# Second Quarter Groundwater Level Monitoring Report

Prepared for

## First Solar Electric, LLC

**July 2012**

WEST YOST ASSOCIATES
*Consulting Engineers*

367-00-11-06

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# CHAPTER 1
# Introduction

This second quarter 2012 Groundwater Level Monitoring Report (GLMR), prepared by construction contractor First Solar Electric (California), Inc. (First Solar), on behalf of right-of-way grant holders Desert Sunlight 250, LLC and Desert Sunlight 300, LLC (Desert Sunlight), documents the second quarter 2012 groundwater monitoring event at the Desert Sunlight Solar Farm Project (project). This report was prepared in accordance with the Groundwater Level, Monitoring, Mitigation, and Reporting Plan (MMRP) stipulated by Mitigation Measure (MM-WAT-3) in the Final Environmental Impact Statement (FEIS) and modified in the Record of Decision (ROD) for the project. This GLMR fulfills the requirements for groundwater level monitoring during construction specified by MM-WAT-3, Section B, and provides groundwater data and trend analysis from the wells in the monitoring-well network, defined as the project production well and wells within a three-mile radius of the project production well where the owners have opted to participate in the monitoring program.

The Desert Sunlight project is a 550-megawatt solar photovoltaic generating facility that was approved by the Bureau of Land Management (BLM) in August 2011 and is presently under construction in the westernmost portion of the Chuckwalla Valley, Riverside County, California (Figures 1 and 2). Project water use during operation will be minimal (0.2 acre-feet per year [afy]) over the 30-year estimated project life for a total of six acre-feet (af). Project water use during construction of the project is expected to total between 1,300 and 1,400 af. The project is obtaining its water supply from groundwater. A groundwater modeling report to assess potential impacts associated with groundwater pumping during the construction phase of the project was completed by AECOM in 2010 (AECOM, 2010). A groundwater level monitoring plan was also prepared by AECOM in August 2011 (AECOM, 2011). Two water supply wells are approved for installation and use during construction. One well has been installed and is in use. One well will be operated during the operation phase.

Construction of the Desert Sunlight project began on August 15, 2011. The current production well was constructed in October 2011. Operation of the well for construction purposes began on October 27, 2011, and the well has been operated at pumping rates ranging from approximately 400 to 600 gallons per minute (gpm), Monday through Friday.

N:\Clients\367 First Solar Inc\00-11-06 Desert Sunlight-EPC Design & Project Services\GIS\Figures\Baseline Report\Fig1_LocationMap.mxd 3/2/2012

Legend

- Project Location
- California Roads
- California Counties
- State Boundary

N

0 15 30

Miles

**FIGURE 1**

**First Solar Electric, LLC**

**Desert Sunlight Solar**

**Desert Center, CA**

**Location Map**

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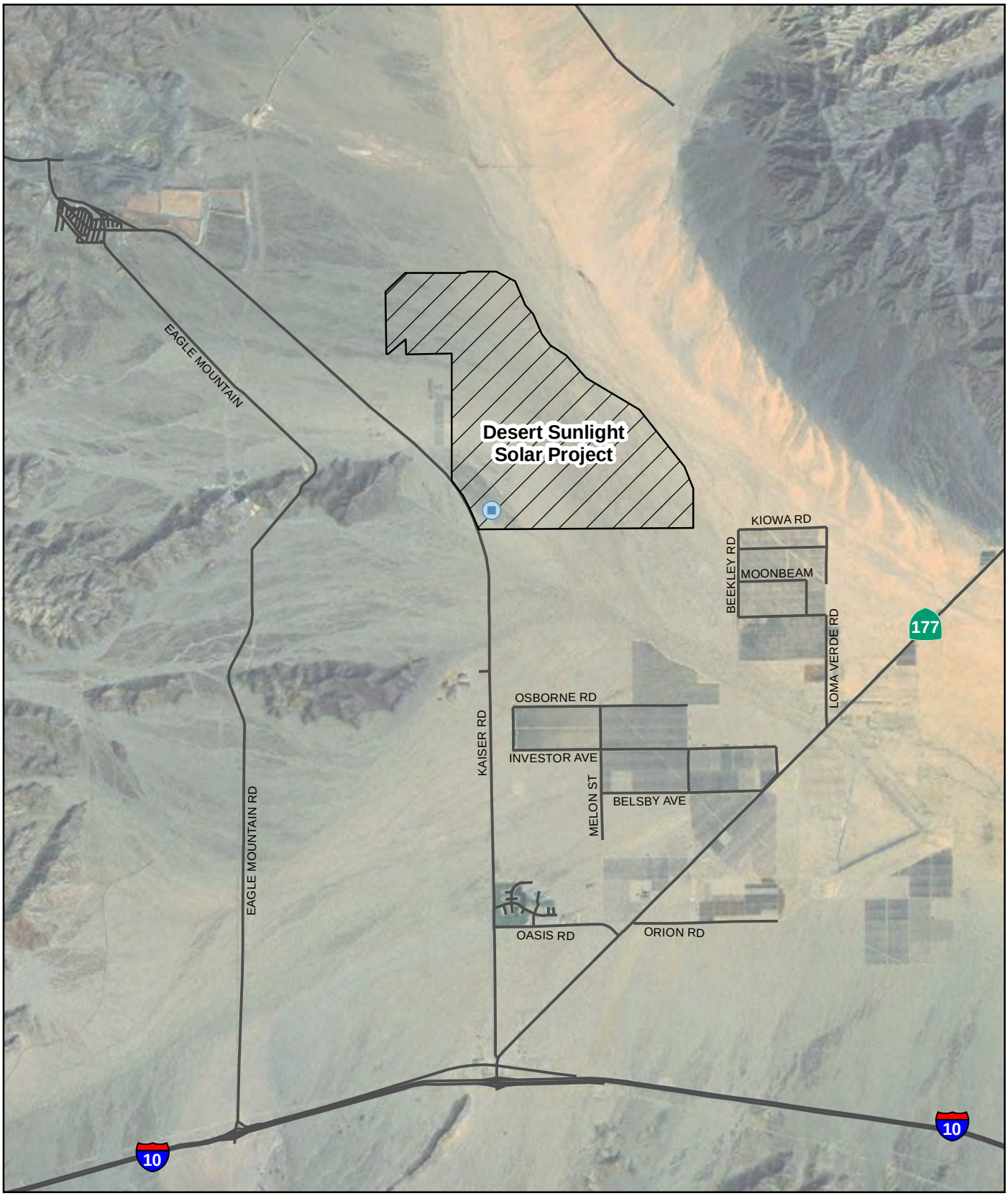
Consulting Engineers

N:\Clients\367 First Solar Inc\00-11-06 Desert Sunlight-EPC Design & Project Services\GIS\Figures\Baseline Report\Fig2_Site Map.mxd 3/2/2012




LEGEND

Project Well

Project Area

N

0 1 2

Miles

# FIGURE 2

**First Solar Electric, LLC**

**Desert Sunlight Solar**

**Desert Center, CA**

## Site Map

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## 3.1 GROUNDWATER LEVEL MONITORING

The groundwater level monitoring network consists of on-site wells, off-site monitoring wells, and off-site background monitoring wells. On-site wells include those production or monitoring wells constructed by Desert Sunlight for the project. Off-site wells include privately owned wells within a three-mile radius of the project production well. Off-site background monitoring wells are those wells identified outside of the three-mile radius of the project production well, or within a three-mile radius of the project production well but outside of the area predicted to be affected by project pumping (AECOM, 2011).

### 3.1.1 On-site Network

Currently, the only on-site well is the project production well (Project Well 2) (Figure 3). Project Well 2 is currently in use as the water supply source for project construction.

### 3.1.2 Off-site Monitoring Network

Monitoring wells were identified within a three-mile distance of Project Well 2. Notices and access letters, including a map depicting the project site and the parcel potentially containing a well, were mailed to the relevant well or property owners requesting permission to access the properties and monitor groundwater levels. Participation in the monitoring program is voluntary, and those land owners who did not respond after the second notice are not part of the monitoring program. All four well owners that have responded to the well access letters are located within a three-mile radius of Project Well 2. These owners are:

- Donna and Larry Charpied (Jojoba Farm):

  Entered the program on November 21, 2011.

  Data collection started September 2011 (Quarter 3, 2011).

  The Charpied property contains one domestic pumping well, and three additional monitoring wells.
- Vince Samons (Date Grove Property):

  Entered the program on December 22, 2011.

  Data collection started December 2011 (Quarter 4, 2011).

  The Samons property, an active date grove, contains one well, primarily used for agriculture.
- The Fraternal Order of Eagles (Private RV and Camp Site):

  Entered the program on December 7, 2011.

  Data collection started December 2011 (Quarter 4, 2011).

  The Fraternal Order of Eagles property contains one domestic well.
- Kaiser Ventures, LLC. (Former Eagle Mountain Mining Operation):

  Entered the program on January 11, 2012.

