Hydrogeologic Assessment Report

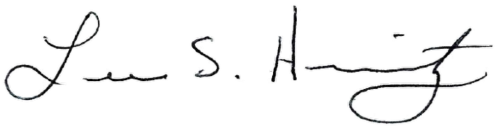
2750 Burnside Road
Sebastopol, CA 95472
APN 073-061-018

Prepared For:

Burnside Farms LLC
Jessica Hwang
2750 Burnside Road
Sebastopol, CA 95472

September 20, 2022
Prepared By:

HURVITZ ENVIRONMENTAL SERVICES INC.
105 Morris Street, Suite 188
Sebastopol, California 95472



Lee S. Hurvitz, PG #7573 CHG #1015
Certified Hydrogeologist

Project No. 5187.01

HURVITZ ENVIRONMENTAL

GEOLOGIC & ENVIRONMENTAL CONSULTING

September 20, 2022

Jessica Hwang
Burnside Farms LLC
2750 Burnside Road
Sebastopol, CA 95472

Re: Hydrogeologic Assessment Report
2750 Burnside Road
Sebastopol, CA 95472
APN 073-061-018
Hurvitz Environmental Project No. 5187.01

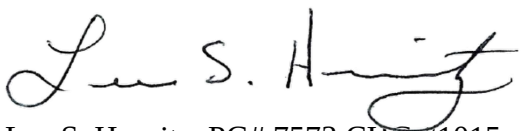
Dear Ms. Hwang:

Hurvitz Environmental Services, Inc. (HES) is pleased to submit this Hydrogeologic Assessment Report (HAR) for the above referenced property. HES prepared this HAR in accordance with the Sonoma County Permit and Resource Management Division (PRMD) Policy and Procedure Number 8-1-14 and General Plan Policy WR-2e. The purpose of this HAR was to evaluate the aquifer conditions at the site, which is located within a predominately Class 2 groundwater availability area and to determine if the proposed groundwater usage will cause overdraft conditions, well interference or impact nearby stream-flow.

The quantity of groundwater to be used for the project and within the Cumulative Impact Area compared to the quantity of available groundwater indicates that pumping for the Project is unlikely to result in significant declines in groundwater resources over time. Based on the findings of this report, pumping and groundwater extraction at the Project well will not significantly impact neighboring wells or stream flow conditions in nearby Hudspeth Creek or its tributaries.

We appreciate the opportunity to provide you with these services. Please do not hesitate to contact us at your convenience, should have any questions or comments regarding this report or our recommendations.

Sincerely,
HURVITZ ENVIRONMENTAL SERVICES, INC.



Lee S. Hurvitz, PG# 7573 CHG #1015
Certified Hydrogeologist

105 MORRIS STREET #188 SEBASTOPOL, CA 95472 PH: 707.824.1690 FX:707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM CA PG# 7573

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1.0 INTRODUCTION AND SCOPE OF SERVICES

We understand that Burnside Farms LLC (Applicant) will be applying to Sonoma County Department of Agricultural/Weights and Measures for approval to cultivate outdoor cannabis the on Assessor ‘s Parcel Number (APN) 073-061-018 (the Site). This Site is located within a Class 2 groundwater area and outside any medium or high priority basin as defined through CA DWR Bulletin 118. As such, a groundwater study is not automatically required by policy, however, Permit Sonoma has required that a hydrogeologic study be conducted because of existing land use, geology, and public comments that indicate the area may face groundwater supply limitations. Therefore, this study included contacting one adjacent parcel owners for information on groundwater supply and monitoring two adjacent domestic wells during the well yield testing portion of this project.

Therefore, on behalf of the Applicant, Hurvitz Environmental Services (HES) conducted a Hydrogeologic Assessment for the site in accordance with the Sonoma County Permit and Resource Management Division (PRMD) Procedures for Groundwater Analysis and Hydrogeologic Reports (Policy No. 8-1-14).

Sonoma County General Plan Policy WR-2e states that procedures for proving adequate groundwater should consider groundwater overdraft, land subsidence, saltwater intrusion, and the expense of such study in relation to the water needs of the project.

Therefore, this groundwater report includes the following elements:

- Delineation of a Cumulative Impact Area.
- Estimates of existing and potential water uses within the Cumulative Impact Area based on established usage rates.
- Characterization of local hydrogeologic conditions within the site watershed and sub-basin.
- Compilation of Well Completion Reports (drillers' logs) from the area.
- Performance and evaluation of a 12-hour well yield test and recharge analysis.
- Estimates of annual groundwater storage and recharge relative to existing and proposed groundwater uses.
- Assess potential for the project to create salt water intrusion.
- Assess potential for well interference between the project well and neighboring wells and between the project well and nearby Creeks.

2.0 SITE DESCRIPTION

The site is located in an unincorporated, rural residential community approximately 3.3 miles southwest of downtown Sebastopol, California (**Plate 1 – Location Map**). The site address is 2750 Burnside Road on Assessor's Parcel No. (APN) 073-061-018 which is deeded 10.88 acres **(Plate 2 – Assessor Parcel Map)**.

This site is vacant but was formerly developed with a single residence and some out buildings. About 60% of the Site is forested. The land is currently being used for noncommercial rearing of a few pigs, and goats that will be kept grazing on the property outside the cannabis operations to keep vegetation in check across the property. The parcel is zoned Diverse Agricultural 10-acre minimum (DA10) and is not a Williamson Act parcel. Regulation of the site is under the jurisdiction of the North Coast Regional Water Quality Control Board.

Access to the parcel from Sebastopol is west on Highway 12 approximately 1.9 miles to Watertrough Road, then south 0.7 miles to Burnside Road. Take Burnside Road south and west approximately 2 miles. The Site is on the west side of the road at 2750 Burnside Road. The parcel has one groundwater well which will be used for the proposed cannabis irrigation as discussed in Section 4.3.1 (below). Photographs are presented in **Appendix A – Site Photographs**.

2.1 USGS 7.5 MINUTE QUARDRANGLE MAPS

HES reviewed the most recent (2015) Valley Ford and Two Rock, California, United States Geological Survey (USGS) 7.5-Minute Quadrangle Maps (**Plate 3 - USGS Topographic Map**). The Site is located across the two these two quadrangle maps. Topographically the parcel is located on a west facing slope above Hudspeth Creek, a tributary of Atascadero Creek. The highest elevation on the site is approximately 500 feet mean sea level (MSL) along Burnside Road on the east side of the parcel. The lowest elevation is approximately 300 feet MSL on the western parcel boundary at Hudspeth Creek. Hudspeth Creek is a Class II intermittent stream that flows north along the western Site boundary **(Plate 3 - USGS Topographic Map).** Stromwater from the parcel drains to Hudspeth Creek which is part of the Green Valley sub watershed (HUC 12-180101100901) as described in Section 4.0 (below).

2.2 HISTORICAL AERIAL PHOTOGRAPHY

HES reviewed aerial photographs from years 1985-2021 depicting the Site and vicinity to obtain information about historical development and other surficial features. From 1985 to 2003 aerial photography is unclear in the vicinity of the Site. In 2003 a small residential building is visible near the creek on the west side of the parcel in a forested area. In addition, several out buildings or animal pens and roads are visible across the parcel starting in 2003. The parcel remains unchanged until 2010 when the road/driveway to the residence becomes more defined and a small area on the middle of the parcel looks to be cleared and graded. In October2013, several mounds of dirt possibly from test pits for soil sampling in the graded area in the middle of the property. In May to June 2017 there is grading along the Site access road and possible timber clearing. Between July 2019 and February 2021 there has been some brush removal in the middle eastern quarter of the parcel.

2.3 NEIGHBORING PROPERTIES

Land use in the vicinity of the site is zoned as Rural Residential (RR) and Diverse Agricultural (DA) with mostly single-family residential development, vacant homesites, forest, pastures and one vineyard parcel (as discussed further in Section 3.0 - Cumulative Impact Area). The developed properties are serviced by private septic systems and groundwater wells. There are no water supply companies or services in this area.

2.4 SITE DEVELOPMENT AND WATER USE

The proposed cannabis project is for a Medium Outdoor Cultivation operation that will consist of 37,404 feet squared ($ft^{2)}$ of outdoor canopy within a total operational space of 99,118 ft^2 as shown on **Plate 4 - Site Plan** and in more detail in **Appendix B - Engineered Site Plan**. This area will be located at the west end of the property where the natural slope of the land does not exceed 15%. Immature plants will be transferred from an off-site licensed cannabis nursery, so no propagation area for immature plants will be present. The cumulative 37,404 ft^2 of outdoor canopy will occur within 19 adjacent beds that are 6 ft wide and have varying lengths. There will be 3 ft aisles between beds as shown in more detail in **Appendix B - Engineered Site Plan**.

The existing site groundwater well will be used to irrigate cannabis irrigation and for site workers water supply. The proposed irrigation well is located near Burnside Road on the eastern portion of the Site **as shown on Plate 4 - Site Plan** and in more detail in Appendix B - Engineered Site Plan. Water uses are described below and summarized in **Table 1 - Estimated Annual Site Water Usage.**

2.4.1 OUTDOOR CULTIVATION WATER USAGE (37,404 ft^2, 0.85 acre)

The approximately 37,404 ft^2outdoor cannabis cultivation project is being designed to use minimal amounts of water. The applicant has not had any specific experience growing cannabis at this location but the applicant is an experienced cannabis cultivator and is designing the system to use minimal amounts of water. The outdoor cannabis plants will be grown in raised beds using a combination of hand watering and drip irrigation. In addition, cannabis irrigation will be performed early in the day while temperatures are coolest to minimize evaporation rates. The Applicant plans to utilize Hügelkultur® farming methods for his cannabis cultivation, which involves the burying of logs and organic matter several feet below the surface and then backfilling with specially formulated soils. According to the Applicant, the high precipitation in the area will allow the buried logs to soak up water in the winter and spring and retain moisture throughout the summer. This method of planting and farming allows the plants to tap moisture stored deep within the soil matrix and ultimately decreases the amount of water required to irrigate the cannabis.

It is our understanding that a cannabis water usage rate of 2-acre feet/acre/year for outdoor cultivation is not out of the ordinary for typical 6 to 7-month cycle, large cannabis plants. However, based on the proposed farming methods discussed above, we estimate that the project will require slightly less than the average (1.53 acre-feet/year) or approximately 498,552 gallons/year. Based on these usage rates, we estimate that the project will require an average of approximately 2,330 gallons/day (498,552 gallons/214 days) for cannabis irrigation over the entire cultivation season (April to October). A breakdown of the anticipated monthly water usage is presented on **Table 1 -**

Estimated Annual Site Water Usage

As part of the site development, the applicant also plans to install four (4) 5,000-gallon, poly water-storage tanks proximate to the proposed cultivation area and one 5,000-gallon water tank near the irrigation well as shown on **Plate 4 - Site Plan** and in more detail in **Appendix B - Engineered Site Plan**. A water distribution system will then be designed to deliver well water directly into the storage tanks located strategically within the cultivation service area. Cannabis irrigation will be performed directly from the tanks. The 5,000-gallon poly tanks will be kept full as a backup water supply, as well as for fire suppression and dust control. Access to the water storage tanks would also be made available for emergency use by Sonoma County Fire and CalFire for fire management purposes.

2.4.2 EMPLOYEE WATER USAGE

It is anticipated that the project will require the use of one full time and several part time employees. On average we estimate that the project will have the equivalent of three (3) full-time employees working the cultivation season of 214 days a year. Using the Napa County Water Availability Guidance Document estimate of 15 gallons of water utilized per day per cultivation worker on site, we calculated the following additional water usage for the employees as follows:

> 3 (employees) x 15 gallons/day (daily employee water usage) x 214 days/year =
> Employee Groundwater Usage 9,630 gallons /year (0.03 acre-feet/year)

2.4.3 LIVESTOCK WATER USAGE

Currently the property has goats, and pigs however the proposed project will only include raising 10 small goats for weed control and two pigs. Sonoma County Water use guidelines for livestock (0.05 acre-feet/year) are only established for Sheep or Cows[1]. Daily water requirements for goats (2.1 to 3.5 gallons /day) [2] and pigs (1.0 gallon/day)[3] were obtained from industry estimates [4].

- 10 goats x 3.5 gallons/day x 365 days/year = 12,775 gallons/year (0.04 acre-feet/year)
- 2 pigs x 1 gallons/day x 365 days/year = 730 gallons/year (0.002 acre-feet/year)

Total livestock water usage over 365 days will be 13,505 gallons (0.041 ac-ft)

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[1] https://sonomacounty.ca.gov/PRMD/Policies-and-Procedures/8-2-1-Water-Supply-Use-and-Conservation-Assessment-Guidelines/
[2] https://ontariogoat.ca/goat-gazette/goats-and-water-goat-gazette-december-2015/
[3] https://www.thepigsite.com/articles/patterns-of-drinking-water-use
[4] https://ontariogoat.ca/goat-gazette/goats-and-water-goat-gazette-december-2015/

TABLE 1 – ESTIMATED ANNUAL SITE WATER USAGE

Source	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Total	Total
	---------Gallons---------													acre-ft
Outdoor Cultivation	0	0	0	67,000	69,000	70,000	72,000	75,000	75,000	70,552	0	0	498,552	1.53
Employees	0	0	0	1,350	1,350	1,350	1,350	1,350	1,350	1,530	0	0	9,630	0.03
Livestock	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,125	1,130	13,505	0.04
TOTAL USAGE	1,125	1,125	1,125	69,475	71,475	72,475	74,475	77,475	77,475	73,207	1,125	1,130	521,687	1.60

2.4.4 SITE WATER USE SUMMARY

Based on these estimates the average daily water demand during the 214-day cultivation season, including employees and livestock, will be approximately 2,411 gallons/day and the peak daily demand in August and September is estimated to be 2,540 gallons/day.

3.0 CUMULATIVE IMPACT AREA

HES reviewed available water well records obtained from Sonoma County PRMD and California Department of Water Resources (DWR) and assessed information obtained from peer-reviewed scientific publications as referenced in this report to determine an appropriate Cumulative Impact Area (CIA) for the site. HES delineated the CIA based on known geologic, hydrologic and groundwater characteristics in the area. The CIA is a basin with Hudspeth Creek in the center and the perimeters defined by ridges and the site is located on the eastern side near the ridge top. Hudspeth Creek is the primary drainage for the CIA and also represents the northern border of the CIA. The CIA has a total area of approximately 345 acres is shown on **Plate 5 – Cumulative Impact Area and Well Locations**.

HES identified 50 parcels in the CIA including the site parcel (#1). Therefore, the CIA includes the entire site and all or portions of 49 other properties (**Plate 5 – Cumulative Impact Area and Well Locations)**. The property sizes in this area ranges from small rural residences (<1.0 acre) to large ranches (>20-acres) with multiple dwellings. In general, this is a heavily wooded area with some pasture lands in the upland areas of the CIA.

Of the 50 parcels in the CIA, only one is a vineyard and one is zoned for a pasture, the rest are zoned for rural residential either single residences (36), multiple residences (3) or single residence with a granny unit (4). From review of the county records there are 6 vacant homesite that could be residences in the future. Zoning in this area is unlikely to change significantly so future development is anticipated to be consistent with currently allowed conditions. Descriptions of each parcel within the Cumulative Impact Area is presented on **Table 2 – Cumulative Impact Area Properties**.

