10	484	352	514	512	512
10/06/10	488	355	500	500	502
10/07/10	499	344	514	512	513
10/08/10	534	285	543	542	537
10/09/10	522	324	528	529	525

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date	DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
10/10/10	524	275	540	536	543
10/11/10	542	201	556	553	554
10/12/10	540	239	551	550	549
10/13/10	522	232	537	534	534
10/14/10	516	221	532	528	528
10/15/10	509	188	523	520	522
10/16/10	499	218	512	509	510
10/17/10	483	223	495	493	495
10/18/10	466	294	477	475	477
10/19/10	479	231	491	487	486
10/20/10	486	252	497	495	498
10/21/10	492	273	503	503	503
10/22/10	514	251	527	524	524
10/23/10	538				
10/24/10	537	264	560	555	557
10/25/10	522	250	524	517	521
10/26/10	509	241	522	517	514
10/27/10	504	247	519	516	524
10/28/10	525	222	538	524	511
10/29/10	516	195	525	524	518
10/30/10	494	207	508	509	523
10/31/10	485	151	504	499	514
11/01/10	481	196	494	491	497
11/02/10	439	215	459	453	459
11/03/10	426	130	440	437	439
11/04/10	425	149	438	435	438
11/05/10	423	152	434	434	436
11/06/10	433	159	445	445	446
11/07/10	454		459	463	463
11/08/10	455		445	471	474
11/09/10	462		438	473	470
11/10/10	468		422	468	466
11/11/10	474		432	480	492
11/12/10	525		479	529	530
11/13/10	520		479	524	529
11/14/10	540		513	546	555
11/15/10	532		504	536	544
11/16/10	539		497	544	549
11/17/10	561		530	571	576
11/18/10	575		507	575	576
11/19/10	584		448	601	627
11/20/10	576		389	557	560
11/21/10	595		277	604	607
11/22/10	615		271	586	616
11/23/10	593		278	616	614
11/24/10	605		176	622	624
11/25/10	639		195	641	638

Table G-1 (continued)
Electrical Conductivity (µmhos/cm) at DMC Terminus
and SJREC Canal Intakes (2010)

Date		DMC	Columbia Canal	CCID Main Canal	CCID Outside Canal	Firebaugh Intake Canal
11/26/10		576		293	574	604
11/27/10		678		454		666
11/28/10		649		459		662
11/29/10		639		553		654
11/30/10		608		571		630
12/01/10		602		549		627
12/02/10	End of MPG Transfer Pumping Period	593		559		608
12/03/10		624		589		641
12/04/10		605		616		
12/05/10		626		653		
12/06/10		649		691		
12/07/10		657		712		
12/08/10		677		707		
12/09/10		661		702		
12/10/10		639		662		
12/11/10		634		653		
12/12/10		575		629		
12/13/10		481		514		
12/14/10		459		484		
12/15/10		455		469		
12/16/10		426		455		
12/17/10		435		463		
12/18/10		451		491		
12/19/10		460		484		
12/20/10		456		485		
12/21/10		461		479		
12/22/10		465		503		
12/23/10		484		576		
12/24/10		482		539		
12/25/10		489		536		
12/26/10		501		527		
12/27/10		509		534		
12/28/10		565		577		
12/29/10		609		579		
12/30/10		665		473		
12/31/10		706		275		

EC values recorded at the intake canals at the Mendota Pool are shaded when they exceed the DMC by 90 µmhos/cm.