



January 20, 2020

954.001.03.002

City of Sebastopol
Public Works Department
Attention: Dante Del Prete, Superintendent
714 Johnson Street
Sebastopol, California 95472

**Re: Groundwater Level Data Transmittal
Fourth Quarter 2019
City of Sebastopol
Sebastopol, California**

Dear Mr. Del Prete:

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 fourth quarter of 2019 (October through December). 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 (October through December) included: (1) recording groundwater levels in five City production wells; (2) summarizing regional precipitation data; and (3) preparing groundwater level hydrographs.

Groundwater Level Measurements

Groundwater level data collected for the fourth quarter included groundwater elevations from five City production wells: inactive municipal Well #5, and active municipal Wells #4, #6, #7, and #8. These wells are 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” is installed within Well #4 to provide baseline data for barometric compensation. The pressure transducers/data loggers are programmed to record pressure-head measurements at 20-minute intervals. Pressure-head measurements stored in each data logger are normally transmitted to PES’ office via telemetry stations installed within the respective pump houses; however, the telemetry systems became

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inoperable due to PG&E power outages that resulted from the threat of wildfires in October 2019. On January 16, 2020, pressure-head data were directly downloaded from each transducer and telemetry re-programming was performed by PES staff. The pressure-head measurements were barometrically compensated and correlated to groundwater level measurements obtained manually using an electronic water level sounder.

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 13.44 inches of rain was recorded during the monitoring period, including 0.02, 2.22 and 11.20 inches of rain in October, November, and December, respectively.

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). To facilitate groundwater level trend analysis, groundwater level data from the previous quarter (July through September) is included on Plates 1 through 5. During the subject monitoring period (October through December), observed groundwater levels generally exhibit a trend of recovery, which appear to correlate with the seasonal increase in precipitation and associated increase in groundwater recharge.

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: Henry Mikus – City of Sebastopol (paper copy)

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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

TABLE

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

Day	Daily Precipitation Totals (inches)		
	Oct-2020	Nov-2020	Dec-2020
1	--	--	3.78
2	--	--	0.60
3	--	--	0.12
4	--	--	0.34
5	--	--	T
6	--	--	1.31
7	--	--	1.31
8	--	--	0.02
9	--	--	--
10	--	--	0.36
11	--	--	0.54
12	--	--	0.02
13	--	--	0.11
14	--	T	T
15	--	--	--
16	--	--	--
17	T	--	T
18	--	--	0.68
19	0.02	0.03	0.11
20	--	T	--
21	--	--	--
22	--	--	0.44
23	--	--	--
24	--	--	T
25	--	--	0.38
26	--	0.99	--
27	--	0.05	--
28	--	T	--
29	--	0.01	1.08
30	--	1.14	--
31	--	na	--
Total (inches)	0.02	2.22	11.20
Total Precipitation (in inches) for October through December: 13.44			

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 measurable/reported precipitation