  Data collection started March 2012 (Quarter 1, 2012).

The Kaiser property includes six wells, three of which have been measured monthly for groundwater levels prior to implementation of monitoring under the project. Of the six wells, only four are accessible for use in the groundwater monitoring network. The remaining two wells are active production wells that do not have sounding ports, so no water level measurements can be made.

Figure 3 shows the locations of the wells owned by these parties in relation to the three-mile radial distance from the project well. Figure 3 also shows the contour line representing one-foot of simulated drawdown based on simulation of pumping in the project well in the groundwater flow model scenarios developed by AECOM (2011). The Charpied wells are located within the area that is predicted to experience more than one-foot of drawdown in the modeling scenarios (AECOM, 2011). The Fraternal Order of Eagles well and the Date Grove Well are near, but outside of, the one-foot contour of simulated drawdown. Because of their proximity to the simulated one-foot contour, these wells are provisionally grouped with the wells that could potentially experience drawdown of one-foot or greater due to project pumping. This group of wells consists of:

- Charpied Domestic Well
- Charpied MW-1
- Charpied MW-2
- Charpied MW-3
- Fraternal Order of Eagles Domestic Well
- Date Grove Well

Kaiser Well 4 identified in the First Quarter 2012 Groundwater Monitoring Report as a potential off-site monitoring well, was removed from the groundwater monitoring network due to restrictions in measuring the depth to water. There is currently no access port on the well that would allow for the measurement of the depth to water. In addition, Kaiser Well 4 is also an active production well that is used on a regular basis by Kaiser Ventures, LLC. Because of the pumping, groundwater level measurements would not be useful for assessing pumping affects from First Solar's production well.

### 3.1.3 Background Monitoring Network

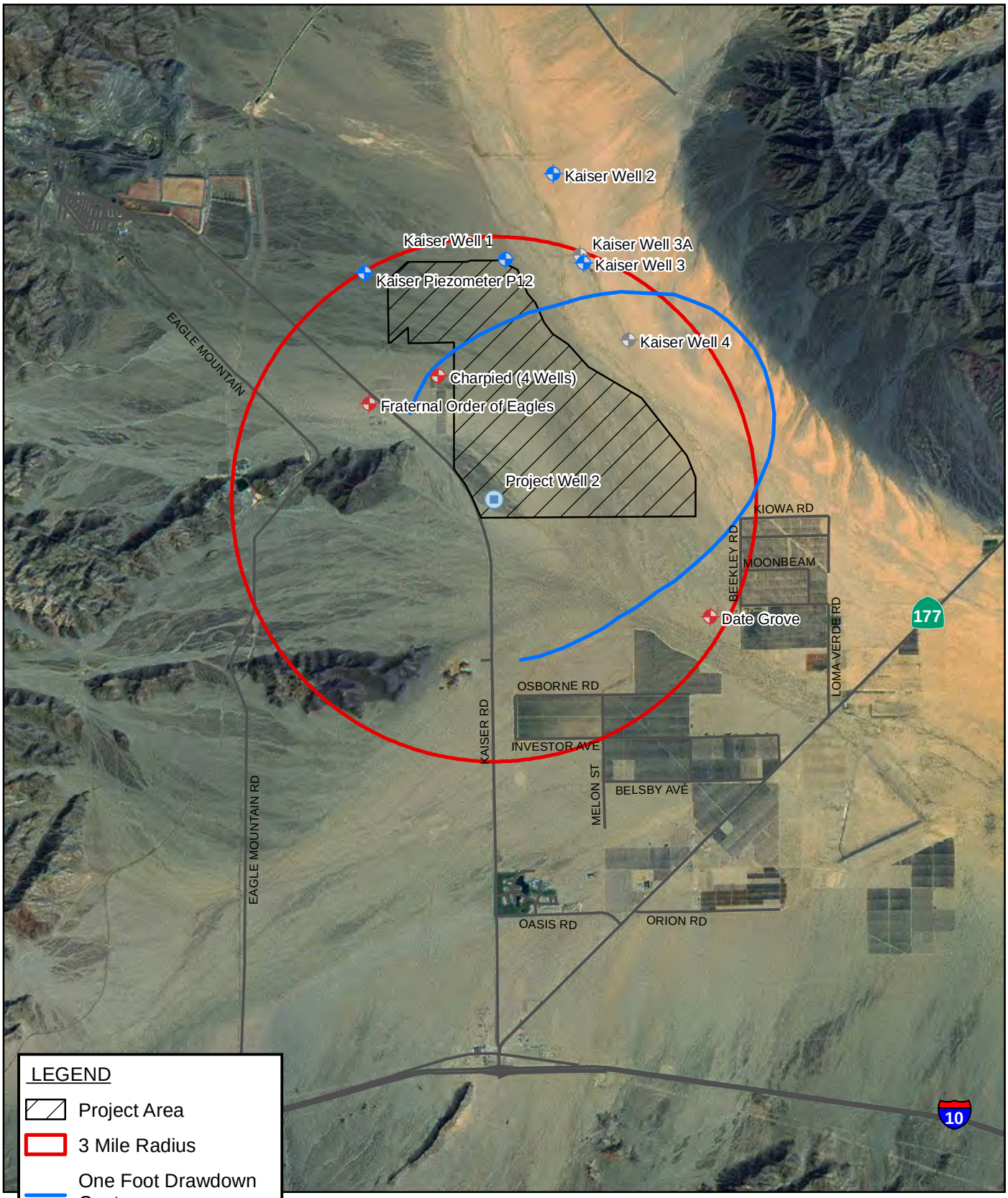
Three wells owned by the Kaiser Ventures, LLC are within a three-mile radius of Project Well 2 but are outside of the area simulated to experience one-foot or more of drawdown. These wells were used for monitoring background groundwater levels, per the monitoring plan (AECOM, 2011). A fourth well owned by Kaiser Ventures, LLC (Kaiser Well 2) is located more than three miles from Project Well 2 but may provide useful background groundwater level information and was also used.

The background monitoring wells are:

- Kaiser Well 1
- Kaiser Well 2
- Kaiser Well 3
- Kaiser Piezometer P12

Kaiser Well 3A was evaluated to be included in the background monitoring network, however, similar to Kaiser Well 4, there is no sounding port that would allow for the measurement of depth to water and it is also an active production well being pumped regularly.

N:\Clients\367 First Solar Inc\00-11-06 Desert Sunlight-EPC Design & Project Services\GIS\Figures\GWM_Network.mxd 6/15/2012




LEGEND

- Project Area
- 3 Mile Radius
- One Foot Drawdown Contour
- Project Well
- Background Well
- Observation Well
- Active Production Well (Not Monitored)

N

0 1 2

Miles

# FIGURE 3

**First Solar Electric, LLC**
**Desert Sunlight Solar**
**Desert Center, CA**

## Groundwater Monitoring Network

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Consulting Engineers

## 4.1 GROUNDWATER LEVEL MONITORING

The second quarter 2012 groundwater monitoring event was conducted from June 4, 2012, to June 5, 2012. Depth to water measurements were collected from 10 of the 11 wells listed in the groundwater monitoring network. Kaiser Well 3 was locked and inaccessible.

Owners of the off-site wells in the groundwater monitoring network were notified at least 24 hours prior to the quarterly monitoring event. Access to the Charpied and Kaiser Mine properties required the supervision of the owner or owner's representative. Access to the Samons and Fraternal Order of Eagles property was allowed with no supervision. Project well access required supervision by First Solar construction staff.

Depth to water was measured using two different types of equipment, depending on different factors at each well location. The following equipment was used to measure depth to water during the second quarter 2012 groundwater monitoring event:

- Solinst Model 101 500-foot Water Level Meter
- Ravensgate Corporation Model 200U Sonic Water Level Meter

The Solinst water level meter was used to measure depth to water in wells where no pumping equipment was present in the well casing. The water level sounder consists of a probe attached to the end of a 500-foot tape measure. At each location, the probe was lowered through an access port in the well until it reached the water surface. When the water surface was reached, the measurement was recorded manually from the tape measure at a permanently marked point at the top of each access port. All down-hole water level monitoring equipment was cleaned with a phosphate-free detergent and then rinsed with deionized water prior to use at each location.

The Ravensgate sonic water level meter was used to measure depth to water in wells where there was a danger of damaging down-hole pumping equipment or where down-hole pumping equipment obstructed the use of the Solinst water level meter. The sonic water level meter sends an acoustic signal down the well, which bounces off the water surface and travels back up the well. The time the signal takes to return to the equipment is used to calculate the depth to water. The accuracy of the sonic water level meter is ±0.2% of the depth.

