



August 4, 2014

**954.001.03.002**

Richard Emig  
City of Sebastopol  
Public Works Department  
714 Johnson Street  
Sebastopol, California 95472

**Re: Groundwater Level Data Transmittal  
Second Quarter 2014  
City of Sebastopol  
Sebastopol, California**

Dear Mr. Emig:

This data transmittal has been prepared by PES Environmental, Inc. (PES) on behalf of the City of Sebastopol (City) to summarize the results of the groundwater level monitoring program performed in the second quarter of 2014 (April through June). The following sections of this transmittal summarize the activities performed and data collected for the subject monitoring period.

## **GROUNDWATER LEVEL MONITORING PROGRAM**

The activities performed for the monitoring period (April through June 2014) included: (1) installing water level monitoring equipment; (2) recording groundwater levels in five City production wells; (3) summarizing regional precipitation data; and (4) preparation of groundwater level hydrographs.

### **Groundwater Level Measurements**

Groundwater level data collected for the second quarter included groundwater elevations from five City monitoring: inactive municipal Wells #5 and #7, and active municipal Wells #4, #6, and #8. On April 16, 2014, these wells were equipped with Solinst Inc., electronic submersible “LT Edge Levellogger” absolute (i.e., un-vented) pressure transducers and data logger systems. Additionally, a Solinst Inc., “LT Edge Barologger” was installed within Well #4 to provide baseline data for barometric compensation. The pressure transducers/data

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loggers were programmed to record pressure-head measurements at 1-minute intervals during the initial installation and testing; data acquisition was subsequently reduced to 15-minute intervals. Pressure-head measurements stored in each data logger were transmitted to PES' office via telemetry stations installed within the respective pump houses. The pressure-head measurements were then barometrically compensated and adjusted to manual groundwater level measurements that were obtained via an electronic water level sounder on July 1, 2014. The respective manual groundwater level measurements on July 1, 2014 for Wells #4, #5, #6, #7, and #8 were 123.7, 47.0, 66.2, 83.2, and 91.2 feet below top of casing. Due to malfunctions in the transducers and telemetry software, data was not recorded for several days in April and early May.

### **Precipitation Data**

Daily precipitation records maintained by the National Oceanic and Atmospheric Administration are summarized on Table 1. The precipitation data (reported in total inches per day) were measured at the Sonoma County Airport, Santa Rosa, California (Station ID: USW00023213). As indicated in Table 1, a total of 0.75 inches of rain were recorded during the subject monitoring period, comprised of 0.73 inches and 0.02 inches in April and May, respectively. No measurable precipitation was recorded during June 2014.

### **Groundwater Level Hydrographs**

Following conversion of the pressure-head measurements to depth-to-groundwater levels, groundwater level hydrographs were prepared for each of the five City wells (Plates 1 through 5). During the monitoring period, observed groundwater levels generally exhibit a slight declining trend. These observations appear to correlate with the seasonal decrease in precipitation and associated reduction in groundwater recharge during the monitoring period.

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**CLOSURE**

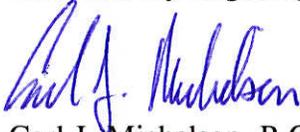
PES appreciates the opportunity to be of service to the City and in providing assistance with the subject Groundwater Level Monitoring Program. Should you have any questions regarding this information, please call PES at (415) 899-1600.

Yours very truly,

**PES ENVIRONMENTAL, INC.**



Peter D. Gorman, P.G., C.HG.  
Associate Hydrogeologist



Carl J. Michelsen, P.G., C.HG.  
Principal Geochemist

cc: Susan Kelly - City of Sebastopol  
Dante Del Prete - City of Sebastopol

Attachments: Table 1 - Summary of Precipitation Totals  
Plate 1 - Groundwater Level Hydrograph, Municipal Well #4  
Plate 2 - Groundwater Level Hydrograph, Municipal Well #5  
Plate 3 - Groundwater Level Hydrograph, Municipal Well #6  
Plate 4 - Groundwater Level Hydrograph, Municipal Well #7  
Plate 5 - Groundwater Level Hydrograph, Municipal Well #8

