6 Groundwater Quality

6.1 Program Description

This section describes the groundwater quality of the Livermore Valley Groundwater Basin, and focuses primarily on three naturally occurring constituents of concern (salts, nitrate, and boron) in the Main Basin. Other contaminants (petroleum hydrocarbons, synthetic organic compounds, solvents, etc.) are discussed in *Section 12*. The data collected in this program are used to assist in Zone 7's management of water supply and water quality. Management tools such as the groundwater model, Salt Management Plan (SMP), and Nutrient Management Plan (NMP) are also described in *Section 12*.

Other than localized contamination from toxic sites (discussed in *Section 12.6*), the main constituents of concern for meeting the Livermore Basin groundwater quality objectives are TDS and nitrate. Whereas the TDS objectives are based on non-health related drinking water standards (State secondary Maximum Contaminant Levels [MCL]) and achieving a sustainable salt balance in the basin. The nitrate objective is based on the State's primary MCL for drinking water, which is human health-based. Boron is another groundwater parameter of interest for the valley's agriculture and golf communities because of its potential for impact on certain irrigated crops and turf.

The following are Zone 7's groundwater quality objectives for the three primary groundwater constituents of concern:

- TDS (Main Basin): Ambient or 500 milligrams per liter (mg/L), whichever is lower
- TDS (Fringe Basins): Ambient or 1,000 mg/L, whichever is lower
- Nitrate (as NO_3): 45mg/L
- Boron: 1.0 mg/L (an agricultural supply target)

Hardness, which is closely related to TDS levels, is another groundwater parameter that influences Zone 7's ability to meet its delivered water quality targets. Although routinely analyzed for, this parameter is not tracked separately from TDS in the groundwater monitoring program because it is generally proportional to the TDS values found in the Main Basin's groundwater, and because it is tracked as a blended water quality parameter at the Retailer turnouts.

Chromium (Cr) is a heavy metal that occurs naturally throughout the environment, including the Livermore Valley Groundwater Basin. Zone 7's Water Quality Program has been monitoring "total Cr" (regardless of its valance) as a matter of routine along with other select metal ions. Effective July 1, 2014, the State set an MCL for hexavalent chromium (CrVI) at 10 micrograms

per liter (µg/L). The trivalent form (CrIII) is a required nutrient with very low toxicity; however the hexavalent form (CrVI) is more toxic and has been known to cause cancer in rats.

Zone 7 has a lot of historical monitoring data for total Cr, but not much on CrVI specifically. Zone 7's Water Quality Laboratory has recently determined that most (>90%) of the total Cr detected in the groundwater produced by Zone 7 is in CrVI form and near the MCL in several of Zone 7's groundwater supply wells. The current plan is to blend water produced from these wells with other sources of water as needed to minimize any potential risk of MCL exceedance. However, beginning in the 2015 WY, Zone 7 Groundwater Management staff will attempt to assess the extent and level of CrVI in the Groundwater Basin using the historical total Cr data from monitoring wells.

Concentrations and spatial distribution of the tracked constituents are presented in the following figures and tables:

- *Figure 6-1* and *Figure 6-2* contain a map and list, respectively, of the wells in the groundwater quality program.
- *Figure 6-3* contains groundwater quality data collected from the groundwater quality program network wells during the 2014 WY.
- *Figure 6-4* to *Figure 6-9* show maps of TDS, nitrate, and boron concentrations for the upper and lower aquifers, respectively.
- *Figure 6-10* shows historical graphs of TDS concentrations in the Key Wells.
- *Figure 6-11* to *Figure 6-14* show groundwater hydro-chemographs (with water level, TDS, nitrate, and boron) from select monitoring wells in each of the major subbasins.
- *Figure 6-15* shows water elevations and TDS concentrations in the Mocho Wellfield.

6.1.1 Objectives

There were a total of 219 wells in the Zone 7 groundwater quality monitoring program during the 2014 WY (shown on *Figure 6-1*). Each well in the program was monitored and/or sampled to fulfill one or more specific objectives. *Figure 6-2* lists all of the wells in the program, the objective(s) of monitoring each well, and the frequency of monitoring or sampling for each objective. The objectives are summarized below. Well construction details for each of the wells in the program are provided in *Figure 5-3* (*Section 5*).

Zone 7's Water Quality Sampling – water quality sampling of groundwater is performed annually, with samples collected from each of the wells in the program. Sampling is performed in some wells more frequently if required for an additional program described below. Also, some of the wells in the program are sampled and tested

by an outside entity with the results supplied to Zone 7. In general, the samples are analyzed for physical water parameters, inorganic minerals and select metals. No hydrocarbon or other organic chemical parameters are included in the routine analyses of these monitoring well samples. For other chemical contaminants, refer to *Section 12.*

Del Valle Water Rights (WR) – semi-annual sampling for water quality and continuous or monthly monitoring of water levels are required for certain wells to maintain Zone 7's Arroyo Valle water rights (see *Section 5.2* for a discussion of groundwater elevation results). The laboratory analyses are the same as the routine analyses conducted for the routine Water Quality Sampling objective described above.

Municipal Supply Well (Mu) – quarterly or annually sampling for water quality and drinking water operating permit compliance are conducted on the municipal supply well samples. The analyses conducted include the routine analyses of Zone 7's Water Quality Sampling described above plus the analyses required for compliance with Domestic Water Quality and Monitoring Regulations as established by the California Division of Drinking Water (*CCR Section 64416*).

Salt Management Plan (SMP) – annual sampling and routine water quality analyses to identify salt/mineral quantity and migration in groundwater. Information on Zone 7's SMP is provided in *Section 12.1*.

Dublin San Ramon Services District (DSRSD) – Zone 7 continued its data sharing agreement with DSRSD to obtain water levels and water quality samples from several of DSRSD's wells listed in *Figure 6-A* below which were installed to monitor the impacts, if any, from their facultative sludge lagoons and on-site sludge disposal operations in Pleasanton.

Figure 6-A: Table of DSRSD Wells Included in the 2014 Water Year Program

Well Number	DSRSD Well	Aquifer
3S/1E 6N 2	MW-3	Upper
3S/1E 6N 3	MW-4	Upper
3S/1E 6N 6	NE-76	Upper
3S/1E 7D 1	SW-75	Upper
3S/1E 7D 3	SE-70	Upper
3S/1W 1J 1	MW-1	Upper
3S/1W 12A 9	NW-75	Upper

Typically, groundwater samples from these wells are collected and analyzed by DSRSD, and the results are supplied to Zone 7. However, during one of the sampling events in 2014, DSRSD supplied Zone 7 with split samples for analysis by the Zone 7 laboratory. The results are discussed in *Section 6.2*.

6.1.2 Program Changes for 2014

Monitoring Program Well 3S/2E 7N 1 was destroyed in July 2012 as part of the improvements at Isabel Avenue Underpass at Stanley Avenue. A new monitoring well, 3S/2E 7N 2, was installed approximately 40 feet east of the destroyed well in November 2013 and serves as a replacement for 3S/2E 7N 1 starting in the 2014 WY.

In October 2013, Concannon Winery installed two monitoring wells (3S/2E 15L 1 and 3S/2E 15M 2) along the northern edge of their property in Livermore and down-gradient of their main operations facility. These wells were added to Zone 7's Groundwater Elevation and Quality Programs for the 2014 WY.

6.2 2014 Results

6.2.1 Upper Aquifer Zone

6.2.1.1 Salts/Total Dissolved Solids

In the upper aquifer, salt/mineral concentrations are generally measured as TDS and depend on location relative to a source of recharge water, the water quality of the recharge water, and groundwater depth. Over the last 40 years there has been a general upward trend in TDS concentrations, principally in the western portion of the Main Basin. Concentrations in the eastern and central portions of the valley, particularly near the losing stream reaches (with the highest recharge potential) of the Arroyo Mocho and Arroyo Valle (see *Section 3.2*) have stayed relatively low, especially during times of significant stream recharge.

During the 2014 WY, the TDS concentrations in groundwater were once again lowest in the areas adjacent to the losing stream reaches (with the highest recharge potential) of the Arroyo Valle and Arroyo Mocho, where it is generally less than 500 mg/L of TDS. There are two regions of the Main Basin where TDS concentrations have exceeded 1,000 mg/L *(Figure 6-4)*:

1. In the southern portion of the Dublin and Camp Subbasins and extending to the northern portion of the Bernal and Amador Subbasins. The western portion of this high TDS area is most likely due to the combination of the concentrating effects of urban irrigation, leaching of buried lacustrine sediments, and historical wastewater and sludge disposal practices. The eastern portion is most likely due to poor quality water from the marine sediments to the east and north which result in high TDS water in Altamont Creek which contributes to recharging along the Arroyo Las Positas. Irrigation with recycled water is another potential source of salt loading in this region.

2. In the 2014 WY (and occasionally in the past) several wells along the southern boundary of the Main Basin (3S/1E 20Q 2, 3S/1E 29P 2, 3S/2E 24A 1, and this year 3S/1E 19K 1) have detectable TDS concentrations near or above 1,000 mg/L. It is believed that TDS may be entering the Main Basin as hill-front recharge and/or subsurface inflow from the neighboring Livermore and Sinbad Uplands to the south and west, respectively.

6.2.1.2 Nitrate

Nitrate (measured as nitrate ion [NO_3]) is detected in the upper aquifer at concentrations above the Basin Objective (BO), described in the RWQCB's Basin Plan as the MCL of 45 mg/L (orange and red areas in *Figure 6-5*) in the following locations:

1. There is a plume that extends from the western portion of the Mocho I and eastern portion of the Mocho II Subbasins to the northeastern portion of the Amador Subbasin. Portions of this nitrate plume date back to at least the 1960s; however, over the last few years this plume has developed into several zones with concentrations above the MCL. The most significant of these zones is in the southern portion of the Mocho II Subbasin with concentrations up to 57.13 mg/L. The causes of elevated nitrate levels in these areas are believed to be both natural (i.e., buried native vegetation) and artificial (i.e., existing and historical wastewater disposal, and fertilizer and livestock manure leaching). There are over 100 septic tanks still in use near the proximal end of the plume.

2. Over the past few years there are two areas of high nitrate concentrations in the southern portion of the Mocho I and Mocho II Subbasins south of Tesla Road. Both of these areas are based on single monitoring wells and are believed to be related to historic and/or current overlying agricultural land uses. One area of high nitrate concentrations, located near the corner of Tesla Road and Greenville Road, has had a maximum concentration 163.90 mg/L in the 2001 WY and 156.33 mg/L in the 2014 WY. The second area of high nitrate, located along Mines Road, had a maximum concentration of 94.77 mg/L in the 2012 WY; however for the 2013 WY the concentration dropped well below the MCL to 2.39 mg/L and remained below the MCL in the 2014 WY at a concentration of 5.18 mg/L. The reason for this drop is unknown. Historically, concentrations of nitrate in this well have fluctuated widely, ranging from non-detected levels to above the MCL between 2007 and 2011.

3. In the May Subbasin near May School Road (a maximum concentration of 189.54 mg/L was detected in the 2014 WY). This was the highest nitrate concentration detected in the basin. In the 2008 WY, as part of a one-time water quality study in this area, Zone 7 sampled and analyzed several domestic wells in the area to determine the extent of nitrate contamination. These results (presented in the 2008 Annual Report for the Groundwater Management Program, *Zone 7, 2009*) suggested that the nitrate appeared to be relatively localized with the highest concentration in the vicinity of 2S/2E 28D 2. The source of

high nitrate was not identified; however, it may come from agricultural land use in that area and/or a leaky annular surface well seal.

4. In the Camp Subbasin in the eastern portion of Dublin a maximum concentration of 67.31 mg/L was detected in the 2014 WY (compared to a concentration of 66.43 mg/L in 2013 WY). This may be a remnant of past dairy operations in the area that were discontinued long ago.

5. In monitoring well 3S/1E 22D 2, in the southern portion of the Amador West Subbasin, nitrate concentrations have been hovering around the MCL for the last several years; however, the long-term trend indicates that concentrations are declining in this well. The source of elevated nitrate in this well has not been confirmed, but it is possible that it may be entering the Main Basin as hill-front recharge and/or subsurface inflow from the neighboring Livermore Uplands to the south.

The nitrate loading and assimilative capacity of the Main Basin is currently being studied as part of the Salt Management Plan amendment (*Section 12.1.1*).

6.2.1.3 Boron

Boron is a natural occurring element typically found at very low concentrations in groundwater from the Livermore Groundwater Basin. While there is no MCL for boron, it becomes a problem for irrigated crops when boron is present at levels above 1 or 2 mg/L, depending on the crop's sensitivity. Boron exists at elevated concentrations (up to 32.9 mg/L) in the upper aquifer in the following areas of the groundwater basin (*Figure 6-6*):

1. There is a plume of elevated boron concentrations that extends along the Dublin-Bernal and Camp-Amador boundaries. The highest localized concentration of boron in this area has been relatively stable and was detected near the center of this area in 3S/1E 4J 5 at a concentration of 12 mg/L in the 2014 WY (compared to 13 mg/L in the 2013 WY).

2. Boron was also detected in the eastern portion of the valley in the May, Spring, Mocho I, and Mocho II Subbasins. The highest concentration detected was in the northern portion of this area in 2S/2E 27P 2 at 32.9 mg/L in the 2014 WY (compared to 25.1 mg/L in the 2013 WY).

The source of boron is unknown but may be from natural alkali/marine sediments. It should be noted that the boron detected in the western portion of the basin is primarily along the Arroyo Las Positas and lower Arroyo Mocho. It is likely that the source of a portion of this boron may be from the high-boron groundwater in the eastern portion of the Valley that has discharged into the Arroyo Las Positas in the North Livermore area and flowed downstream to the Arroyo Mocho, recharging into the Amador Subbasin along the way.

6.2.2 Lower Aquifer Zone

6.2.2.1 Salt/Total Dissolved Solids

Water quality in the majority of the lower aquifer of the Main Basin is generally of good quality, containing less than the Basin Objective of 500 mg/L TDS. In the Bernal Subbasin and around the margins of the Amador and Mocho II Subbasins, the lower aquifer contains groundwater with higher TDS concentrations (up to about 809 mg/L in the 2014 WY compared to a high of 854 mg/L in the 2013 WY) (see *Figure 6-7*). This is most likely due to deep percolation of high TDS water from the upper aquifer which is replenished in part by subsurface inflow of high TDS water from the Dublin and Camp fringe subbasins in the north.

Starting in the 2007 WY, TDS concentrations increased in the Mocho Wells and in several deep monitoring and supply wells near the western margin of the Amador Subbasin. In the 2010 WY, staff started working on determining the source of the TDS. The preliminary conclusion was that higher TDS groundwater in the overlying upper aquifer zone, which the Mocho Wells were designed to exclude, is migrating vertically to the Lower Aquifer via one or more potential pathways. The potential pathways for the vertical migration of the high TDS that have been considered include:

- Leakage through the semi-confining layer(s) which separate the Upper Aquifer Zone from the Lower Aquifer Zone;

- Conduits caused by unsealed or improperly sealed wells that penetrate both the upper and lower aquifers in the immediate area.

Salt transport through the semi-confining layer existing between the upper and lower aquifers can happen naturally, and occur in either direction depending on the head difference between the aquifers. However, the recent increased pumping from the lower aquifer Mocho wells for salt management has locally increased the gradient between the lower and upper aquifers thus increasing the potential for upper aquifer salts to be transported to the lower aquifer and be produced by the Mocho wells. Likewise, the increased gradient has the potential for increasing flow (and salt transport) through whatever artificial conduits may be present in the intermediate confining layer.

Three unsealed abandoned wells were identified as existing potential conduits in the Mocho Wellfield area. All three of these abandoned wells (3S/1E 8H 3, 3S/1E 8H 4, and 3S/1E 8H14) were properly destroyed (sealed) during the 2013 WY. In the 2014 WY, the Mocho Wellfield had the largest downward gradient to date (*Figure 6-15*). At the same time, the TDS concentrations decreased in all the Mocho supply wells except Mocho 2 which increased slightly but still has the lowest TDS concentration of all the Mocho supply wells (*Figure 6-15*). This could be an indication that destroying the unsealed abandoned wells has removed the source of

lower quality groundwater entering the lower aquifer. However, not enough data has been collected since the destruction of the abandoned wells to conclusively determine if their destructions have resulted in this desirable effect. Staff will continue to closely monitor the water quality and aquifer conditions in the Mocho Wellfield to see if the Mocho supply wells' TDS concentrations remain steady or decrease after the sealing of these potential conduits or whether the destruction had no impact and TDS levels begin to rise again.

6.2.2.2 Nitrate

Nitrate in the lower aquifer was only detected above the MCL in the eastern portion of the Mocho II Subbasin (*Figure 6-8*). While smaller in extent, the general location of this plume underlies the nitrate plume in the upper aquifer, suggesting that some of the nitrate in the upper aquifer has migrated into the lower aquifer. For the 2014 WY, the highest concentration of nitrate in a lower aquifer well was 48.71 mg/L in 3S/2E 8H 3 (compared to 55.80 mg/L in the 2013 WY in the same well).