TABLE 2 – CUMULATIVE IMPACT AREA PROPERTIES

Item Number	APN	Address(s)	Acres	Zoning Code	Assessor Use Code
1*	073-061-018	2750 Burnside Rd	10.88	DA 10	Rural Res/Single Residence
2	073-061-072	10450 Barnett Valley Rd	13.13	RR 10	Rural Res/Single Residence
3	073-061-071	NA	5.31	RR 10	Rural Res/Vacant Homesite
4	073-061-022	10360 Barnett Valley Rd	0.96	RR 10	Rural Res/Single Residence
5	073-061-070	3190 Burnside Rd	8.58	RR 10	Rural Res/Single Residence
6	073-061-066	NA	9.86	RR 10	Rural Res/Vacant Homesite
7	073-061-069	3180 Burnside Rd	21.51	RR 10	Rural Res/Manufactured Home
8	073-061-026	3020 Burnside Rd	5.92	RR 10	Rural Res/Single Residence
9	073-061-027	3060 Burnside Rd	7.00	RR 10	Rural Res/Single Residence
10	073-061-025	3010 Burnside Rd	8.87	RR 10	Rural Res/Single Residence
11	073-061-024	2950 Burnside Rd	8.15	RR 10	Rural Res/Single Residence
12	073-061-064	NA	8.94	DA 10	Rural Res/vacant Homesite
13	073-061-063	2824 Burnside Rd	13.29	DA 10	Rural Res/Single Residence
14	073-061-059	2800 Burnside Rd	3.00	RR 10	Rural Res/Vacant Homesite
15	073-061-068	1162 W Sexton Rd	17.64	RR 10	Rural Res/Single Residence
16	073-061-016	1815/1819 Sexton View Ln	7.36	DA 10	Rural Res/2 or More Residences
17	073-061-014	2670 Burnside Rd	2.02	DA 10	Rural Res/Single Residence
18	073-061-015	2680 Burnside Rd	1.69	DA 10	Rural Res/Single Residence
19	073-061-074	1160 W Sexton Rd	15.61	DA 10	Rural Res/Single Residence
20	073-061-073	2650 Burnside Rd	13.06	DA 10	Rural Res/Single Residence
21	073-061-003	2630 Burnside Rd	8.38	DA 10	Rural Residential SFD w/Granny Unit
22	077-040-008	1156/1335 W Sexton Rd	21.85	DA 10	Rural Res/2 or More Residences
23	077-040-010	1745 Sexton View Ln	8.07	DA 10	Rural Res/Single Residence
24	077-040-011	2640/2642 Burnside Rd	12.35	DA 10	Rural Residential SFD w/Granny Unit

Item Number	APN	Address(s)	Acres	Zoning Code	Assessor Use Code
25	077-040-012	1723/1725 Sexton View Ln	10.00	DA 10	Rural Res/2 or More Residences
26	073-071-029	1607 W Sexton Rd	6.22	DA 10	Rural Res/Single Residence
27	073-071-031	1609 W Sexton Rd	6.25	DA 10	Rural Res/Single Residence
28	073-071-030	1617 W Sexton Rd	6.29	DA 10	Rural Res/Single Residence
29	073-071-077	10622 Barnett Valley Rd	5.14	RR 10	Rural Res/Single Residence
30	073-071-032	10582 Barnett Valley Rd	11.28	RR 10	Rural Res/Single Residence
31	073-071-043	10550 Barnett Valley Rd	16.89	RR 10	Pasture
32	073-071-040	10560/10562 Barnett Valley Rd	6.33	RR 10	Rural Res/vacant Homesite
33	073-071-039	10660 Barnett Valley Rd	5.34	RR 10	Rural Res/Single Residence
34	073-071-041	10564/10566 Barnett Valley Rd	7.15	RR 10	Rural Residential SFD w/Granny Unit
35	073-071-042	10576 Barnett Valley Rd	5.80	RR 10	Rural Res/Single Residence
36	073-071-075	10596/10598 Barnett Valley Rd	5.90	RR 10	Rural Residential SFD w/Granny Unit
37	073-071-076	0610 Barnett Valley Rd	5.20	RR 10	Rural Res/vacant Homesite
38	073-071-074	10586/10588 Barnett Valley Rd	6.62	RR 10	Rural Res/Single Residence
39	073-062-030	3121/3129 Burnside Rd	12.22	RR 10	Rural Res/Single Residence
40	073-062-042	3109 Burnside Rd	0.84	RR 10	Rural Res/Single Residence
41	073-062-041	3075 Burnside Rd	0.72	RR 10	Rural Res/Single Residence
42	073-062-040	3043 Burnside Rd	0.82	RR 10	Rural Res/Single Residence
43	073-062-026	2951 Burnside Rd	3.00	RR 10	Rural Res/Single Residence
44	073-062-050	2875 Burnside Rd	7.96	RR 10	Irr. Vineyard/Premium w/Residence
45	073-062-023	2789 Burnside Rd	2.51	RR 10	Rural Res/Single Residence
46	073-062-022	2703 Burnside Rd	3.72	RR 10	Rural Res/Single Residence
47	073-062-021	2685 Burnside Rd	1.94	DA 10	Rural Res/Single Residence
48	073-062-039	2545 Burnside Rd	1.05	DA 10	Rural Res/Single Residence
49	073-062-020	2625 Burnside Rd	1.04	DA 10	Rural Res/Single Residence
50	073-071-028	1520 W Sexton Rd	5.20	DA 10	Rural Res/Single Residence

3.1 GROUNDWATER USAGE

Based on available information including a Google Earth February 2021 aerial photograph, HES estimated the land use acreage within the 335-acre Cumulative Impact Area as follows:

200 acres	Woodlands Oak, Douglas Fir, and Redwood
80 acres	Livestock grazing pasturelands
50 acres	Residential use including houses and landscaping
5 acres	Vineyard

3.1.1 CURRENT DOMESTIC WATER USAGE IN THE CIA

According to the USGS, the average person within the Santa Rosa Plain Watershed uses 0.19 acre-feet/year for domestic purposes[5]. In addition, the United States Census Bureau reported in 2010 that the average household in Sonoma County has 2.55 residents[6]. Therefore, for the purpose of this assessment we used a conservative number of three (3) residents per primary residence and two (2) residents per accessory dwelling units (ADUs). It is assumed that each resident uses 0.19 acre-feet/year. Of the 50 properties identified in the Cumulative Impact Area there appears to be 46 primary residential dwellings (36 residences on single parcels, 6 residences on 3 parcels zoned for multi residences, and 4 parcels with permitted ADUs). Therefore, the current domestic water usage within the CIA is estimated as follows:

46 primary residences (from 43 parcels) x 3 (people per residence) = 138 people
4 ADUs (from 4 parcels) x 2 (people per ADU) = 8 people
146 people x 0.19 acre-feet/year =
27.74 acre-feet/year = Current Domestic Water Usage

This estimate for residential demand assumes that all domestic water is supplied from groundwater; other sources of water (rain water, reservoirs or surface water) were not included.

3.1.2 FUTURE POTENTIAL DOMESTIC WATER USAGE IN THE CIA

For future potential groundwater demand we first assume that the six (6) vacant homesites will be develop with a single home. Each new home will have 3 residents. We can further assume that the other single residential properties with greater than 2.0 acres (28 parcels) will be developed with ADUs at some point. Those ADUs will be occupied by two (2) residents each. Therefore, the CIA has a future potential of 74 new people (18 people in a new primary home and 56 people in future ADUs). With this data, the future potential groundwater demand for domestic purposes can be calculated follows:

74 (18 new primary residents and 56 new ADU residents) x 0.19 acre-feet/year =
14.06 acre-feet/year = Future Potential Water Demand from New Residents

[5] Santa Rosa Plain Groundwater Management Plan, Sonoma County Water Agency, 2014
[6] http://www.bayareacensus.ca.gov/counties/SonomaCounty.html

3.1.3 CURRENT PASTURE WATER USE IN THE CIA

There is only one parcel zoned for pasture lands but HES estimated that there is currently approximately 80 acres of pasture/livestock grazing land within the CIA. Sonoma County estimates that livestock (sheep or cows) water usage is 0.05 acre-feet/year/acre[7]. Therefore, pasture land annual water usage can be calculated as follows:

80-acres (pastureland acres) x 0.05 acre-feet/acre/year (water usage) =
4.0 acre-feet/year = Current Livestock Grazing Water Demand

Pasture land water use is not expected to change as the remaining land appears to be protected riparian woodlands.

3.1.4 VINEYARD WATER USE IN THE CIA

HES estimated that there is approximately 5 acres of irrigated vineyard land currently planted within the Cumulative Impact Area and there is an additional 80 acres of pasture land of which approximately ½ could theoretically be developed as vineyards in the future (based on zoning).

Generally, vineyard irrigation varies from 0.15 acre-feet per acre per year in cooler, coastal areas, to about 0.5 acre-feet per acre per year for warmer inland valleys. Previous studies in Sonoma County found that average vineyard water demand ranged from about 0.2 acre-feet per acre in 2010 (average year) to 0.49 acre-feet per acre in the drier years (2012-2013). However, when assessing water use in Sonoma County Permit Sonoma recommends using a water usage rate of 0.6 acre-feet/acre/year for vineyard irrigation[8] and for the purpose of this Assessment HES conservatively assumed that all vineyard areas found within the Cumulative Impact Area are irrigated by groundwater. Therefore, using the conservative estimate of 0.6 acre-feet/acre/year, the annual groundwater demand of existing vineyard land in Cumulative Impact Area is:

5 acres x 0.6 acre-feet/acre/year =
3 acre-feet/year = Current Vineyard Water Demand

Future vineyard water demand assumes that an additional 40-acres of pasture land could theoretically be developed within the Cumulative Impact Area at some time. Therefore, future potential groundwater use for vineyard irrigation can be estimated as follows.

40 acres x 0.6 acre-feet/acre/year =
24 acre-feet/year = Potential Future Vineyard Water Demand

So,

3 acre-feet/year (Current) + 24 acre-feet/year (Potential Future) =
27 acre-feet/year = Current and Future Potential Vineyard Water Demand

[7] Permit Sonoma 8-2-1 Water Supply, Use and Conservation Assessment Guidelines version 1/7/2020
[8] Sonoma County Permit and Resource Management Department, Policy 8-2-1 Water Supply, Use and Conservation Assessment Guidelines, updated January 7, 2020.

3.1.5 TOTAL WATER DEMAND IN CIA

Domestic water use, livestock water use and vineyard irrigation have been identified as the primary groundwater uses in the CIA. Based on the estimations presented above, the total current groundwater demand and the future potential groundwater demand within the entire Cumulative Impact Area, including the proposed project are summarized on **TABLE 3 – Estimated Water Usage in Cumulative Impact Area**.

TABLE 3– ESTIMATED WATER USAGE IN CUMULATIVE IMPACT AREA

Groundwater Uses	Number of uses	Rate of Use (acre-feet)	Annual Water Use (acre-feet)/year
46 Residences (Primary Residences)	3 people/residence = 138 people	0.19 ac-ft/ resident	26.22
4 ADUs	2 people/ADU = 8 people	0.19 ac-ft/ resident	1.52
Pasture/Livestock	85 acres of pasture	0.05 ac-ft/ acre	4
Vineyard	<5 acres of irrigated vineyards	0.6 ac-ft/acre	3
Total Estimated Current Water Usage			**34.74**
28 potential new ADUs (parcels <2 acres)	2 people/new ADU = 56 people	0.19 ac-ft/ resident	10.64
6 potential new homes on vacant homesites	3 people/residence = 18 people	0.19 ac-ft/ resident	3.42
Vinyard	Potential for 40 acres	0.6 ac-ft/acre	27
Total Potential Future Domestic Uses			**41.06**
Proposed Cannabis Cultivation at Project	0.85acre cannabis usage Employee usage	1.53 ac-ft 0.04 ac-ft	1.60
Total Existing and Proposed Water Usage Estimates		**Without Cannabis**	**75.80**
		With Cannabis	**77.40**

Note: Projected water usage for cannabis cultivation provided by the property owner and estimates on household domestic water use are based on 2014 USGS study of the Santa Rosa Plain Watershed and 2010 Census Data for Sonoma County.

Based on the conservative assumptions discussed above, HES has provided the following estimates for the Current and Future annual groundwater demand (in acre-feet/year) within the Cumulative Impact Area, *excluding* the cannabis cultivation project:

- Current Groundwater Demand in CIA (excluding proposed cannabis) = 34.74 acre-feet/year
- Potential Future Increased Groundwater Demand in CIA (excluding proposed cannabis) = 41.06 acre-feet/year

  Total Potential Groundwater Demand (excluding proposed cannabis) = 75.80 acre-feet/year

The Cultivation Project's water demand of 1.60 acre-feet/year (discussed in Section 2.4) increases the current total water demand within the CIA 4.6 % and increases the future potential groundwater demand by 2.1 %.

4.0 HYDROLOGICAL CONDITIONS

According to USGS maps, the project site is located in the Green Valley sub watershed (HUC 12-180101100901) as shown on **Plate 3 – USGS Topography Map**. Surface water from the site flows westerly to Hudspeth Creek which flows north to a tributary of Atascadero Creek. Atascadero flows north for approximately 8-miles to the town of Graton where in converges with Green Valley Creek. Green Valley Creek flows into the Russian River approximately 1.5 miles upstream from Forestville. The Russian River then flows west eventually draining to the Pacific Ocean at Jenner.

The site is mapped by California Department of Water Resources (DWR) as being within the Wilson Grove Formation Highlands Basin (designated 1-55.01) a very low priority groundwater basin[9]. Review of the USGS Geologic Map for this area[10] shows that the site is underlain primarily by the Wilson Grove Formation which overlays the Franciscan Complex basement rocks described in sections 4.1 and 4.2 below**.** The contact between the Wilson Grove Formation and the Franciscan Complex is to the south of the Site as shown on **PLATE 5 -- GEOLOGIC MAP.**

The Site well was installed prior to 1980s and HES could not obtain a site Well Completion Report. However, Well Completion Reports were obtained for several wells on the surrounding properties within 500 feet of the Site Well (Wells 1,2,3, and 4 on **Table 4 – Well Inventory** and shown on **Plate 5 – Cumulative Impact Area and Well Locations).** Review of these well logs shows that the subsurface aquifer in this area is composed of Wilson Grove Formation rocks (sand, sandstone, and sandy clay) to between 132 to 157 feet depth (**Appendix C -Well Completion Reports**). The lower portion of the well logs below157 feet depth shows that the subsurface is composed of less permeable Franciscan Complex rocks (shale and blue clay). The site well was completed to approximately 150-feet.

4.1 WILSON GROVE FORMATION

The project site is mostly underlain by the Wilson Grove Formation as shown on **Plate 5 – Geologic Map.** The Miocene to Pliocene age Wilson Grove Formation consists of fine- to medium-grained, thick-bedded to massively-bedded, moderate- to well-sorted, uncemented to weakly cemented fossiliferous marine sandstone. The Wilson Grove Formation is generally 650 to 950 feet thick based on outcrop exposures and drillers logs in the northwest and may be as much as 3,000 feet thick in the Wilson Grove Formation Highlands Basin[11].

The Wilson Grove Formation forms a single, continuous aquifer unit, due to general lithologic homogeneity and the absence of faults. The sand and sandstones of the Wilson Grove Formation

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[9] California Department of Water Resources (DWR). 2020. Sustainable Groundwater Management Act 2019 Basin Prioritization, Process and Results. May.

[10] : USGS Miscellaneous Field Studies Map MF-2402, 2002, Geologic Map and Map Database of Western Sonoma, Northernmost Marin, and Southernmost Mendocino Counties, California. By M.C. Blake, Jr., R.W. Graymer, and R.E. Stamski 2002.