**TABLES**

**Table 1  
Summary of Precipitation Totals  
Sonoma County Airport  
Santa Rosa, California**

Day	Daily Precipitation Totals (inches)		
	Apr-2014	May-2014	Jun-2014
1	0.48	--	--
2	--	--	--
3	--	--	--
4	0.14	--	--
5	--	0.02	--
6	--	--	--
7	--	--	--
8	--	--	--
9	--	--	--
10	--	--	--
11	--	--	--
12	--	--	--
13	--	--	--
14	--	--	--
15	--	--	--
16	--	--	--
17	--	--	--
18	--	--	--
19	--	--	--
20	--	--	--
21	--	--	--
22	--	--	--
23	--	--	--
24	--	--	--
25	0.08	--	--
26	--	--	--
27	0.03	--	--
28	--	--	--
29	--	--	--
30	--	--	--
31	na	--	na
Total (inches)	0.73	0.02	0.00
<b>Total Precipitation (in inches) for April through June: 0.75</b>			

**Notes:**

Source of Data: National Oceanic and Atmospheric Administration (NOAA)  
 Preliminary Record of Climatological Observations for Sonoma County  
 Airport - Cooperative Station Network (Station ID: USW00023213)  
 -- = No measureable/reported precipitation  
 T = Trace precipitation event  
 na = Not Applicable

**PLATES**

Plate 1  
Groundwater Level Hydrograph - Well #4  
City of Sebastopol Municipal Wellfield  
Sebastopol, California