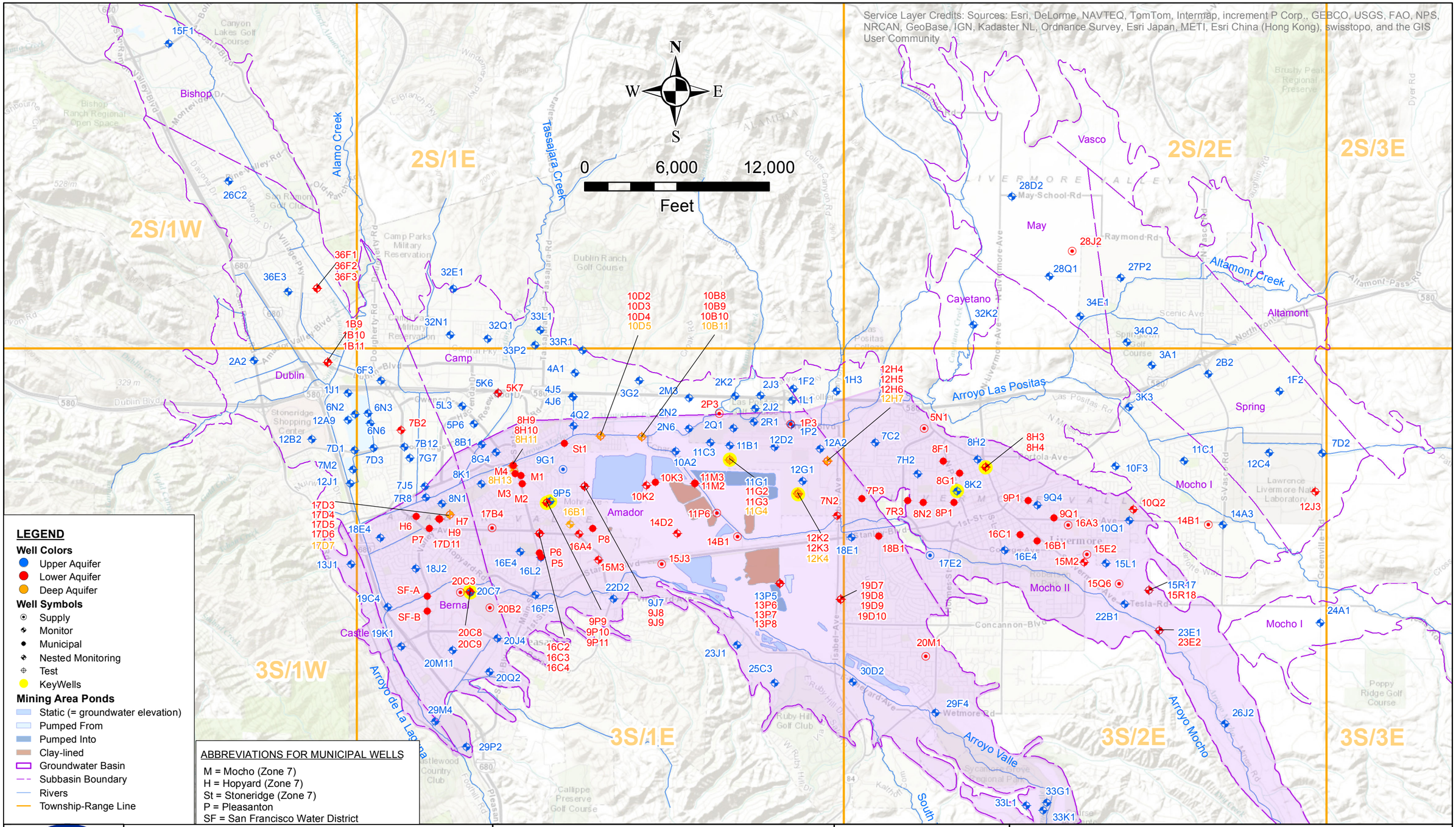
6.2.2.3 Boron

In general, boron is not a problem in the lower aquifer; detections are typically less than 1 mg/L. However, boron was detected above 2 mg/L in three lower aquifer wells in the 2014 WY as follows (*Figure 6-9*):

1. Boron was detected in one well in the eastern portion of the Mocho II Subbasin: 2.51 mg/L in monitoring well 3S/2E 23E 2 (compared to 2.4 mg/L in the 2013 WY in the same well).

2. Boron was also detected above 2 mg/L in two monitoring wells near Hopyard Well No. 9 in the northern portion of the Bernal Basin: 2.56 mg/L in 3S/1E 17D 4 (compared to 2.21 mg/L in the 2013 WY) and 2.49 mg/L in 3S/1E 17D11 (compared to 2.09 mg/L in the 2013 WY). However, concentrations in Hopyard 9 itself, have always been below 0.6 mg/L.

The source of boron is unconfirmed, but may be from localized natural alkali/marine sediments or vertical migration through the leaky aquitard from a shallower zone during the pumping of the lower aquifers.



ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

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REVIEWED: CW	DATE: Jan 20, 2015
FILE: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-01-MapGQWells14.mxd	

Figure 6-1
Map of Wells in
2014 Groundwater Quality Program
Livermore Valley Groundwater Basin

FIGURE 6-2
GROUNDWATER QUALITY PROGRAM
TABLE OF PROGRAM WELLS WITH SAMPLING FREQUENCY
2014 WATER YEAR

SITE INFORMATION				Sampling Frequency	Other Programs			
State Name	Well Name	Subbasin	Aq		WR	Muni	SMP	Oth
2S/1E 32E 1	End of Arnold Rd	Camp	U	A			T-HAC-1	
2S/1E 32N 1	Camp Parks	Camp	U	A			T-HAC-2	
2S/1E 32Q 1	Summer Glen Dr	Camp	U	A			32Q1	
2S/1E 33L 1	Gleason Dr @ Tassajara	Camp	U	A			33L1	
2S/1E 33P 2	Central Pkwy at Emerald Glen	Camp	U	A			33P2	
2S/1E 33R 1	Central Pkwy @ Grafton	Camp	U	A			T-DUB-1	
2S/1W 15F 1	BOLLINGER	Bishop	U	A				
2S/1W 26C 2	PINE VALLEY	Dublin	U	A				
2S/1W 36E 3	Kolb Park	Dublin	U	A			36E3	
2S/1W 36F 1	Dublin High shallow	Dublin	L	A				
2S/1W 36F 2	Dublin High mid	Dublin	L	A				
2S/1W 36F 3	Dublin High deep	Dublin	L	A				
2S/2E 27P 2	hartford ave east	Spring	U	A				
2S/2E 28D 2	May School	May	U	A			T-MAY-1	
2S/2E 28J 2	FCC Well	May	L	A				
2S/2E 28Q 1	hartford ave	May	U	A			T-MAY-2	
2S/2E 32K 2	jenson's N liv. Ave	Cayetano	U	A				
2S/2E 34E 1	mud city	May	U	A			T-MAY-3	
2S/2E 34Q 2	Hollyhock & Crocus	Spring	U	A			T-SPR-2	
3S/1E 1F 2	Constitution Dr	Mocho II	U	A			T-AIR-1	
3S/1E 1H 3	Collier Canyon g1	Mocho II	U	Q			1H3	
3S/1E 1L 1	Kitty Hawk	Camp	U	A			T-AIR-2	
3S/1E 1P 2	airport gas g5	Amador	U	A			T-AIR-3	
3S/1E 1P 3	New airport well	Amador	L	Q				
3S/1E 2J 2	Maint. Bldg	Camp	U	A			T-GLF-2	
3S/1E 2J 3	Doolan Rd East	Camp	U	A			T-GLF-1	
3S/1E 2K 2	Doolan Rd West	Camp	U	A			2K2	
3S/1E 2M 3	Friesman Rd North	Camp	U	A			T-FRI-1	
3S/1E 2N 6	Friesman Rd South	Amador	U	A			T-FRI-3	
3S/1E 2P 3	Crosswinds Church	Camp	L	A				
3S/1E 2Q 1	LPGC #1	Amador	U	A			T-GLF-3	
3S/1E 2R 1	Beebs	Amador	U	Q				
3S/1E 3G 2	fallon rd	Camp	U	A				
3S/1E 4A 1	SMP-DUB-2	Camp	U	A			T-DUB-2	
3S/1E 4J 5	Pimlico shallow	Camp	U	A			T-DUB-3	
3S/1E 4J 6	Pimlico deep	Camp	U	A			T-DUB-4	
3S/1E 4Q 2	gulfstream	Amador	U	A				
3S/1E 5K 6	Rosewood shallow	Camp	U	A				
3S/1E 5K 7	Rosewood deep	Camp	L	A				
3S/1E 5L 3	Oracle	Camp	U	A			T-HAC-3	
3S/1E 5P 6	Owens Park	Camp	U	A			T-HAC-4	
3S/1E 6F 3	Dublin Ct	Dublin	U	A			6F3	
3S/1E 6N 2	DSRSD MW-3	Dublin	U	A				
3S/1E 6N 3	DSRSD MW-4	Dublin	U	A				

Aq = Aquifer: U = Upper; L = Lower; D = Deep Frequency: Q = Quarterly; SA = SemiAnnually; A = Annually

OTHER: WR = Water Rights; Muni = Municipal wells; Key = Key Wells; SMP = Salt Management Plan; Oth = Other

SITE INFORMATION				Sampling Frequency	Other Programs			
State Name	Well Name	Subbasin	Aq		WR	Muni	SMP	Oth
3S/1E 6N 6	DSRSD NE-76	Dublin	U	A				
3S/1E 7B 2	Hopyard rd	Dublin	L	A				
3S/1E 7B12	Hacienda Arch	Dublin	U	A			T-CHA-1	
3S/1E 7D 1	DSRSD SW-75	Dublin	U	A				
3S/1E 7D 3	DSRSD SE-70	Dublin	U	A				
3S/1E 7G 7	Chabot Well	Dublin	U	A			T-CHA-2	
3S/1E 7J 5	Thomas Hart School	Dublin	U	A			T-CHA-3	
3S/1E 7M 2	DSRSD Sub	Dublin	U	A			7M2	
3S/1E 7R 8	Mocho Canal North at Willow	Bernal	U	A			T-CHA-4	
3S/1E 8B 1	Lizard Well	Amador	U	A			T-HAC-5	
3S/1E 8G 4	Apache	Amador	U	A			T-HAC-6	
3S/1E 8H 9	Mocho 4 Nested Shallow	Amador	L	A				
3S/1E 8H10	Mocho 4 Nested Middle	Amador	L	A				
3S/1E 8H11	Mocho 4 Nested deep	Amador	D	A				
3S/1E 8H13	Mocho 3 mon	Amador	D	A				
3S/1E 8H18	Mocho 4	Amador	L	Q		√		
3S/1E 8K 1	sutter gate	Amador	U	A				
3S/1E 8N 1	sports park	Bernal	U	A				
3S/1E 9B 1	Stoneridge	Amador	L	Q		√		
3S/1E 9G 1	3775 trenery - Kamp	Amador	U	A				
3S/1E 9J 7	SW Lake I Shallow	Amador	U	A				
3S/1E 9J 8	SW Lake I Middle	Amador	L	A				
3S/1E 9J 9	SW Lake I Deep	Amador	L	A				
3S/1E 9M 2	Mocho 1	Amador	L	Q		√		
3S/1E 9M 3	Mocho 2	Amador	L	Q		√		
3S/1E 9M 4	Mocho 3	Amador	L	Q		√		
3S/1E 9P 5	Key_AmW_U (Mohr Key)	Amador	U	A				
3S/1E 9P 9	Mohr Ave Shallow	Amador	L	A				
3S/1E 9P10	Key_AmW_L	Amador	L	A				
3S/1E 9P11	Mohr Ave Deep	Amador	L	A				
3S/1E 10A 2	El C harro Rd	Amador	U	A				
3S/1E 10B 8	Kaiser Rd Shallow	Amador	L	A				
3S/1E 10B 9	Kaiser Rd Middle 1	Amador	L	A				
3S/1E 10B10	Kaiser Rd Middle 2	Amador	L	A				
3S/1E 10B11	Kaiser Rd Deep	Amador	D	A				
3S/1E 10D 2	Stoneridge Shallow	Amador	L	A				
3S/1E 10D 3	Stoneridge Middle 1	Amador	L	A				
3S/1E 10D 4	Stoneridge Middle 2	Amador	L	A				
3S/1E 10D 5	Stoneridge Deep	Amador	D	A				
3S/1E 10K 2	NorthWest Cope Lake	Amador	L	A				
3S/1E 10K 3	COL 1	Amador	L	A		√		
3S/1E 11B 1	Airport West	Amador	U	Q			11B1	
3S/1E 11C 3	LAVWMA ROW	Amador	U	A			T-GLF-4	
3S/1E 11G 1	Key_AmE_U	Amador	U	A				
3S/1E 11G 2	Rancho Charro Middle 1	Amador	L	A				
3S/1E 11G 3	Rancho Charro Middle 2	Amador	L	A				
3S/1E 11G 4	Rancho Charro Deep	Amador	D	A				
3S/1E 11M 2	COL2 Monitoring	Amador	L	A				
3S/1E 11M 3	COL 2	Amador	L	A		√		
3S/1E 11P 6	New Jamieson Residence	Amador	L	A				
3S/1E 12A 2	Airport South	Amador	U	Q			12A2	

Aq = Aquifer: U = Upper; L = Lower; D = Deep Frequency: Q = Quarterly; SA = SemiAnnually; A = Annually

OTHER: WR = Water Rights; Muni = Municipal wells; Key = Key Wells; SMP = Salt Management Plan; Oth = Other

SITE INFORMATION				Sampling Frequency	Other Programs			
State Name	Well Name	Subbasin	Aq		WR	Muni	SMP	Oth
3S/1E 12D 2	LWRP G6	Amador	U	Q				
3S/1E 12G 1	Oaks Park Shallow	Amador	U	Q				
3S/1E 12H 4	LWRP Shallow	Amador	L	A				
3S/1E 12H 5	LWRP Middle 1	Amador	L	A				
3S/1E 12H 6	LWRP Middle 2	Amador	L	A				
3S/1E 12H 7	LWRP Deep	Amador	D	A				
3S/1E 12K 2	Key_AmE_L	Amador	L	A				
3S/1E 12K 3	Oaks Park Mid	Amador	L	A				
3S/1E 12K 4	Oaks Park Deep	Amador	D	A				
3S/1E 13P 5	LGA Grant Nested 1	Amador	U	A				
3S/1E 13P 6	LGA Grant Nested 2	Amador	L	A				
3S/1E 13P 7	LGA Grant Nested 3	Amador	L	A				
3S/1E 13P 8	LGA Grant Nested 4	Amador	L	A				
3S/1E 14B 1	Industrial Asphalt	Amador	L	A				
3S/1E 14D 2	South Cope Lake	Amador	L	A				
3S/1E 15J 3	shadow cliff	Amador	L	A				
3S/1E 15M 3	Bush/Valley South	Amador	L	A				
3S/1E 16A 2	Pleas 8	AmWest	L	A		√		
3S/1E 16A 4	Bush/Valley Mid	Amador	L	A				
3S/1E 16B 1	Bush/Valley North	Amador	D	A				
3S/1E 16C 2	Santa Rita Valley Shallow	Amador	L	A				
3S/1E 16C 3	Santa Rita Valley Middle	Amador	L	A				
3S/1E 16C 4	Santa Rita Valley Deep	Amador	L	A				
3S/1E 16E 4	black ave - cultural	Amador	U	A				
3S/1E 16L 2	Pleas 4	Amador	U	A				
3S/1E 16L 5	Pleas 5	Amador	L	A		√		
3S/1E 16L 7	Pleas 6	Amador	L	A		√		
3S/1E 16P 5	Vervais Monitor	Amador	U	SA	√			
3S/1E 17B 4	Casterson	Amador	L	A				
3S/1E 17D 3	Hopyard Nested Shallow	Bernal	L	A				
3S/1E 17D 4	Hopyard Nested Middle 1	Bernal	L	A				
3S/1E 17D 5	Hopyard Nested Middle 2	Bernal	L	A				
3S/1E 17D 6	Hopyard Nested Middle 3	Bernal	L	A				
3S/1E 17D 7	Hopyard Nested Deep	Bernal	D	A				
3S/1E 17D11	Hopyard 9 Monitoring Well	Bernal	L	A				
3S/1E 17D12	Hopyard 9	Bernal	L	Q		√		
3S/1E 18A 5	Pleas 7	Bernal	L	A		√		
3S/1E 18A 6	Hopyard 6	Bernal	L	Q		√		
3S/1E 18E 4	Valley Trails II	Bernal	U	A				
3S/1E 18J 2	camino segura	Bernal	U	A				
3S/1E 19A10	SFWD South (B)	Bernal	L	A		√		
3S/1E 19A11	SFWD North (A)	Bernal	L	A		√		
3S/1E 19C 4	del valle & laguna	Bernal	U	A				
3S/1E 19K 1	680/bernal	Bernal	U	A				
3S/1E 20B 2	Fairgrounds Potable	Bernal	L	A		√		
3S/1E 20C 3	Fairgrounds Potable Backup	Bernal	L	A		√		
3S/1E 20C 7	Key_Bern_U	Bernal	U	SA	√			
3S/1E 20C 8	Key_Bern_L	Bernal	L	A				
3S/1E 20C 9	Fair Nested Deep	Bernal	L	A				
3S/1E 20J 4	civic center	Bernal	U	A				
3S/1E 20M11	S.F "M"LINE	Bernal	U	A				

Aq = Aquifer: U = Upper; L = Lower; D = Deep Frequency: Q = Quarterly; SA = SemiAnnually; A = Annually

OTHER: WR = Water Rights; Muni = Municipal wells; Key = Key Wells; SMP = Salt Management Plan; Oth = Other

SITE INFORMATION				Sampling Frequency	Other Programs			
State Name	Well Name	Subbasin	Aq		WR	Muni	SMP	Oth
3S/1E 20Q 2	20Q2	Bernal	U	A			T-PLE-3	
3S/1E 22D 2	vineyard trailer	Amador	U	A			T-BER-3	
3S/1E 23J 1	1627 vineyard trailer	Amador	U	A				
3S/1E 25C 3	Katz Winery Mansion	Amador	U	A				
3S/1E 29M 4	f.c. channel	Castle	U	A				
3S/1E 29P 2	castlewood dr	Bernal	U	A				
3S/1W 1B 9	DSRSD Shallow	Dublin	L	A				
3S/1W 1B10	DSRSD Middle	Dublin	L	A				
3S/1W 1B11	DSRSD Deep	Dublin	L	A			1B11	
3S/1W 1J 1	DSRSD MW-1	Dublin	U	A				
3S/1W 2A 2	McNamara's	Dublin	U	A			2A2	
3S/1W 12A 9	DSRSD NW-75	Dublin	U	A				
3S/1W 12B 2	Stoneridge Mall Rd	Dublin	U	A				
3S/1W 12J 1	DSRSD South	Dublin	U	A				
3S/1W 13J 1	muirwood dr	Castle	U	A				
3S/2E 1F 2	Brisa at Circuit City	Spring	U	A				
3S/2E 2B 2	south front rd	Spring	U	A				
3S/2E 3A 1	Bluebell	Spring	U	A			T-SPR-1	
3S/2E 3K 3	first & S. front rd	Mocho I	U	A			3K3	
3S/2E 5N 1	1037 portola - trailer	Mocho II	L	A				
3S/2E 7C 2	york way - jaws - G4	Mocho II	U	Q				
3S/2E 7H 2	dakota	Mocho II	U	A				
3S/2E 7N 2	Isabel & Arroyo Mocho	AmWest	L	A				
3S/2E 7P 3	CWS STA 24	Amador	L	A		√		
3S/2E 7R 3	CWS STA 31	Mocho II	L	A		√		
3S/2E 8F 1	CWS STA 10	Mocho II	L	A		√		
3S/2E 8G 1	CWS STA 19	Mocho II	L	A		√		
3S/2E 8H 2	North k	Mocho II	U	A				
3S/2E 8H 3	Key_Mo2_L	Mocho II	L	A				
3S/2E 8H 4	N Liv Ave Deep	Mocho II	L	A				
3S/2E 8K 2	Key_Mo2_U (Livermore Key)	Mocho II	U	A				
3S/2E 8N 2	CWS STA 14	Mocho II	L	A		√		
3S/2E 8P 1	CWS STA 8	Mocho II	L	A		√		
3S/2E 9P 1	CWS STA 12	Mocho II	L	A		√		
3S/2E 9Q 1	CWS STA 9	Mocho II	L	A		√		
3S/2E 9Q 4	school st	Mocho II	U	A				
3S/2E 10F 3	hexcel	Mocho I	U	A				
3S/2E 10Q 1	almond	Mocho II	U	A				
3S/2E 10Q 2	LLNL W-703	Mocho II	L	A				
3S/2E 11C 1	joan way	Mocho I	U	A			11C1	
3S/2E 12C 4	LLNL W-486	Spring	U	A				
3S/2E 12J 3	LLNL W-017A	Spring	L	A				
3S/2E 14A 3	S. vasco @east ave	Mocho I	U	A				
3S/2E 14B 1	5763 east ave	Mocho I	L	A				
3S/2E 15E 2	Retzlaff Winery	Mocho II	L	A				
3S/2E 15L 1	Concannon2	Mocho II	U	A				
3S/2E 15M 2	Concannon1	Mocho II	U	A				
3S/2E 15Q 6	Concannon	Mocho II	L	A				
3S/2E 15R17	Buena Vista Shallow	Mocho II	U	A				
3S/2E 15R18	Buena Vista Deep	Mocho II	L	A				
3S/2E 16A 3	Memory Gardens	Mocho II	L	A				