T = Trace precipitation event

na = Not Applicable

PLATES

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

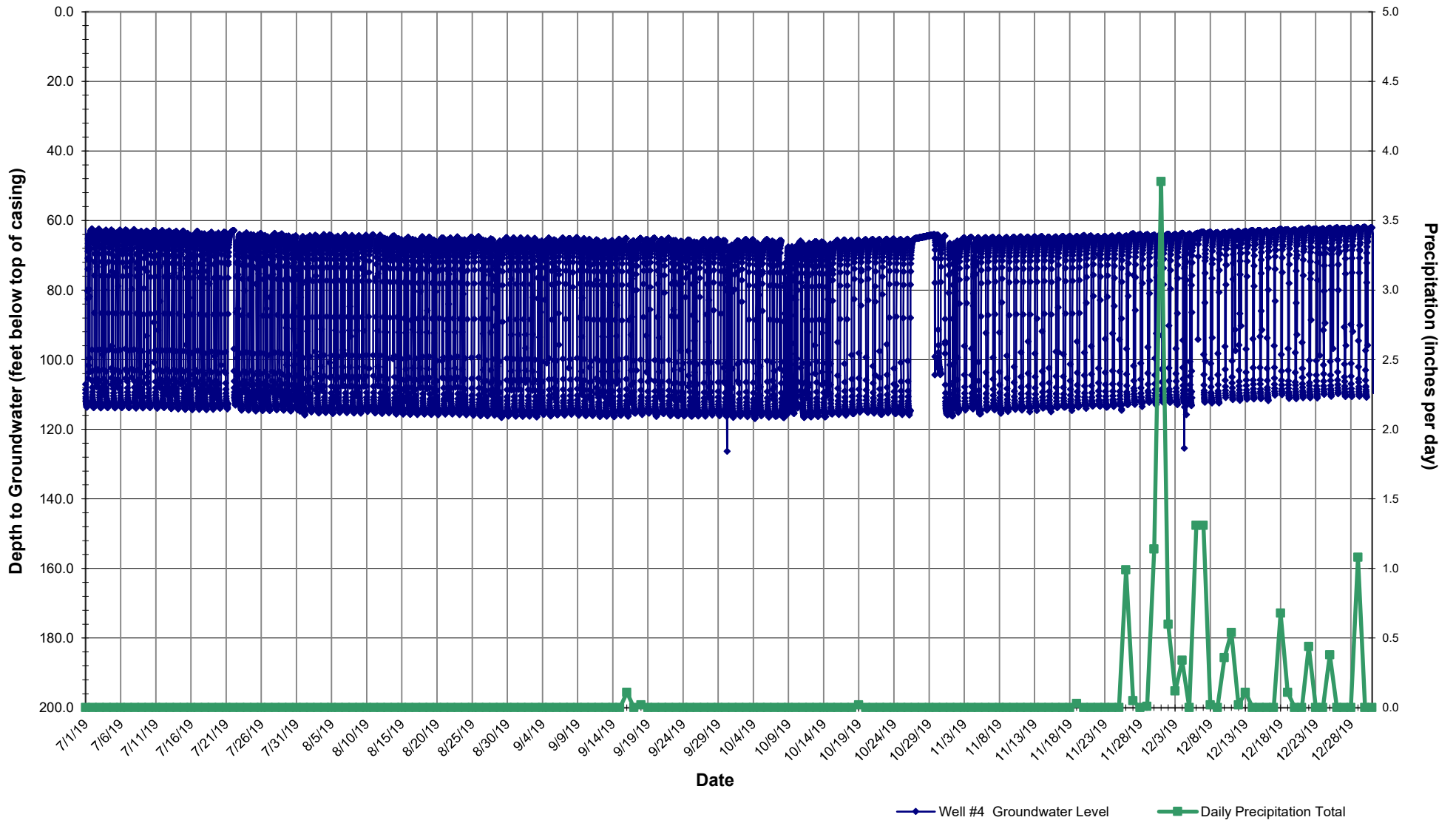


Plate 2
Groundwater Level Hydrograph - Well #5
City of Sebastopol Municipal Wellfield
Sebastopol, California