[11]Powell, C.L., Allen, J.R., and P.J. Holland (Powell). 2004. Invertebrate Paleontology of the Wilson Grove Formation (Late Miocene to Late Pliocene), Sonoma and Marin Counties, California, with some Observations on Its Stratigraphy, Thickness, and Structure. U.S. Geological Survey Open-File Report 2004-1017.

are generally productive aquifers, with reported specific yield of 10 to 20 percent [12] and a range in specific capacity of 0.05 to 0.5 gpm/ft[13]. The yields of wells in the Wilson Grove Formation range from 100 to 1,500 gpm[14].

Recharge to the Wilson Grove aquifer in the vicinity of the site is primarily through direct infiltration of precipitation as there are no intermittent or perennial creeks available for streambed recharge.

4.2 FRANCISCAN COMPLEX

Below the Wilson Grove Formation is the Franciscan Complex (KJfs), a Cretaceous and Jurassic Graywacke and mélange - Massive to distinctly bedded, lithic wacke and dark-gray or black siltstone, shale, and slate, grading into mélange consisting of sheared argillite and graywacke matrix enclosing blocks and lenses of sedimentary, metamorphic, and volcanic rock. The Franciscan Formation surrounds much of the property and is likely located beneath the Wilson Grove Formation at depth. The Franciscan Formation is made up of sheared shale and sandstone with resistant masses of chert, greenstone, and meta greenstone, and less resistant serpentinite.

Based on review of the Well Drillers Reports from nearby wells, the aquifer beneath the site and within the Cumulative Impact Area appears to consist of fractured sandstone and shale indicating the two formations are interfingered in this area. Shallow aquifers between 100-150 feet deep likely produce water from the Wilson grove formation while deeper aquifers in the area a likely from fractured rock of the Franciscan Complex.

Fractured rock aquifers are distinct from groundwater systems which are hosted in sedimentary deposits. While sedimentary aquifers store and transmit water through pore spaces between individual sediment granules, fractured rock aquifers store and transmit water through crevices, joints and fractures in an otherwise impervious rock mass. As a result, fractured rock aquifers exhibit hydraulic characteristics which are distinct from those observed in sedimentary aquifer systems with water availability (commonly observed in terms of bore yield) generally dependent on the nature (number, size and extent) of discontinuities in the rock mass and their degree of interconnection. This means the long-term yield available from bores screened in fractured rock aquifers is generally dependent on the localized extent and interconnection of discontinuities in the overall rock masses rather than permeability of the geological materials in the immediate vicinity of the abstraction point.

Fractured rock aquifers may also exhibit different recharge characteristics to other aquifer types, particularly unconfined aquifers. In addition, due to the age of the geological units forming fractured rock aquifers (typically pre-Tertiary age) extensive weathering commonly occurs along the upper surface of the rock mass. This weathering commonly results in the alteration of the rock materials to form clay minerals which inhibit the vertical movement of water. Permeability

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[12]Herbst, C.M. 1982. Evaluation of Ground Water Resources: Sonoma County, Volume 3: Petaluma Valley. California Department of Water Resources Bulletin 118-4. 94 p.

[13] https://petalumavalleygroundwater.org/wp-content/uploads/00_PVGSP-Sect3_Basin-Setting_SONOMA-WATER-REVISED_Final_08252021.pdf (Sweetkind and Teague, in review)

[14] California Department of Water Resources (DWR). 2014. Petaluma Valley groundwater basin: Bulletin 118 groundwater basin descriptions–Update June 30, 2014. 5 p.

in fractured rock aquifers may also be reduced with depth due to the progressive reduction in open space along joints and fractures due to the weight of the overlying rock mass. Shear zones associated with faults can create areas of secondary permeability and in these areas well yields can increase substantially.

4.3 DOMESTIC WELL INFORMATION

The site is located in unincorporated rural Sonoma County and is surrounded by rural residential properties all dependent on groundwater or surface water diversion for water supply. HES identified 16 Well Completion Reports on 14 properties (Property 073-061-024 had 3 wells logs) within or near the CIA, including those on three properties adjacent to the site. However, HES could not find a Well Completion Report for the site well. Available well logs are included **Appendix C -Well Completion Reports**.

TABLE 4 - WELL INVENTORY

APN/Well Number	Well install/ Test Year	Distance to Site Well (Feet)	Surface Elevation (Feet, MSL)	Total Well Depth (Feet)	Screen Interval/ (Feet)	Total Screen Thickness (Feet)	Well Yield (GPM)	Draw-down (Feet)	Specific Capacity (GPM/ft)	Well Map #
073-061-015/ 210171	1986	285	486	157	77-157	80	15	45	0.33	1
073-062-021/ 113158	1966	350	528	160	120-160	40	15	65	0.23	2
073-062-024/ 67758	1961	350	507	157	117-157	40	10	60	0.16	3
073-062-059/ 473965	1994	425	492	195	85-185	100	2	103	0.019	4
073-062-050/ 117448	1966	655	519	181	101-181	80	5	95	0.05	5
073-061-073/ 225381	1986	1050	410	190	130-190	60	20	NA	NA	6
073-062-026/ 107738	1967	1500	553	87	39-49 69-89	30	NA	NA	NA	7
073-061-024/ 291206	1989	1540	494	197	97-197	100	0.6	NA	NA	8A
073-061-024/ 73-061-24	1989	1540	494	190	90-190	100	1.6	155	0.01	8B
073-061-024/ 17059	1989	1540	494	201	57-77 177-197	40	1.1	185	0.006	8C
073-061-027 e0233011	2014	1800	480	345	75-95 115-135 155-175 195-215 235-255 275-295 325-345	140	2	320	0.006	9
077-040-009/ 97467	1972	2255	236	136	96-136	40	25	NA	NA	10
073-040-006/ e0197085	2014	2705	308	135	35-135	100	10	88	0.11	11
073-071-076/ 177144	1985	3265	572	187	60-100 119-139 159-179	80	5	102	0.04	12
073-071-041/ e0235077	2014	3750	603	240	90-110 130-150 170-190 210-230	80	1.5	220	0.0075	13
073-071-039 e0192845	2013	4430	604	220	120-140 160-200	60	20	250	0.08	14
Average Well Total Depth = 186				Average Screen Thickness =73				Average SC =0.09		

Review of the well logs in the CIA show that they are screened in both the Wilson Grove Formation and the Franciscan Formation rocks. Well yields from all of the wells reviewed were between 0.6- 25 gallon/minute (gpm). In general wells screened in the sandstones of the Wilson

Grove formation had higher yields. Total depths for the surrounding wells ranged from 86 to 345 feet with an average of 186 feet. The 4 wells within 500 feet of the site (Wells 1-4) had an average depth of 167 feet.

Based on well yield information provided on Well Completion Reports, the average specific capacity for the wells in the Cumulative Impact Area is low 0.09 gpm/ft. HES performed a well yield test on the project irrigation well on September 23, 2022, details on the well yield tests are provided below in Section 4.3.1

4.3.1 ONSITE WELL INFORMATION

The proposed project irrigation well is located on the eastern side of the parcel near Burnside Road. The well is approximately 150 feet deep and composed of 6-inch diameter steel casing. The irrigation well is equipped with a 3/4 horsepower submersible pump set at approximately 122 feet. Well testing was conducted by Ray's Well testing in July of 2019 and by HES in August 2022 (**Appendix D – Well Yield Testing)**.

4.3.2 WELL YIELD TESTING

O July 2, 2019 Ray's Well testing perform a 4-hour "Drawdown and Constant Pumping Level Test" on the Site irrigation well. The well never sustained a constant pumping rate during the testing with rates starting at 11.7 and ending a 9.6 gpm. During testing the water level sustained a constant drawdown level of 120 feet below TOC. The specific capacity calculated for this test was 0.11 gpm/foot of drawdown (i.e., 9.6 gpm/86 feet).

On August 23, 2022, HES conducted a 12-hour-hour "dry season" well yield test on the Site irrigation well. The existing submersible pump that was set in the well at a depth of approximately 122 feet was used for the test. The initial static water level was measured at 42.8 feet below the top of the well casing (TOC). The yield test began at 7:30 am and ended at 7:25 pm (11 hours 55 minutes or 715 minutes). Initially the well was pumped at 11.5 gpm, then the pumping rate was reduced until a steady rate of 7 gpm was obtained at 10:10 (after 160 minutes). After pumping for 520 minutes (4:10 pm) the drawdown stabilized at 120.9 feet below TOC and remained at that depth for the remaining 3 hours of the test. During pumping at the irrigation well HES also monitored two of the adjacent domestic wells at 2680 Burnside Road (Well 1) and 2800 Burnside Road (Well 4). Well 1 is located approximately 285 feet north of the Site well and Well 4 is located approximately 425 feet to the south of the Site well. After 12 hours of pumping neither well showed any measurable drawdown due to the well yield test pumping. The well yield test data and calculations are attached in **Appendix D – Well Yield Testing.**

A total of 5,080 gallons of water was pumped from the well during the 715-minutes of pumping which was an average rate of 7.2 gpm during testing. The specific capacity was calculated to be 0.092 gpm/foot of drawdown (i.e., 7.2 gpm/78 feet). The specific capacity was lower than previous testing in 2019 but near the average for wells within the CIA

Well recovery data was collected 12 hours on 45 minutes (765 minutes) following completion of the pump test and the static water level had recovered to a depth of 45.5 feet or approximately 96.5%. This indicates that pumping 5,080 gallons/day from the well did not create an aquifer overdraft.

Based on a conservative sustainable flow rate of 7 gpm and the average daily project demand of 2,411 gallons/day, we estimate that it would require approximately 5 hour and 44 minutes (344 minutes) of pumping daily. Peak demand was calculated to be 2,540 gallons/day which would require approximately 6 hours and 3 minutes (363 minutes) of daily pumping. Based on the results of the well yield test and recovery observations it appears that the well can produce the water necessary for the proposed cultivation project without creating aquifer overdraft conditions.

4.3.3 POTENTIAL IMPACTS TO STREAMS AND NEIGHBORING WELLS

To evaluate potential well pumping impacts to surface water bodies or wells on other properties, the potential lateral extent of pumping from the irrigation well was estimated. Using general relationships discussed in Driscoll (1986)[15]**,** we estimated the lateral pumping influence using information from the August 23, 2022, well yield test (see section 4.3.2 above). Review of the well logs for the surrounding wells show that in general first encountered water is shallow and not under pressure, therefore the shallow aquifer in this area is considered unconfined.

Transmissivity was estimated for an unconfined and confined aquifer, using the relationship of Specific Capacity (yield/drawdown) x the coefficient of 1,500 (unconfined)[16] and x2,000 (confined). To develop the slope of the drawdown curve from the pumping well, the value of Δs (drawdown over one log graph cycle) was calculated for a distance-drawdown relationship, where $T = 528Q/\Delta s$ [17]. Using this data and applying it to the site, we calculated a zone of pumping influence extending approximately 180 feet from the Site well as shown on the distance drawdown plot for an unconfined aquifer **Appendix E - Radius of Pumping Influence**.

The closest domestic well to the proposed project irrigation well is Well #1 (**Table 4 – Well Inventory** and shown on **Plate 5 – Cumulative Impact Area and Well Locations**) which is approximately 285 feet away on parcel 073-061-015 to the north. There was no measured drawdown on Well #1 during the 12-hour well yield test and the theoretical drawdown analysis confirms that no drawdown is expected at this distance to the pumping well.

No other wells identified in the Cumulative Impact Area are within the Radius of Pumping influence for the Site well (180 feet). In addition, there were no creeks or streams identified within the wells pumping radius of influence. Consequently, stream depletion from the proposed project pumping is not considered a concern to this assessment.

[15] Groundwater and Wells, Second Edition, Fletcher G. Discoll, 1986, published by Johnson Division, St. Paul Minnesota, 1089p.
[16] Groundwater and Wells, Second Edition, Fletcher G. Discoll, 1986, published by Johnson Division, St. Paul Minnesota, (Appendix 16D)
[17] Groundwater and Wells, Second Edition, Fletcher G. Discoll, 1986, published by Johnson Division, St. Paul Minnesota, 1089p. (Equation 9.11)

5.0 WATER BALANCE INFORMATION

USGS and DWR studies that discuss the Wilson Grove Formation were used to provide water balance information to assess groundwater sustainability within the Cumulative Impact Area.

5.1 GROUNDWATER STORAGE

To estimate the aquifer storage capacity within the CIA we relied on well screen information for the 16 wells identified proximate to the site which are predominantly screened in the Wilson Grove Formation. The average well screen (73 feet) can loosely be correlated to average aquifer thickness. Based on the aquifer at the site consisting primarily of Wilson Grove Formation we estimated the specific yield of the aquifer to be 15 percent (0.15)[18]. Therefore, the Aquifer Storage can be estimated using the following equation:

> 73 feet (Aquifer Thickness) x 0.15 (Specific Yield) x Cumulative Impact Area (335 acres) = Aquifer Storage = 3,668 acre-feet.

5.2 PRECIPITATION

Precipitation, primarily as rainfall and stream flow are the major sources of inflow to the aquifers in the Cumulative Impact Area. Mean seasonal precipitation maps from Sonoma County Water Agency[19] indicate the mean annual rainfall in the site vicinity is about 35 inches (2.91 ft) (**Plate 7 – Precipitation Map**).

From this we can calculate the annual rainfall for the entire CIA (335 acres).

> 335 acres x 2.91 feet (annual precipitation) = 975 ac-ft/year
> **975 acre-feet /year = Estimated Annual Precipitation in the CIA**

5.3 GROUNDWATER RECHARGE

Recharge to the shallow aquifers in this area primarily occurs through direct precipitation in the subbasin. Recharge that reaches the deeper aquifer zones is more poorly defined and likely comes from a combination of leakage from overlying shallow aquifers and mountain front recharge along the margins of the valley[20].

Soil textures in the Cumulative Impact Area consist of weakly cemented marine-deposited sandstone. These soils are rich clean sand with a low degree of cementation which allows for higher specific yield rates than any of the other rocks or sediments in the Santa Rosa Plain Watershed.

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[18] Hydrologic and Geochemical Characterization of the Santa Rosa Plain Watershed, Sonoma County, California, U.S. Geological Survey, Scientific Investigations Report 2013–5118.
[19] Sonoma County Mean Seasonal Precipitation in Flood Control Design Criteria manual: Plate No. B-3, Sonoma County Water Agency, Revised January 2005.
[20] Sonoma Valley Groundwater Sustainability Agency. http://sonomavalleygroundwater.org/gsp/

To estimate the groundwater recharge within the Cumulative Impact Area HES first assumed that the recharge to the aquifer is primarily through rainfall and that most of the rainfall accumulated within the 335-acre Cumulative Impact Area drains to Hudspeth Creek proximate to the site. Therefore, the annual recharge to the Cumulative Impact Area can be initially estimated using the following data and equation.

> Estimated groundwater recharge from rainfall = 335 acres x 2.91 feet (35 inches) = 975 ac-ft/year (317,655,847 gallons/year)

However, this estimate does not account for surface run-off, stream underflow, and evapo-transpiration that was discussed above and that occurs in all watersheds. To further evaluate the percentage of rainfall that contributes to recharge of the aquifer HES reviewed the Santa Rosa Plain Watershed Groundwater Management Plan[21] which discusses hydrogeology in the Region as well as the USGS Scientific Investigation Report 2006-51157. Estimates for recharge found in these documents are considered to be generally reliable for our site evaluation. Average recharge to the ground-water system for the entire Santa Rosa Plain, including mountainous zones, is derived from an estimated average of 531,000 acre-feet of precipitation falling within the entire watershed. After accounting for runoff (188,400 acre-feet/year) and evapotranspiration (262,000 acre-feet/year), the amount of water available for recharging the Santa Rosa Plain Watershed equates to 80,600 acre-feet/year, or approximately 15.2% of the annual rainfall. However significant variations to this value can occur based on topography, soil infiltration rates, geology etc., and according to these USGS and Sonoma County Water Agency Reports, the long-term average precipitation that recharges groundwater in these regions can be as low as 1.67%. Therefore, based on topography, geology, soil types and regional studies, we estimate that the long-term average precipitation that recharges groundwater within our defined Cumulative Impact Area is approximately 12%. With this data and the precipitation data presented above, we can re-calculate the groundwater recharge within the Cumulative Impact Area using the following equation.