## 4.2 GROUNDWATER USAGE MONITORING

Groundwater usage volumes for Project Well 2 were measured using a McCrometer propeller-type flow meter. The flow meter, installed on the discharge piping of the well, displays the instantaneous pumping rate and the total number of gallons pumped from the well. Flow totalizer values were recorded on a daily basis when the well was used.

## 4.3 GROUNDWATER QUALITY MONITORING

Field groundwater quality parameters were measured during the quarterly groundwater monitoring event, as described in the Groundwater Level Monitoring Plan (AECOM, 2011). Water quality parameters were measured using a Horiba U53 Multi Parameter Water Quality Checker. The pH, temperature and electrical conductance (EC) of the groundwater discharged from the well were measured and recorded in the field.

## 5.1 GROUNDWATER LEVEL TRENDS

Table 1 displays depth to groundwater measurements collected from the wells in the groundwater monitoring network. Hydrographs for each well are included in Appendix A. Hydrographs include only data collected during the quarterly groundwater monitoring events. Historical data collected by private property owners are not displayed on the hydrographs.

### 5.1.1 On-Site Well

The depth to groundwater in Project Well 2 was 205.64 feet below top of casing (btoc) on June 4, 2012. The project well was allowed to recover approximately two full days before the depth to water measurement was collected.

A hydrograph of Project Well 2 is included in Appendix A (Figure A-1). Depth to water in Project Well 2 increased by 1.17 feet from March 2012 to June 2012. Depth to water measurements will continue to be collected quarterly from the Project Well 2. Additional analysis will be conducted when there is enough data to establish a trend.

### 5.1.2 Charpied Property

Groundwater depths were measured in all four wells on the Charpied property on June 4, 2012. Depth to groundwater for the second quarter of 2012 ranged from 280.21 feet btoc in Charpied MW-3 to 282.4 feet btoc in the Charpied Domestic Well. Depth to water in the monitoring wells located on the Charpied property were measured using the Solinst water level meter. Depth to water in the Charpied Domestic Well was measured using the sonic water level meter.

Hydrographs for the wells located on the Charpied property are included in Appendix A (Figures A-2 through A-5). Groundwater depths increased slightly in three of the four wells located on the Charpied property between March 2012 and June 2012 (Table 1). The increases in groundwater depth ranged from 0.01 feet in Charpied MW-3 to 0.04 feet in Charpied MW-2. The depth to groundwater in the Charpied Domestic Well was measured to be 282.4 feet btoc, a decrease in depth to water of 0.04 feet when compared with the March 2012 measurement. The magnitudes of the depth to water changes from March 2012 to June 2012 are too small to indicate significant trends.

Depth to groundwater in all four wells on the Charpied property increased between 0.31 and 0.42 feet between the September 2011 and June 2012 monitoring events. These increases could be attributed to pumping from the Charpied domestic well. The domestic well is used for irrigation of the Jojoba Farm from November through June. During the irrigation season, the well is pumped continuously for five consecutive days once each month (Charpied, 2012).

Due to a lack of historical depth to water measurements, it is not known whether the increase in groundwater depths over the previous two quarters was a result of the project groundwater use, irrigation season pumping by the property owners, or other seasonal groundwater level trends in the Chuckwalla Valley groundwater basin. Depth to water measurements will continue to be collected quarterly from the Charpied wells.

### 5.1.3 Samons Property (Date Grove)

Depth to groundwater was measured in the Date Grove Well on June 4, 2012. A depth of 112.2 feet btoc was measured using the sonic water level meter.

A hydrograph of depth to water in the Date Grove well is included in Appendix A (Figure A-6). Depth to water in the Date Grove Irrigation Well decreased by 0.14 feet between March 2012 and June 2012. The well is used for irrigation of a date grove located on the property; however, the irrigation schedule and pumping volumes are not known at this time. Due to a lack of historical depth to water measurements, along with unknown water use by the property owners, reliable groundwater trends cannot be established at this time. Depth to water measurements will continue to be collected quarterly from the Date Grove Irrigation Well.

### 5.1.4 Fraternal Order of Eagles Property

Depth to water was measured in the Fraternal Order of Eagles Well on June 4, 2012. A depth of 311.6 feet btoc was measured using the sonic water level meter.

A hydrograph of depth to water for the Fraternal Order of Eagles Well is included in Appendix A (Figure A-7). Depth to water in the Fraternal Order of Eagles Domestic Well decreased by 1.27 feet between December 2011 to June 2012. To date, only two depth to water measurements have been taken at the well located on the Fraternal Order of Eagles property, and no historical data are available from the well owners. Depth to water measurements will continue to be collected quarterly from the Fraternal Order of Eagles Domestic Well.

### 5.1.5 Kaiser Mine Property

Depth to water measurements were collected from Kaiser Well 1, Kaiser Well 2, and Kaiser Piezometer P12 on June 5, 2012. Depth to water in Kaiser Well 3 was not measured because the key for the sounding port lock could not be found by Kaiser Ventures, LLC staff, making the well inaccessible. Depth to water in the Kaiser wells ranged from 272.6 feet btoc in Kaiser Well 1 to 349.20 feet btoc in Kaiser Piezometer P12. Depth to water in Kaiser Well 1 and Kaiser Well 2 was measured using the sonic water level meter. Depth to water in Kaiser Piezometer P12[a] was measured using the Solinst water level meter.

Hydrographs of the Kaiser wells are included as Appendix A (Figures A-8 through A-10). Between the March 2012 and June 2012 monitoring events, depth to water in Kaiser Well 1 decreased by 1.4 feet, depth to water in Kaiser Piezomter P12 decreased by 1.72, and depth to water in Kaiser Well 2 increased by 0.66 feet.

The larger fluctuations in groundwater levels in the Kaiser wells, as compared to the other off-site wells, may be due to the pumping from Kaiser Well 3A and Kaiser Well 4. Both wells are pumped regularly and are closer to the Kaiser wells in the groundwater monitoring network than the project pumping well.

Depth to water in Kaiser Well 1, Kaiser Well 3 and Kaiser Piezometer P12 has remained relatively stable over the past two years based on measurements provided by Kaiser. However, since the historical measurements were collected to the nearest half-foot, it is unknown whether there are any trends with less than a six-inch difference. The historical data are included in this report to give an approximate depth to groundwater prior to the start of project pumping.

Depth to water measurements will continue to be collected quarterly from the Kaiser Wells. Additional analysis will be conducted when there is enough data to establish a trend.

## 5.2 MANN-KENDALL ANALYSIS

Statistical analyses of water level trends in the off-site wells from recent and readily available historic data using the Mann-Kendall test method were not performed for this report, as suggested by the groundwater monitoring plan (AECOM, 2011). There are not enough data collected from any of the wells in the monitoring network to allow the analysis to be performed. The Mann-Kendall analysis will be conducted when sufficient data have been collected.

## 5.3 GROUNDWATER USAGE

During the second quarter of 2012, the project well was pumped from eight to 24 hours a day, Monday through Friday. The pumping schedule varied depending on construction operations. Total gallons pumped, displayed on a flow totalizer installed on the discharge piping for the well, was recorded on a daily basis. The average pumping rate for the project well during the second quarter of 2012 was approximately 600 gpm.

Regional water use in the Chuckwalla Valley groundwater basin for the second quarter of 2012 was not found to be available in a review of publicly available data sources. If information on regional water usage becomes available in the future, it will be incorporated into the monitoring reports.

## 5.4 GROUNDWATER QUALITY

Groundwater quality parameters of pH, temperature, and EC were measured from the discharge during the second quarter 2012 monitoring event. Water quality parameters were measured using a Horiba U53 Multi Parameter Water Quality Checker on June 4, 2012. The following values were recorded:

- pH: 6.26
- EC: 849 µs/cm
- Temperature: 30.95 ºC (87.71 ºF)

The second quarter of 2012 was the first quarter in which water quality data were collected from the project well as part of the groundwater monitoring program. Water quality trends in the production well will be assessed and documented in future monitoring reports after additional quarterly sampling has been completed.