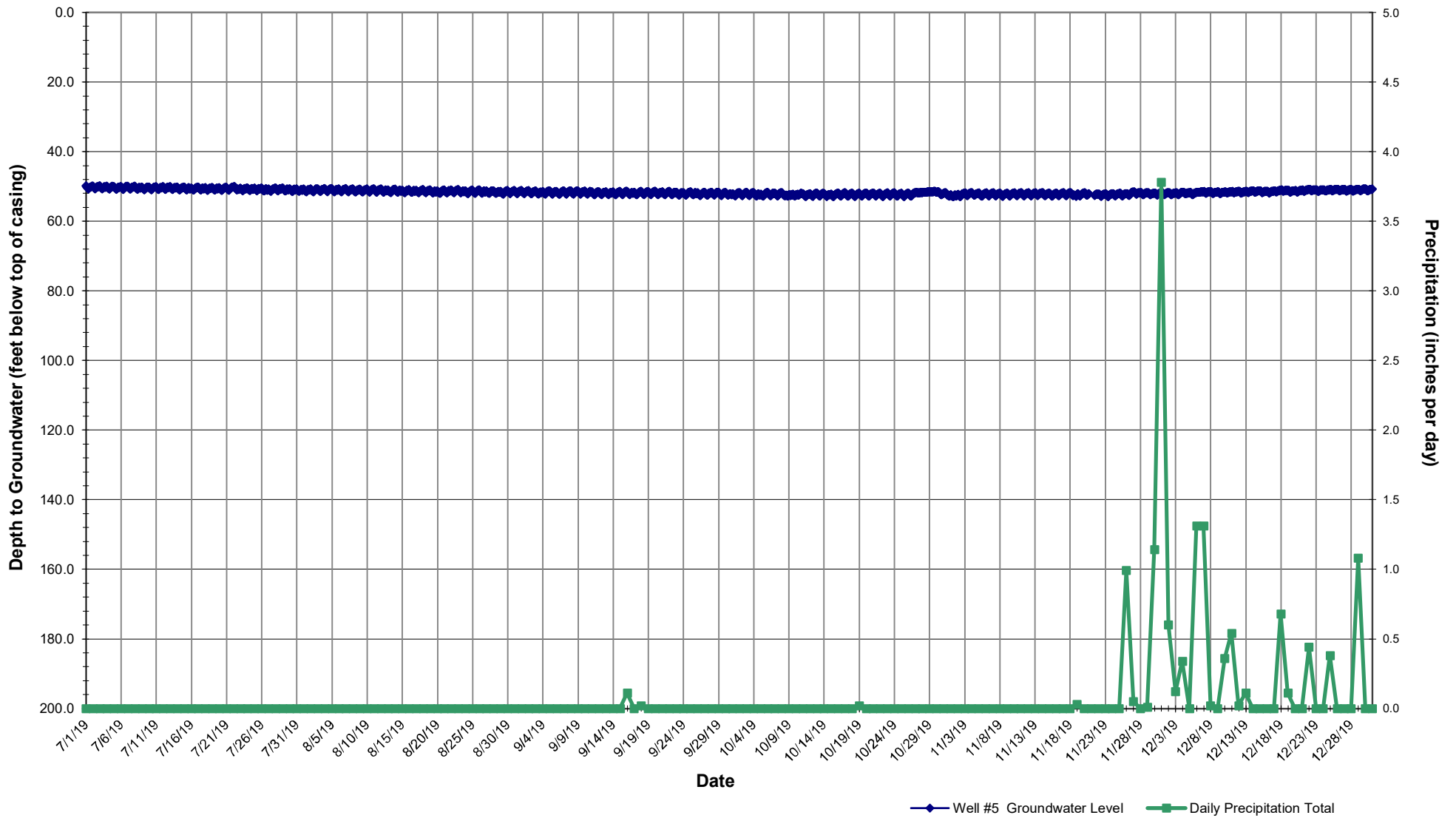


Plate 3
Groundwater Level Hydrograph - Well #6
City of Sebastopol Municipal Wellfield
Sebastopol, California