> 975 ac-ft/year (annual precipitation CIA) x 0.1 (long term average for recharge) = 117 acre-feet = Estimated Annual Aquifer Recharge

5.3.1 DROUGHT CONDITIONS

Potential drought conditions in California could alter the recharge potential presented in this assessment. To account for drought conditions, we have assumed that the rainfall would only be 60% of average, which would correlate to only 60% of average recharge to aquifers in the Cumulative Impact Area. Using this assumption, we can re-calculate the aquifer recharge potential in a drought year using the following equation.

> 117 acre-feet/yr. = Estimated Average Aquifer Recharge x 0.6 (drought year multiplier) = 70.2 acre-feet/yr. = Estimated Annual Recharge during Drought Conditions

[21] Santa Rosa Plain Groundwater Management Plan, Sonoma County Water Agency, 2014

6.0 WATER QUALITY

A water quality assessment of the project well was not performed as part of this Hydrogeologic Assessment Report. However, a search for contaminated groundwater sites within 1,000 feet of the site was performed on the States Geotracker Database. No contaminated groundwater sites were identified within 1,000 - feet of the site. Water quality assessment testing for bacteria, nitrates, arsenic and other common contaminants may be necessary prior to beginning site operations to ensure potable water is available for potential onsite nursery employees.

7.0 CONCLUSIONS

The site aquifer consists of clayey sand/sandy clay, sand and sandstone that are consistent with the Wilson Grove Formation. Recharge to the aquifers likely occurs primarily from direct rainfall, stream flow and septic return flow. The aquifer in this area is estimated to be unconfined. With an estimated aquifer specific yield of 15%, we estimate that the total aquifer storage within the defined Cumulative Impact Area is 2,125 acre-feet. The annual recharge to the aquifer is estimated to be 117 acre-feet/year. The current annual water demand within the Cumulative Impact Area is conservatively estimated to be 34.74 acre-feet and future water demand in the CIA is estimated to be 75.08. The estimated annual water demand for the proposed cannabis cultivation including employees is 1.6 acre-feet/year.

In summary:

2,125 acre-feet	Annual Aquifer Storage in Cumulative Impact Area
117 acre-feet	Annual Recharge to Aquifer
70.2 acre-feet	Annual Recharge to Aquifer During Drought
34.74 acre-feet	Annual Current Water Use in Cumulative Impact Area
75.08 acre-feet	Annual Future Potential Water Use in Cumulative Impact Area w/o Cannabis
1.6 acre-feet	Annual Water Use for Proposed Cannabis Project (acre-feet)

Based on the assumptions and estimates presented in this report, future development of available remaining land to the extent possible within the Cumulative Impact Area may create unsustainable water demand in the Cumulative Impact Area over time. However, the water demand proposed for the site is not significant with respect to the potential future conditions in the Cumulative Impact Area and is not likely to cause overdraft conditions at this time.

The quantity of groundwater to be used for the project and within the Cumulative Impact Area compared to the quantity of available groundwater indicates that pumping for the Project is unlikely to result in significant declines groundwater resources over time. Based on the findings of this report, pumping and groundwater extraction at the Project well will not significantly impact neighboring wells or stream flow conditions in Hudspeth Creek. In addition, based on the relative distance to the coastal areas, the depth of the site well and the proposed water usage rates, salt water intrusion is not considered to be a concern to this Assessment.

8.0 Limitations

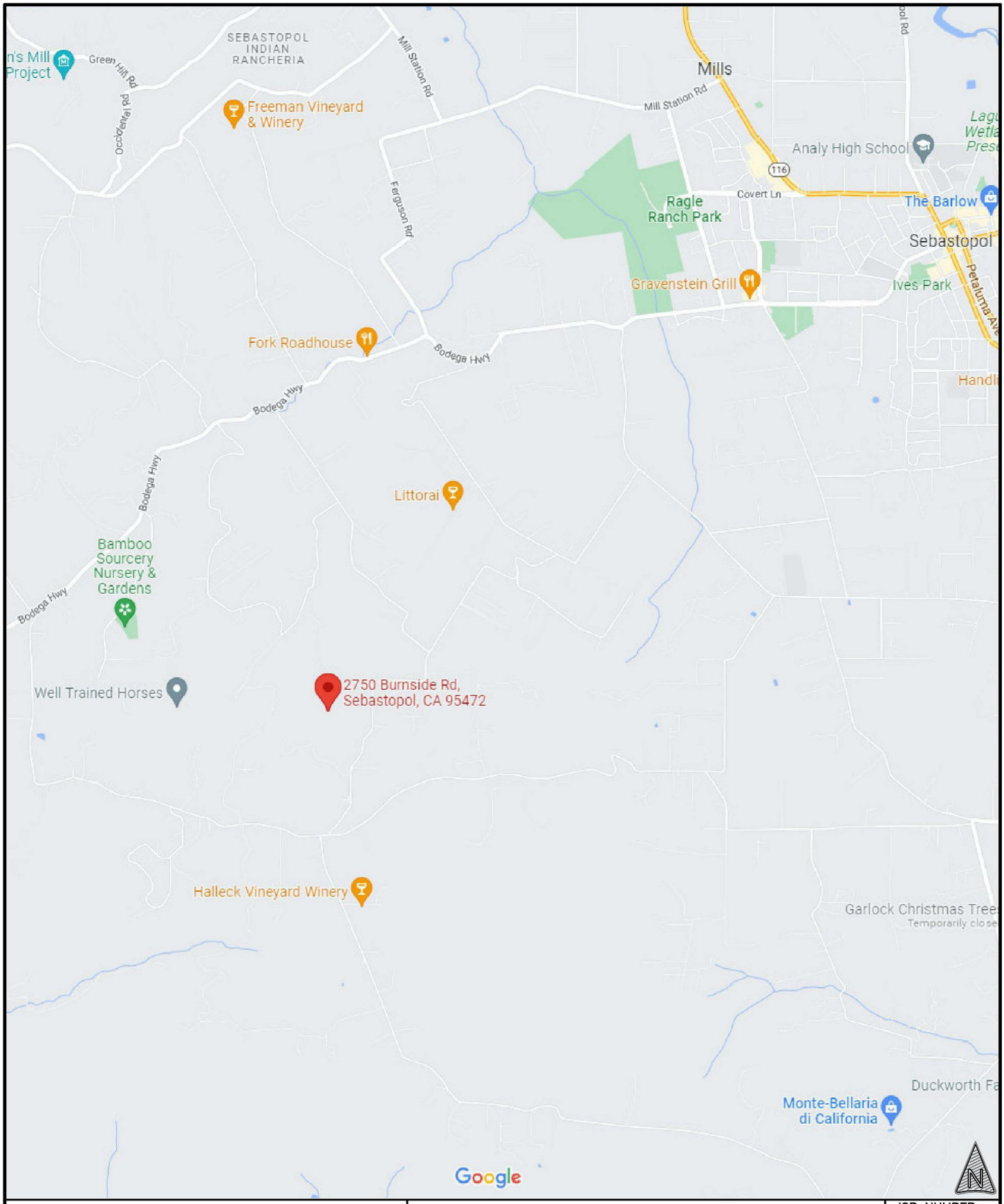
HES is not responsible for the independent conclusions, opinions or recommendations made by others based on the records review, site inspection, field exploration, laboratory test data and interpretations presented in this report.

Groundwater systems of Sonoma County are typically complex, and available data rarely allows for more than general assessment of groundwater conditions and delineation of aquifers. Hydrogeologic interpretations are based on the drillers' reports made available to us through the California Department of Water Resources, available geologic maps and hydrogeologic studies and professional judgment. This analysis is based on limited available data and relies significantly on interpretation of data from disparate sources of disparate quality.

It should be noted that hydro-geological assessments are inherently limited in the sense that conclusions are drawn and recommendations developed from information obtained from limited research and site evaluation. Additionally, the passage of time may result in a change in the environmental characteristics at this site and surrounding properties. This report does not warrant against future operations or conditions, nor does this warrant operations or conditions present of a type or at a location not investigated.

This study is not intended to assess if any soil contamination, waste emplacement, or groundwater contamination exists by subsurface sampling through the completion of soil borings and the installation of monitoring wells. The scope of work, determined by the client, did not include these activities.

This Report is for the exclusive use of Burnside Farms LLC their affiliates, designates and assignees and no other party shall have any right to rely on any service provided by Hurvitz Environmental Services without prior written consent.



HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

SITE LOCATION MAP

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

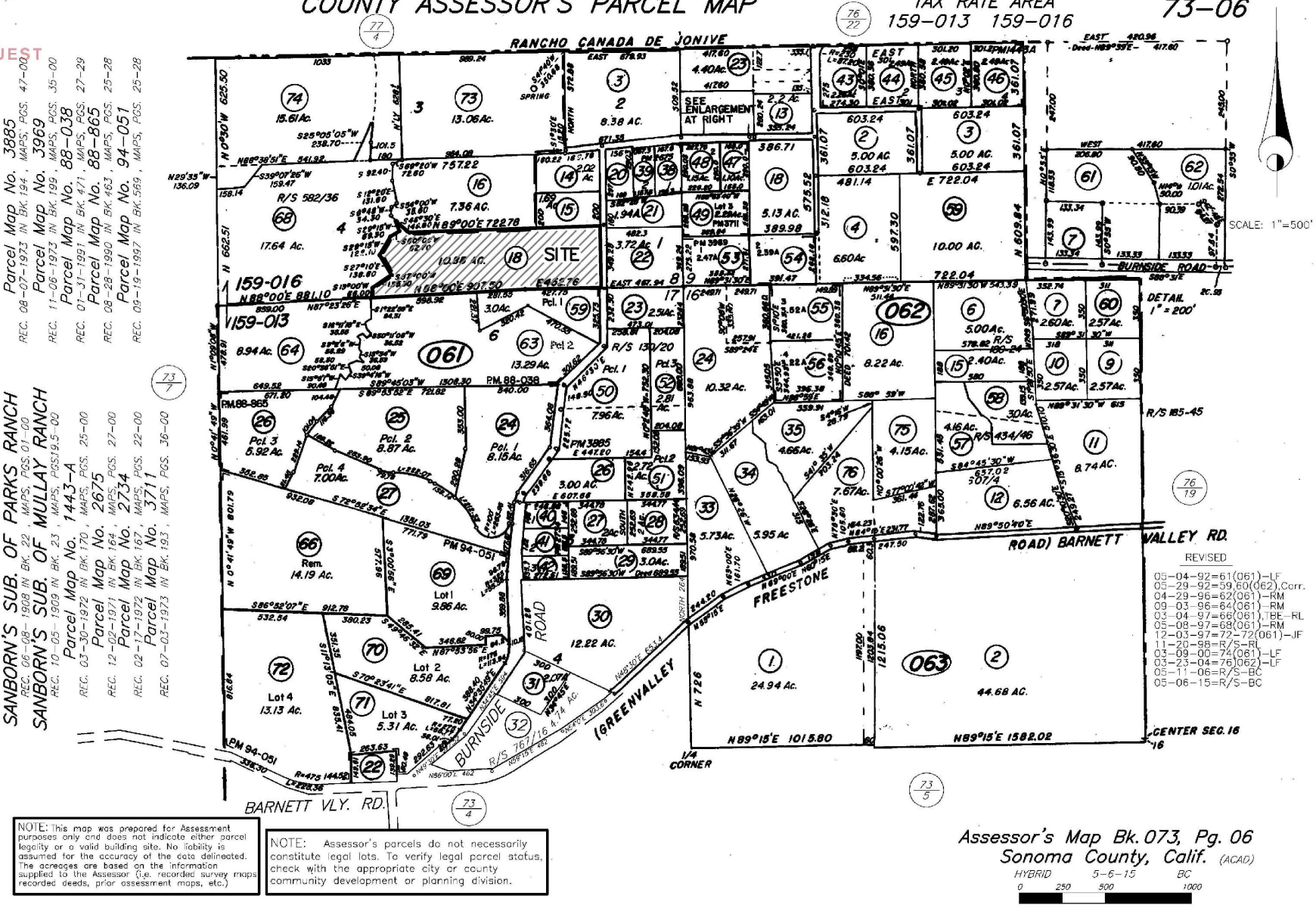
JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 1

Provided by:
PARCELQUEST

COUNTY ASSESSOR'S PARCEL MAP

TAX RATE AREA
159-013 159-016

73-06



REVISED
05-04-92=61(061)-LF
05-29-92=59,60(062),Corr.
04-29-96=62(061)-RM
09-03-96=64(061)-RM
03-04-97=66(061),TBE-RL
05-08-97=68(061)-RM
12-03-97=72-72(061)-JF
11-20-98=R/S-RL
03-09-00=74(061)-LF
03-23-04=76(062)-LF
05-11-06=R/S-BC
05-06-15=R/S-BC

Assessor's Map Bk. 073, Pg. 06
Sonoma County, Calif. (ACAD)
HYBRID 5-6-15 BC
0 250 500 1000

NOTE: This map was prepared for Assessment purposes only and does not indicate either parcel legality or a valid building site. No liability is assumed for the accuracy of the data delineated. The acreages are based on the information supplied to the Assessor (i.e. recorded survey maps recorded deeds, prior assessment maps, etc.)

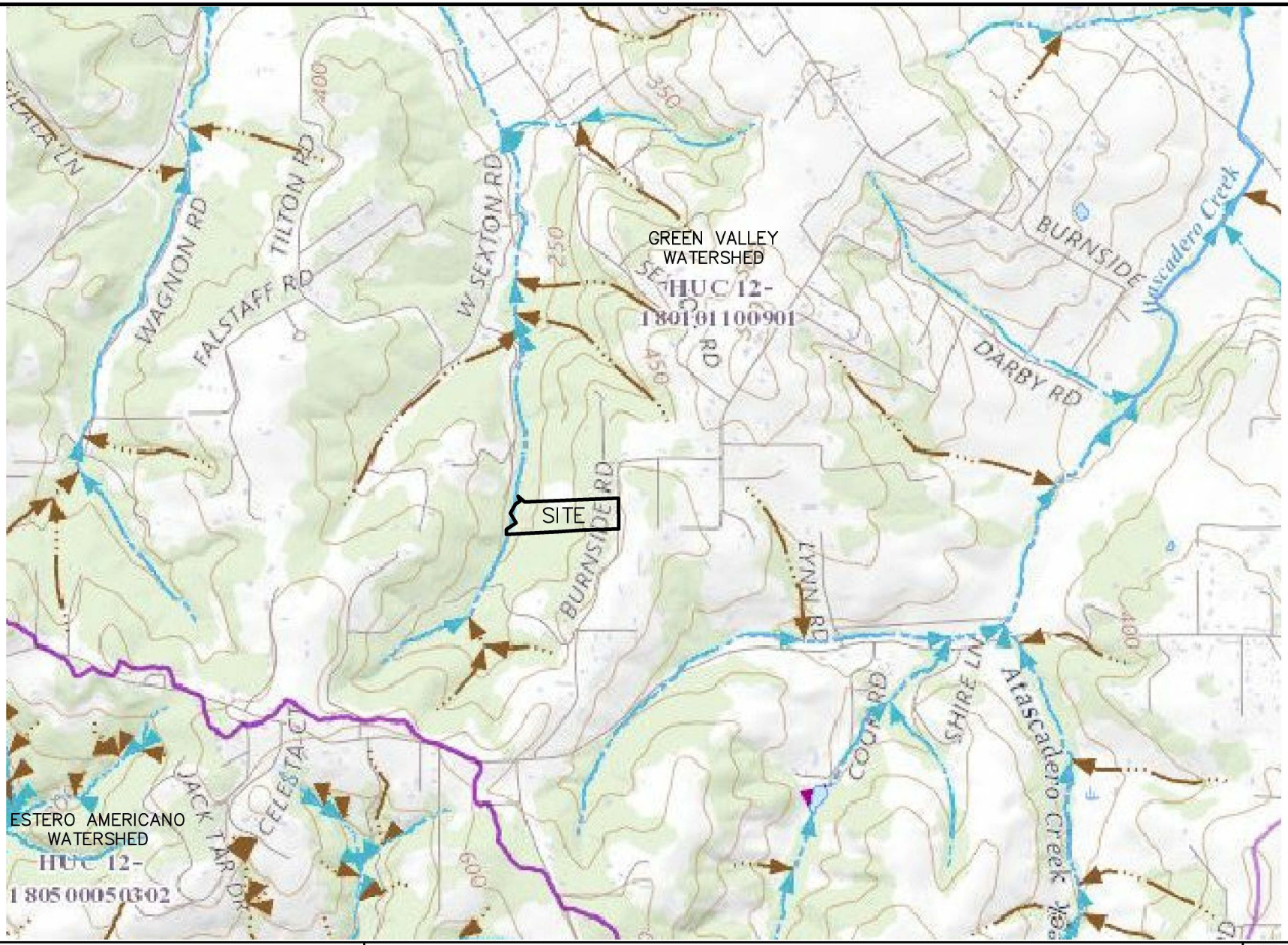
NOTE: Assessor's parcels do not necessarily constitute legal lots. To verify legal parcel status, check with the appropriate city or county community development or planning division.

HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

ASSESSORS PARCEL MAP

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 2



HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

TOPOGRAPHIC MAP

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 3

HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

SITE PLAN

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

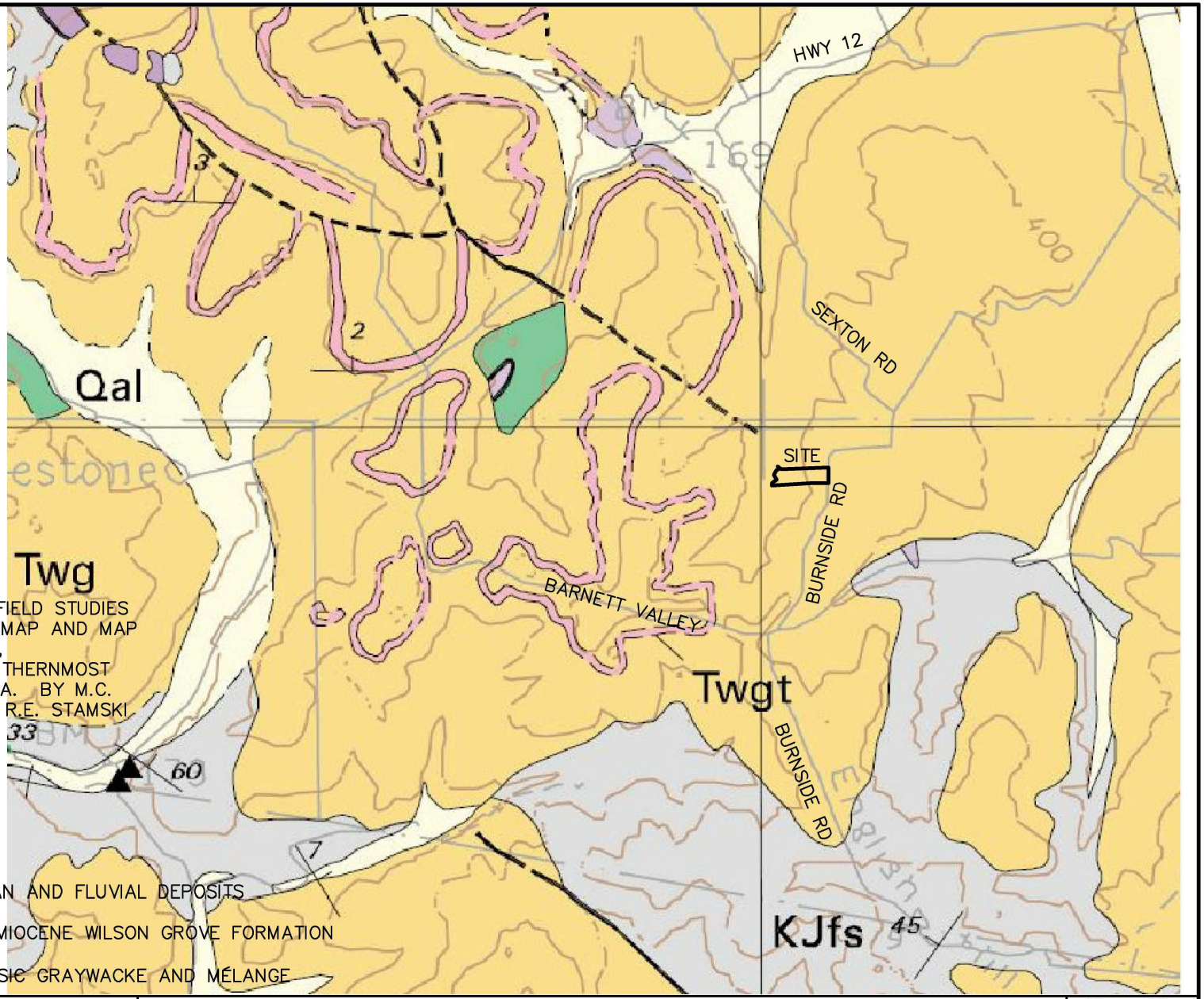
JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 4

HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

CUMULATIVE IMPACT AREA & WELL LOCATIONS

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 5



SOURCE: USGS MISCELLANEOUS FIELD STUDIES MAP MF-2402, 2002, GEOLOGIC MAP AND MAP DATABASE OF WESTERN SONOMA, NORTHERNMOST MARIN, AND SOUTHERNMOST MENDOCINO COUNTIES, CALIFORNIA. BY M.C. BLAKE, JR., R.W. GRAYMER, AND R.E. STAMSKI. 2002.

QAL – QUATERNARY ALLUVIAL FAN AND FLUVIAL DEPOSITS

TWG – LATE PLIOCENE TO LATE MIOCENE WILSON GROVE FORMATION

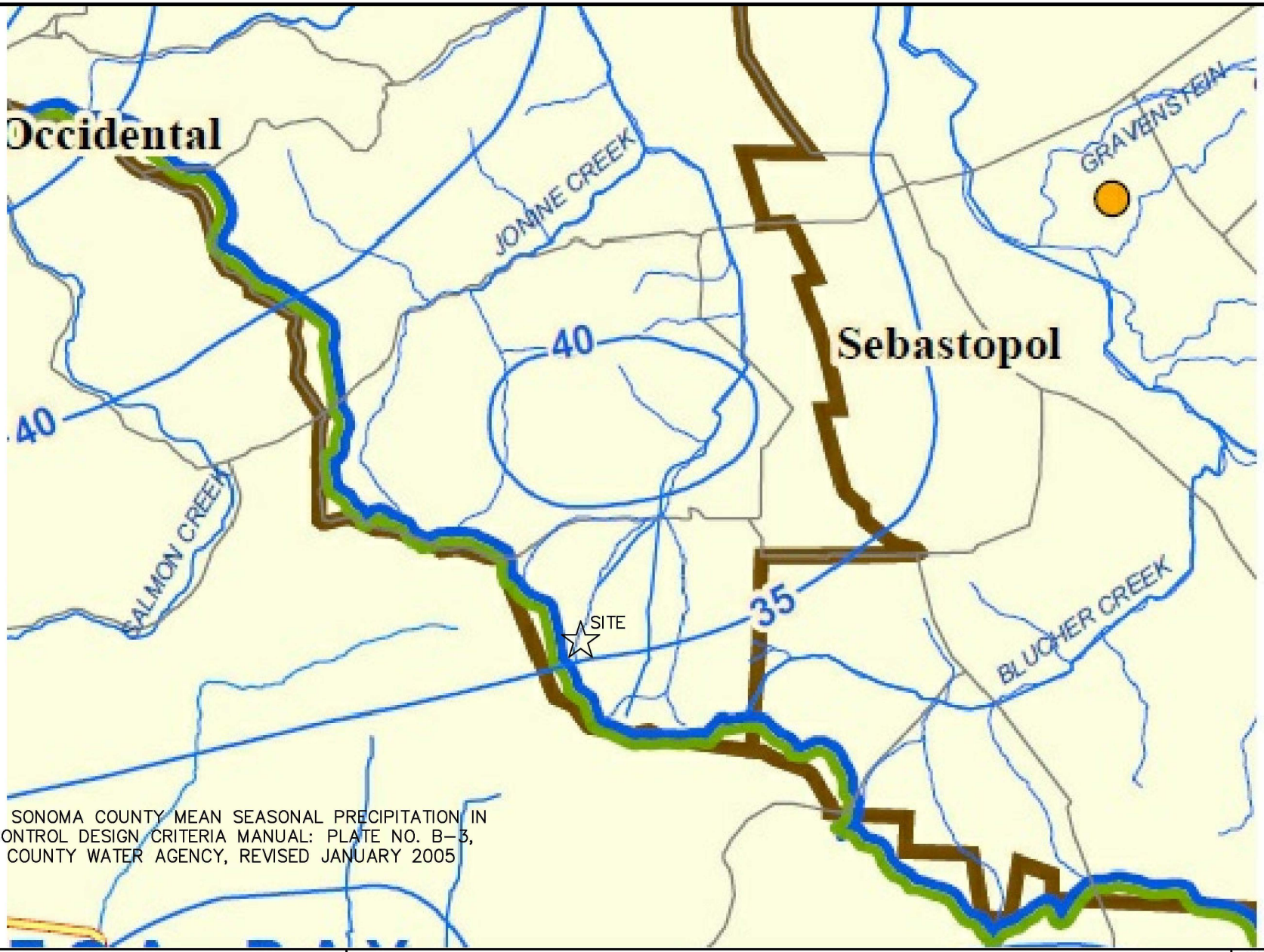
KJFS – CRETACEOUS AND JURASSIC GRAYWACKE AND MÉLANGE

HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

GEOLOGIC MAP

APN 073-061-018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 6



SOURCE: SONOMA COUNTY MEAN SEASONAL PRECIPITATION IN FLOOD CONTROL DESIGN CRITERIA MANUAL: PLATE NO. B–3, SONOMA COUNTY WATER AGENCY, REVISED JANUARY 2005

HURVITZ ENVIRONMENTAL
105 MORRIS ST, STE 188
SEBASTOPOL, CA 95472
PH: 707.824.1690
FX: 707.824.2675
HURVITZ.ENVIRONMENTAL@GMAIL.COM
CA PG# 7573

PRECIPITATION MAP

APN 073–061–018
2750 BURNSIDE RD
SEBASTOPOL, CALIFORNIA 95472

JOB NUMBER: 5187.01
DATE: 9/20/22
PLATE: 7

APPENDIX A
PHOTOGRAPHIC LOG

SITE PHOTOGRAPHS
August 25, 2022

Photo #1: View of site well that will be used for cannabis irrigation onsite.

Photo #2: View of neighboring well to the north (2680 Burnside) that was monitored during the well yield testing performed onsite.

SITE PHOTOGRAPHS
August 25, 2022

Photo #3: View of neighboring well to the north (2800 Burnside) that was monitored during the well yield testing performed onsite.

SITE PHOTOGRAPHS
August 25, 2022

Photo #4: View westerly of the existing access road that leads to the proposed cultivation area.

Photo #5: View of proposed cultivation area. Hudspeth Creek is in the background.

SITE PHOTOGRAPHS
August 25, 2022

Photo #5: Alternate view of proposed cultivation area.

Photo#6: View westerly from the site well located near the sites eastern boundary.

APPENDIX B
ENGINEERED SITE PLAN

KEY NOTES:

1. POTENTIAL WETLAND IDENTIFIED BY PINECREST ENVIROMENTAL CONSULTING DURING BIOLOGICAL ASSESSMENT DATED FEBRUARY 15, 2021
2. SLOPES INSIDE CUTLIVATION ZONE DO NOT EXCEED 15% (TYP)
3. 10' X 20' ADMINISTRATION HOLD AREA
   (4)-5' X 10' PARTITIONED AREAS
4. 10' X 20' HARVEST STORAGE AREA
   (4)-5' X 10' PARTIONED AREAS
5. 4' X 50' COMPOSTING AREA
6. PROPOSED AG CHEMICAL STORAGE
7. PROPOSED SHED FOR OFFICE AND ADDITIONAL STORAGE
8. (4)-PROPOSED 5K GAL WATER TANKS.
   LATITUDE 38°22'19.88"N LONGITUDE 122°52'29.86"W
   (APPROX LOCATION USING 2021 GOOGLE EARTH)
9. (1)-PROPOSED 5K GAL WATER TANK.
   LATITUDE 38°22'19.34"N LONGITUDE 122°52'19.58"W
   (APPROX LOCATION USING 2021 GOOGLE EARTH)
10. EXISTING WELL
    LATITUDE 38°22'18.83"N LONGITUDE 122°52'19.22"W
    (APPROX LOCATION USING 2021 GOOGLE EARTH)

1. MOUNTAINSIDE FARMS, LLC
2. BURNSIDE FARMS, LLC
3. WONDERFROST FARMS, LLC
4. BOBCAT FARMS, LLC

OVERALL SITE PLAN

50' 25' 0 25' 50' 100' 150'

Graphic Scale: 1" = 50'

Revisions			
No.	Date	Description	Approved

adobe associates, inc.
civil engineering | land surveying | wastewater
1220 N. Dutton Ave. Santa Rosa, CA 95401
P. (707) 541-2300 F. (707) 541-2301
Website: www.adobeinc.com
"A Service You Can Count On!"

Timothy L. Schram, PE 67890
My license expires 6/30/2021

PROFESSIONAL ENGINEER TIMOTHY LEE SCHRAM No. 067980 Exp. 6/30/2021 STATE OF CALIFORNIA

BURNSIDE ROAD
OVERALL SITE PLAN

2750 Burnside Road
Sebastopol, California
APN 073-061-018

SCALE: AS SHOWN
Date: February 9, 2020
Design by: JR's
Drawn by: JR's/TRG
Checked by: CM

Sheet
C1.0
1 of 1 Sheets
Job 19183

GRD20-0142

T:\2019 PROJECTS\19183\Civil\Adobe-Design\Zoning Permit\19183_C1.0_Overall Site Plan.dwg, Tim Grosson, 4/1/2020 9:10:19 PM

APPENDIX C
WELL COMPLETION REPORTS

ORIGINAL

File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 210171

N-)f Intent No.
ermit No. or Date 255-86

State Well No.
Other Well No. 06N09W08R

(1)
Addre
City

(2) LOCATION OF WELL (See instructions):
County Sonoma Owner's Well Number 73-06-15
Well address if different from above 2680 Burnside Road
Township Range Section
Distance from cities, roads, railroads, fences, etc.

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☒
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

WELL LOCATION SKETCH

(5) EQUIPMENT:
Rotary ☒ Reverse ☐
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK: 12 x 20
Yes ☒ No ☐ Size Monterey sand
Diameter of bore 12¼ 9 7/8
Packed from 22 to 157 ft.