**Table 1. Monitoring Network Depth to Groundwater**

| Well Owner | Desert Sunlight | Charpied | | | | Samons, Date Grove | Fraternal Order of Eagles | Kaiser | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Well Type/Name | Project Well 2 | Domestic Well | MW-1 | MW-2 | MW-3 | Irrigation Well | Domestic Well | Well 1 | Well 2 | Well 3 | P12 |
| **Date** | **Depth to Water, Feet** | | | | | | | | | | |
| May 2008 | - | - | 280.55 | 280.60 | 279.42 | - | - | - | - | - | - |
| Jan 2010 | - | - | - | - | - | - | - | 272.0 | - | 259.5 | 349.0 |
| Feb 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Mar 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Apr 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| May 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Jun 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Jul 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Aug 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Sep 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Oct 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Nov 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Dec 2010 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Jan 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Feb 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Mar 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Apr 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| May 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Jun 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Jul 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Aug 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Sep 2011[a] | - | 282.08 | 281.05 | 280.92 | 279.90 | - | - | 274.0 | - | 259.5 | 349.0 |
| Oct 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.5 | 349.0 |
| Nov 2011 | - | - | - | - | - | - | - | 274.0 | - | 259.0 | 349.0 |
| Dec 2011[b] | 245.00 | 282.41 | 281.35 | 281.27 | 280.19 | 112.11 | 312.87 | 274.0 | - | 259.0 | 349.0 |
| Mar 2012[c] | 204.47 | 282.44 | 281.35 | 281.30 | 280.20 | 112.34 | - | 274.00 | 321.74 | - | 350.92 |
| June 2012[d] | 205.64 | 282.4 | 281.38 | 281.34 | 280.21 | 112.2 | 311.6 | 272.6 | 322.4 | - | 349.20 |

[a] Measurements were collected September 2011 from the Charpied wells as part of the monitoring program. Kaiser, Date Grove, and the Fraternal Order of Eagles were not yet participants in the monitoring program. The measurements shown for the Kaiser wells were collected as part of Kaiser's existing monitoring program. The project well was not yet operational in September 2011.

[b] Measurements were collected December 2011 from the Charpied wells, Date Grove well, and the Fraternal Order of Eagles well as part of the monitoring program. Kaiser was not yet a participant in the monitoring program. The measurements shown for the Kaiser wells were collected as part of Kaiser's existing monitoring program. Also, during the December 2011 monitoring event, the project well was not allowed to fully recover before the depth to water was measured.

[c] During the March 2012 monitoring event, a blockage in the Fraternal Order of Eagles Well did not allow a measurement to be collected. Also, Kaiser wells 3 and 4 were pumping and no measurements were collected.

[d] Measurements for the Charpied Domestic Well, the Samons Irrigation Well, Fraternal Order of Eagles Domestic Well, Kaiser Well 1, and Kaiser Well 2 were collected using a sonic water level meter.

# CHAPTER 6
# Groundwater Program Evaluation Recommendations

## 6.1 MONITORING NETWORK

Kaiser Well 3A and Kaiser Well 4, as documented earlier in this report, are inaccessible to groundwater level monitoring equipment. Both wells will be removed from the off-site groundwater monitoring network. Monitoring of the remaining wells in the groundwater monitoring network will continue through construction and operation of the facility, as described in the MMRP, and this report.

## 6.2 MONITORING EQUIPMENT

Use of the sonic water level meter was implemented during the second quarter of 2012 on select wells in the groundwater monitoring network. Use of both the standard water level meter and sonic water level meter will continue through the end of the groundwater monitoring program.

## 6.3 GROUNDWATER QUALITY MONITORING

Groundwater quality monitoring of the project production well was implemented during the second quarter of 2012. Monitoring of groundwater quality from the project well will continue through the end of the groundwater monitoring program.

## 6.4 MONITORING AND REPORTING FREQUENCY

Groundwater levels will be continue to be measured on a quarterly basis in wells included in the groundwater monitoring network, as described in the MMRP, and this report. Quarterly and annual monitoring reports will be prepared to document the monitoring results and any changes in groundwater level and quality conditions.

# References

AECOM, July 2010, Numerical Groundwater Model of Proposed Project Groundwater Pumping

AECOM, August 2011, Groundwater Level Monitoring, Mitigation, and Reporting Plan, Desert Sunlight Solar Farm, Chuckwalla Valley, Riverside, California.

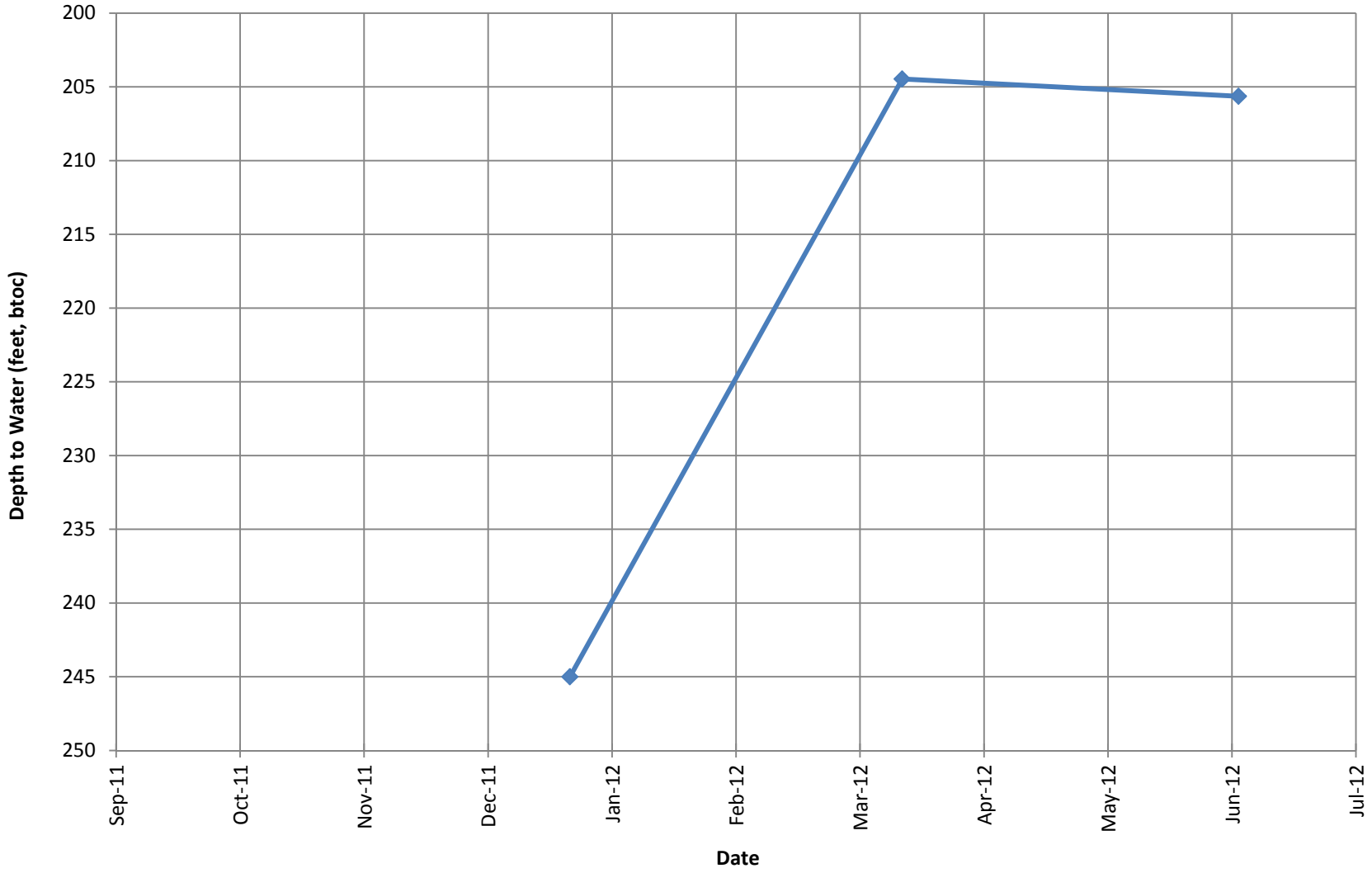
Charpied, L., 2012, Personal communication with Barrett Kaasa, West Yost Associates, March 13, 2012.

Modified Mitigation Measure MM-WAT-3, Appendix 2, Adopted Mitigation Measures, Desert Sunlight Solar Farm Project Final EIS and CDCA Plan Amendment, April 2011.

West Yost Associates, March 2012, Groundwater Baseline Data Report, First Solar Electric, LLC.

# APPENDIX A

## Hydrographs




Note: During the December 2011 monitoring event, depth to water was measured before the well was allowed to fully recover from pumping activities, thus, the value shown on this hydrograph is not representative of the static water level.