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SITE INFORMATION				Sampling Frequency	Other Programs			
State Name	Well Name	Subbasin	Aq		WR	Muni	SMP	Oth
3S/2E 16B 1	CWS STA 5	Mocho II	L	A		√		
3S/2E 16C 1	CWS STA 15	Mocho II	L	A		√		
3S/2E 16E 4	pepper tree	Mocho II	U	A				
3S/2E 17E 2	Mocho Street	Mocho II	U	A				
3S/2E 18B 1	CWS STA 20	Amador	L	A		√		
3S/2E 18E 1	E. stanley	Amador	U	A				
3S/2E 19D 7	Isabel Shallow	Amador	U	A				
3S/2E 19D 8	Isabel Middle 1	Amador	L	A				
3S/2E 19D 9	Isabel Middle 2	Amador	L	A				
3S/2E 19D10	Isabel Deep	Amador	L	A				
3S/2E 20M 1	Alden Lane	Amador	L	A				
3S/2E 22B 1	grapes	Mocho II	U	A				
3S/2E 23E 1	Mines Nested Shallow	Mocho II	U	A				
3S/2E 23E 2	Mines Nested Deep	Mocho II	L	A				
3S/2E 24A 1	S. greenville	Mocho I	U	A			24A1	
3S/2E 26J 2	mines rd	Mocho II	U	A				
3S/2E 29F 4	usgs wetmore	Amador	U	SA	√			
3S/2E 30D 2	vineyard	Amador	U	A			T-VIN-3	
3S/2E 33G 1	crohare	Amador	U	SA	√			
3S/2E 33K 1	VA	Amador	U	Q				
3S/2E 33L 1	VA/CROHARE FENCE	Amador	U	Q				
3S/3E 7D 2	7D 2	Spring	U	A				
				219	**6**	**28**	**50**	**0**

Salt Management Plan (SMP) Designations

T-AIR = Airport Transect
T-BER = Bernal Transect
T-CHA = Chabot Transect
T-DUB = East Dublin Transect
T-FRI = Friesman Transect
T-HAC = Hacienda Transect
T-HV = Happy Valley Transect
T-LIV = South Livermore Transect
T-MAY = May Transect
T-PLE = Pleasanton Transect
T-RH = Ruby Hill Transect
T-SPR = Springtown Transect
T-VIN = Vineyard Transect
T-WEN = Wente Transect

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OTHER: WR = Water Rights; Muni = Municipal wells; Key = Key Wells; SMP = Salt Management Plan; Oth = Other

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
2S/1E 32E 1	5-Nov-13	19.2	1282	7.0	130	31	124	1.6	536	31	146	16.12	40.7	0.10	0.0034	<0.05	<0.01	785	455
2S/1E 32N 1	5-Nov-13	18.6	1246	7.3	98	25	142	2.1	399	46	192	10.76	30.0	0.62	0.0021	<0.05	<0.01	743	349
2S/1E 32Q 1	6-Nov-13	18.1	1683	7.0	130	48	150	2.4	488	62	258	10.72	30.0	0.82	0.0022	<0.05	0.022	932	522
2S/1E 33L 1	5-Nov-13	17.6	1267	7.1	103	24	154	2.7	495	50	127	17.94	30.0	0.55	0.0025	<0.05	0.022	753	358
2S/1E 33P 2	5-Nov-13	18.2	2594	7.1	190	81	248	3.4	663	83	512	32.86	23.5	1.4	<0.005	<0.25	<0.05	1501	808
2S/1E 33R 1	5-Nov-13	17.9	806	7.5	71	15	75	1.5	257	21	95	18.11	25.7	0.14	0.0027	<0.05	<0.01	450	239
2S/1W 15F 1	24-Jun-14	19.0	1578	6.7	166	68	84	1.2	672	38	178	<0.44	21.4	0.23	0.0036	<0.05	2.6	888	695
2S/1W 26C 2	3-Feb-14	18.2	687	6.9	86	19	41	1.1	351	28	18	16.16	30.0	0.13	0.0046	0.054	0.4	412	291
2S/1W 36E 3	29-Apr-14	17.6	1196	7.1	130	25	50	0.5	405	84	70	23.74	36.4	0.15	0.0045	<0.05	0.27	619	430
2S/1W 36F 1	29-Apr-14	16.6	920	7.4	62	21	84	1.0	424	16	35	<0.44	21.4	0.26	0.0071	<0.05	0.2	450	240
2S/1W 36F 2	29-Apr-14	17.1	1116	9.5	14	7	181	23	304	<1.0	87	<0.44	15.0	0.56	0.13	<0.05	0.041	567	62
2S/2E 27P 2	7-Oct-13	18.6	4704	7.7	20	82	955	3.7	214	<1	1421	<0.44	27.8	32.9	0.0069	0.91	0.091	2616	388
2S/2E 28D 2	7-Oct-13	17.2	1608	7.5	81	44	209	2.2	257	39	239	189.54	32.1	0.87	0.0038	<0.1	<0.01	963	384
2S/2E 28J 2	30-Apr-14	18.5	1189	8.3	5	5	198	<0.5	384	59	85	<0.44	19.7	1.49	<0.001	<0.05	0.085	568	32
2S/2E 28Q 1	7-Oct-13	19.0	1483	8.0	84	27	214	0.9	365	129	213	4.78	34.2	0.82	0.01	<0.1	0.18	890	323
2S/2E 32K 2	7-Oct-13	18.6	1030	7.7	61	24	146	1.8	334	55	127	10.14	38.5	0.58	<0.001	<0.1	0.012	629	252
2S/2E 34E 1	7-Oct-13	19.4	1393	8.2	122	-48	284	0.8	367	84	203	<0.44	27.8	2.32	0.021	0.13	0.12	860	109
2S/2E 34Q 2	23-Jun-14	22.2	1853	7.5	95	54	231	1.0	268	145	384	4.74	32.1	3.86	0.0051	<0.05	0.047	1079	459
3S/1E 1F 2	3-Feb-14	18.7	1503	7.1	123	38	165	0.7	486	25	160	90.79	51.4	0.22	0.0051	<0.05	<0.01	894	466
3S/1E 1H 3	4-Nov-13	NA	1010	NA	65	39	240	3.4	NA	85	NA	NA	33	1.29	NA	NA	NA	1054	NA
3S/1E 1H 3	10-Mar-14	NA	1810	NA	64	37	240	2.8	NA	78	276	NA	32.56	1.3625	NA	NA	NA	1063	NA
3S/1E 1H 3	5-May-14	NA	1790	NA	64	38	230	3.1	NA	83	275	NA	33.14	1.38	NA	NA	NA	1064	NA
3S/1E 1H 3	10-Sep-14	NA	1840	NA	72	44	260	1.5	NA	71	330	NA	32.8	1.21	NA	NA	NA	1056	NA
3S/1E 1L 1	7-Nov-13	17.2	2029	7.8	104	49	292	1.5	570	85	348	22.41	30.0	5.1	0.0052	0.34	<0.05	1216	462
3S/1E 1P 2	4-Nov-13	NA	1370	NA	56	38	160	3.7	NA	80	NA	NA	24	3.23	NA	NA	NA	776	NA
3S/1E 1P 2	10-Mar-14	NA	1360	NA	56	36	150	3.5	NA	74	219	NA	22.81	2.675	NA	NA	NA	772	NA
3S/1E 1P 2	5-May-14	NA	1370	NA	57	38	150	3.6	NA	83	219	NA	24.42	3.425	NA	NA	NA	795	NA
3S/1E 1P 2	10-Sep-14	NA	1370	NA	60	41	170	2.2	NA	80	222	NA	23.83	3.25	NA	NA	NA	784	NA
3S/1E 2J 2	7-Nov-13	16.8	3239	7.3	170	72	403	1.7	548	171	679	22.90	25.7	5.4	0.005	<0.25	<0.05	1816	722
3S/1E 2J 3	6-Nov-13	18.6	1181	7.4	59	45	166	2.9	413	22	205	25.73	27.8	0.68	0.0045	<0.05	0.024	758	335
3S/1E 2K 2	5-Nov-13	18.1	947	7.9	16	15	164	1.7	464	38	33	16.78	19.9	1.1	0.0075	<0.05	0.022	536	99
3S/1E 2M 3	5-Nov-13	17.9	2110	7.3	75	43	343	2.9	762	79	243	67.31	25.7	3.5	0.0058	<0.25	<0.05	1255	364
3S/1E 2N 6	5-Nov-13	16.3	1467	7.3	71	38	181	1.1	440	75	195	<0.44	18.8	3.2	0.004	<0.05	0.011	797	335
3S/1E 2P 3	5-Nov-13	17.9	806	7.8	46	37	81	2.5	289	45	79	20.33	25.7	0.61	0.0023	<0.05	0.017	480	268
3S/1E 2Q 1	7-Nov-13	15.2	1948	7.6	101	50	258	1.8	489	131	334	22.10	21.4	4.4	0.0053	<0.25	<0.05	1162	456
3S/1E 2R 1	4-Nov-13	NA	1560	NA	72	54	160	2.4	NA	66	NA	NA	26	3.1	NA	NA	NA	900	NA
3S/1E 2R 1	10-Mar-14	NA	1550	NA	74	55	160	2.4	NA	57	227	NA	27.27	2.85	NA	NA	NA	879	NA
3S/1E 2R 1	5-May-14	NA	1590	NA	78	57	150	2.7	NA	65	233	NA	27.47	2.475	NA	NA	NA	934	NA
3S/1E 2R 1	10-Sep-14	NA	1540	NA	82	61	170	1.7	NA	63	227	NA	29.37	3.275	NA	NA	NA	898	NA
3S/1E 3G 2	6-Nov-13	16.9	1740	7.4	68	34	266	1.6	721	34	178	3.90	21.4	2.2	0.0071	<0.05	0.8	963	311
3S/1E 4A 1	6-Nov-13	18.1	884	7.4	71	17	88	0.9	318	31	94	9.88	23.5	0.36	0.0025	<0.05	0.016	493	246
3S/1E 4J 5	6-Nov-13	16.4	3187	7.8	35	42	619	1.1	734	196	507	24.27	17.1	12	0.011	<0.25	0.25	1807	261
3S/1E 4J 6	6-Nov-13	16.2	1871	7.3	127	41	209	2.9	408	102	389	9.83	25.7	1.9	0.0027	<0.05	0.46	1108	488
3S/1E 4Q 2	11-Dec-13	16.6	1541	7.5	79	54	256	1.2	574	84	261	11.16	21.4	3.4	0.0037	<0.05	0.073	1052	420
3S/1E 5K 6	6-Nov-13	18.2	2002	7.4	157	58	272	2.0	579	238	279	41.23	21.2	2.0	<0.005	<0.25	0.81	1355	632
3S/1E 5K 7	6-Nov-13	19.0	879	7.7	59	22	161	1.6	374	145	75	0.58	23.5	0.99	0.0038	<0.05	0.13	673	240
3S/1E 5L 3	6-Nov-13	18.9	1430	7.6	95	48	224	0.9	472	259	141	<0.44	21.0	1.2	0.0045	<0.05	1.4	1023	435
3S/1E 5P 6	15-Jan-14	18.6	2990	7.4	199	92	373	1.7	408	425	486	21.74	25.7	1.2	<0.005	<0.25	0.35	1826	876
3S/1E 6F 3	24-Jun-14	18.2	4136	7.0	288	109	531	<2.5	606	653	793	<0.44	23.5	3.38	0.007	<0.25	4.8	2696	1170
3S/1E 6M 2	3-Dec-13	13.59	7091	6.6	NA	NA	NA	NA	NA	NA	397.2	NA	NA	NA	0.0067	NA	NA	6847	NA
3S/1E 6N 2	31-Oct-13	19.7	25450	6.9	101	51	2507	10	341	990	9135	<0.44	19.5	2.6	<0.05	<2.5	68.	12982	462

NA = Not Analyzed

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4/15/2015

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/1E 6N 3	31-Oct-13	19.1	10950	7.3	34	22	1116	4.9	216	164	3542	2.44	18.8	1.2	<0.02	<1.	8.7	5011	176
3S/1E 6N 4	3-Dec-13	12.38	3478	6.59	NA	NA	NA	NA	NA	NA	207.1	NA	NA	NA	0.0082	NA	NA	2960	NA
3S/1E 6N 5	6-Nov-13	19.74	26130	6.64	NA	NA	NA	NA	NA	NA	8124	NA	NA	NA	NA	NA	NA	24480	NA
3S/1E 6N 5	12-Nov-13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.0099	NA	NA	NA	NA
3S/1E 6N 6	6-Nov-13	17.4	20620	7.1	1890	1245	2635	7.8	247	1001	9466	13.33	19.3	1.7	<0.05	<2.5	24.	16399	9850
3S/1E 7B 2	6-Nov-13	17.8	851	8.4	19	16	121	1.7	279	44	92	<0.44	14.1	1.1	0.014	0.057	0.067	452	112
3S/1E 7B12	6-Nov-13	17.6	15820	7.0	584	357	2263	5.2	318	1677	4866	<0.44	20.8	4.5	<0.05	<2.5	11.	9930	2930
3S/1E 7D 1	12-Nov-13	19.9	6824	7.5	722	298	325	3.1	339	163	2090	<0.44	25.7	<1.0	0.03	0.63	12.	3795	3030
3S/1E 7D 2	3-Dec-13	13.05	22300	6.35	NA	NA	NA	NA	NA	NA	6605.5	NA	NA	NA	0.021	NA	NA	26420	NA
3S/1E 7D 3	5-Nov-13	17.1	17290	7.0	928	697	1865	8.0	352	478	6161	0.62	23.5	2.2	0.06	<2.5	27.	10335	5190
3S/1E 7D 4	5-Nov-13	21.26	13040	7.14	NA	NA	NA	NA	NA	NA	873.6	NA	NA	NA	0.012	NA	NA	12640	NA
3S/1E 7G 7	15-Jan-14	18.2	18190	7.2	87	107	3924	5.1	481	2807	4794	<0.44	19.7	6.4	<0.02	<1.	12.	11981	658
3S/1E 7J 5	3-Feb-14	18.8	2017	7.2	102	77	281	1.7	788	262	119	<0.44	25.7	4.3	0.0029	<0.05	0.32	1257	570
3S/1E 7M 2	29-Apr-14	19.3	1238	7.7	94	23	104	1.6	399	64	103	<0.44	15.8	0.29	0.0022	0.16	0.24	604	329
3S/1E 8B 1	15-Jan-14	16.0	1167	8.3	25	22	209	1.0	235	18	226	<0.44	6.9	1.9	0.0025	<0.05	0.027	628	153
3S/1E 8G 4	11-Dec-13	18.2	2650	7.4	123	105	390	2.2	805	498	244	5.36	25.7	5.7	<0.005	<0.25	<0.05	1791	741
3S/1E 8H 9	15-Apr-14	17.3	1198	7.5	56	42	84	2.0	356	54	98	21.79	25.7	0.71	0.0021	<0.05	<0.01	560	311
3S/1E 8H10	15-Apr-14	17.8	1462	7.5	71	43	117	2.2	424	99	110	20.28	30.0	1.00	0.002	<0.05	<0.01	702	354
3S/1E 8H11	15-Apr-14	17.8	1950	7.2	126	77	98	3.0	558	117	191	21.52	30.0	1.00	<0.005	<0.25	<0.05	939	629
3S/1E 8H13	14-Apr-14	18.2	2170	7.2	144	90	102	3.1	629	138	192	20.02	25.7	1.4	<0.005	<0.25	<0.05	1025	730
3S/1E 8H18R	22-Jan-14	NA	1426	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	567
3S/1E 8H18R	11-Jun-14	20.0	1230	7.3	97	59	90	2.8	464	99	137	16.56	27.8	0.83	0.0015	0.014	<0.01	758	484
3S/1E 8K 1	25-Mar-14	16.6	2258	7.0	146	113	108	2.7	650	258	165	10.81	30.0	1.45	0.0017	0.077	<0.01	1154	830
3S/1E 8N 1	25-Mar-14	17.5	2562	6.8	180	130	135	2.8	814	279	174	22.10	30.0	1.46	0.0027	0.077	<0.01	1354	988
3S/1E 9B 1	17-Oct-13	NA	726	7.6	53	40	47	1.6	311	44	59	20.68	23.5	0.45	0.0016	<0.01	<0.01	443	296
3S/1E 9B 1	5-Nov-13	NA	668	7.8	57	28	41	1.6	286	39	47	19.04	0.0	NA	NA	<0.01	NA	375	258
3S/1E 9B 1	18-Dec-13	NA	653	7.6	44	34	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	249
3S/1E 9B 1	15-Jan-14	NA	623	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	242
3S/1E 9B 1	22-Jan-14	NA	639	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	253
3S/1E 9B 1	7-Feb-14	NA	672	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	260
3S/1E 9B 1	30-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 9B 1	15-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 9B 1	19-Jun-14	18.8	803	7.3	54	43	47	1.7	345	48	69	19.00	25.7	0.49	0.0018	<0.01	<0.01	478	315
3S/1E 9J 7	9-Oct-13	16.6	1025	7.5	66	44	97	2.3	311	60	140	<0.44	17.5	1.00	0.0013	<0.1	0.013	581	345
3S/1E 9J 8	9-Oct-13	16.4	792	7.4	84	34	35	2.0	291	45	85	7.97	19.9	0.35	<0.001	<0.1	<0.01	457	348
3S/1E 9J 9	9-Oct-13	17.0	676	7.4	60	40	26	1.9	281	40	51	13.33	25.7	0.26	0.0012	<0.1	<0.01	397	315
3S/1E 9M 2R	17-Oct-13	NA	1099	7.4	79	53	80	1.9	394	63	113	16.96	23.5	1.03	0.0023	<0.01	<0.01	625	415
3S/1E 9M 2R	5-Nov-13	NA	1148	7.5	78	51	79	2.0	416	69	147	19.13	0.0	NA	NA	<0.01	NA	651	406
3S/1E 9M 2R	6-Jan-14	NA	1142	7.5	72	60	86	2.0	401	64	124	16.87	25.7	0.90	0.0014	<0.01	<0.01	649	425
3S/1E 9M 2R	15-Jan-14	NA	1067	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	423
3S/1E 9M 2R	22-Jan-14	NA	1046	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	429
3S/1E 9M 2R	11-Jun-14	17.2	1122	7.3	78	57	80	2.0	409	68	124	16.34	25.7	0.99	0.0014	<0.01	<0.01	653	428
3S/1E 9M 2R	8-Sep-14	17.7	1063	7.3	66	51	88	1.9	380	62	129	11.38	25.7	0.71	0.0012	<0.01	<0.01	623	374
3S/1E 9M 3R	17-Oct-13	NA	1182	7.3	103	55	72	2.1	430	88	130	14.08	27.8	0.93	0.0012	<0.01	<0.01	704	485
3S/1E 9M 3R	5-Nov-13	NA	1254	7.3	112	57	73	2.1	440	95	163	14.79	0.0	NA	NA	<0.01	NA	734	513
3S/1E 9M 3R	22-Jan-14	NA	1032	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	429
3S/1E 9M 3R	16-Jun-14	18.5	948	7.1	85	40	57	1.8	344	61	100	9.34	21.4	0.68	<0.001	<0.01	<0.01	545	376
3S/1E 9M 3R	9-Sep-14	17.1	1015	7.3	84	46	65	1.8	357	71	119	10.58	21.4	0.52	<0.001	0.017	<0.01	595	399
3S/1E 9M 4R	18-Dec-13	NA	1357	7.3	91	60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	474
3S/1E 9M 4R	6-Jan-14	NA	1405	7.4	112	58	123	2.8	500	116	160	20.81	25.7	1.4	0.0014	<0.01	<0.01	866	520
3S/1E 9M 4R	15-Jan-14	NA	1371	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	518