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	157	6"	CL200

(8) PERFORATIONS:
Type of perforation or size of screen: Micro Perforations

From ft.	To ft.	Slot size
77	157	.032

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 22 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing Concrete on pack

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 55' ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Weeks
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test 55 ft. At end of test 100 ft
Discharge 15 gal/min after 4 hours Water temperature cool
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 157 ft. Depth of completed well 157 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	1	Topsoil
1	48	Yellow clayee sand
48	86	Yellow clayee sand with streaks of hard sandstone with traces of ash
86	115	Blue sandy clay with sandstone ledges and streaks of yellow clayee sand
115	132	Yellow clayee sand with sandstone ledges and streaks of sandy blue clay
132	157	Multi-colored clayee sands

Work started 3/26 19 87 Completed 3/30 19 87

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED Gerald C. Thompson, By Ward Thompson (Well Driller)
NAME WEEKS DRILLING AND PUMP COMPANY (Person, firm, or corporation) (Typed or printed)
Address P. O. Box 176
City Sebastopol, CA Zip 95472
License No. C57-177681 Date of this report April 3, 1987

DWR 188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 1
(Insert appropriate number)

WATER WELL DRILLERS REPORT
(Sections 7076, 7077, 7078, Water Code)

THE RESOURCES AGENCY OF CALIFORNIA

Do Not Fill In
No. 113158

State Well No.
Other Well No. 6N/9W-31

(1) OWNER:

(2) LOCATION OF WELL:

County Sonoma Owner's number, if any—

R. F. D. or Street No.

2685 Burnside Road
Sebastopol, California

(3) TYPE OF WORK (check):

New well XX Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic ☐ Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary XX
Cable ☐
Dug Well ☐

(6) CASING INSTALLED:

SINGLE XX DOUBLE ☐

From	ft. to	Diameter	Gage or Wall
0	160	6 5/8"	12

If gravel packed

Diameter of Bore	from ft.	to ft.
10"	0	160

Type and size of shoe or well ring: None

Size of gravel: Pea

Describe joint: Welded

(7) PERFORATIONS:

Type of perforator used: Torch

Size of perforations: 6 in., length, by 3/16 in.

From 120 to 160 ft. 4 Perf. per row 1 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? XX Yes ☐ No To what depth: 48 ft.

Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata

From ft. to ft.

Method of Sealing: Cement on Pack

(9) WATER LEVELS:

Depth at which water was first found ft.

Standing level before perforating ft.

Standing level after perforating: 65 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes XX No If yes, by whom? Bail

Yield: 15 gal./min. with 65 ft. draw down after hrs.

Temperature of water: Cool Was a chemical analysis made? ☐ Yes XX No

Was electric log made of well? ☐ Yes XX No

(11) WELL LOG:

Total depth: 160 ft. Depth of completed well: 160 ft.

Formation: *Describe by color, character, size of material, and structure.*

0	ft. to 54	ft.	Brown & Yellow Gummy
	"	"	Sandy Clay
54	" 80	"	Brown Sandy Clay with
	"	"	Streaks of Brown Sand-
	"	"	stone
80	" 94	"	Brown Sandy Clay with
	"	"	Streaks of Quartz &
	"	"	Coarse Sand
94	" 101	"	Blue Sandstone
101	" 114	"	Yellow Sandy Clay with
	"	"	Streaks of Quartz &
	"	"	Coarse Sand
114	" 124	"	Blue Clay with Streaks
	"	"	of Quartz & Brown Clay
124	" 138	"	Very Hard Sandstone
	"	"	Ledges
138	" 160	"	Clayey Blue Sand

FOR OFFICIAL USE ONLY

Work started 1/20/ 1966 Completed 1/24/ 1966

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME WEEKS DRILLING & PUMP COMPANY
(Person, firm, or corporation) (Typed or printed)

Address 6100 Sebastopol Road
Sebastopol, California

[SIGNED] Mary E. Thompson
GERALD THOMPSON-By: MARY E. THOMPSON

License No. 177681 Dated 1/24/66 Pres.

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No. 1
(Insert appropriate number)

WATER WELL DRILLERS REPORT
(Sections 7076, 7077, 7078, Water Code)

STATE OF CALIFORNIA

3712
~~4335~~

Do Not Fill In
No 67758

State Well No.
Other Well No. 6N/9W-9

(1) OWNER:

Na
Ad

(2) LOCATION OF WELL:

County Sonoma Owner's number, if any—
R. F. D. or Street No. 2703 Burnside Road
Sebastopol, California

(3) TYPE OF WORK (*check*):

New well XX Deepening ☐ Reconditioning ☐ Abandon ☐
If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (*check*):

Domestic ☐ XX Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary XX
Cable ☐
Dug Well ☐

(6) CASING INSTALLED:

SINGLE XX DOUBLE ☐
From 0 ft. to 157 ft. 8" Diam. Gage or wall 12

Type and size of shoe or well ring Bullnose
Describe joint Welded

If gravel packed
Diameter of Bore 12½ from ft. 0 to ft. 157
Size of gravel: 3/4

(7) PERFORATIONS:

Type of perforator used Torch
Size of perforations 6 in., length, by 3/16 in.
From 117 ft. to 157 ft. 4 Perf. per row 1 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? ☐ Yes XX No To what depth ft.
Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata
From ft. to ft.
Method of Sealing

(9) WATER LEVELS:

Depth at which water was first found ft.
Standing level before perforating ft.
Standing level after perforating 70 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes XX No If yes, by whom? Bailer
Yield: 10 gal./min. with 60 ft. draw down after hrs.
Temperature of water Cool Was a chemical analysis made? ☐ Yes XX No
Was electric log made of well? ☐ Yes XX No

(11) WELL LOG:

Total depth 157 ft. Depth of completed well 157 ft.
Formation: *Describe by color, character, size of material, and structure.*

0 ft. to	3 ft.	Top Soil
3 "	78 "	Brown Sand Stone
78 "	93 "	Blue Sand Stone with
"	"	White Quartz & Small
"	"	Streaks of Brown Sand
"	"	Stone
93 "	157 "	Blue Sand Stone &
"	"	White Quartz Ledges &
"	"	Small Streaks of Brown
"	"	Sand Stone

FOR OFFICIAL USE ONLY

Work started 10/12 19 61. Completed 10/16 19 61

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME WEEKS DRILLING & PUMP COMPANY
(Person, firm, or corporation) (*Typed or printed*)
Address 155 Weeks Way
Sebastopol, California
[SIGNED] Gerald Thompson
License No. 177681 Well Driller GERALD THOMPSON
Dated 10/18, 19 61

57025 6-57 50M QUIN △ SPO DWR 188 (REV. 3-54)

ORIGINAL
File with DWR

Page ___ of ___

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. 473965

DWR USE ONLY — DO NOT FILL IN
06N09W17
STATE WELL NO./STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. ___
Date Work Began 9/1/94, Ended 9/5/94
Local Permit Agency SONOMA COUNTY PUBLIC HEALTH
Permit No. ___ Permit Date 8/31/94

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DEPTH TO FIRST WATER ___ (Ft.) BELOW SURFACE

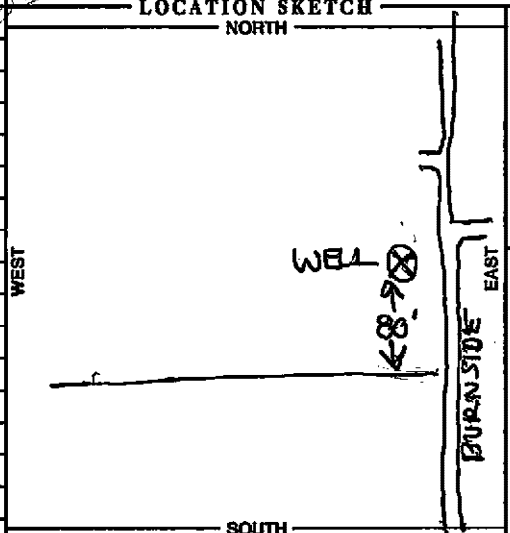
DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain size, color, etc.*
0	50	brown sandstone with rusty layers – small amt of water
50	92	blue sandstone
92	147	blue fractured sandstone & water
147	148	broken green rock
148	160	brown sticky clay
160	172	blue sticky clay
172	182	blue coarse gravel some from 180-182'
182	190	blue gravely clay
190	195	blue shale clay

TOTAL DEPTH OF BORING 195 (Feet)
TOTAL DEPTH OF COMPLETED WELL 185 (Feet)

WELL LOCATION

Address 2800 BURNSIDE RD
City SEBASTOPOL
County SONOMA
APN Book 73 Page 061 Parcel 19
or Township ___ Range ___ Section ___
or Latitude ___ DEG. ___ MIN. ___ SEC. NORTH Longitude ___ DEG. ___ MIN. ___ SEC. WEST

LOCATION SKETCH



Illustrate or Describe Distance of Well from Landmarks such as Roads, Buildings, Fences, Rivers, etc. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)
✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG")

PLANNED USE(S) (✓)
___ MONITORING
WATER SUPPLY
✓ Domestic
___ Public
___ Irrigation
___ Industrial
___ "TEST WELL"
___ CATHODIC PROTECTION
___ OTHER (Specify)

DRILLING METHOD rotary air FLUID ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH OF STATIC WATER LEVEL 65 (Ft.) & DATE MEASURED 9/2/94
ESTIMATED YIELD* 10 (GPM) & TEST TYPE air lift
TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 168 (Ft.)
** May not be representative of a well's long-term yield.*

CASING(S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL/GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	85	9"	✓				F480PVC	5"	C1200	
85	185	"		✓			"	"	"	.032"

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	21	✓			
21	60	#2 pea gravel			
60	185	8/16 monterey sand			
185	195			✓	gravel

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analyses
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME NUTTING & JENSEN DRILLING (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
ADDRESS 1924 BRAWENSTEIN HWY SO CITY SEBASTOPOL STATE CA ZIP 95472
Signed ___ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) DATE SIGNED 9/5/94
C-57 LICENSE NUMBER 340854

DWR 188 REV. 7-90 IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

263

ORIGINAL
File Original, Duplicate and Triplicate with the REGIONAL WATER POLLUTION CONTROL BOARD No.____ (* appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code)

THE RESOURCES AGENCY OF CALIFORNIA

Do Not Fill In
No 117448

State Well No.____
Other Well No. 5/4/

(1) OWNER:

(2) LOCATION OF WELL:

County Sonoma Owner's number, if any—

R. F. D. or Street No.

2875 Burnside Road
Sebastopol, California

(3) TYPE OF WORK (check):

New well XX Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic XX Industrial ☐ Municipal ☐
Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary XX
Cable ☐
Dug Well ☐

(6) CASING INSTALLED:

SINGLE XX DOUBLE ☐

From	ft. to	Diam.	Gage or Wall
0	181	6 5/8"	12

If gravel packed

Diameter of Bore	from	to
12 1/2"	0	ft.
"	181	"

Type and size of shoe or well ring: Bullnose

Size of gravel: Pea

Describe joint: Welded

(7) PERFORATIONS:

Type of perforator used: Torch

Size of perforations: 6 in., length, by 3/4 in.

From 101 ft. to 181 ft. 4 Perf. per row 1 Rows per ft.

(8) CONSTRUCTION:

Was a surface sanitary seal provided? XX Yes ☐ No To what depth: 80 ft.

Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata

From ft. to ft.

Method of Sealing: Pumped Cement on Pack

(9) WATER LEVELS:

Depth at which water was first found ft.

Standing level before perforating ft.

Standing level after perforating: 50 ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes XX No If yes, by whom? Bail

Yield: 5 gal./min. with 95 ft. draw down after hrs.

Temperature of water: Cool Was a chemical analysis made? ☐ Yes XX No

Was electric log made of well? ☐ Yes XX No

(11) WELL LOG:

Total depth: 181 ft. Depth of completed well: 181 ft.

Formation: *Describe by color, character, size of material, and structure.*

0 ft. to	3 ft.	Top Soil
3 "	78 "	Yellow Sand & Clay
78 "	181 "	Blue Sandstone with traces of Shell

CONFIDENTAL LOG
Water Code Sec. 7080

FOR OFFICIAL USE ONLY

Work started 7/27/ 1966 Completed 7/28/ 1966

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME WEEKS DRILLING & PUMP COMPANY
(Person, firm, or corporation) (Typed or printed)

Address 6100 Sebastopol Road
Sebastopol, California

[SIGNED] Mary E. Thompson
GERALD THOMPSON - By: MARY E. THOMPSON

License No. 177681 Dated 8/8/66, 19 Pres.

ORIGINAL

File with DWR

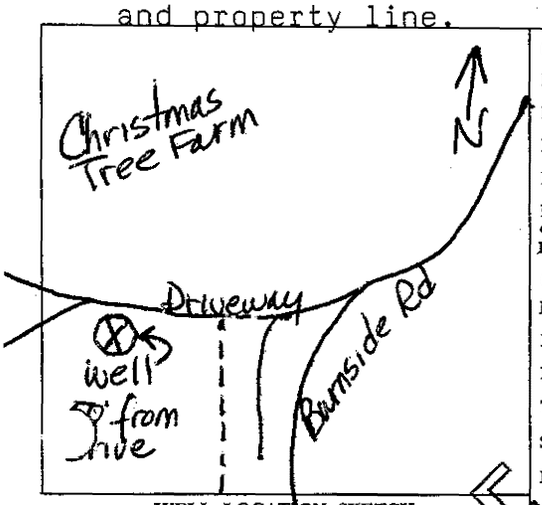
STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

Do not fill in
No. 225381

Notice of Intent No.
Permit No. or Date
State Well No.
Other Well No. 06N09W08

(1)
Addr
City

(2) LOCATION OF WELL (See instructions):
County Sonoma Owner's Well Number
Well address if different from above 2650 Burnside Rd.
Township Range Section
Distance from cities, roads, railroads, fences, etc.
Off Burnside Rd. about 500' on private drive. 50' south of driveway and property line.



WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well [X] Deepening [ ]
Reconstruction [ ]
Reconditioning [ ]
Horizontal Well [ ]
Destruction [ ] (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic [X]
Irrigation [ ]
Industrial [ ]
Test Well [ ]
Stock [ ]
Municipal [ ]
Other [ ]

(5) EQUIPMENT:
Rotary [X] Reverse [ ]
Cable [ ] Air [ ]
Other [ ] Bucket [ ]

(6) GRAVEL PACK:
Yes [X] No [ ] Size 3/8"
Diameter of bore 9 7/8"
Packed from 22 to 190 ft.

(7) CASING INSTALLED:
Steel [ ] Plastic [X] Concrete [ ]

From ft.	To ft.	Dia. in.	Gage or Wall
00	190	6"	cl 200

(8) PERFORATIONS:
Type of perforation or size of screen

From ft.	To ft.	Slot size
130	190	3X32"X4"

(9) WELL SEAL:
Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 22 ft.
Were strata sealed against pollution? Yes [ ] No [X] Interval ft.
Method of sealing concrete

(10) WATER LEVELS:
Depth of first water, if known 155 ft.
Standing level after well completion 30 ft.