**Figure A-1**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH PROJECT WELL 2

WEST YOST ASSOCIATES
Consulting Engineers

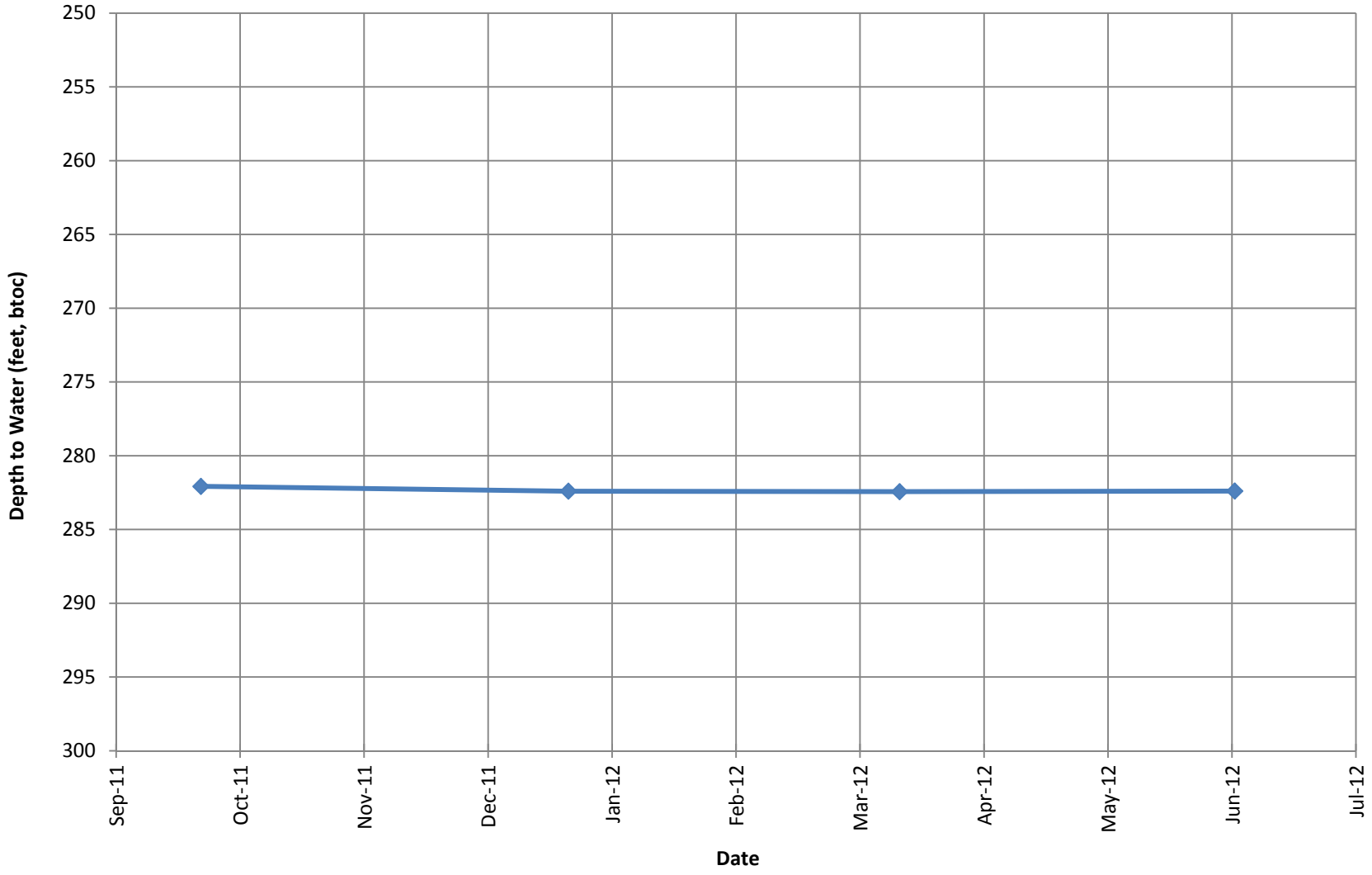



**Figure A-2**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH CHARPIED DOMESTIC WELL

WEST YOST ASSOCIATES
Consulting Engineers

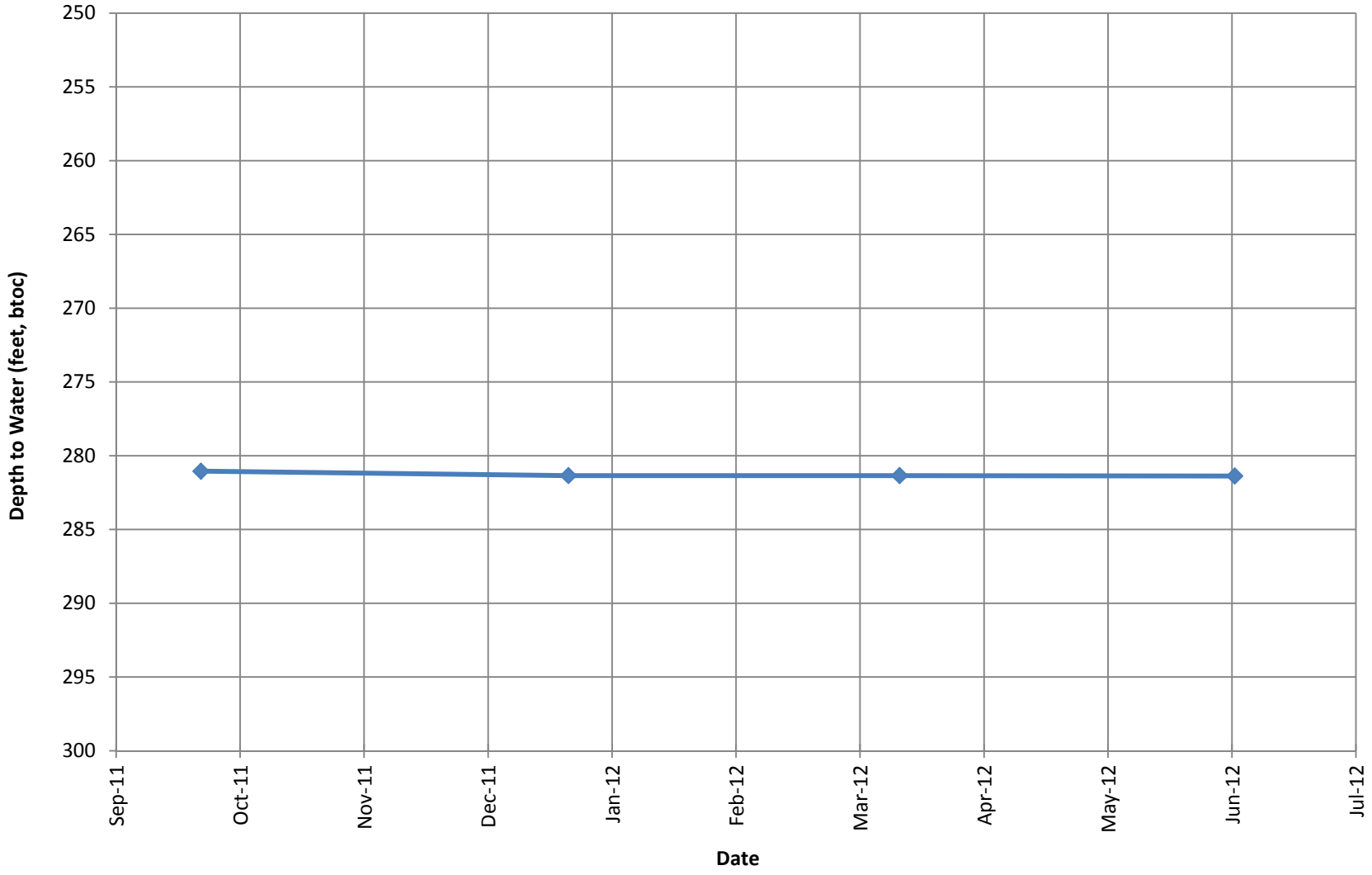



**Figure A-3**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH CHARPIED MW-1

WEST YOST ASSOCIATES