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/1E 9M 4R	17-Jun-14	18.8	1321	7.1	87	61	114	2.6	472	109	152	22.28	27.8	1.47	0.0017	<0.01	<0.01	809	469
3S/1E 9P 5	7-Nov-13	17.4	1030	7.3	80	40	86	3.3	290	66	143	1.86	18.6	0.94	<0.001	<0.05	<0.01	582	366
3S/1E 9P 9	7-Nov-13	17.1	996	7.3	71	42	94	2.9	304	66	137	1.99	21.2	1.0	<0.001	<0.05	<0.01	586	348
3S/1E 9P10	7-Nov-13	16.8	644	7.4	71	33	49	2.1	251	54	87	10.36	20.3	0.44	<0.001	<0.05	<0.01	451	311
3S/1E 9P11	7-Nov-13	16.9	676	7.5	65	50	29	2.2	311	41	70	15.81	25.7	0.32	0.0015	<0.05	<0.01	453	366
3S/1E 10A 2	6-Nov-13	16.6	1535	7.2	65	61	166	2.6	458	90	195	19.57	30.0	2.6	0.0017	<0.05	<0.01	855	414
3S/1E 10B 8	10-Dec-13	16.3	1445	7.3	74	72	139	1.9	549	79	171	37.20	27.8	2.2	0.0021	<0.05	<0.01	873	483
3S/1E 10B 9	10-Dec-13	16.6	996	7.6	70	62	86	2.2	408	61	132	30.82	23.5	1.3	0.0015	<0.05	<0.01	670	433
3S/1E 10B10	12-Dec-13	17.8	660	7.9	48	39	42	1.9	297	40	42	12.53	25.7	0.32	0.0014	<0.05	<0.01	399	282
3S/1E 10B11	8-Oct-13	17.0	661	8.0	45	35	48	2.1	268	41	55	22.05	27.8	0.41	0.0023	<0.1	<0.01	410	258
3S/1E 10B14	2-Mar-14	NA	647	7.9	54	34	29	1.9	258	33	41	21.79	25.7	0.25	<0.001	<0.05	0.016	369	274
3S/1E 10D 2	12-Dec-13	16.3	1302	7.7	74	60	135	2.0	477	66	140	34.14	25.7	1.6	0.0034	<0.05	0.04	774	432
3S/1E 10D 3	12-Dec-13	16.6	998	7.8	64	51	74	2.2	355	48	98	30.20	23.5	0.64	0.0021	<0.05	<0.01	568	370
3S/1E 10D 4	12-Dec-13	17.1	793	7.7	61	40	50	1.8	311	46	74	17.54	25.7	0.43	0.0015	<0.05	<0.01	471	318
3S/1E 10D 5	9-Oct-13	14.9	624	8.0	42	30	53	2.2	271	35	40	14.88	25.7	0.26	0.0014	<0.1	<0.01	379	228
3S/1E 10K 2	16-Apr-14	16.7	945	7.2	63	38	34	1.7	283	43	79	12.05	20.1	0.32	<0.001	<0.05	<0.01	430	315
3S/1E 10K 3	17-Oct-13	NA	797	7.4	63	48	35	1.4	325	44	77	17.09	23.5	0.39	<0.001	0.024	<0.01	470	353
3S/1E 10K 3	5-Nov-13	NA	844	7.4	66	50	34	1.4	332	48	83	19.49	0.0	NA	NA	<0.01	NA	466	370
3S/1E 10K 3	15-Jan-14	NA	837	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	366
3S/1E 10K 3	22-Jan-14	NA	832	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	369
3S/1E 10K 3	30-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 10K 3	15-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 10K 3	12-Jun-14	17.5	834	7.1	62	52	34	1.4	329	44	80	18.11	23.5	0.37	<0.001	<0.01	<0.01	477	366
3S/1E 11B 1	5-May-14	NA	1080	NA	69	68	230	10	NA	110	241	NA	29.48	3.45	NA	NA	NA	1076	NA
3S/1E 11C 3	15-Jan-14	15.7	1771	7.3	88	61	236	1.6	569	110	224	25.60	21.4	3.1	0.0036	<0.05	<0.01	1049	470
3S/1E 11G 1	4-Feb-14	18.3	1273	7.2	69	76	90	3.0	468	63	112	43.98	34.2	0.87	0.0016	0.12	<0.01	722	484
3S/1E 11G 2	4-Feb-14	18.8	1068	7.4	67	61	76	2.5	386	54	106	28.21	23.5	0.81	0.0011	<0.05	<0.01	609	420
3S/1E 11G 3	4-Feb-14	16.0	809	7.5	54	51	39	2.3	308	45	67	21.97	27.8	0.30	<0.001	<0.05	<0.01	461	345
3S/1E 11G 4	4-Feb-14	17.0	1029	7.5	64	59	74	2.5	375	51	100	27.50	23.5	0.75	0.0012	<0.05	<0.01	587	401
3S/1E 11M 2	16-Apr-14	17.5	1210	7.2	59	60	46	2.0	306	57	126	11.34	23.5	0.35	<0.001	<0.05	<0.01	536	395
3S/1E 11M 3	17-Oct-13	NA	719	7.4	51	42	31	1.2	279	42	63	16.47	23.5	0.30	<0.001	0.014	<0.01	408	300
3S/1E 11M 3	5-Nov-13	NA	689	7.4	50	42	27	1.2	287	43	60	17.85	0.0	NA	NA	<0.01	NA	383	298
3S/1E 11M 3	15-Jan-14	NA	641	7.5	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	292
3S/1E 11M 3	22-Jan-14	NA	684	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	298
3S/1E 11M 3	29-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 11M 3	30-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 11M 3	15-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/1E 11M 3	11-Jun-14	18.1	686	7.3	55	42	26	1.3	281	41	61	17.71	23.5	0.28	<0.001	<0.01	<0.01	406	310
3S/1E 11P 6	28-Apr-14	17.2	743	7.3	65	29	34	1.5	241	49	83	4.74	18.4	0.30	<0.001	<0.05	<0.01	404	280
3S/1E 12A 2	4-Nov-13	NA	1220	NA	62	88	55	3.6	NA	69	NA	NA	34	0.7	NA	NA	NA	723	NA
3S/1E 12A 2	10-Mar-14	NA	1220	NA	63	86	56	3.9	NA	62	114.2	NA	34.737	0.64	NA	NA	NA	737	NA
3S/1E 12A 2	5-May-14	NA	1220	NA	62	87	52	3.7	NA	70	114.5	NA	35.81	0.56	NA	NA	NA	737	NA
3S/1E 12A 2	10-Sep-14	NA	1190	NA	64	87	54	2.5	NA	64	115.4	NA	34.68	0.735	NA	NA	NA	699	NA
3S/1E 12G 1	4-Nov-13	NA	1246	NA	62	74	70	4.8	NA	59	NA	NA	33	0.77	NA	NA	NA	623	NA
3S/1E 12G 1	5-May-14	NA	1120	NA	58	77	53	5.2	NA	55	103.5	NA	34.43	0.72	NA	NA	NA	692	NA
3S/1E 12G 1	10-Sep-14	NA	1270	NA	65	74	120	5	NA	69	170.1	NA	27.86	2.38	NA	NA	NA	717	NA
3S/1E 12H 4	14-Apr-14	18.1	856	7.3	48	47	25	1.6	303	41	52	13.68	27.8	0.27	<0.001	<0.05	<0.01	406	314
3S/1E 12H 5	14-Apr-14	18.9	882	7.4	48	47	27	1.8	308	42	48	14.22	30.0	0.28	<0.001	<0.05	<0.01	410	316
3S/1E 12H 6	14-Apr-14	19.4	843	7.6	44	47	31	2.0	335	40	32	11.29	30.0	0.29	0.0012	<0.05	<0.01	403	302
3S/1E 12H 7	14-Apr-14	19.3	606	8.0	7	5	94	0.9	210	19	31	5.71	23.5	0.46	0.025	<0.05	<0.01	291	37
3S/1E 12K 2	14-Apr-14	17.3	783	7.2	32	40	35	1.6	233	37	68	4.61	21.4	0.27	<0.001	<0.05	<0.01	355	244

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/1E 12K 3	14-Apr-14	18.2	940	7.2	49	50	30	1.6	313	47	59	20.81	25.7	0.33	<0.001	<0.05	<0.01	438	329
3S/1E 12K 4	14-Apr-14	18.2	409	7.5	19	18	22	1.2	151	7.5	18	14.48	27.8	0.16	<0.001	<0.05	<0.01	203	122
3S/1E 13P 5	15-Apr-14	18.6	832	7.4	45	23	51	1.6	173	49	97	0.84	12.2	0.30	<0.001	<0.05	<0.01	365	209
3S/1E 13P 6	15-Apr-14	17.6	895	7.3	78	26	30	1.7	285	46	66	4.12	20.5	0.29	<0.001	<0.05	<0.01	413	301
3S/1E 13P 7	15-Apr-14	19.1	640	7.6	48	11	44	1.9	255	42	15	0.58	23.5	0.19	<0.001	0.055	0.06	312	168
3S/1E 13P 8	15-Apr-14	18.1	794	7.3	56	19	48	1.8	245	46	54	4.69	25.7	0.25	<0.001	<0.05	0.013	376	216
3S/1E 14B 1	16-Apr-14	17.5	909	7.3	69	33	30	1.8	273	44	76	5.49	18.4	0.29	<0.001	<0.05	<0.01	413	307
3S/1E 14D 2	16-Apr-14	16.9	1068	7.1	77	34	50	1.7	306	45	89	12.13	18.2	0.38	<0.001	0.057	<0.01	478	330
3S/1E 15J 3	16-Apr-14	18.5	1236	7.1	96	47	46	2.4	436	36	94	4.12	16.1	0.42	<0.001	2.7	0.1	557	435
3S/1E 15M 3	11-Dec-13	16.9	607	7.2	70	25	58	1.6	273	42	77	12.49	23.5	0.30	<0.001	<0.05	<0.01	444	277
3S/1E 16A 2	4-Nov-13	18.1	805	7.5	73	34	48	2.6	287	46	86	9.65	19.7	0.52	<0.001	<0.05	<0.01	461	320
3S/1E 16A 4	9-Oct-13	16.9	754	7.5	82	33	37	1.9	299	45	69	7.62	21.4	0.35	<0.001	<0.1	<0.01	445	340
3S/1E 16B 1	30-Apr-14	16.8	650	7.5	57	19	31	1.7	260	35	25	7.71	23.5	0.27	0.001	<0.05	<0.01	329	219
3S/1E 16C 2	12-Dec-13	16.5	1034	7.2	110	43	54	2.1	381	61	118	6.38	18.8	0.50	<0.001	<0.05	<0.01	601	449
3S/1E 16C 3	12-Dec-13	17.0	1122	7.7	134	44	42	2.4	418	61	120	15.10	23.5	0.33	<0.001	<0.05	<0.01	650	516
3S/1E 16C 4	12-Dec-13	17.5	756	7.6	81	29	35	2.0	292	48	67	10.54	21.4	0.28	<0.001	<0.05	<0.01	439	322
3S/1E 16E 4	3-Feb-14	18.0	1091	7.1	92	44	86	2.8	434	63	88	22.41	21.4	0.66	<0.001	<0.05	<0.01	634	410
3S/1E 16L 5	4-Nov-13	18.3	1004	7.3	101	41	60	2.9	388	59	109	17.85	21.4	0.53	<0.001	<0.05	<0.01	604	420
3S/1E 16L 7	4-Nov-13	18.3	1119	7.3	113	48	57	3.3	426	65	124	14.04	21.4	0.69	<0.001	<0.05	<0.01	656	481
3S/1E 16P 5	11-Dec-13	15.6	502	6.9	39	27	54	2.0	215	26	86	1.28	13.7	0.29	<0.001	0.064	<0.01	355	208
3S/1E 16P 5	25-Mar-14	16.2	834	6.7	42	29	50	1.9	215	30	91	1.42	15.2	0.25	<0.001	<0.05	0.017	366	225
3S/1E 17B 4	11-Dec-13	14.8	981	7.4	97	52	44	2.1	467	51	71	22.76	18.6	0.50	<0.001	<0.05	<0.01	589	455
3S/1E 17D 3	28-Apr-14	16.8	1308	7.1	116	71	56	2.2	551	86	99	25.51	23.5	0.53	<0.001	0.053	0.012	751	581
3S/1E 17D 4	28-Apr-14	16.9	1254	8.2	16	5	245	0.7	290	22	230	<0.44	20.5	2.56	0.0095	0.11	0.012	686	58
3S/1E 17D 5	28-Apr-14	17.0	1179	8.4	18	9	221	0.6	276	18	221	<0.44	14.3	2.60	0.057	0.13	0.19	644	85
3S/1E 17D 6	28-Apr-14	17.0	1407	8.8	9	5	258	0.8	260	<1.0	312	<0.44	4.1	1.55	0.0026	0.17	0.026	732	44
3S/1E 17D 7	28-Apr-14	16.5	1375	8.9	10	5	213	1.9	114	<1.0	350	<0.44	<1.1	1.86	0.0025	<0.05	0.033	644	46
3S/1E 17D11	28-Apr-14	17.2	1346	8.1	17	5	282	0.7	292	3.2	284	<0.44	21.4	2.49	0.011	<0.05	0.04	760	64
3S/1E 17D12	17-Oct-13	NA	814	7.4	78	42	41	1.5	347	48	71	15.19	25.7	0.47	0.0015	<0.01	<0.01	494	367
3S/1E 17D12	5-Nov-13	NA	850	7.5	74	40	41	1.5	343	50	78	15.54	0.0	NA	NA	<0.01	NA	470	351
3S/1E 17D12	15-Jan-14	NA	806	7.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	354
3S/1E 17D12	22-Jan-14	NA	783	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	351
3S/1E 17D12	10-Jun-14	18.7	852	7.3	73	43	44	1.6	345	50	79	14.35	23.5	0.53	0.0013	<0.01	<0.01	499	359
3S/1E 17D12	11-Aug-14	NA	866	7.3	76	40	43	1.7	339	47	82	14.66	23.5	0.51	0.0014	<0.01	<0.01	495	353
3S/1E 17D12	10-Sep-14	16.8	871	7.6	74	41	50	1.6	352	47	85	14.61	23.5	0.42	0.0013	<0.01	<0.01	511	353
3S/1E 18A 6	17-Oct-13	NA	995	7.4	82	48	75	1.7	424	77	83	13.73	23.5	0.60	0.0016	<0.01	<0.01	614	402
3S/1E 18A 6	5-Nov-13	NA	1041	7.5	83	48	72	1.7	429	80	87	14.35	0.0	NA	NA	<0.01	NA	598	406
3S/1E 18A 6	15-Jan-14	NA	1003	7.4	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	393
3S/1E 18A 6	22-Jan-14	NA	950	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	398
3S/1E 18A 6	10-Jun-14	18.6	1025	7.2	82	48	75	1.7	432	76	82	13.15	23.5	0.56	0.0019	<0.01	<0.01	614	404
3S/1E 18A 6	11-Aug-14	NA	1024	7.2	82	46	70	1.7	417	79	84	13.29	23.5	0.54	0.0016	<0.01	<0.01	605	396
3S/1E 18A 6	10-Sep-14	16.8	1058	7.4	82	51	77	1.8	439	83	87	13.68	25.7	0.43	0.0015	<0.01	<0.01	638	416
3S/1E 18E 4	15-Apr-14	15.3	922	7.3	58	20	70	0.6	318	59	44	<0.44	25.7	0.43	0.0011	0.37	0.95	434	227
3S/1E 18J 2	11-Dec-13	16.0	3875	7.1	267	236	357	3.5	840	564	717	<0.44	23.5	1.8	0.011	<0.25	1.7	2582	1640
3S/1E 19A11	30-Sep-14	NA	1284	7.4	130	65	57	2.1	495	98	119	12.09	20.8	0.40	0.0022	<0.05	<0.01	749	590
3S/1E 19C 4	28-Apr-14	17.1	1049	7.0	102	52	53	2.1	438	120	68	12.89	23.5	0.40	<0.001	0.25	0.043	649	472
3S/1E 19K 1	14-Apr-14	18.4	2577	7.2	181	104	161	2.6	417	800	54	0.62	16.9	0.90	0.0089	<0.25	9.1	1526	880
3S/1E 20B 2	18-Sep-14	NA	930	7.3	86	39	56	1.9	351	57	84	17.05	23.5	0.32	<0.001	<0.05	<0.01	538	373
3S/1E 20C 3	18-Sep-14	NA	934	7.3	84	42	53	2.2	373	60	80	15.85	19.3	0.35	<0.001	0.077	<0.01	541	384
3S/1E 20C 8	12-Dec-13	15.9	959	7.3	105	46	45	2.2	435	46	84	24.27	19.7	0.25	<0.001	<0.05	<0.01	587	451
3S/1E 20C 9	12-Dec-13	16.1	998	7.4	98	49	51	2.3	414	57	89	12.93	21.4	0.41	0.001	<0.05	<0.01	585	446