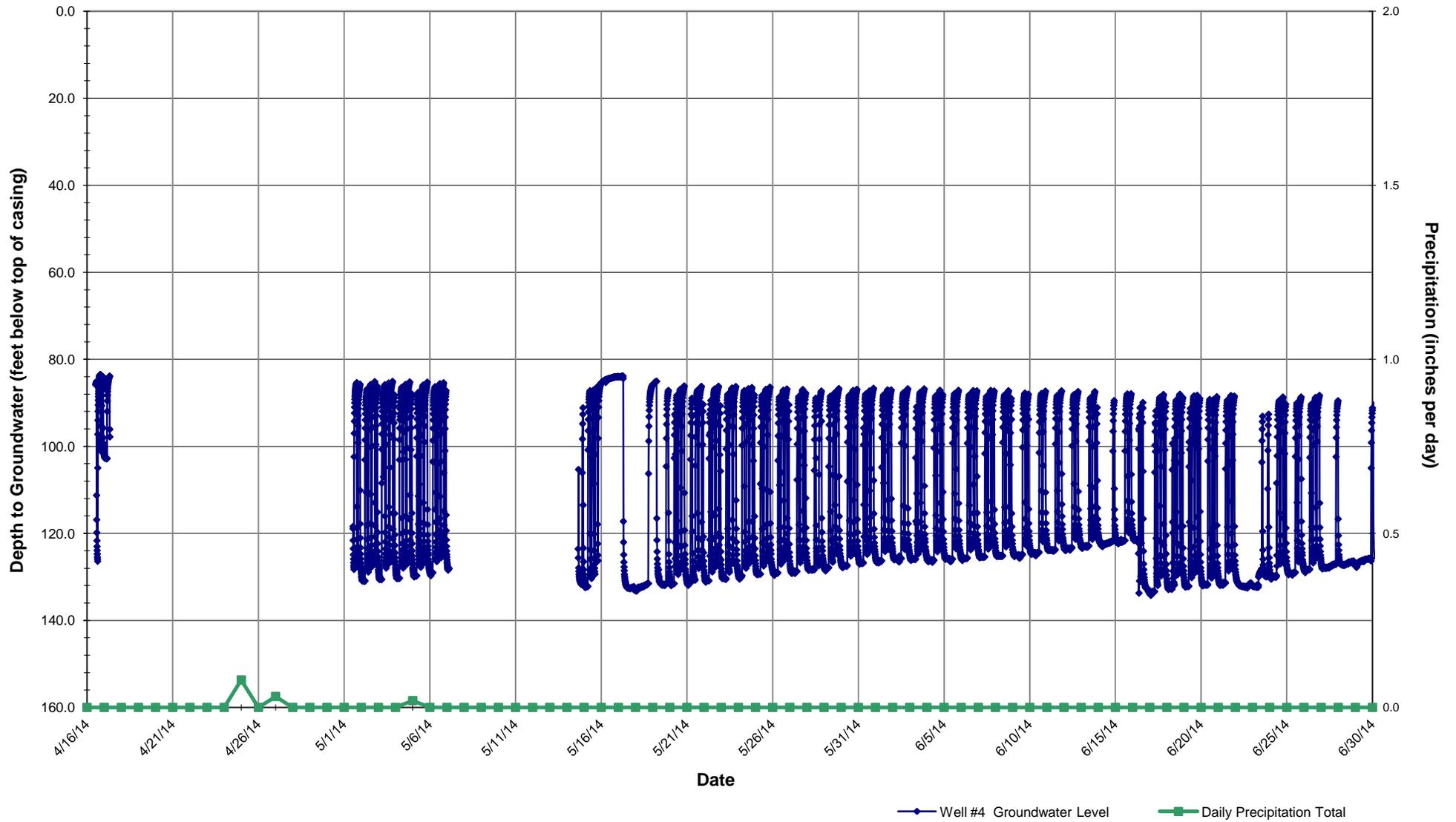


Plate 2  
Groundwater Level Hydrograph - Well #5  
City of Sebastopol Municipal Wellfield  
Sebastopol, California