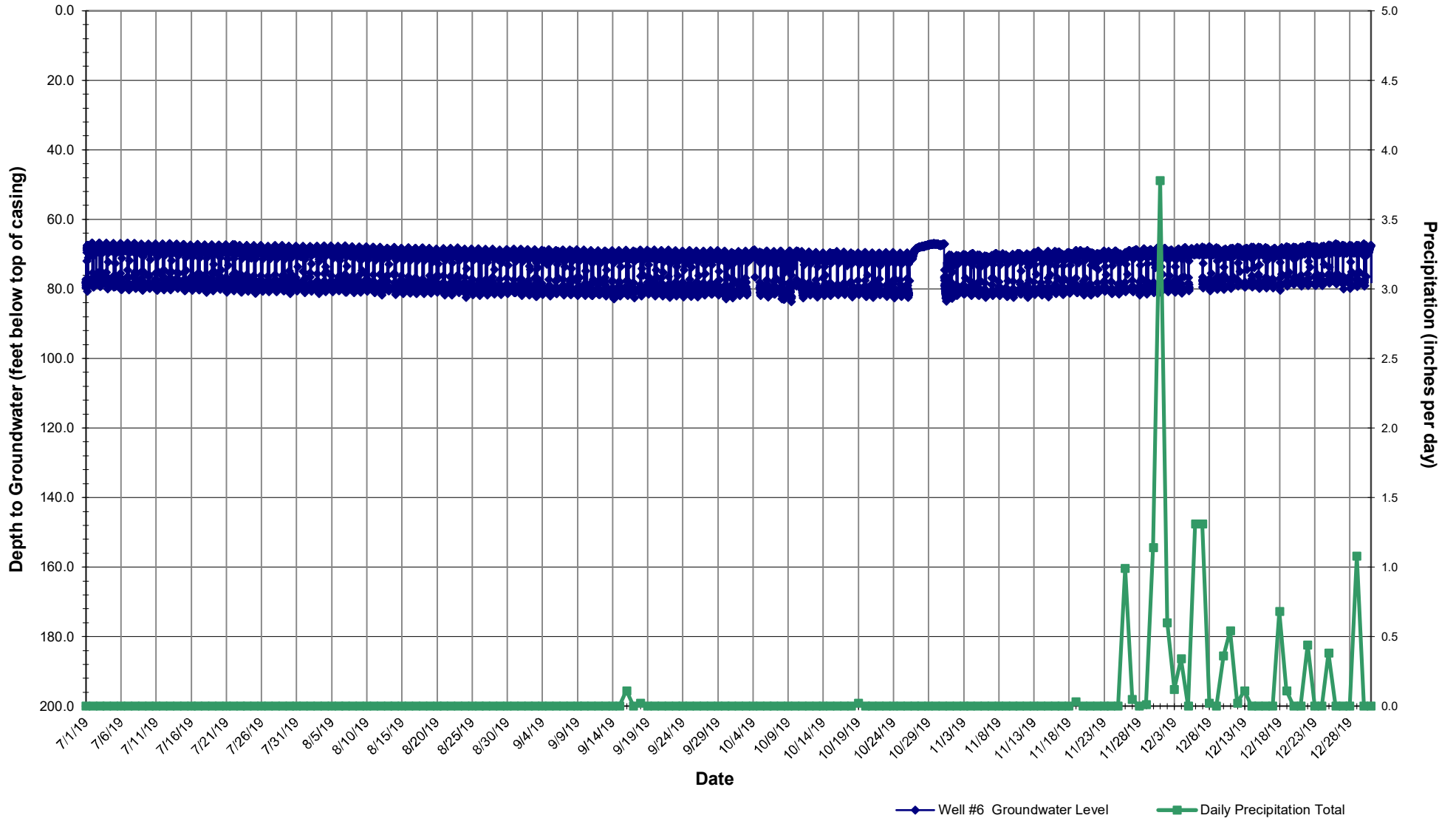


Plate 4
Groundwater Level Hydrograph - Well #7
City of Sebastopol Municipal Wellfield
Sebastopol, California

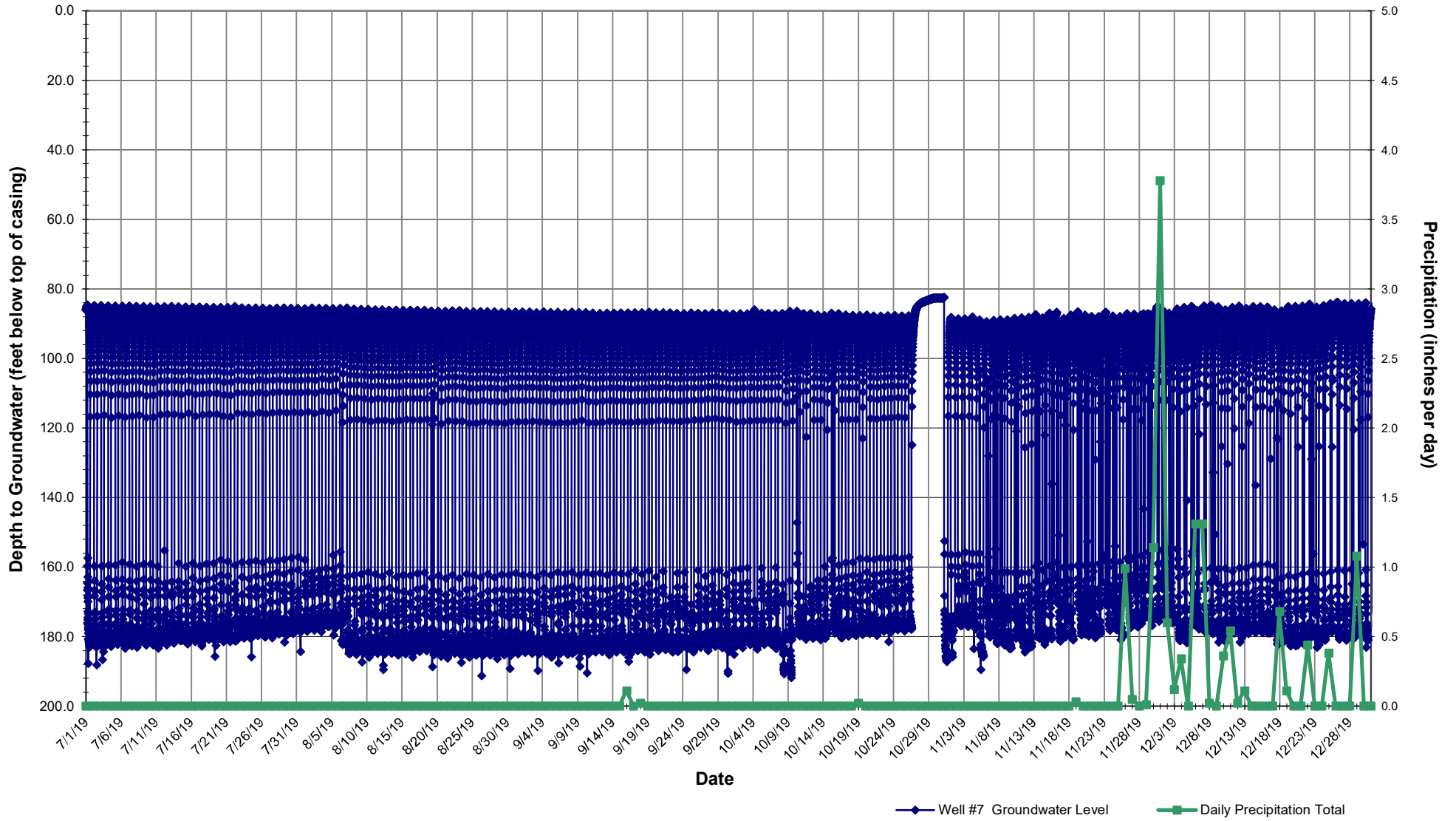


Plate 5
Groundwater Level Hydrograph - Well #8
City of Sebastopol Municipal Wellfield
Sebastopol, California