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/1E 20J 4	25-Mar-14	18.5	1406	6.5	63	37	129	0.9	410	66	116	15.59	32.1	0.50	<0.001	<0.05	<0.01	661	311
3S/1E 20M11	15-Apr-14	16.8	1160	6.8	82	41	55	2.0	401	50	76	8.90	21.4	0.38	<0.001	<0.05	0.019	534	371
3S/1E 20Q 2	15-Apr-14	18.0	2547	6.9	136	129	168	1.7	1136	174	100	<0.44	21.0	1.2	<0.005	5.4	2.	1289	871
3S/1E 22D 2	11-Dec-13	18.0	966	7.0	51	43	119	0.6	323	62	149	49.16	38.5	0.11	<0.001	0.089	0.15	671	305
3S/1E 23J 1	16-Apr-14	17.6	1143	6.6	52	39	61	0.9	170	14	170	23.56	34.2	0.12	<0.001	<0.05	<0.01	478	291
3S/1E 25C 3	29-Apr-14	18.7	944	7.0	56	28	61	1.2	263	30	91	18.29	25.7	0.32	<0.001	<0.05	0.01	441	255
3S/1E 29M 4	15-Apr-14	15.2	1075	6.5	72	45	41	2.9	227	199	41	<0.44	23.5	0.26	0.027	<0.05	0.44	536	366
3S/1E 29P 2	25-Mar-14	16.5	2625	7.1	135	111	199	3.7	735	106	321	2.39	20.3	1.7	<0.005	0.43	0.87	1261	794
3S/1W 1B 9	24-Jun-14	17.3	871	7.6	45	18	118	1.2	326	37	100	<0.44	21.4	0.46	0.006	<0.05	0.13	502	187
3S/1W 1B10	24-Jun-14	18.8	908	7.6	46	16	119	0.7	377	7.1	98	<0.44	25.7	0.49	0.122	0.37	0.19	499	180
3S/1W 1B11	24-Jun-14	17.1	937	7.8	27	10	151	0.8	272	<1.0	160	<0.44	25.7	0.65	0.026	0.098	0.053	510	110
3S/1W 1J 1	7-Nov-13	17.6	3062	7.4	186	91	440	2.7	1058	550	159	<0.44	27.8	1.1	0.035	<0.25	2.	1980	840
3S/1W 1J 2	7-Nov-13	24.21	3167	6.91	NA	NA	NA	NA	NA	NA	162.7	NA	NA	NA	0.01	NA	NA	1866	NA
3S/1W 2A 2	3-Feb-14	19.3	1321	6.8	149	34	105	0.6	558	54	111	14.84	23.5	0.38	0.0016	<0.05	0.03	767	512
3S/1W 12A 9	12-Nov-13	19.3	6410	7.5	588	216	352	4.2	274	82	1756	<0.44	27.8	<1.0	<0.01	1.2	8.8	3162	2360
3S/1W 12A10	12-Nov-13	26.61	2233	6.84	NA	NA	NA	NA	NA	NA	558	NA	NA	NA	0.0081	NA	NA	1290	NA
3S/1W 12B 2	6-Nov-13	19.0	890	6.9	95	30	67	0.5	301	148	94	8.19	32.1	0.20	0.001	0.42	1.9	623	362
3S/1W 12J 1	16-Apr-14	20.1	1989	7.3	107	33	213	1.0	482	251	147	1.73	25.7	0.79	<0.005	<0.25	0.58	1017	404
3S/1W 13J 1	29-Apr-14	17.3	1169	6.6	101	45	38	0.5	339	108	86	16.08	25.7	0.19	0.0011	<0.05	0.018	587	437
3S/2E 1F 2	8-Oct-13	17.0	2756	7.5	119	53	448	2.4	232	212	688	19.66	51.4	9.32	0.0015	0.21	0.011	1708	516
3S/2E 2B 2	7-Oct-13	19.4	1730	7.5	49	82	204	1.1	259	91	380	26.70	40.7	2.08	0.0024	0.97	0.016	1003	459
3S/2E 3A 1	8-Oct-13	18.8	1103	7.7	69	31	141	1.2	311	75	155	25.95	40.7	1.67	0.0033	<0.1	<0.01	693	298
3S/2E 3K 3	23-Jun-14	18.2	1000	7.5	56	40	97	2.0	299	58	109	38.66	27.8	1.55	0.0021	<0.05	<0.01	576	302
3S/2E 7C 2	4-Nov-13	NA	1240	NA	58	93	62	5.4	NA	75	NA	NA	38	0.73	NA	NA	NA	736	NA
3S/2E 7C 2	10-Mar-14	NA	1210	NA	55	86	59	4.9	NA	67	116.5	NA	38.07	0.5875	NA	NA	NA	720	NA
3S/2E 7C 2	5-May-14	NA	1210	NA	57	89	56	5.3	NA	72	118.9	NA	38.57	0.65	NA	NA	NA	743	NA
3S/2E 7C 2	10-Sep-14	NA	1240	NA	61	94	62	3.8	NA	75	123	NA	39.05	0.681	NA	NA	NA	736	NA
3S/2E 7H 2	24-Jun-14	18.2	1253	7.0	65	70	109	2.8	423	139	94	53.59	32.1	0.78	0.0014	<0.05	0.09	774	450
3S/2E 7N 2	17-Jul-14	18.4	541	7.6	33	30	22	1.4	175	33	60	3.99	23.5	0.21	0.0011	<0.05	<0.01	294	207
3S/2E 7P 3	19-Nov-13	21	430	7.63	19	13	53	<-	180	16	35	15	NA	NA	<0.01	<0.3	<0.05	270	100
3S/2E 7P 3	11-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 7P 3	14-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.001517	NA	NA	NA	NA
3S/2E 7R 3	21-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 7R 3	8-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 7R 3	15-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.15	NA	NA	NA	NA	NA	NA	NA
3S/2E 7R 3	7-Jul-14	NA	NA	NA	45	46	67	<2	370	45	88	22	NA	NA	<0.002	<0.00003	<0.00001	NA	300
3S/2E 7R 3	22-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	22.167	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	21-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.149	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	6-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.113	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	12-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.785	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	20-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	38.2	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	27-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.116	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	2-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.228	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	4-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00085	NA	0.000073	NA	NA
3S/2E 8F 1	9-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.639	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	16-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.076	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	24-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.363	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	30-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.537	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	7-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.494	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	14-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.724	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	22-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.26	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/2E 8F 1	29-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.734	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	5-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.119	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	13-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	19-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.086	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	25-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.236	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	3-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.76	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	10-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.279	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	16-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.746	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	23-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.522	NA	NA	NA	NA	NA	NA	NA
3S/2E 8F 1	30-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.373	NA	NA	NA	NA	NA	NA	NA
3S/2E 8H 2	3-Feb-14	21.2	793	7.1	26	46	66	1.1	207	46	98	16.52	32.1	0.27	<0.001	<0.05	0.013	434	253
3S/2E 8H 3	15-Jan-14	18.4	1234	7.3	80	81	61	1.8	426	70	135	48.71	30.0	0.44	<0.001	<0.05	<0.01	718	531
3S/2E 8H 4	15-Jan-14	19.2	1184	7.7	56	47	132	2.3	345	21	195	24.09	25.7	0.46	0.0022	<0.05	<0.01	674	335
3S/2E 8K 2	30-Apr-14	19.3	1275	7.2	59	81	45	2.0	387	62	100	35.21	30.0	0.34	<0.001	<0.05	<0.01	605	480
3S/2E 8N 2	21-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.616	NA	NA	NA	NA	NA	NA	NA
3S/2E 8N 2	8-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 8N 2	15-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	15.798	NA	NA	NA	NA	NA	NA	NA
3S/2E 8N 2	22-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	16.137	NA	NA	NA	NA	NA	NA	NA
3S/2E 8P 1	21-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	17.306	NA	NA	NA	NA	NA	NA	NA
3S/2E 8P 1	9-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 8P 1	15-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	20.551	NA	NA	NA	NA	NA	NA	NA
3S/2E 8P 1	7-Jul-14	NA	NA	NA	43	58	41	<2	360	51	73	14	NA	NA	<0.002	<0.00003	<0.00001	NA	350
3S/2E 9Q 1	6-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	37.838	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	14-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.564	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	21-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.484	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	28-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.22	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	3-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	36.175	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	11-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.253	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	18-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.97	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	25-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.389	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	3-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.176	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	12-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.09	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	18-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.368	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	25-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.687	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	1-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.118	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	7-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.622	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	16-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.588	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	22-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.309	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	28-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.242	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	5-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.767	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	12-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.184	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	22-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.331	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	27-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.966	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	2-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.809	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	9-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.824	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	17-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.966	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	24-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.631	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	30-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.028	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	7-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.421	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	14-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	35.497	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	22-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.669	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/2E 9Q 1	29-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.076	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	5-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.308	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	12-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.866	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	14-Aug-14	NA	NA	NA	52	60	46	<2	370	52	76	32	NA	NA	<0.002	<0.00003	<0.00001	NA	380
3S/2E 9Q 1	19-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.852	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	25-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.049	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	3-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.531	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	10-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.813	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	16-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.204	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	23-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.253	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 1	30-Sep-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.336	NA	NA	NA	NA	NA	NA	NA
3S/2E 9Q 4	8-Oct-13	18.4	1147	7.6	47	90	69	1.5	406	80	135	38.79	36.4	0.74	0.0013	<0.1	<0.01	699	490
3S/2E 10F 3	7-Oct-13	17.9	1465	7.1	81	98	116	1.1	543	99	166	37.20	34.2	0.14	0.0014	<0.1	<0.01	900	606
3S/2E 10Q 1	8-Oct-13	19.5	1547	7.0	69	113	117	1.2	566	93	198	38.13	38.5	1.47	0.0016	<0.1	<0.01	947	640
3S/2E 10Q 2	14-Jan-14	17.1	730	7.7	48	33	60	2.2	191	66	84	25.95	23.5	0.69	0.0012	<0.05	<0.01	438	254
3S/2E 11C 1	8-Oct-13	17.4	929	7.6	71	32	85	2.4	343	45	106	13.99	32.1	0.55	0.001	<0.1	<0.01	558	309
3S/2E 12C 4	14-Jan-14	16.8	1090	8.1	46	9	177	1.9	96	148	188	16.03	32.1	3.5	0.003	<0.05	<0.01	666	154
3S/2E 12J 3	14-Jan-14	16.1	737	7.9	40	13	83	3.8	58	60	144	1.51	21.2	0.50	0.0016	<0.05	<0.01	395	153
3S/2E 14A 3	16-Apr-14	18.5	1236	7.2	86	38	69	2.6	426	44	79	35.52	27.8	0.48	0.0011	<0.05	0.057	592	371
3S/2E 14B 1	8-Oct-13	18.1	911	7.4	69	36	76	2.1	316	42	96	41.85	27.8	0.68	0.0013	<0.1	<0.01	547	320
3S/2E 15E 2	30-Apr-14	17.7	1302	7.4	52	82	50	1.5	409	80	98	36.71	27.8	0.55	<0.001	0.06	0.013	630	467
3S/2E 15L 1	30-Apr-14	19.5	1246	7.7	44	74	61	2.8	376	76	91	28.03	30.0	0.58	0.0014	0.29	0.016	594	414
3S/2E 15M 2	30-Apr-14	18.8	1295	7.6	64	68	57	5.9	352	56	119	46.94	21.4	0.38	0.0028	0.38	0.017	613	442
3S/2E 15R17	29-Apr-14	20.1	1216	7.4	47	83	35	1.3	355	60	97	57.13	30.0	0.57	0.0013	<0.05	<0.01	586	460
3S/2E 15R17	22-Sep-14	17.9	1002	7.6	48	80	40	1.3	344	59	94	58.46	27.8	0.44	0.0011	<0.05	<0.01	579	448
3S/2E 15R18	29-Apr-14	19.2	848	7.6	55	44	28	1.5	328	45	43	5.98	27.8	0.23	0.0011	<0.05	0.14	413	318
3S/2E 16A 3	8-Oct-13	19.9	1067	7.6	49	91	45	1.6	384	81	94	46.06	30.0	0.46	0.0011	<0.1	<0.01	628	498
3S/2E 16B 1	17-Dec-13	18.8	780	7.59	51	57	31	<-	380	52	50	13	NA	NA	<0.01	0.28	<0.05	450	360
3S/2E 16B 1	4-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.000856	NA	0.000243	NA	NA
3S/2E 16C 1	3-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 16E 4	8-Oct-13	17.0	592	7.2	28	37	48	2.6	212	45	67	3.28	18.8	0.30	<0.001	<0.1	<0.01	354	222
3S/2E 18B 1	19-Nov-13	19.5	590	7.28	29	20	47	<-	190	25	65	32	NA	NA	<0.01	<0.3	<0.05	360	190
3S/2E 18B 1	6-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.473	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	14-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.375	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	21-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.593	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	28-Jan-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	34.063	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	3-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.701	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	10-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.772	NA	NA	NA	<0.1	<0.02	NA	NA
3S/2E 18B 1	11-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	18-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.564	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	24-Feb-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.725	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	4-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	28.704	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	11-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21.901	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	17-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.29	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	25-Mar-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.58	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	1-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	25.665	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	7-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.567	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	15-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.818	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	21-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.51	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	28-Apr-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.547	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	5-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
3S/2E 18B 1	6-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.755	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	12-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.763	NA	NA	NA	<0.1	<0.02	NA	NA
3S/2E 18B 1	20-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	30.744	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	27-May-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.244	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	2-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.81	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	9-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.342	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	16-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.974	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	24-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.906	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	30-Jun-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	32.945	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	7-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	23.881	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	14-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.108	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	22-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.258	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	29-Jul-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.036	NA	NA	NA	NA	NA	NA	NA
3S/2E 18B 1	5-Aug-14	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	33.271	NA	NA	NA	NA	NA	NA	NA
3S/2E 18E 1	15-Jan-14	17.2	582	7.7	50	28	23	2.1	217	32	56	5.05	25.7	0.23	<0.001	0.055	<0.01	330	241
3S/2E 19D 7	14-Jan-14	17.1	814	7.4	70	40	34	2.2	251	18	112	23.83	23.5	<0.10	<0.001	<0.05	<0.01	448	338
3S/2E 19D 8	14-Jan-14	17.4	1023	7.4	91	44	36	2.5	312	26	153	21.83	25.7	<0.10	<0.001	0.095	<0.01	554	409
3S/2E 19D 9	14-Jan-14	18.6	427	7.6	38	15	28	1.5	137	6.3	35	40.65	25.7	<0.10	<0.001	<0.05	<0.01	258	155
3S/2E 19D10	14-Jan-14	18.8	782	7.3	68	28	52	2.1	234	31	93	51.37	27.8	0.11	<0.001	<0.05	<0.01	469	284
3S/2E 20M 1	15-Jan-14	16.8	858	7.5	69	32	73	1.9	328	49	84	10.32	21.4	0.31	0.0013	<0.05	0.1	503	303
3S/2E 22B 1	29-Apr-14	18.9	1512	7.2	69	101	54	1.1	379	218	94	43.98	30.0	0.46	0.0011	<0.05	<0.01	798	587
3S/2E 23E 1	29-Apr-14	19.2	994	7.7	42	58	42	2.3	362	43	72	9.96	21.4	0.52	0.0017	<0.05	0.01	470	343
3S/2E 23E 2	29-Apr-14	20.0	1423	7.5	51	64	108	2.6	398	45	163	2.70	30.0	2.51	0.0022	<0.05	0.13	663	390
3S/2E 24A 1	8-Oct-13	17.7	1695	7.0	143	63	167	2.0	603	89	164	156.33	32.1	1.53	<0.001	<0.1	<0.01	1114	615
3S/2E 24A 1	9-Sep-14	19.0	1523	7.2	126	51	128	1.5	552	87	149	95.21	30.0	0.81	<0.001	<0.05	<0.01	940	523
3S/2E 26J 2	29-Apr-14	16.4	1573	7.4	67	109	64	3.0	615	119	98	5.18	16.1	0.90	<0.001	<0.05	0.033	785	615
3S/2E 29F 4	11-Dec-13	17.4	688	7.7	66	28	44	1.9	304	54	38	<0.44	19.0	0.35	0.0033	0.11	0.095	402	280
3S/2E 29F 4	16-Apr-14	18.0	885	7.6	66	28	40	1.8	301	54	50	<0.44	20.8	0.28	0.0029	<0.05	<0.01	410	281
3S/2E 30D 2	14-Jan-14	18.6	645	7.6	48	21	56	2.3	207	36	85	1.24	16.1	0.26	<0.001	<0.05	0.11	368	206
3S/2E 33G 1	11-Dec-13	14.1	607	7.4	40	21	66	2.6	157	46	97	<0.44	12.0	0.27	0.0013	<0.05	<0.01	362	185
3S/2E 33G 1	30-Apr-14	17.2	1079	7.7	56	30	87	3.5	242	69	117	12.18	13.7	0.71	0.0018	<0.05	0.01	509	262
3S/2E 33K 1	12-Dec-13	16	1500	7.3	NA	NA	NA	NA	NA	NA	230	NA	NA	NA	NA	NA	NA	880	NA
3S/2E 33K 1	21-Mar-14	16	1500	7.5	NA	NA	NA	NA	NA	NA	220	NA	NA	NA	NA	NA	NA	850	NA
3S/2E 33K 1	12-Jun-14	18.5	1600	7.4	NA	NA	NA	NA	NA	NA	240	NA	NA	NA	NA	NA	NA	930	NA
3S/2E 33K 1	11-Sep-14	20.8	1900	7.4	NA	NA	NA	NA	NA	NA	280	NA	NA	NA	NA	NA	NA	1100	NA
3S/2E 33L 1	12-Dec-13	15	890	6.7	NA	NA	NA	NA	NA	NA	140	NA	NA	NA	NA	NA	NA	540	NA
3S/2E 33L 1	21-Mar-14	15	1100	6.8	NA	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	610	NA
3S/2E 33L 1	12-Jun-14	17.5	1100	6.7	NA	NA	NA	NA	NA	NA	180	NA	NA	NA	NA	NA	NA	600	NA
3S/2E 33L 1	11-Sep-14	20.6	1400	6.9	NA	NA	NA	NA	NA	NA	230	NA	NA	NA	NA	NA	NA	790	NA
3S/3E 7D 2	8-Oct-13	18.7	2212	7.3	118	58	316	3.3	253	237	481	26.00	51.4	6.07	0.0035	0.2	0.011	1416	534
MA-K 15	3-Oct-13	21.4	729	8.8	30	33	76	3.9	207	46	107	<0.44	10.1	0.50	0.0048	<0.1	<0.01	420	212
MA-K 15	16-Sep-14	26.7	759	8.8	28	36	83	4.0	201	54	108	<0.44	9.4	0.40	0.0045	<0.05	<0.01	433	218
MA-K 18	3-Oct-13	20.6	574	8.2	33	18	58	2.9	154	24	91	<0.44	11.1	0.24	0.0019	<0.1	<0.01	316	155
MA-K 18	16-Sep-14	26.2	646	8.7	31	23	73	2.6	127	50	110	<0.44	7.9	0.21	0.002	<0.05	<0.01	366	173
MA-K 28	3-Oct-13	21.9	870	8.6	35	53	80	2.3	277	53	105	<0.44	18.8	0.72	0.0053	<0.1	0.012	494	306
MA-K 28	28-Jan-14	11.4	885	8.4	38	49	81	2.4	303	59	92	<0.44	14.8	0.61	0.0029	<0.05	<0.01	492	297
MA-K 28	4-Feb-14	11.7	897	8.4	38	49	83	2.5	276	60	103	<0.44	14.8	0.65	0.003	<0.05	<0.01	493	295
MA-K 28	10-Feb-14	13.9	854	8.1	40	49	82	2.5	299	58	101	<0.44	14.3	0.65	0.003	<0.05	<0.01	497	302
MA-K 28	18-Feb-14	14.2	917	8.2	41	50	83	2.5	304	59	102	<0.44	14.3	0.65	0.0031	<0.05	<0.01	506	309
MA-K 28	16-Sep-14	25.4	856	8.6	28	56	77	2.1	253	62	119	<0.44	16.7	0.52	0.0058	<0.05	<0.01	495	301
MA-K 37	3-Oct-13	23.6	1025	8.9	23	66	110	2.7	291	73	168	<0.44	6.0	1.12	0.0046	<0.1	<0.01	614	331