(11) WELL TESTS:
Was well test made? Yes [X] No [ ] If yes, by whom? driller
Type of test Pump [ ] Bailer [ ] Air lift [X]
Depth to water at start of test n/a ft. At end of test 190 ft
Discharge 20 gal/min after 1 hours Water temperature cool
( )l analysis made? Yes [ ] No [X] If yes, by whom?
Was electric log made? Yes [ ] No [X] If yes, attach copy to this report

(12) WELL LOG: Total depth ft. Depth of completed well ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	65	yellow sandy clay
65	140	blue clay
140	190	blue sandstone w/ hard fractured lenses

Work started 4/3/86 19 Completed 4/4/86 19

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED Gary L Jensen CJ (Well Driller)
NAME Nutting & Jensen Drilling (Person, firm, or corporation) (Typed or printed)
Address 1924 Gravenstein Hwy. South
City Sebastopol Zip 95472
License No. 340854 Date of this report 5/19/86

ORIGINAL
File Original, Duplicate and Triplicate with the
REGIONAL WATER POLLUTION
CONTROL BOARD No.____
(appropriate number)

WATER WELL DRILLERS REPORT

(Sections 7076, 7077, 7078, Water Code) 6000

THE RESOURCES AGENCY OF CALIFORNIA

Do Not Fill In

No 107738

State Well No.____

Other Well No. 6/ -21

(1) OWNER:

(2) LOCATION OF WELL:

County Sonoma Owner's number, if any—

R. F. D. or Street No.

2951 Burnside Road

Sebastopol, California

(3) TYPE OF WORK *(check)*:

New well XX Deepening ☐ Reconditioning ☐ Abandon ☐

If abandonment, describe material and procedure in Item 11.

(4) PROPOSED USE *(check)*:

Domestic XX Industrial ☐ Municipal ☐

Irrigation ☐ Test Well ☐ Other ☐

(5) EQUIPMENT:

Rotary XX

Cable ☐

Dug Well ☐

(6) CASING INSTALLED:

SINGLE XX DOUBLE ☐

From	ft. to	Diameter	Gage or Wall	If gravel packed: Diameter of Bore	from ft.	to ft.
0	89	8 5/8in.	10	30	0	89

Type and size of shoe or well ring: None

Size of gravel: Pea

Describe joint: Welded

(7) PERFORATIONS:

Type of perforator used: Torch

Size of perforations: 6 in., length, by 3/16 in.

From	ft. to	ft.	Perf. per row	Rows per ft.
39	49	6	1	
69	89	6	1	

(8) CONSTRUCTION:

Was a surface sanitary seal provided? XX Yes ☐ No To what depth: 23 ft.

Were any strata sealed against pollution? ☐ Yes ☐ No If yes, note depth of strata

From ft. to ft.

Method of Sealing: Cement on Pack

(9) WATER LEVELS:

Depth at which water was first found ft.

Standing level before perforating ft.

ing level after perforating ft.

(10) WELL TESTS:

Was a pump test made? ☐ Yes XX No If yes, by whom? Bail

Yield: 5 gal./min. with Bottom ft. draw down after hrs.

Temperature of water: Cool Was a chemical analysis made? ☐ Yes ☐ XX

Was electric log made of well? ☐ Yes ☐ XX No

(11) WELL LOG:

Total depth: 89 ft. Depth of completed well: 89 ft.

Formation: *Describe by color, character, size of material, and structure.*

0 ft. to	5 ft.	Brown Sandy Clay
5 "	12 "	Yellow & Orange Sandy Clay
12 "	27 "	Yellow Sand
27 "	38 "	Yellow & Orange Sand
38 "	75 "	Light Yellowish-Brown Sand
75 "	80 "	Light Brown, Orange & Yellow Sand
80 "	82 "	Blue Sand with streaks of Orange Sand
82 "	89 "	Blue Sand with streaks of Blue Sandstone

CONFIDENTAL LOG
Water Code Sec. 7080

FOR OFFICIAL USE ONLY

Work started 8/31 1967. Completed 9/1 1967

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME WEEKS DRILLING & PUMP COMPANY
(Person, firm, or corporation) *(Typed or printed)*

Address 6100 Sebastopol Road

Sebastopol, California 95472

[SIGNED] Mary E. Thompson
GERALD THOMPSON-By: MARY E. THOMPSON, President

License No. 177681 Dated 9/6, 1967

ORIGINAL

File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in

No. 17059

Notice of Intent No.

Local Permit No. or Date 651-89

State Well No.

Other Well No. 06N09W17

(

A

C

(2) LOCATION OF WELL (See instructions):

County Sonoma Owner's Well Number 73-061-20

Well address if different from above 2950 Burnside Road

Township Sebastopol Range Section

Distance from cities, roads, railroads, fences, etc. Well site #11

WELL LOCATION SKETCH

(3) TYPE OF WORK:

New Well [X] Deepening [ ]

Reconstruction [ ]

Reconditioning [ ]

Horizontal Well [ ]

Destruction [ ] (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:

Domestic [ ]

Irrigation [ ]

Industrial [ ]

Test Well [ ]

Stock [ ]

Municipal [ ]

Other [ ]

(5) EQUIPMENT:

Rotary [ ] Reverse [ ]

Cable [ ] Air [X]

Other [ ] Bucket [ ]

(6) GRAVEL PACK: Monterrey sand

Yes [X] No [ ] Size 8/16

Diameter of bore 8 3/4", 6 3/4"

Packed from 21 ft. to 201 ft.

(7) CASING INSTALLED:

Steel [ ] Plastic [X] Concrete [ ]

From ft.	To ft.	Dia. in.	Gage or Wall
0	201	4½	CL200

(8) PERFORATIONS:

Type of perforation or size of screen: micro perforations

From ft.	To ft.	Slot size
57	77	.032
177	197	"

(9) WELL SEAL:

Was surface sanitary seal provided? Yes [X] No [ ] If yes, to depth 21 ft.

Were strata sealed against pollution? Yes [ ] No [ ] Interval ft.

Method of sealing Neat cement on pack

(10) WATER LEVELS:

Depth of first water, if known ft.

Standing level after well completion 15' ft.

(11) WELL TESTS:

Was well test made? Yes [X] No [ ] If yes, by whom? Weeks

Type of test Pump [ ] Bailer [X] Air lift [ ]

Depth to water at start of test 15 ft. At end of test 200 ft.

Discharge 1.1 gal/min after 4 hours Water temperature cool

Chemical analysis made? Yes [ ] No [X] If yes, by whom?

electric log made? Yes [ ] No [X] If yes, attach copy to this report

(12) WELL LOG:

Total depth 201 ft. Depth of completed well 197 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	4	Fill
4	29	Tan clayee sand, moist
29	33	Gray clayee sand
33	69	Gray cemented sand
69	91	Lite green cemented sand
91	116	Serpentine with seams serpentine rock
116	201	Gray, blue clayee sand with seams cemented sands and stiff green clays

Work started 10-11 19 89 Completed 10-18 19 89

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED Ward Thompson, (Well Driller)

NAME WEEKS DRILLING & PUMP CO. (Person, firm, or corporation) (Typed or printed)

Address P.O. BOX 176

City Sebastopol, CA Zip 95473

License No. C57-177681 Date of this report 11-2-89

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

ORIGINAL
File with DWR

Do not fill in
No. 291206

Notice of Intent No. _____
Local Permit No. or Date 693-89

State Well No. 06N09W17
Other Well No. _____

(2) LOCATION OF WELL (See instructions):
County Sonoma Owner's Well Number 73-061-20
Well address if different from above 2950 Burnside Rd.
Township Sebastopol Range _____ Section _____
Distance from cities, roads, railroads, fences, etc. Well Site # 15

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☒
Irrigation ☐
Industrial ☐
Test Well ☐
Municipal ☐
Other ☐
(Describe)

(5) EQUIPMENT:
Rotary ☒ Reverse ☐
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK:
Yes ☒ No ☐ Size 8x16 Monterey sand
Diameter of bore 12¼ & 9 7/8
Packed from 30 ft. to 197 ft.

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	197	6"	CL200

(8) PERFORATIONS:
Type of perforation or slot: Machine perforations

From ft.	To ft.	Slot size
97	197	.032

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 30 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval _____ ft.
Method of sealing concrete on pack

(10) WATER LEVELS:
Depth of first water, if known _____ ft.
Standing level after well completion ? ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Weeks
Type of test Pump ☐ Bailer ☒ Air lift ☐
Depth to water at start of test ? ft. At end of test 177 ft.
Discharge 0.6 gal/min after 3 hours Water temperature Cool
Chemical analysis made? Yes ☐ No ☒ If yes, by whom? _____
Was electric log made Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 197 ft. Completed depth 197 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	1	Brown shale
1	3	Topsoil
3	10	Yellow sand with streaks of cemented sands
10	15	Multi-colored clayee sand
15	33	Brown clayee sand with small sandstone ledges
33	40	Blue clayee sand
40	60	Blue sandy clay
60	97	Stiff blue & brown clay
97	197	Blue clay with streaks of cemented gravel

Work started 11-13 1989 Completed 11-15 1989

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
Signed Ward Thompson (Well Driller)
NAME WEEKS DRILLING & PUMP COMPANY (Person, firm, or corporation) (Typed or printed)
Address P.O. Box 176
City Sebastopol, CA ZIP 95473
License No. C57-177681 Date of this report 12-15-89

DWR 188 (REV. 12-86) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM 86 96335

ORIGINAL

File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in

No. 17052

Notice of Intent No.

Local Permit No. or Date 381-89

State Well No.

Other Well No. 06N09W17

(1) OWNER:

Address

City

(2) LOCATION OF WELL (See instructions):

County Sonoma Owner's Well Number 73-061-20

Well address if different from above 2950 Burnside Rd.

Township Sebastopol Range Section

Distance from cities, roads, railroads, fences, etc.

Well Site #7

WELL LOCATION SKETCH

(3) TYPE OF WORK:

New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:

Domestic ☒
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

(5) EQUIPMENT:

Rotary ☒ Reverse ☐
Cable ☐ Air ☐
Other ☐ Bucket ☐

(6) GRAVEL PACK:

Yes ☒ No ☐ Size Monterey sand 12x20
Diameter of bore 12¼, 9 7/8
Packed from 22 to 190 ft.

(7) CASING INSTALLED:

Steel ☐ Plastic ☒ Concrete ☐

From ft.	To ft.	Dia. in.	Gage or Wall
0	190	5"	CL200

(8) PERFORATIONS:

Type of perforation or size of screen: Micro Perforations

From ft.	To ft.	Slot size
90	190	.032

(9) WELL SEAL:

Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 22 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing Concrete on pack

(10) WATER LEVELS:

Depth of first water, if known ft.
Standing level after well completion 15 ft.

(11) WELL TESTS:

Was well test made? Yes ☒ No ☐ If yes, by whom? weeks
Type of test Pump ☐ Bailer ☐ Air lift ☐
Depth to water at start of test 15 ft. At end of test 170 ft
Discharge 1.6 gal/min after 4 3/4 hours Water temperature Cool
Chemical analysis made? Yes ☐ No ☒ If yes, by whom?
electric log made? Yes ☐ No ☒ If yes, attach copy to this report

(12) WELL LOG: Total depth 197 ft. Depth of completed well 190 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
		WELL SITE # 7
0	3	Topsoil
3	5	Yellow clayee sand
5	38	Brown clay and streaks of hard sands
38	45	Multi-colored clayee sands with streaks of sand rock
45	47	Blue clayee sand
47	55	Stiff blue clay
55	58	Blue & brown clay
58	70	Stiff brown clay
70	85	Stiff blue clay
85	197	Blue clay with streaks of cemented gravel

Work started 10-5 19 89 Completed 10-9 19 89

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

SIGNED Ward Thompson, (Well Driller)

NAME WEEKS DRILLING & PUMP CO. (Person, firm, or corporation) (Typed or printed)

Address P.O. BOX 176

City Sebastopol, CA Zip 95473

License No. C57-177681 Date of this report 10-30-89

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

ORIGINAL CONFIDENTIAL LOG
File with DWR Water Code Sec. 13752

WATER WELL DRILLERS REPORT

Do Not Fill In

No. 97467

State Well No. _____

Other Well No. 6N/9W-8

(1) OWNER:

Name _____

Addr _____

(2) LOCATION OF WELL:

County Sonoma Owner's number, if any

Township, Range, and Section 1156 West Sexton Road

Distance from cities, roads, railroads, etc. Sebastopol, Calif.,

(3) TYPE OF WORK (check):

New Well [X] Deepening [ ] Reconditioning [ ] Destroying [ ]

If destruction, describe material and procedure in Item 11.

(4) PROPOSED USE (check):

Domestic [X] Industrial [ ] Municipal [ ]
Irrigation [ ] Test Well [ ] Other [ ]

(5) EQUIPMENT:

Rotary [X]
Cable [ ]
Other [ ]

(6) CASING INSTALLED:

STEEL: X OTHER:

SINGLE [X] DOUBLE [ ]

If gravel packed

From ft.	To ft.	Diam.	Gage or Wall	Diameter of Bore	From ft.	To ft.
0	135	6 5/8"	10	9 7/8	0	135

Size of shoe or well ring: _____ Size of gravel: Pea

Describe joint Welded

(7) PERFORATIONS OR SCREEN:

Type of perforation or name of screen Torch

From ft.	To ft.	Perf. per row	Rows per ft.	Size in. x in.
96	136	1	4	3/16 x 6
56	76	1	4	" "

(8) CONSTRUCTION:

Was a surface sanitary seal provided? Yes [X] No [ ] To what depth 25 ft.

Were any strata sealed against pollution? Yes [ ] No [ ] If yes, note depth of strata

From ft. to ft.

From ft. to ft.

Method of sealing Cement on pack

(9) WATER LEVELS:

Depth at which water was first found, if known ft.

Standing level before perforating, if known ft.

Standing level after perforating and developing 5 08 12 ft.

(10) WELL TESTS:

Was pump test made? Yes [ ] No [X] If yes, by whom? Bail

Yield: 25 gal./min. with 108 ft. drawdown after hrs.

Temperature of water cool Was a chemical analysis made? Yes [ ] No [X]

Was electric log made of well? Yes [ ] No [X] If yes, attach copy

(11) WELL LOG:

Total depth 135 ft. Depth of completed well 135 ft.

Formation: *Describe by color, character, size of material, and structure*

ft.	to	ft.	
0	-	2	Topsoil
2	-	3	Brown sandy clay
3	-	7	Brown sandstone
7	-	50	Blue sand and sandstone
50	-	75	Blue sand and sandstone w/traces of shells
75	-	135	Serpentine clay and blue shales.