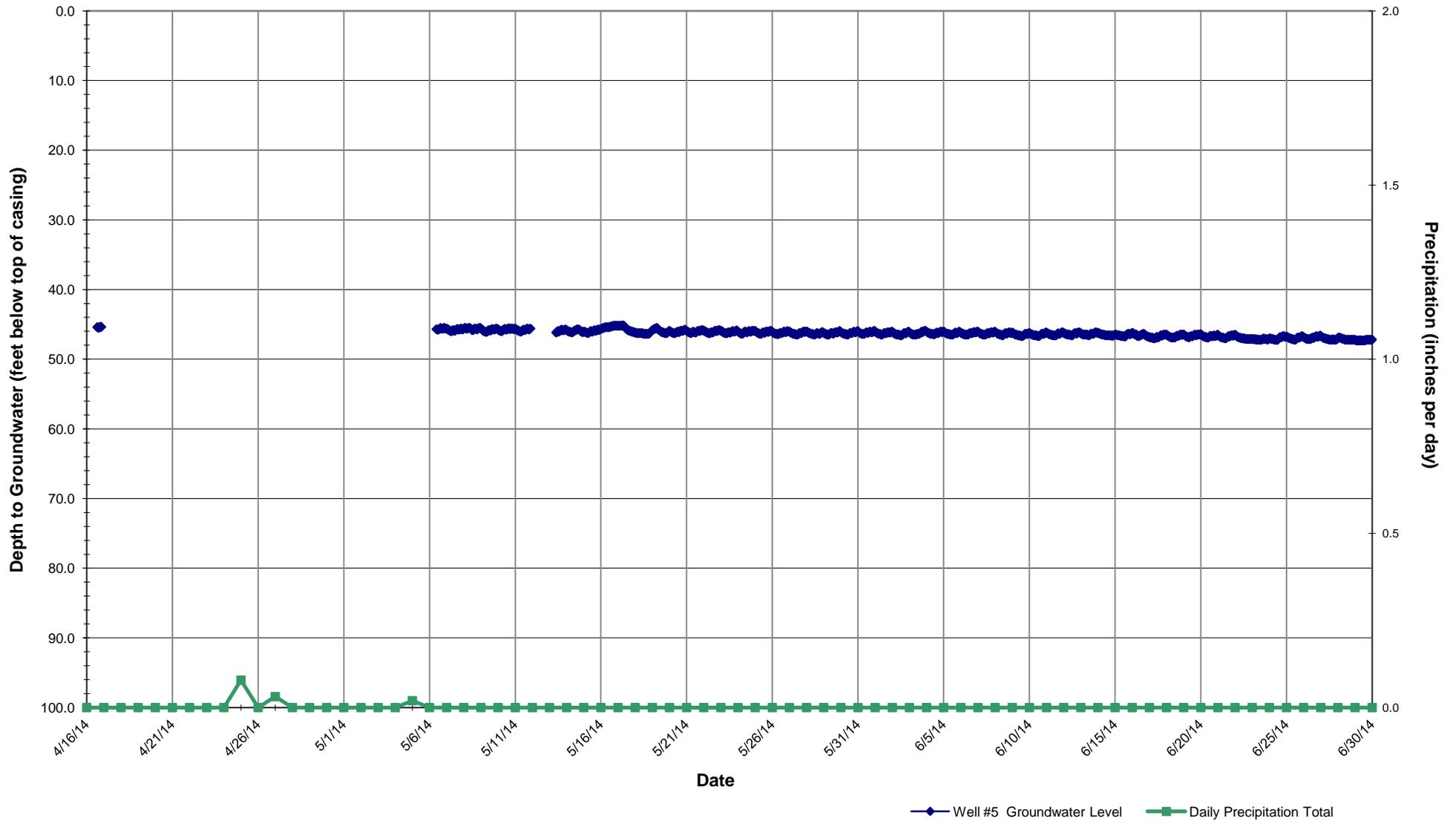
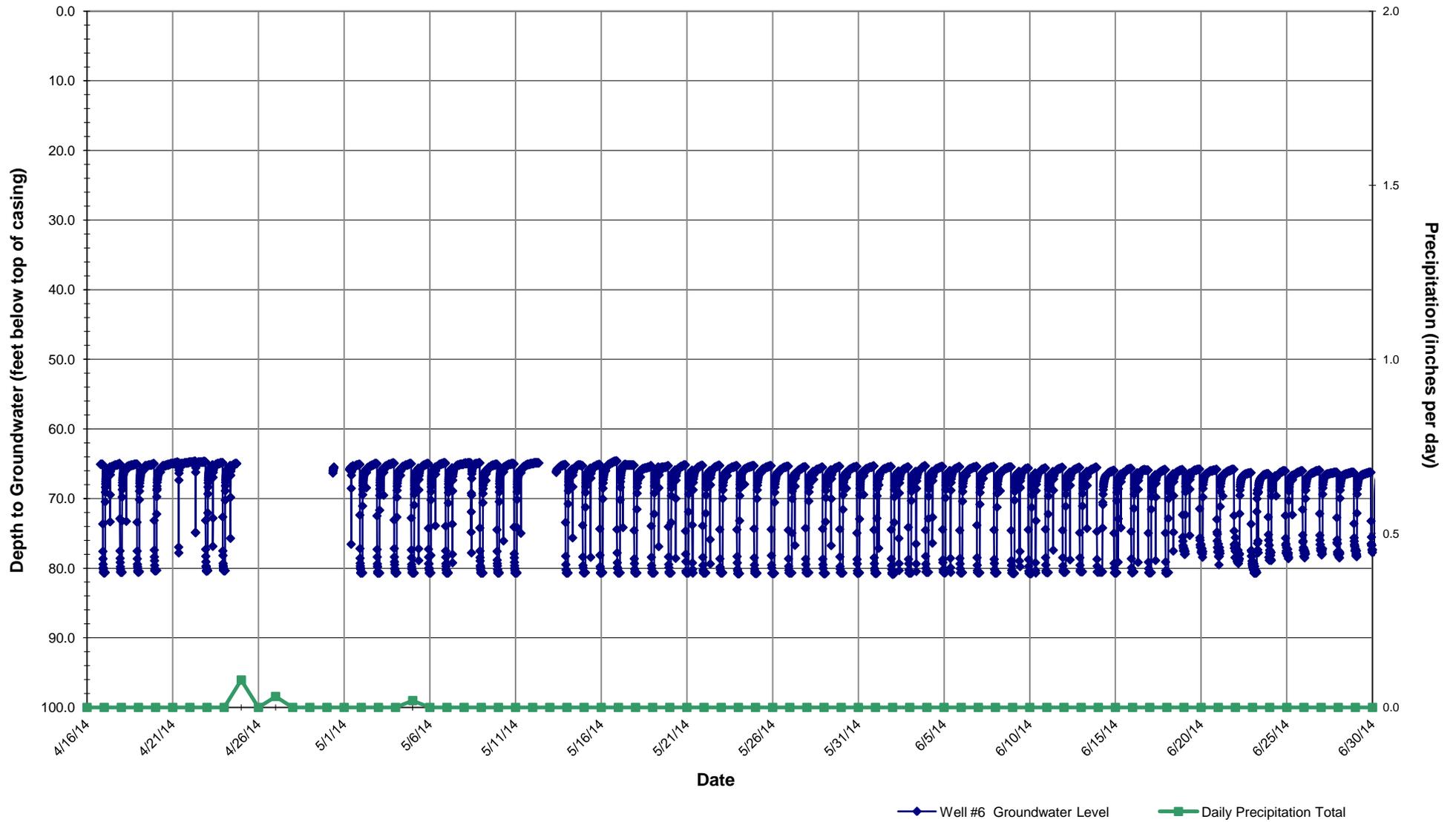