NA = Not Analyzed

FIGURE 6-3
TABLE OF WATER QUALITY RESULTS
2014 WATER YEAR

		TEMP.	EC		Mineral Constituents (mg/L)									Select Metals (mg/L)				TDS	Hard
SITE ID	DATE	°C	umhos/cm	pH	Ca	Mg	Na	K	HCO3	SO4	Cl	NO3	SiO2	B	As	Fe	Mn	mg/L	mg/L
MA-K 37	28-Jan-14	12.6	1068	8.3	28	63	118	3.0	321	79	136	<0.44	5.8	1.0	0.004	<0.05	<0.01	597	328
MA-K 37	4-Feb-14	12.9	1109	8.5	27	64	119	3.1	303	82	147	<0.44	6.2	1.0	0.0038	<0.05	<0.01	606	332
MA-K 37	10-Feb-14	13.1	1072	8.2	27	63	118	3.1	324	77	145	<0.44	6.2	1.0	0.0039	<0.05	<0.01	604	326
MA-K 37	18-Feb-14	15.7	1111	8.4	38	59	120	3.1	319	79	150	<0.44	5.8	1.0	0.004	<0.05	<0.01	619	339
MA-K 37	16-Sep-14	25.8	1083	8.5	22	69	108	2.5	296	86	161	<0.44	7.3	0.86	0.0049	<0.05	<0.01	610	336
MA-P 10	3-Oct-13	21.7	649	8.4	29	31	62	3.5	243	17	81	<0.44	<1.1	0.38	0.0026	<0.1	<0.01	349	201
MA-P 10	16-Sep-14	29.4	670	9.1	27	31	75	3.8	190	19	102	<0.44	<1.1	0.33	0.0059	<0.05	<0.01	374	195
MA-P 12	3-Oct-13	19.4	624	8.8	38	18	63	2.8	147	23	109	<0.44	14.6	0.23	0.0016	<0.1	<0.01	349	169
MA-P 12	16-Sep-14	26.3	719	8.7	32	25	82	3.2	144	49	123	<0.44	12.4	0.24	0.0039	<0.05	<0.01	404	182
MA-P 27	3-Oct-13	21.8	656	8.6	34	32	65	1.8	160	56	110	<0.44	8.6	0.51	0.0036	0.11	<0.01	392	214
MA-P 27	16-Sep-14	28.5	688	8.7	22	35	68	1.7	130	63	110	<0.44	8.6	0.41	0.0047	<0.05	<0.01	378	202
MA-P 28	3-Oct-13	21.8	943	8.6	55	32	100	3.1	234	49	174	<0.44	5.8	0.47	0.0045	<0.1	<0.01	543	268
MA-P 28	16-Sep-14	27.2	986	8.6	27	49	104	2.7	222	45	182	<0.44	3.9	0.37	0.0041	<0.05	<0.01	531	270
MA-P 41	3-Oct-13	22.7	901	8.9	29	48	94	3.0	220	43	171	<0.44	6.6	0.42	0.0038	<0.1	<0.01	519	270
MA-P 41	16-Sep-14	27.8	938	9.1	22	51	100	2.8	193	44	180	<0.44	2.1	0.34	0.003	<0.05	<0.01	520	264
MA-P 42	3-Oct-13	21.4	668	8.3	30	37	55	1.9	212	45	83	<0.44	16.3	0.37	0.0017	<0.1	<0.01	377	226
MA-P 42	16-Sep-14	26.9	716	8.3	46	29	59	1.7	182	51	94	0.62	15.4	0.32	0.0015	<0.05	<0.01	390	236
MA-P 44	3-Oct-13	22.1	616	8.5	34	23	60	2.3	123	52	99	<0.44	7.9	0.42	<0.001	<0.1	<0.01	342	178
MA-P 44	16-Sep-14	27.5	699	8.4	41	22	63	2.5	114	65	112	<0.44	11.6	0.35	0.0012	<0.05	<0.01	376	195
MA-R 3	3-Oct-13	17.9	682	8.3	40	41	39	3.1	231	44	79	<0.44	16.7	0.31	0.0014	<0.1	<0.01	381	271
MA-R 3	16-Sep-14	21.3	681	8.4	36	43	39	3.1	223	47	85	<0.44	20.5	0.25	0.0019	0.061	0.012	389	268
MA-R 4	3-Oct-13	20.8	682	8.5	40	44	38	2.4	232	43	77	<0.44	17.3	0.30	0.0016	<0.1	<0.01	383	283
MA-R 4	16-Sep-14	24.4	669	8.6	36	45	37	2.2	221	46	82	<0.44	20.8	0.25	0.0017	<0.05	<0.01	386	276
MA-R 22	3-Oct-13	20.4	666	8.6	45	41	37	2.2	221	45	76	1.68	17.1	0.31	0.0017	<0.1	<0.01	382	282
MA-R 22	16-Sep-14	24.5	647	8.8	34	48	36	2.0	210	46	80	<0.44	23.5	0.26	0.0015	<0.05	<0.01	385	281
MA-R 23	3-Oct-13	20.5	674	8.6	42	43	38	2.3	230	45	76	0.62	18.2	0.31	0.0015	<0.1	<0.01	387	285
MA-R 23	16-Sep-14	23.9	663	8.6	35	46	36	2.1	223	47	82	<0.44	21.4	0.24	0.0012	<0.05	<0.01	388	277

NA = Not Analyzed

Service Layer Credits: Sources: Esri, HERE, DeLorme, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, MapmyIndia, © OpenStreetMap contributors, and the GIS User

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Feet

LEGEND

Wells with 2014 TDS Concentrations

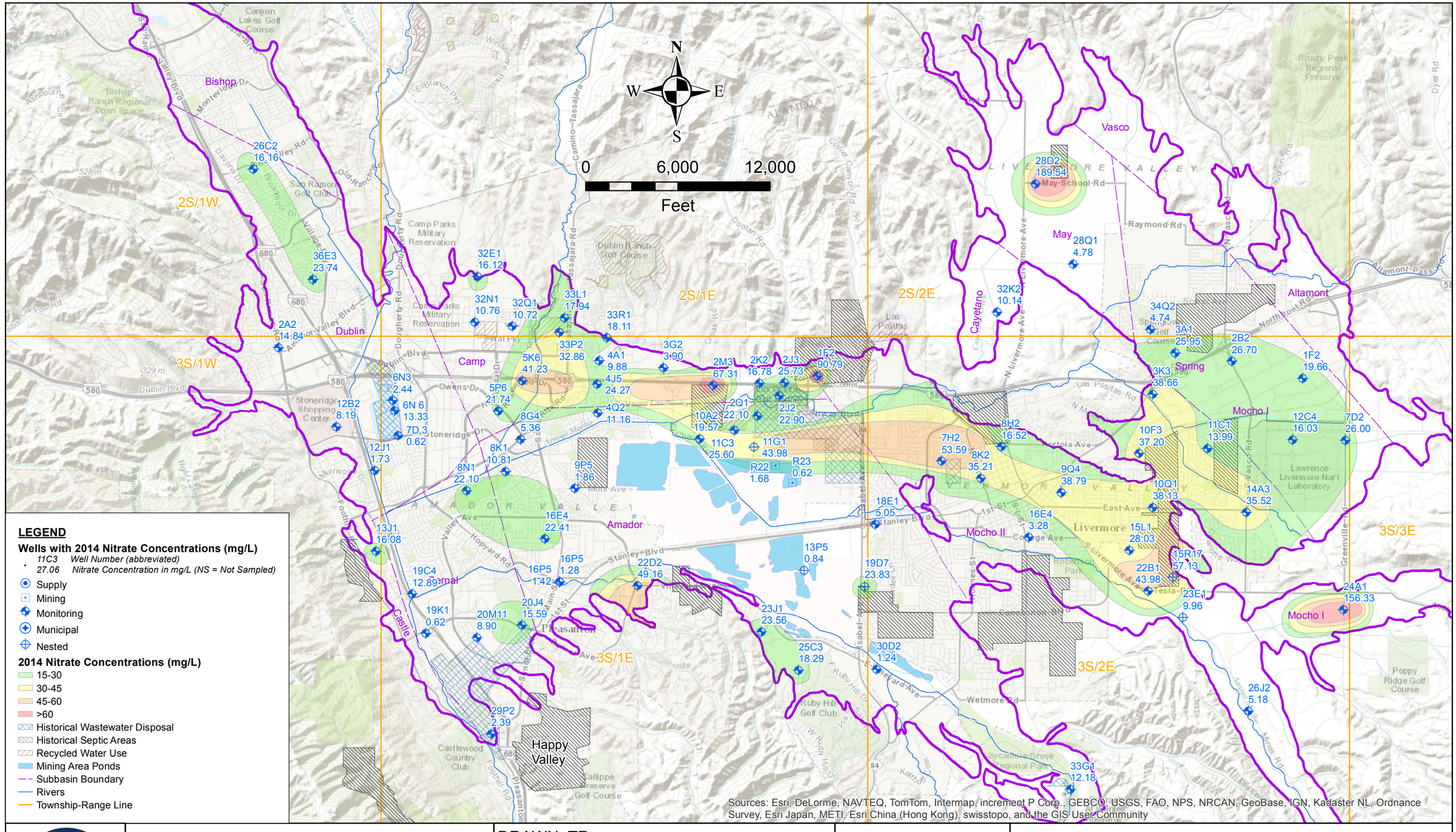
- *11C3* Well Number (abbreviated)
- *27.06* TDS Concentration in mg/L

- Supply
- Mining
- Monitoring
- Municipal
- Nested

2014 TDS Concentrations (mg/L)

- <500
- 500-1,000
- 1,000-5,000
- 5,000-10,000
- >10,000
- Mining Area Ponds

ZONE 7 WATER AGENCY 100 North Canyons Parkway Livermore, CA	DRAWN: TR	SCALE: 1 in = 6,000 ft	**Figure 6-4** **TDS Concentrations (mg/L)** **Upper Aquifer; 2014 Water Year** **Livermore Valley Groundwater Basin**
	REVIEWED: CW	DATE: Apr 15, 2015	
	File: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-04-TDSUpper14.mxd		



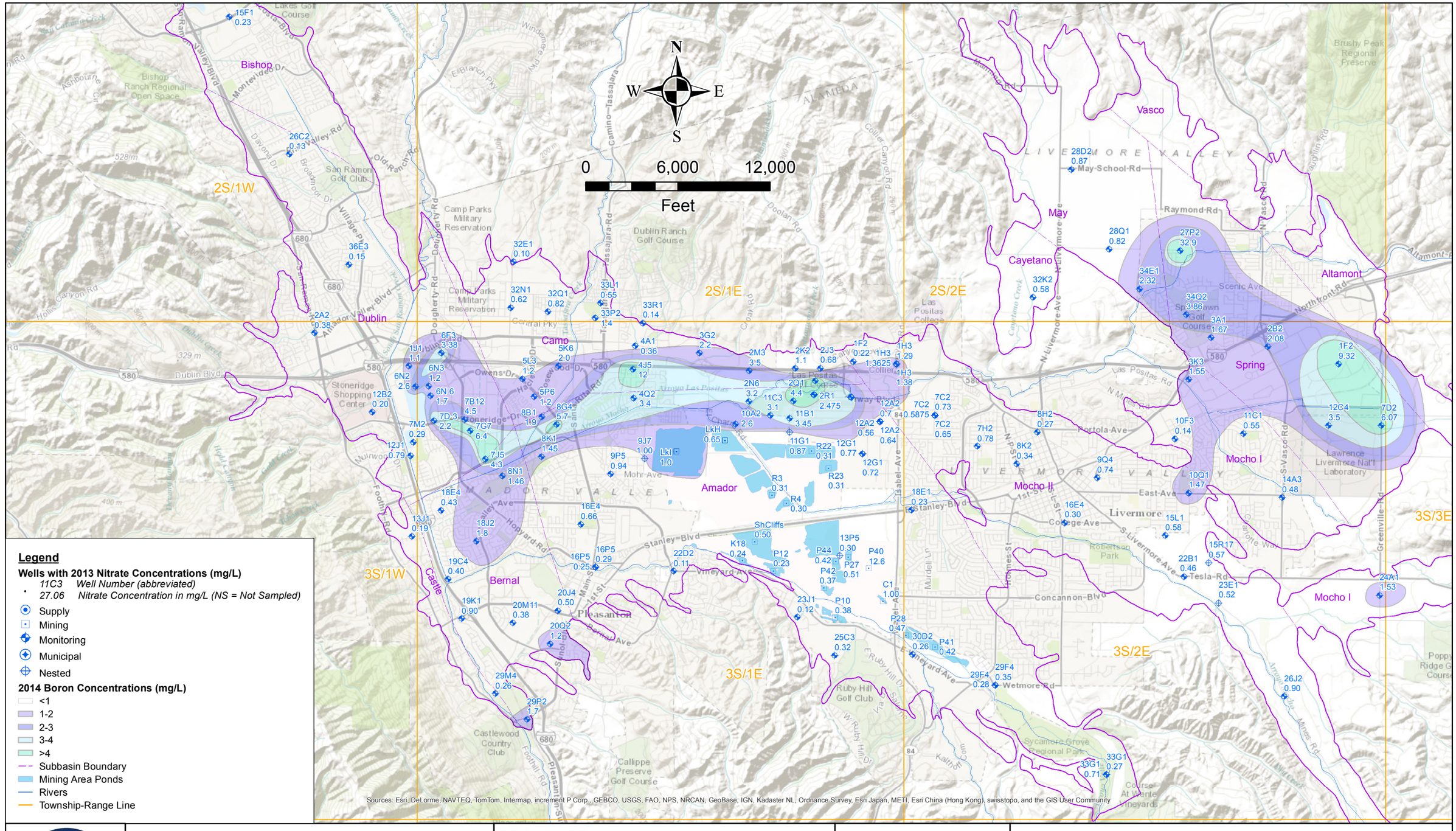
ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

DRAWN: TR | SCALE: 1 in = 6,000 ft

REVIEWED: CW | DATE: Jan 20, 2015

File: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-05-NitrateUpper14.mxd

Figure 6-5
Nitrate Concentrations (mg/L)
Upper Aquifer; 2014 Water Year
Livermore Valley Groundwater Basin



Legend

Wells with 2013 Nitrate Concentrations (mg/L)

- *11C3* Well Number (abbreviated)
- *27.06* Nitrate Concentration in mg/L (NS = Not Sampled)
- Supply
- Mining
- Monitoring
- Municipal
- Nested

2014 Boron Concentrations (mg/L)

- <1
- 1-2
- 2-3
- 3-4
- >4
- Subbasin Boundary
- Mining Area Ponds
- Rivers
- Township-Range Line