Consulting Engineers

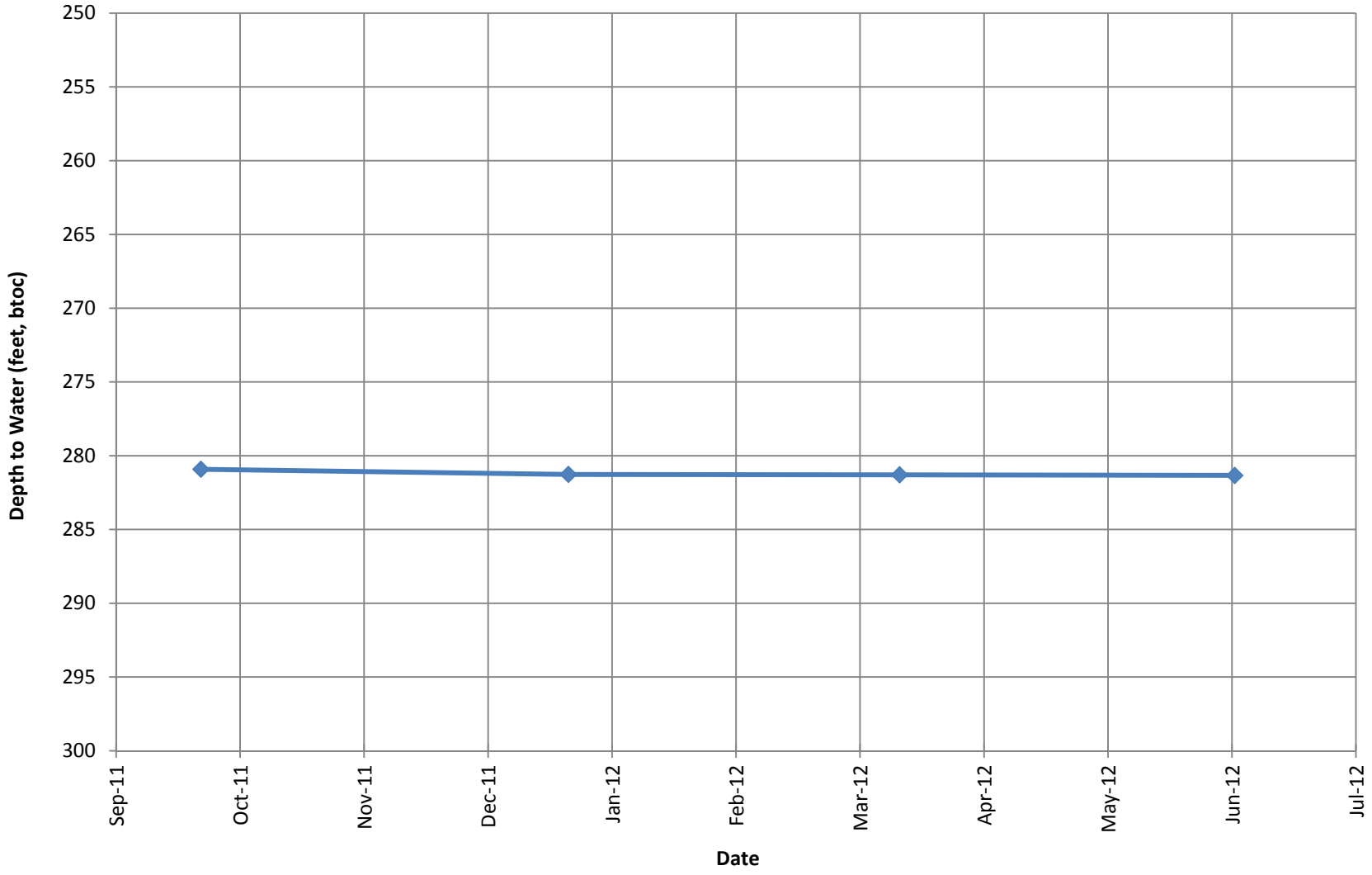



**Figure A-4**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH CHARPIED MW-2

WEST YOST ASSOCIATES
Consulting Engineers

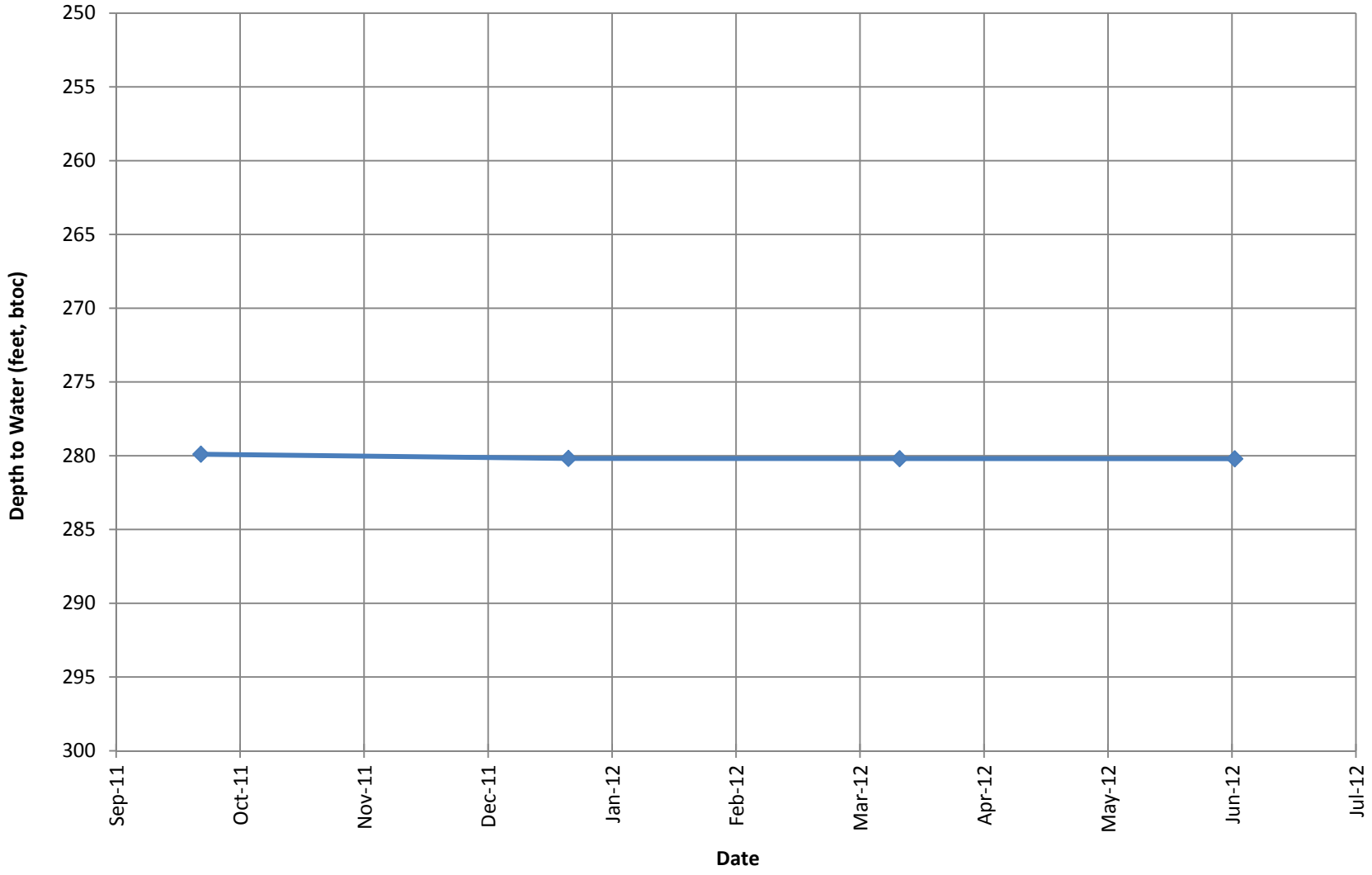



**Figure A-5**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH CHARPIED MW-3

WEST YOST ASSOCIATES
Consulting Engineers

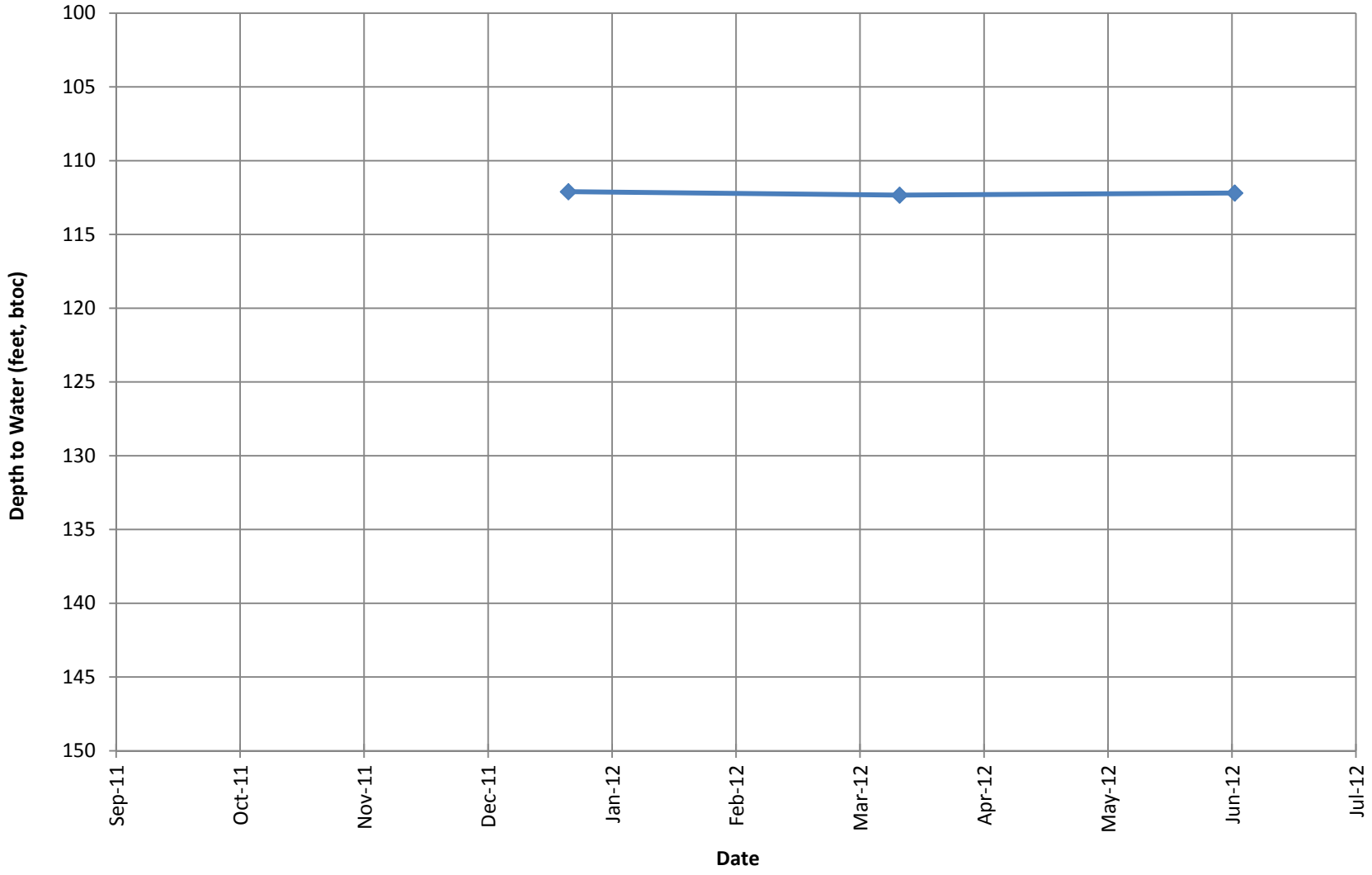