Plate 3  
Groundwater Level Hydrograph - Well #6  
City of Sebastopol Municipal Wellfield  
Sebastopol, California



**Plate 4**  
**Groundwater Level Hydrograph - Well #7**  
**City of Sebastopol Municipal Wellfield**  
**Sebastopol, California**

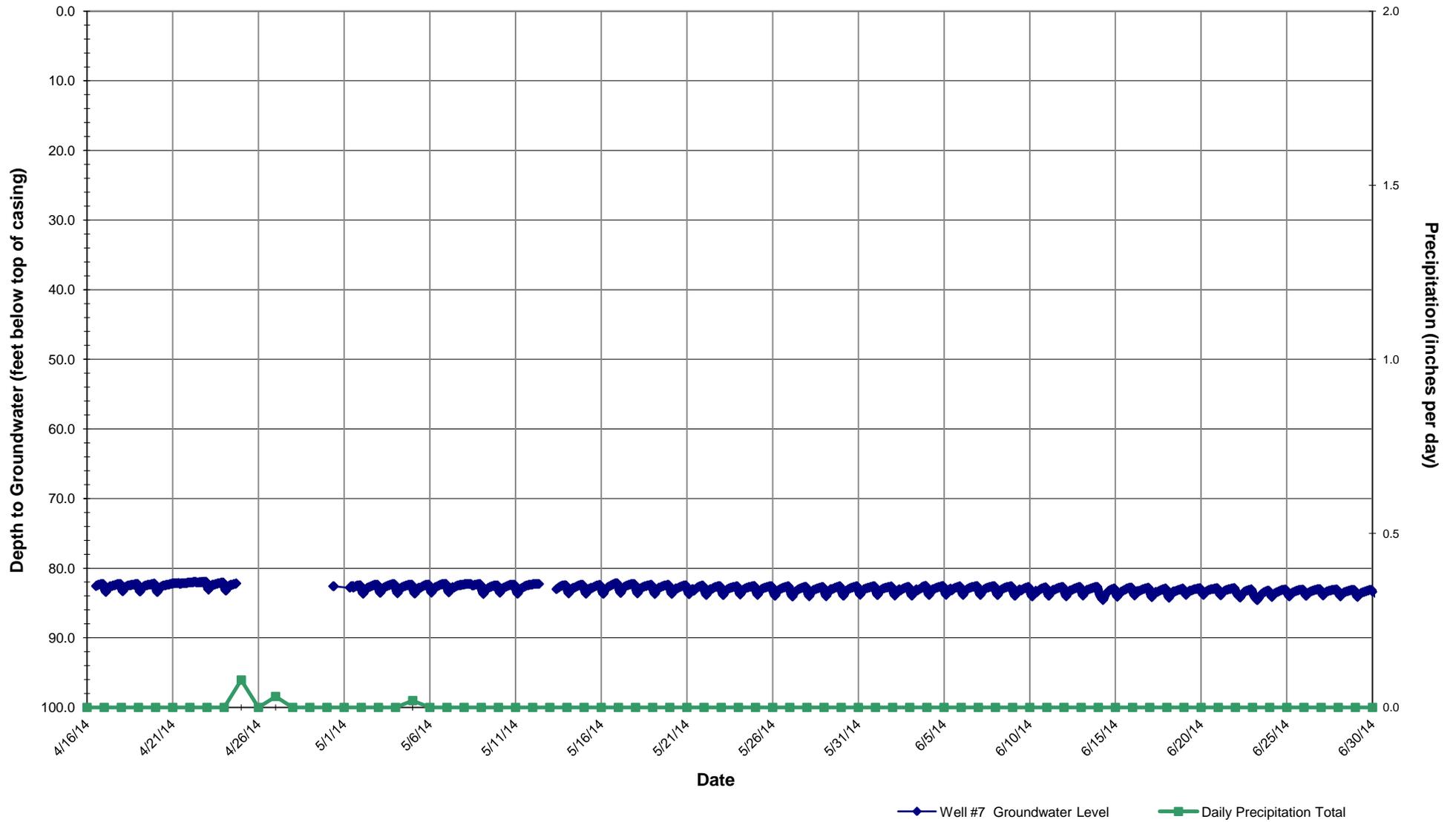


Plate 5  
Groundwater Level Hydrograph - Well #8  
City of Sebastopol Municipal Wellfield  
Sebastopol, California