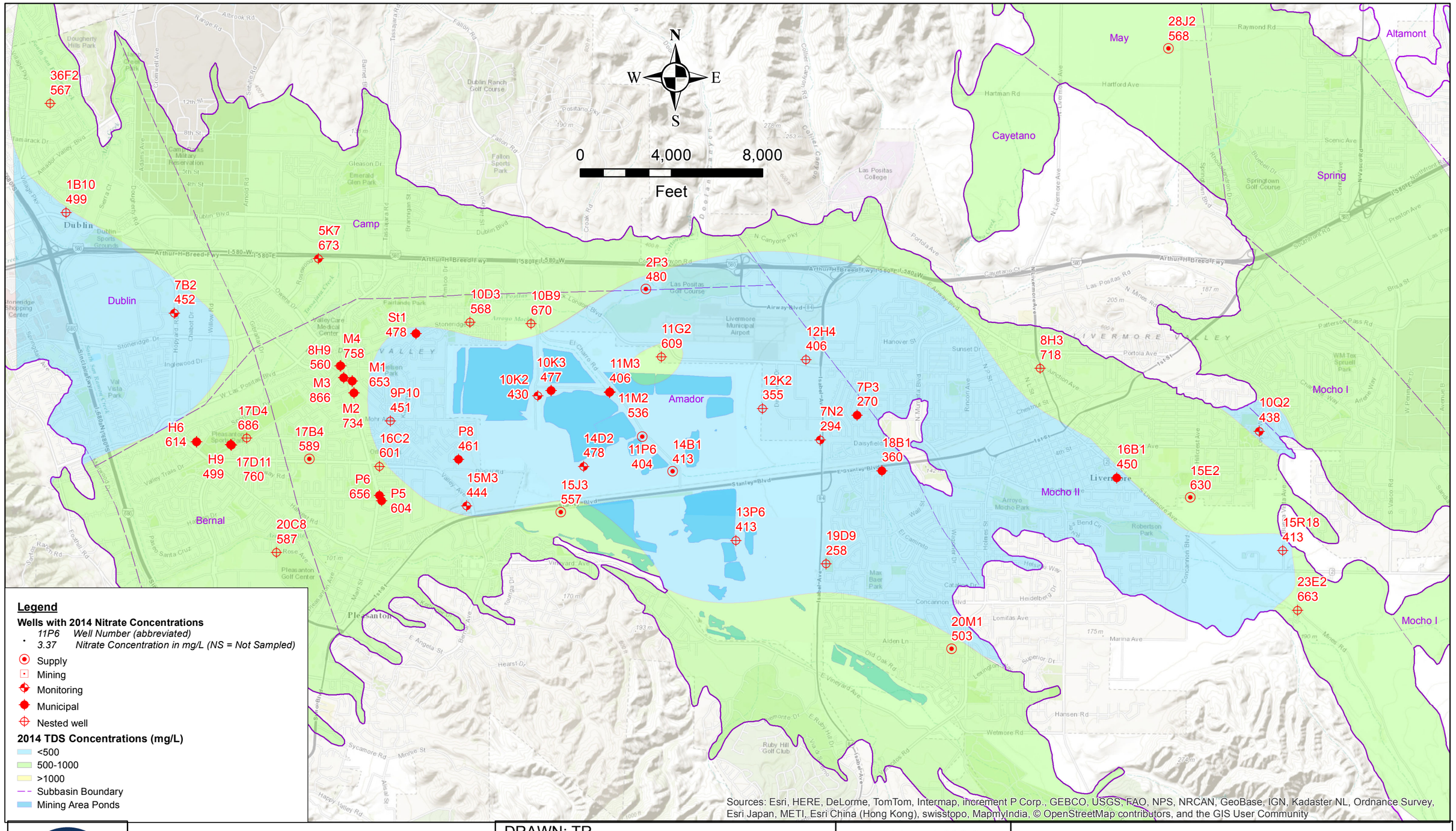
ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

DRAWN: TR | SCALE: 1 in = 6,000 ft

REVIEWED: CW | DATE: Jan 20, 2015

File: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-06-BoronUpper14.mxd

Figure 6-6
Boron Concentrations (mg/L)
Upper Aquifer; 2014 Water Year
Livermore Valley Groundwater Basin



Legend

Wells with 2014 Nitrate Concentrations

- *11P6* Well Number (abbreviated)
- *3.37* Nitrate Concentration in mg/L (NS = Not Sampled)

- Supply
- Mining
- Monitoring
- Municipal
- Nested well

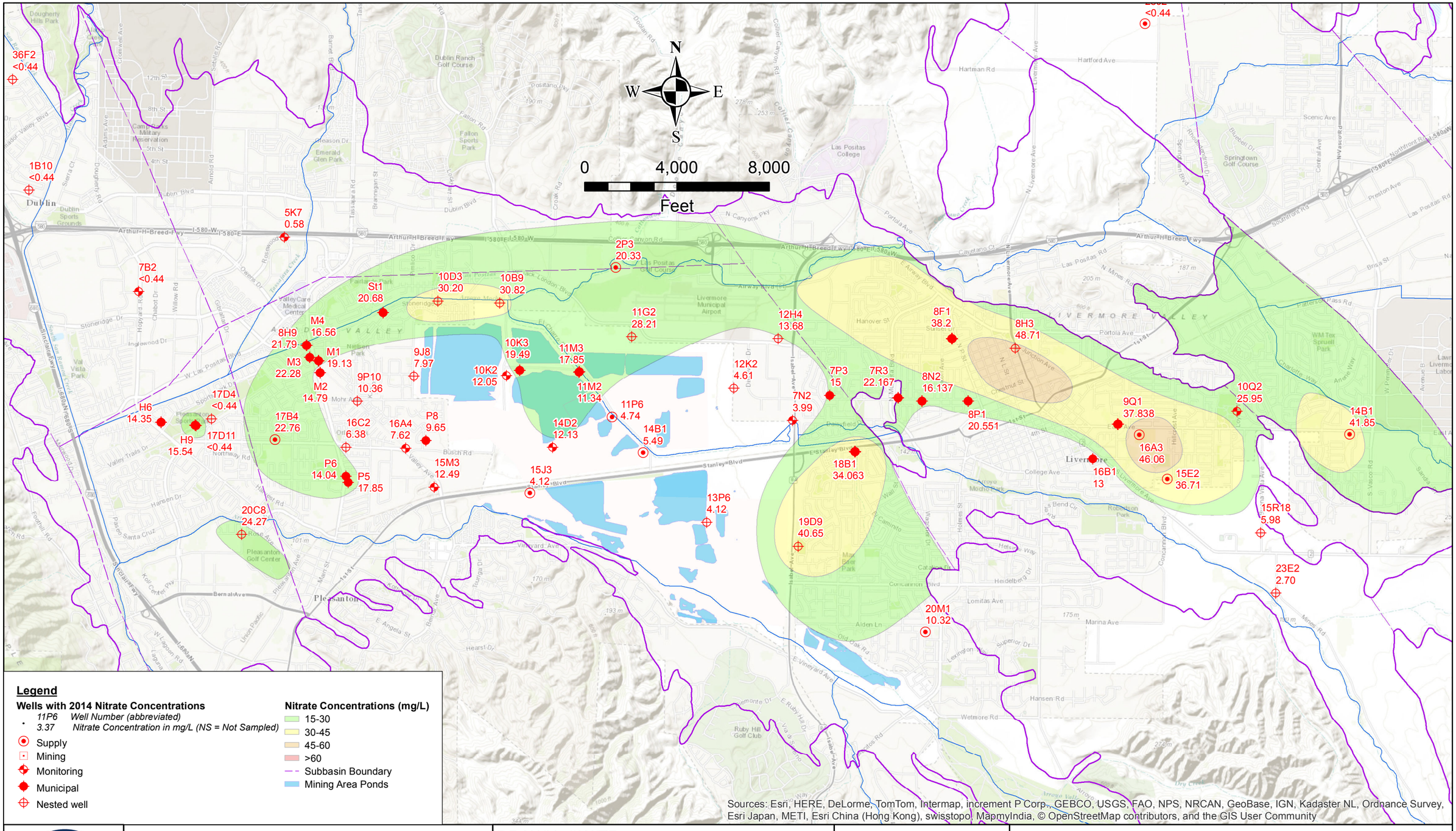
2014 TDS Concentrations (mg/L)

- <500
- 500-1000
- >1000
- Subbasin Boundary
- Mining Area Ponds

ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

DRAWN: TR	SCALE: 1 in = 4,000 ft
REVIEWED: TR/CW	DATE: Apr 13, 2015
File: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-07-TDSLower14.mxd	

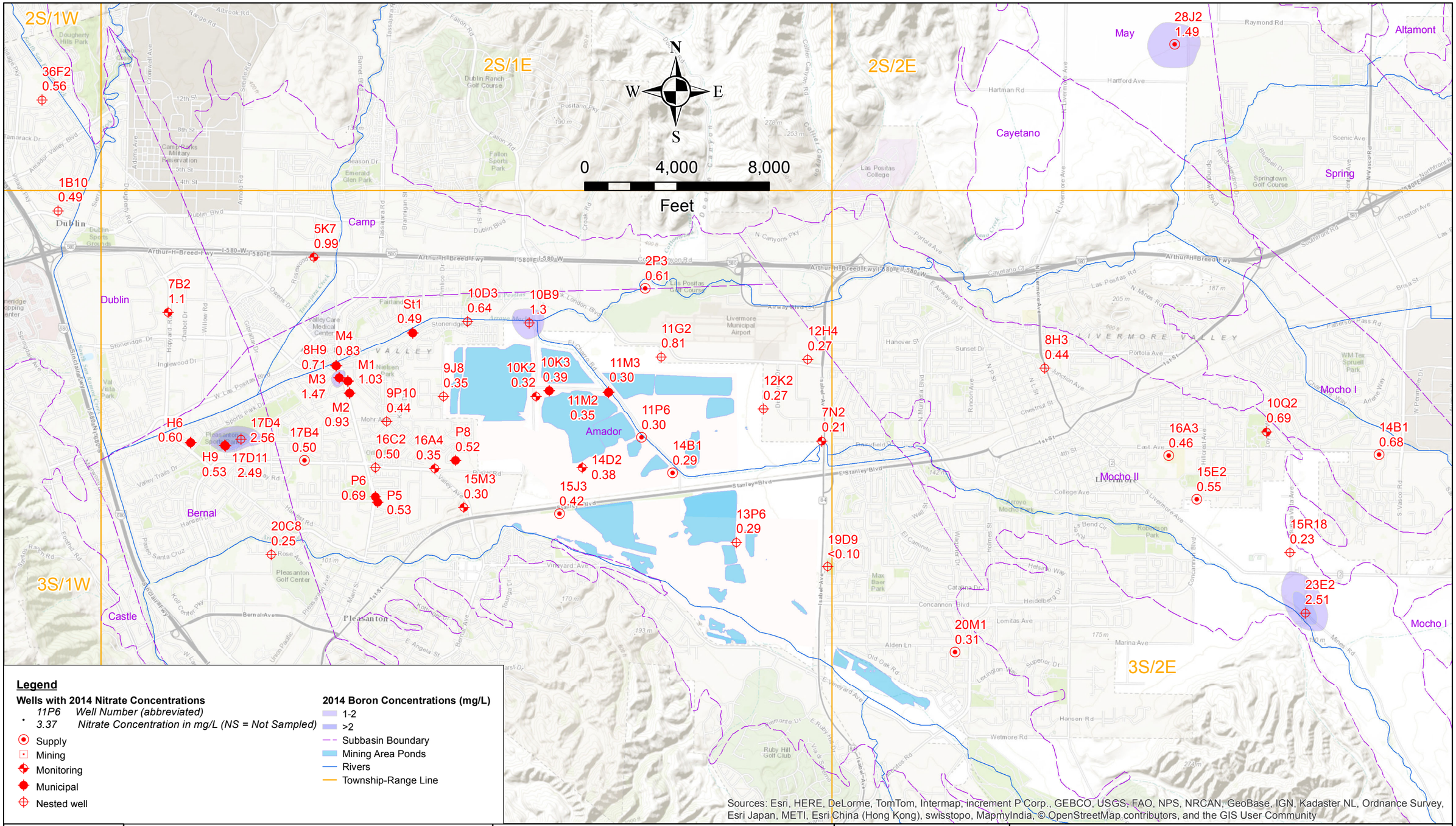
Figure 6-7
TDS Concentrations (mg/L)
Lower Aquifer; 2014 Water Year
Livermore Valley Groundwater Basin



ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

DRAWN: CW/TR	SCALE: 1 in = 4,000 ft
REVIEWED: TR	DATE: Apr 13, 2015
Path: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-08-NitrateLower14.mxd	

Figure 6-8
Nitrate Concentrations (mg/L)
Lower Aquifer; 2014 Water Year
Livermore Valley Groundwater Basin



Legend

Wells with 2014 Nitrate Concentrations

- *11P6* *Well Number (abbreviated)*
- *3.37* *Nitrate Concentration in mg/L (NS = Not Sampled)*
- Supply
- Mining
- Monitoring
- Municipal
- Nested well

2014 Boron Concentrations (mg/L)

- 1-2
- >2
- Subbasin Boundary
- Mining Area Ponds
- Rivers
- Township-Range Line

ZONE 7 WATER AGENCY
100 North Canyons Parkway
Livermore, CA

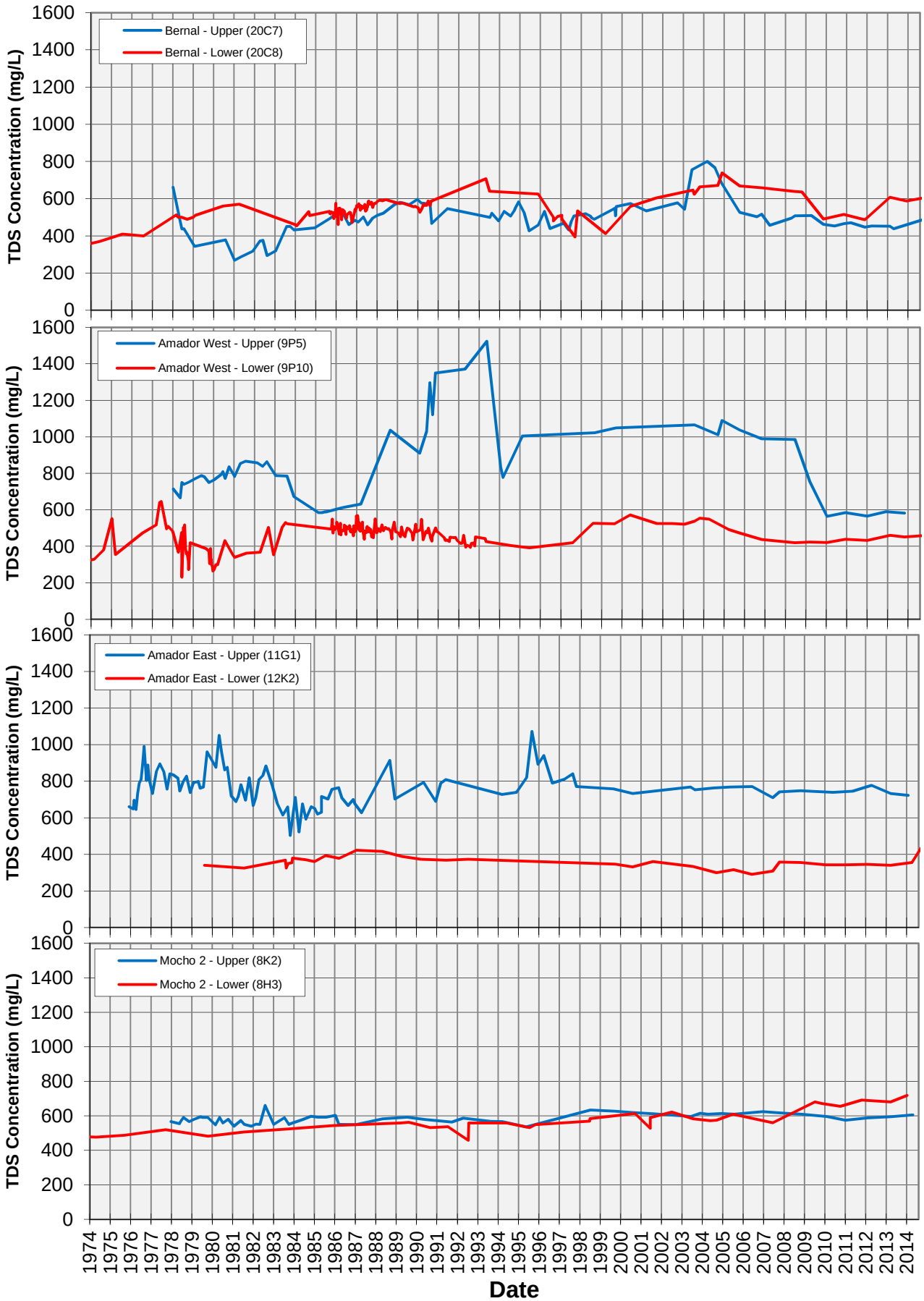
DRAWN: TR | SCALE: 1 in = 4,000 ft

REVIEWED: TR/CW | DATE: Apr 13, 2015

File: E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-09-BoronLower14.mxd

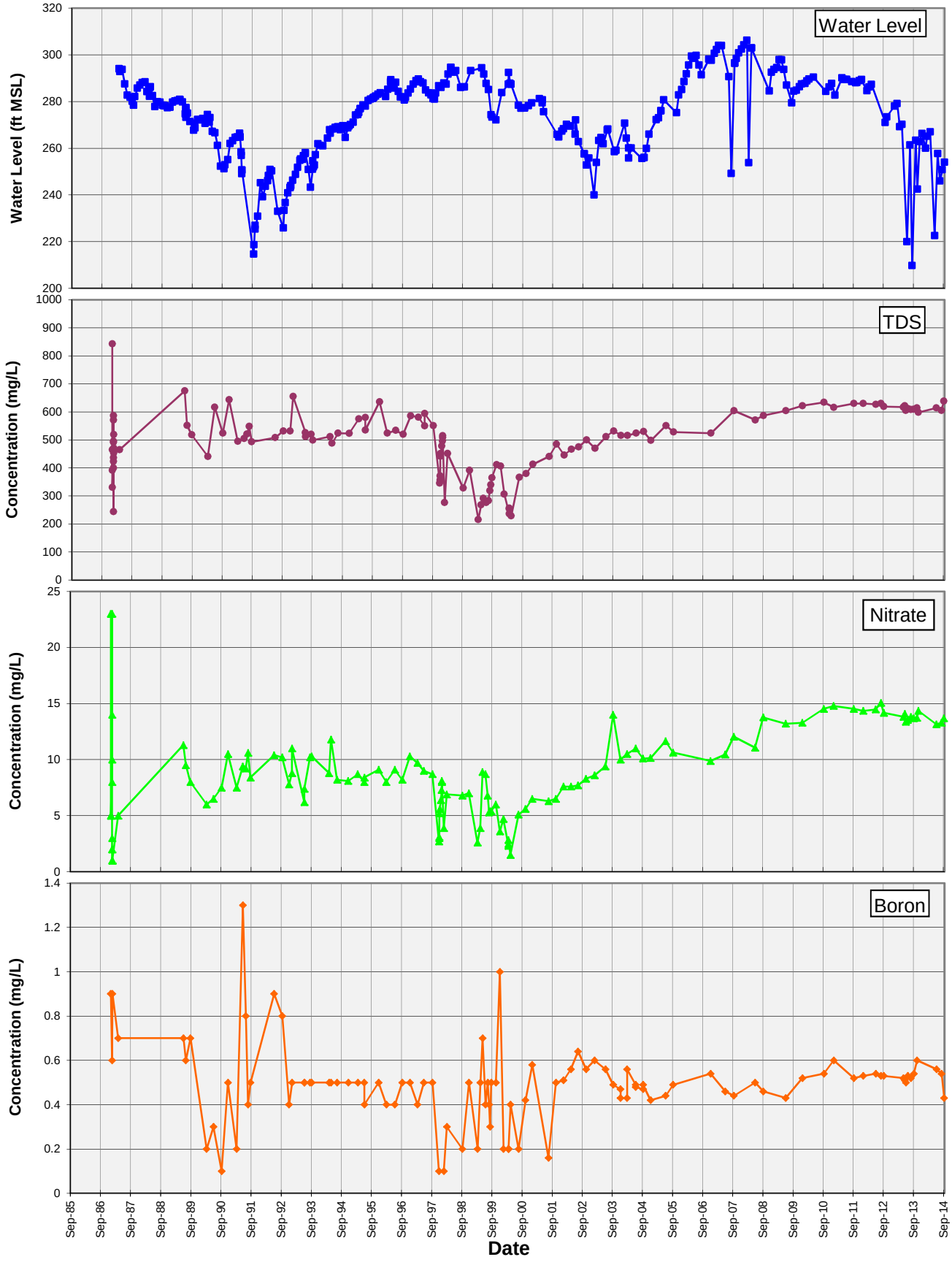
Figure 6-9
Boron Concentrations (mg/L)
Lower Aquifer; 2014 Water Year
Livermore Valley Groundwater Basin