**Figure A-6**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH SAMONS IRRIGATION WELL

WEST YOST ASSOCIATES
Consulting Engineers

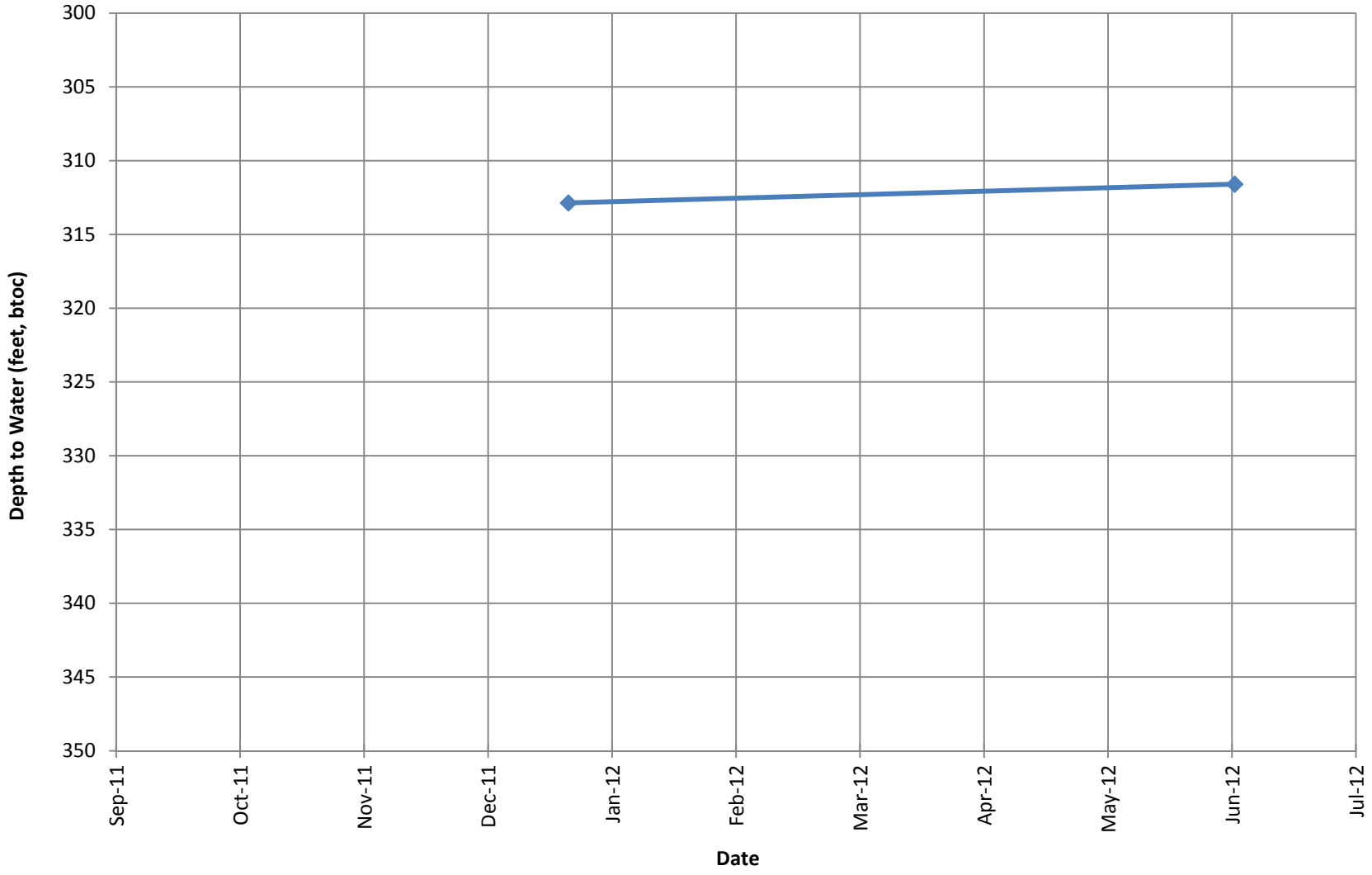



**Figure A-7**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH FRATERNAL ORDER OF EAGLES
DOMESTIC WELL

WEST YOST ASSOCIATES
Consulting Engineers

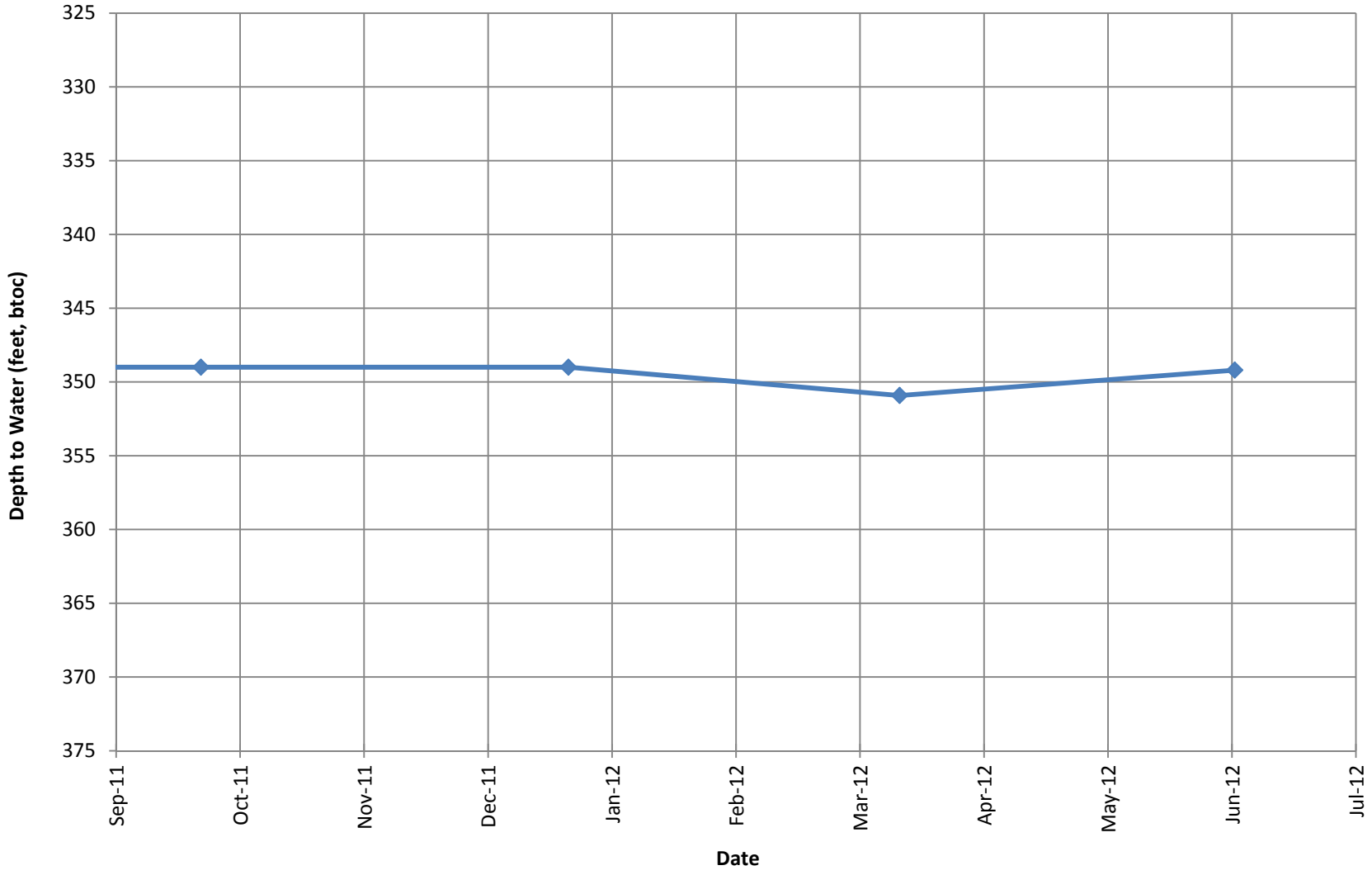



**Figure A-8**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH KAISER PIEZOMETER P12

WEST YOST ASSOCIATES
Consulting Engineers

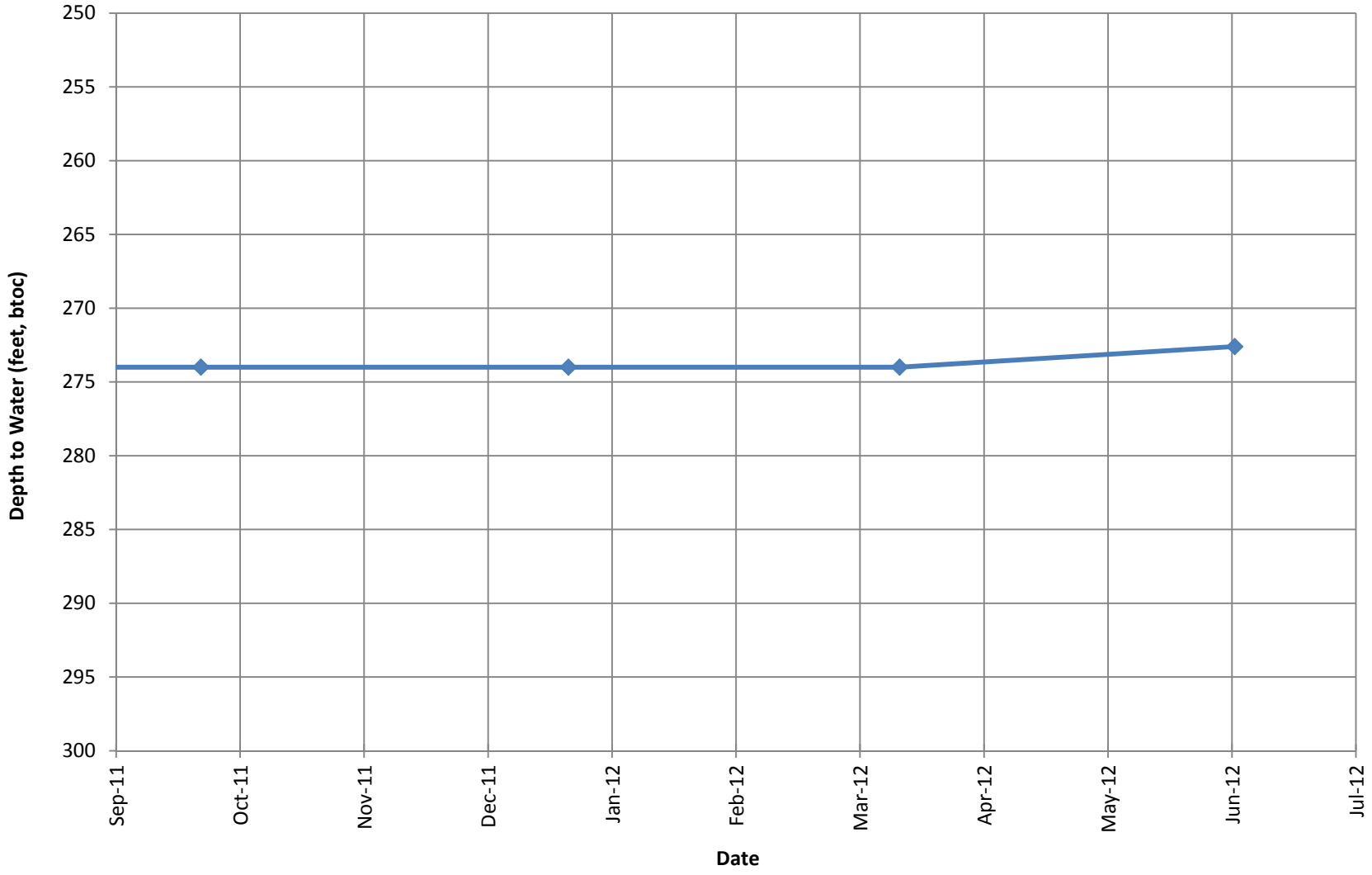



**Figure A-9**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH KAISER WELL 1

WEST YOST ASSOCIATES
Consulting Engineers

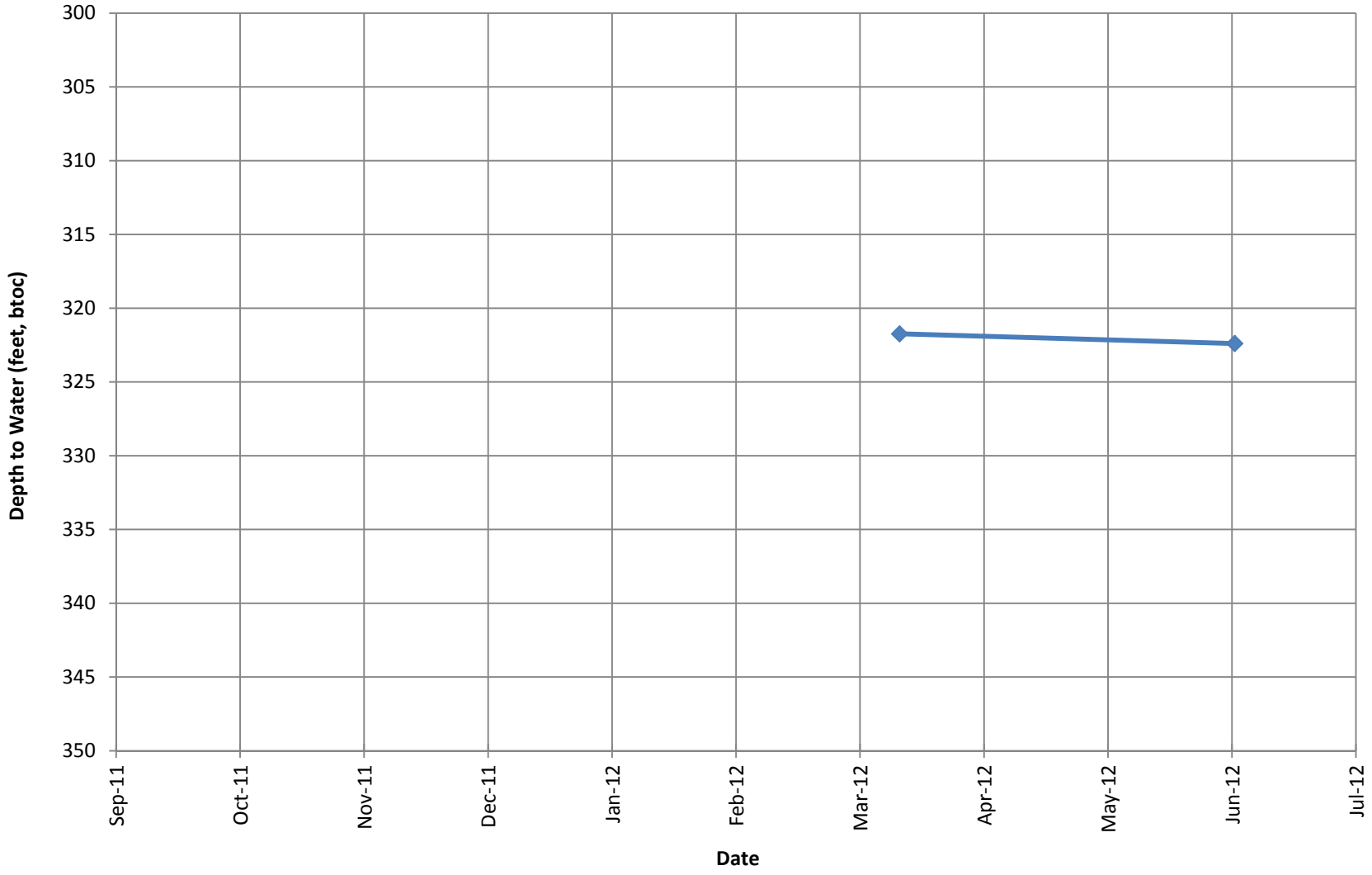



**Figure A-10**

**First Solar Electric, LLC**
**Desert Sunlight Solar, Desert Center, CA**

HYDROGRAPH KAISER WELL 2

WEST YOST ASSOCIATES
Consulting Engineers