FIGURE 6-10
GRAPHS OF TDS CONCENTRATIONS IN KEY WELLS
1974 TO 2014 WATER YEARS



E:\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-10-KeyWellTDS14.xls
4/21/2015

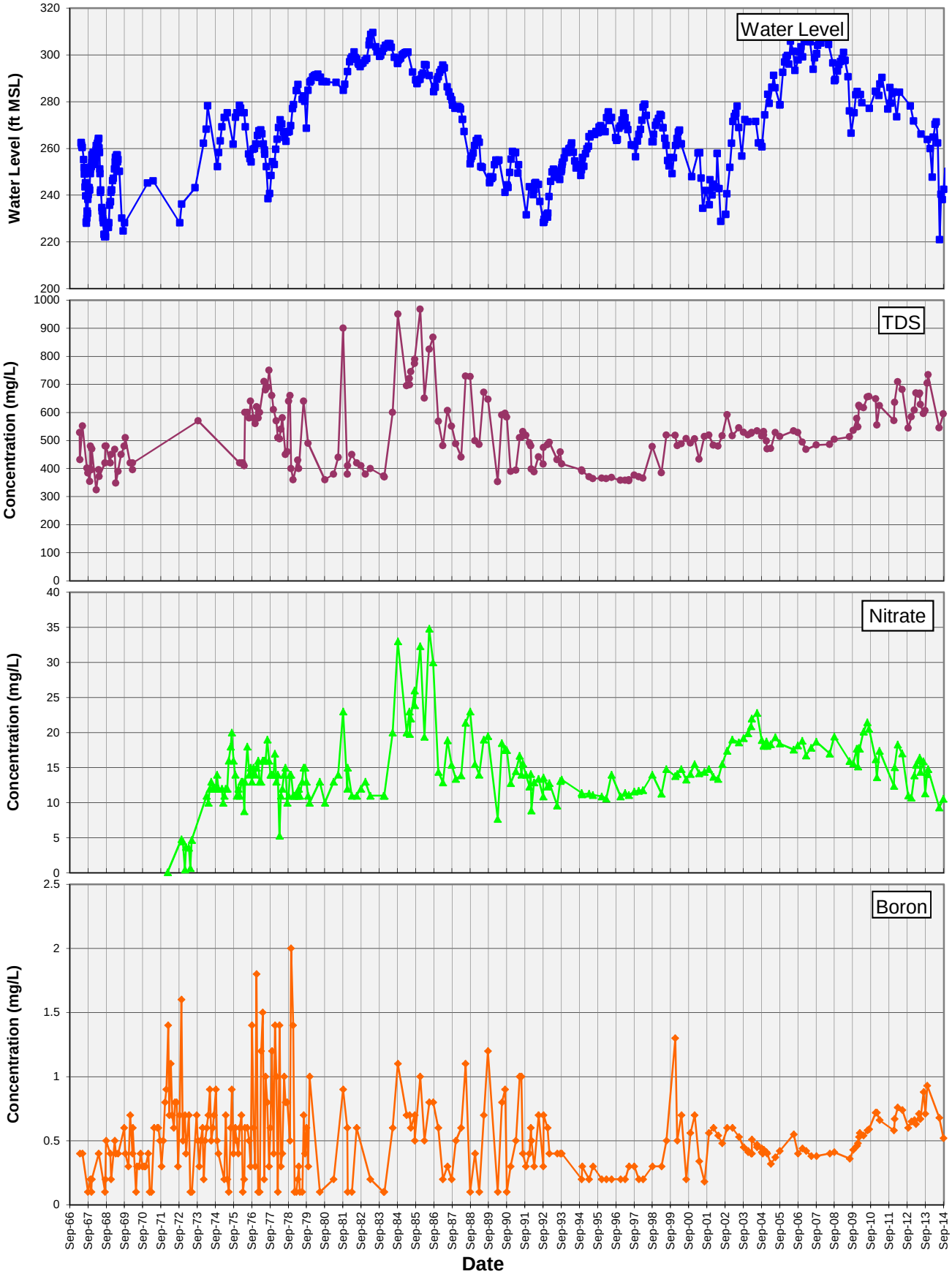
FIGURE 6-11
HYDRO-CHEMO GRAPH FOR 3S/2E 18A 6 (Hopyard 6)
BERNAL SUBBASIN - LOWER AQUIFER



Well Depth = 273'; Wellhead Elevation = 466'; Well Screen Depth: 122 to 263' bgs.

\\ZONE7-FILE\working_files\WRE\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-11to14-HydroChemoGraphs14.xls\Fig6-11-Grph

FIGURE 6-12
HYDRO-CHEMO GRAPH FOR 3S/1E 9M 3 (Mocho 2)
AMADOR WEST SUBBASIN - LOWER AQUIFER



Well Depth = 575'; Wellhead Elevation = 344'; Well Screen Depth: 250 to 570' bgs.

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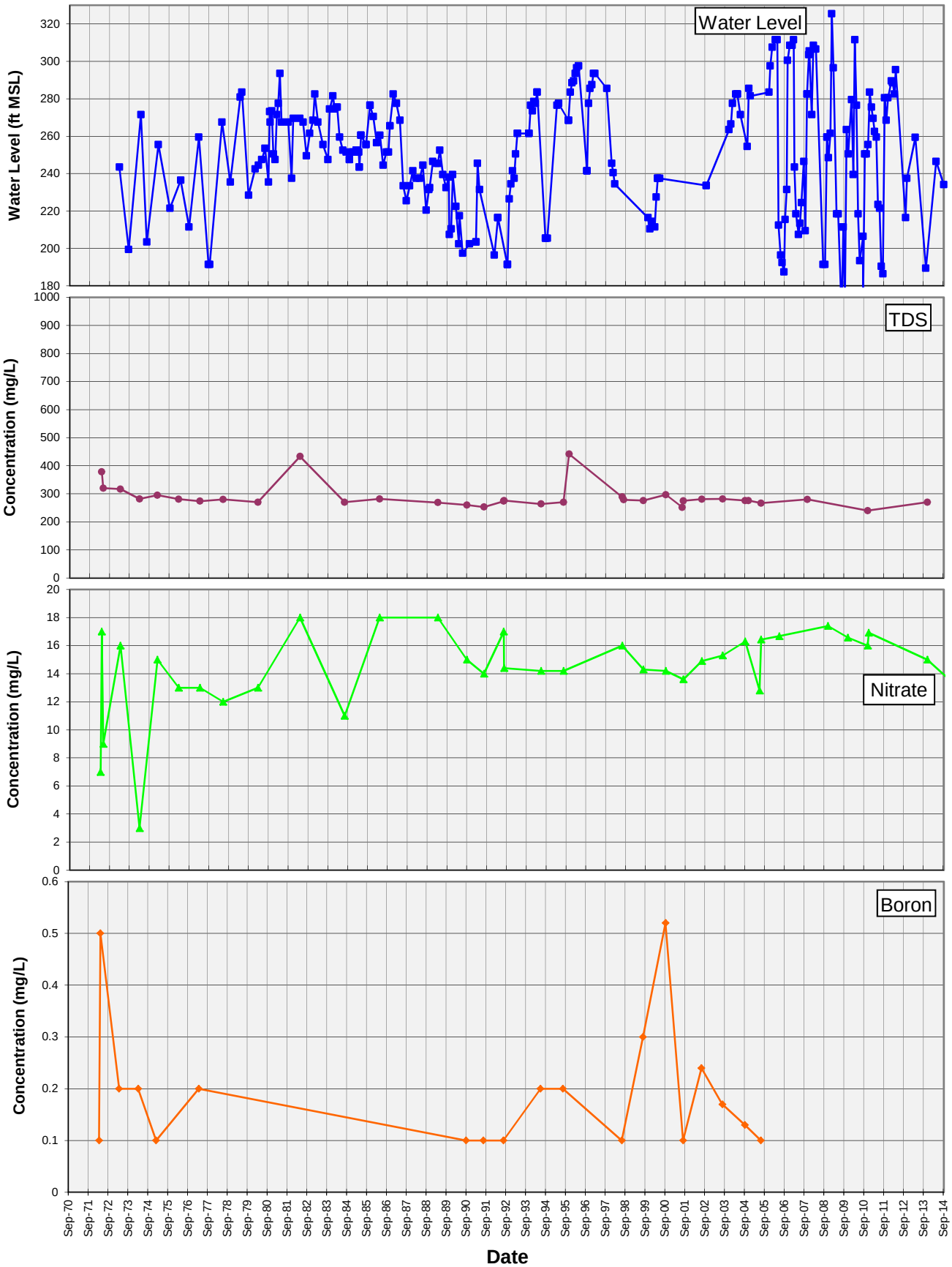
FIGURE 6-13
HYDRO-CHEMO GRAPH FOR 3S/2E 7P 3
AMADOR EAST SUBBASIN - LOWER AQUIFER



Well Depth = 510'; Wellhead Elevation = 429'; Well Screen Depth: 300 to 490' bgs.

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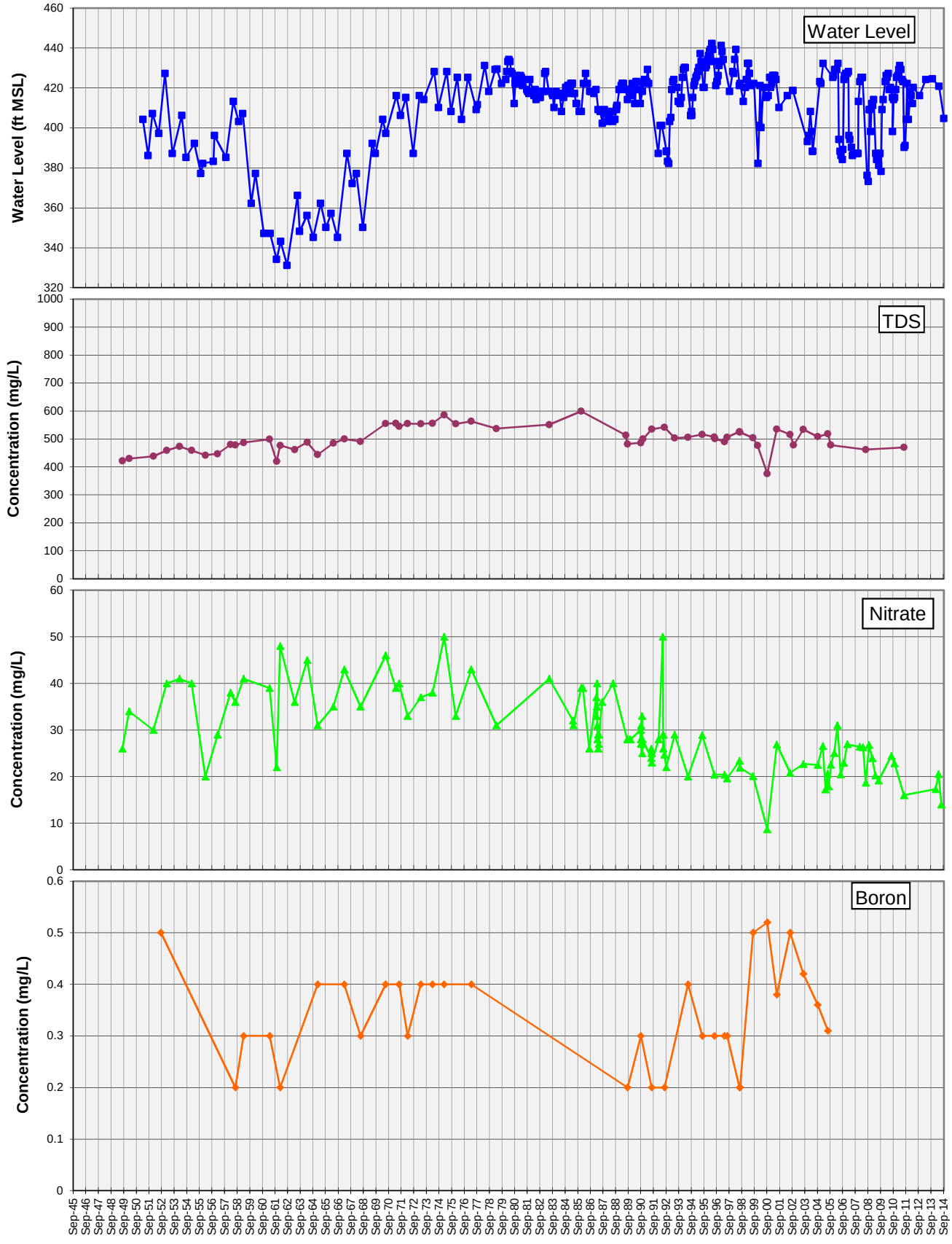
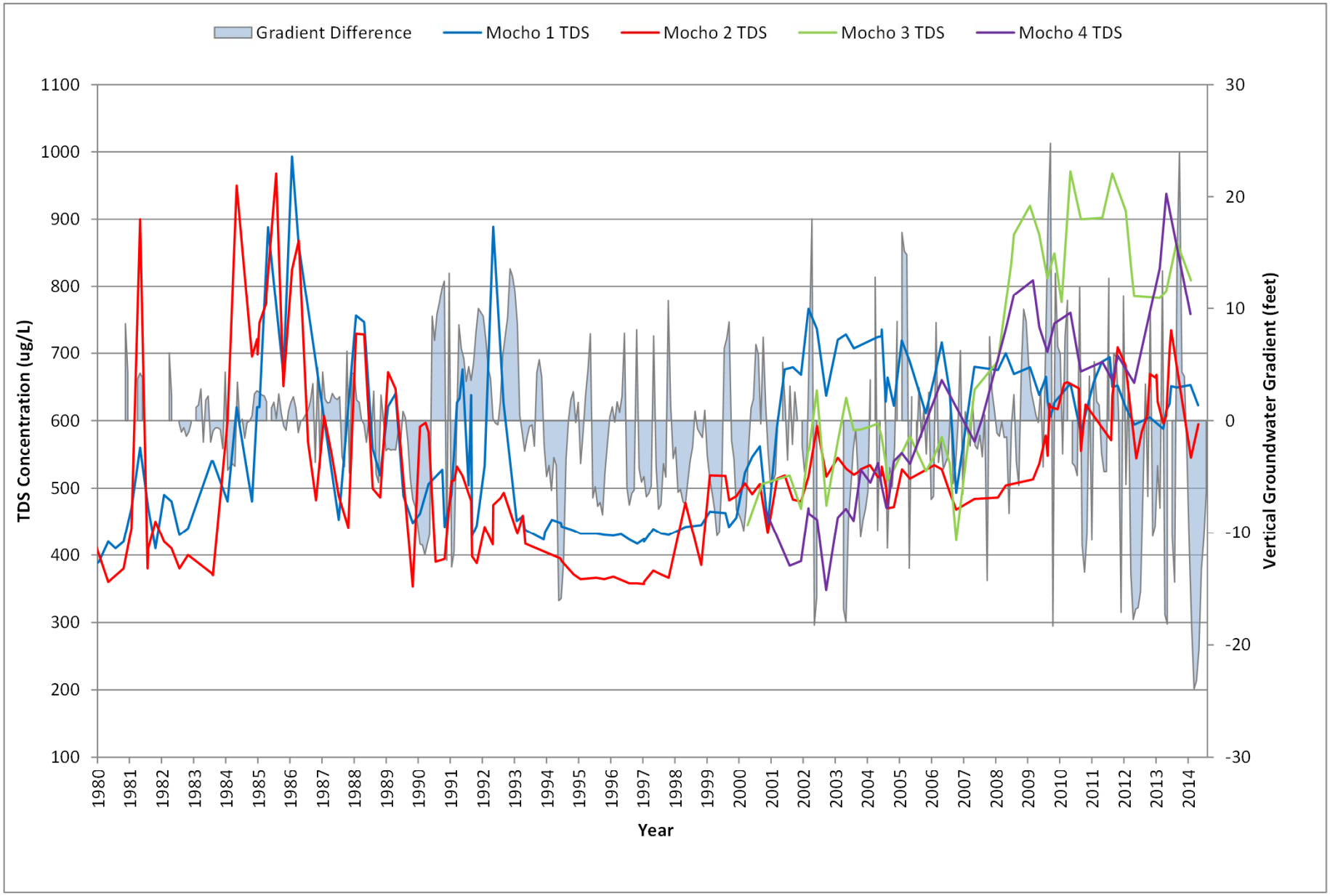
FIGURE 6-14
HYDRO-CHEMO GRAPH FOR 3S/2E 8P 1
MOCHO II SUBBASIN - LOWER AQUIFER



Well Depth = 273'; Wellhead Elevation = 466'; Well Screen Depth: 122 to 263' bgs.

\\ZONE7-FILE\working_files\WRE\MONITOR\GQ\2014WY\AnnualReportGQ2014\Fig06-11to14-HydroChemoGraphs14.xls\Fig6-14-Grph

FIGURE 6-15
GRAPH OF MOCHO WELLFIELD MUNICIPAL WELLS
TDS CONCENTRATIONS AND VERTICAL GROUNDWATER GRADIENT
2014 WATER YEAR



E:\MONITOR\GM\MochoStudy2010\mocho_hardness.xlsx
4/3/2015