Work started 9-18 19 72 , Completed 9-19 19 72

WELL DRILLER'S STATEMENT:

This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

NAME Weeks Drilling and PUmp Company
(Person, firm, or corporation) (*Typed or printed*)

Address 6100 Sebastopol Road
Sebastopol, Calif., 95472

[SIGNED] Gerald G. Thompson
by Mary E. Thompson (*Well Driller*)

License No. 177681 Dated September 20, 1972

SKETCH LOCATION OF WELL ON REVERSE SIDE

25179-950 9-68 50M TRIP △D OSP

ORIGINAL
File with DWR

Page 1 of 3

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0233011

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE / LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #3
Date Work Began 8/17/2014, Ended 8/21/2014
Local Permit Agency Sonoma County PRMD
Permit No. WEL14-0079 Permit Date 4/1/2014

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD AIR FLUID N/A

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	28	Yellow orange sand
28	31	Orange sand
31	35	Green sand
35	51	Gray silty sand
51	60	Dense gray silty sand
60	70	Greenish gray sandstone
70	90	Dense gray silt claystone
90	105	Blue sandstone
105	117	Light gray claystone
117	125	Dry sand and gravel zone, greenish
125	141	Greenish claystone
141	146	Brown clay
146	152	Green clay
152	157	Brown clay
157	185	Greenish sandy clay
185	195	Green sand and gravel
195	207	Gray clay
207	235	Green clay with sand and gravel lenses
235	242	Green with gray clay, claystone
242	250	Gray claystone rock
250	270	Green white black fractured rock
270	290	Harder, some rock
290	335	Softer fractured
335	350	Gray shale

TOTAL DEPTH OF BORING 350 (Feet)
TOTAL DEPTH OF COMPLETED WELL 345 (Feet)

WELL OWNER

ZIP

WELL LOCATION

Address 3060 Burnside Road
City Sebastopol CA
County Sonoma
APN Book 073 Page 061 Parcel 027
Township ___ Range ___ Section ___
Latitude 38 DEG. 22 MIN. 051 SEC. N
122 DEG. 52 MIN. 430 SEC. W

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)
WATER SUPPLY
✓ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1
DEPTH OF STATIC WATER LEVEL 60 (Ft.) & DATE MEASURED 8/21/2014
ESTIMATED YIELD * 2 (GPM) & TEST TYPE Air Developed
TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN 320 (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	11								
50	350	8								
+1	75		✓				PVC	5	SDR21	
75	95			✓			PVC	5	SDR21	.020
95	115		✓				PVC	5	SDR21	
115	135			✓			PVC	5	SDR21	.020

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
		✓			CONCRETE
0	40	✓			
40	50		✓		
50	345			✓	8x16 Sand

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME Weeks Drilling & Pump
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
P.O. Box 176 ADDRESS, Sebastopol CITY, CA STATE, 95473 ZIP
Signed [signature] WELL DRILLER/AUTHORIZED REPRESENTATIVE
09/29/14 DATE SIGNED
177681 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 2 of 3

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0233011

DWR USE ONLY --- DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #3
Date Work Began 8/17/2014, Ended 8/21/2014
Local Permit Agency Sonoma County PRMD
Permit No. WEL14-0079 Permit Date 4/1/2014

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD AIR FLUID N/A

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	28	Yellow orange sand
28	31	Orange sand
31	35	Green sand
35	51	Gray silty sand
51	60	Dense gray silty sand
60	70	Greenish gray sandstone
70	90	Dense gray silt claystone
90	105	Blue sandstone
105	117	Light gray claystone
117	125	Dry sand and gravel zone, greenish
125	141	Greenish claystone
141	146	Brown clay
146	152	Green clay
152	157	Brown clay
157	185	Greenish sandy clay
185	195	Green sand and gravel
195	207	Gray clay
207	235	Green clay with sand and gravel lenses
235	242	Green with gray clay, claystone
242	250	Gray claystone rock
250	270	Green white black fractured rock
270	290	Harder, some rock
290	335	Softer fractured
335	350	Gray shale

TOTAL DEPTH OF BORING 350 (Feet)
TOTAL DEPTH OF COMPLETED WELL 345 (Feet)

WELL OWNER

CITY STATE ZIP

WELL LOCATION

Address 3060 Burnside Road
City Sebastopol CA
County Sonoma
APN Book 073 Page 061 Parcel 027
Township ___ Range ___ Section ___
Latitude 38 DEG. 22 MIN. 051 SEC. N
122 DEG. 52 MIN. 430 SEC. W

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)
WATER SUPPLY
✓ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1
DEPTH OF STATIC WATER LEVEL 60 (Ft.) & DATE MEASURED 8/21/2014
ESTIMATED YIELD * 2 (GPM) & TEST TYPE Air Developed
TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN 320 (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
135	155		✓				PVC	5	SDR21	
155	175			✓			PVC	5	SDR21	.020
175	195		✓				PVC	5	SDR21	
195	215			✓			PVC	5	SDR21	.020
215	235		✓				PVC	5	SDR21	
235	255			✓			PVC	5	SDR21	.020

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
		✓			CONCRETE
0	40	✓			
40	50		✓		
50	345			✓	8x16 Sand

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other ___

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Weeks Drilling & Pump (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
P.O. Box 176 ADDRESS Sebastopol CITY CA STATE 95473 ZIP
Signed [signature] WELL DRILLER/AUTHORIZED REPRESENTATIVE
09/29/14 DATE SIGNED
177681 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 3 of 3

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0233011

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #3
Date Work Began 8/17/2014, Ended 8/21/2014
Local Permit Agency Sonoma County PRMD
Permit No. WEL14-0079 Permit Date 4/1/2014

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)
DRILLING METHOD AIR FLUID N/A

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	28	Yellow orange sand
28	31	Orange sand
31	35	Green sand
35	51	Gray silty sand
51	60	Dense gray silty sand
60	70	Greenish gray sandstone
70	90	Dense gray silt claystone
90	105	Blue sandstone
105	117	Light gray claystone
117	125	Dry sand and gravel zone, greenish
125	141	Greenish claystone
141	146	Brown clay
146	152	Green clay
152	157	Brown clay
157	185	Greenish sandy clay
185	195	Green sand and gravel
195	207	Gray clay
207	235	Green clay with sand and gravel lenses
235	242	Green with gray clay, claystone
242	250	Gray claystone rock
250	270	Green white black fractured rock
270	290	Harder, some rock
290	335	Softer fractured
335	350	Gray shale

TOTAL DEPTH OF BORING 350 (Feet)
TOTAL DEPTH OF COMPLETED WELL 345 (Feet)

WELL OWNER

ZIP

WELL LOCATION

Address 3060 Burnside Road
City Sebastopol CA
County Sonoma
APN Book 073 Page 061 Parcel 027
Township ____ Range ____ Section ____
Latitude 38 DEG. 22 MIN. 051 N SEC. 122 DEG. 52 MIN. 430 W SEC.

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
— Deepen
— Other (Specify)
— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)

WATER SUPPLY
✓ Domestic — Public
— Irrigation — Industrial
MONITORING —
TEST WELL —
CATHODIC PROTECTION —
HEAT EXCHANGE —
DIRECT PUSH —
INJECTION —
VAPOR EXTRACTION —
SPARGING —
REMEDIATION —
OTHER (SPECIFY) —

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1
DEPTH OF STATIC WATER LEVEL 60 (Ft.) & DATE MEASURED 8/21/2014
ESTIMATED YIELD * 2 (GPM) & TEST TYPE Air Developed
TEST LENGTH 6 (Hrs.) TOTAL DRAWDOWN 320 (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
255	275		✓				PVC	5	SDR21	
275	295			✓			PVC	5	SDR21	.020
295	325		✓				PVC	5	SDR21	
325	345			✓			PVC	5	SDR21	.020

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
		✓			CONCRETE
0	40	✓			
40	50		✓		
50	345			✓	8x16 Sand

ATTACHMENTS (✓)

— Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— Other ____

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Weeks Drilling & Pump
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. Box 176 ADDRESS — Sebastopol CITY — CA STATE — 95473 ZIP

Signed ____ WELL DRILLER/AUTHORIZED REPRESENTATIVE — 09/29/14 DATE SIGNED — 177681 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 1 of 1

STATE OF CALIFORNIA
WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. e0197085

DWR USE ONLY — DO NOT FILL IN

06N09W08

STATE WELL NO./ STATION NO.

38 22 39 | 122 52 44

LATITUDE | LONGITUDE

APN/TRS/OTHER

Owner's Well No. WELL #2

Date Work Began 1/13/2014, Ended 1/15/2014

Local Permit Agency Sonoma County PRMD

Permit No. WEL13-0482 Permit Date 12/18/2013

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL — HORIZONTAL — ANGLE — (SPECIFY)

DRILLING METHOD Mud Rotary FLUID Bentonite

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	24	Orange and yellow sandstone
24	90	Blue sandstone with some hard ledges
90	122	Gray sandstone with some shells
122	136	Gray clayee (shale)

TOTAL DEPTH OF BORING 136 (Feet)

TOTAL DEPTH OF COMPLETED WELL 135 (Feet)

WELL OWNER

WELL LOCATION

Address 1252 West Sexton Road

City Sebastopol CA

County Sonoma

APN Book 077 Page 040 Parcel 006

Township ____ Range ____ Section ____

Latitude ____ DEG. MIN. SEC. ____ DEG. MIN. SEC.

LOCATION SKETCH

NORTH

WEST EAST

SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
— Deepen
— Other (Specify)

— DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)

WATER SUPPLY
✓ Domestic — Public
— Irrigation — Industrial

— MONITORING
— TEST WELL
— CATHODIC PROTECTION
— HEAT EXCHANGE
— DIRECT PUSH
— INJECTION
— VAPOR EXTRACTION
— SPARGING
— REMEDIATION
— OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1

DEPTH OF STATIC WATER LEVEL 32 (Ft.) & DATE MEASURED 1/15/2014

ESTIMATED YIELD 10 (GPM) & TEST TYPE Bailed

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 120 (Ft.)

May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	136	9 7/8								
+1	35		✓				PVC	5	SDR21	
35	135			✓			PVC	5	SDR21	.020

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0	3	✓			
3	30		✓		
30	135			✓	12x20 Sand

ATTACHMENTS (✓)

— Geologic Log
— Well Construction Diagram
— Geophysical Log(s)
— Soil/Water Chemical Analysis
— Other ____

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Weeks Drilling & Pump
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. Box 176 ADDRESS · Sebastopol CITY CA STATE 95473 ZIP

Signed ____ WELL DRILLER/AUTHORIZED REPRESENTATIVE 01/22/14 DATE SIGNED 177681 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL

File with DWR

STATE OF CALIFORNIA
THE RESOURCES AGENCY
DEPARTMENT OF WATER RESOURCES

WATER WELL DRILLERS REPORT

Do not fill in
No. 177144

N of Intent No.
L ermit No. or Date 073071076

State Well No.
Other Well No. 06N09W17

(1)
Addr
City

(2) LOCATION OF WELL (See instructions):
County Sonoma Owner's Well Number 73-071-76
Well address if different from above 10610 Barnett Valley Road
Township Sebastopol Range Section
Distance from cities, roads, railroads, fences, etc.

(12) WELL LOG: Total depth 187 ft. Depth of completed well 187 ft.

from ft.	to ft.	Formation (Describe by color, character, size or material)
0	91	Firm brown sand and clayee sand
91	119	Firm blue sand and sandstone
119	139	Gray and blue sandy clay with conglomerate rock
139	166	Multi-colored rock with streaks of sandy blue clay
166	187	Blue-gray clay

WELL LOCATION SKETCH

(3) TYPE OF WORK:
New Well ☒ Deepening ☐
Reconstruction ☐
Reconditioning ☐
Horizontal Well ☐
Destruction ☐ (Describe destruction materials and procedures in Item 12)

(4) PROPOSED USE:
Domestic ☒
Irrigation ☐
Industrial ☐
Test Well ☐
Stock ☐
Municipal ☐
Other ☐

(5) EQUIPMENT:
Rotary ☐ Reverse ☐
Cable ☐ Air ☒
Other ☐ Bucket ☐

(6) GRAVEL PACK: 8 x 16
Yes ☒ No ☐ Size Monterey sand
Diameter of bore 10 5/8, 8 3/4
Packed from 21 to 187 ft.

(7) CASING INSTALLED:
Steel ☐ Plastic ☒ Concrete ☐

(8) PERFORATIONS:
Type of perforation or size of screen Micro perforations

From ft.	To ft.	Dia. in.	Gage or Wall	From ft.	To ft.	Slot size
0	187	5 1/2	CL200	60	100	.032
				119	139	.032
				159	179	.032

(9) WELL SEAL:
Was surface sanitary seal provided? Yes ☒ No ☐ If yes, to depth 21 ft.
Were strata sealed against pollution? Yes ☐ No ☐ Interval ft.
Method of sealing Concrete on pack

Work started 9/30 19 85 Completed 10/1/ 19 85

(10) WATER LEVELS:
Depth of first water, if known ft.
Standing level after well completion 65 ft.

(11) WELL TESTS:
Was well test made? Yes ☒ No ☐ If yes, by whom? Weeks
Type of test Pump ☐ Bailer ☐ Air lift ☒
Depth to water at start of test 65 ft. At end of test 168 ft
D harge 5 gal/min after 2 hours Water temperature cool
C al analysis made? Yes ☐ No ☒ If yes, by whom?
Was electric log made? Yes ☐ No ☒ If yes, attach copy to this report

WELL DRILLER'S STATEMENT:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
SIGNED Gerald G. Thompson, By: Ward Thompson (Well Driller)
NAME WEEKS DRILLING AND PUMP COMPANY (Person, firm, or corporation) (Typed or printed)
Address P. O. Box 176
City Sebastopol, CA Zip 95472
License No. C57-177681 Date of this report Oct. 8, 1985

DWR 188 (REV. 7-76) IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 1 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0235077

DWR USE ONLY --- DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE | LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #2

Date Work Began 9/23/2014, Ended 9/25/2014

Local Permit Agency Sonoma County PRMD

Permit No. WEL14-0157 Permit Date 5/14/2014

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD AIR FLUID N/A

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	3	Brown loam, roots
3	22	Yellow orange clayee sand
22	45	Greenish yellow clayee sand
45	55	Orange clayee sand
55	80	Light greenish gray sandstone
80	108	Blue green sandstone
108	240	Blue sandstone, fractured sandstone

TOTAL DEPTH OF BORING 240 (Feet)

TOTAL DEPTH OF COMPLETED WELL 240 (Feet)

WELL OWNER

WELL LOCATION

Address 10566 Barnett Valley Road

City Sebastopol CA

County Sonoma

APN Book 073 Page 071 Parcel 041

Township ___ Range ___ Section ___

Latitude 38 DEG. 22 MIN. 066 N SEC. 122 DEG. 53 MIN. 039 W SEC.

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)

WATER SUPPLY
✓ Domestic ___ Public
___ Irrigation ___ Industrial

___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1

DEPTH OF STATIC WATER LEVEL 80 (Ft.) & DATE MEASURED 9/25/2014

ESTIMATED YIELD * 25 (GPM) & TEST TYPE Air Developed

TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 220 (Ft.)

May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0	50	11								
50	240	8								
+1	90		✓				PVC	5	SDR21	
90	110			✓			PVC	5	SDR21	.020
110	130		✓				PVC	5	SDR21	
130	150			✓			PVC	5	SDR21	.020

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
		✓			CONCRETE
0	40	✓			
40	50		✓		
50	240			✓	8x16 Sand

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Weeks Drilling & Pump (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. Box 176 ADDRESS Sebastopol CITY CA STATE 95473 ZIP

Signed [signature] WELL DRILLER/AUTHORIZED REPRESENTATIVE 10/08/14 DATE SIGNED 177681 C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 2 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT
Refer to Instruction Pamphlet

No. e0235077

DWR USE ONLY — DO NOT FILL IN
STATE WELL NO./ STATION NO.
LATITUDE LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #2
Date Work Began 9/23/2014, Ended 9/25/2014
Local Permit Agency Sonoma County PRMD
Permit No. WEL14-0157 Permit Date 5/14/2014

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)
DRILLING METHOD AIR FLUID N/A

DEPTH FROM SURFACE Ft.	to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0	3	Brown loam, roots
3	22	Yellow orange clayee sand
22	45	Greenish yellow clayee sand
45	55	Orange clayee sand
55	80	Light greenish gray sandstone
80	108	Blue green sandstone
108	240	Blue sandstone, fractured sandstone

TOTAL DEPTH OF BORING 240 (Feet)
TOTAL DEPTH OF COMPLETED WELL 240 (Feet)

WELL OWNER

WELL LOCATION

Address 10566 Barnett Valley Road
City Sebastopol CA
County Sonoma
APN Book 073 Page 071 Parcel 041
Township ___ Range ___ Section ___
Latitude 38 ° 22 ' 066 " N (DEG. MIN. SEC.) 122 ° 53 ' 039 " W (DEG. MIN. SEC.)

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL
MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)
___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)
WATER SUPPLY
✓ Domestic ___ Public
___ Irrigation ___ Industrial
MONITORING ___
TEST WELL ___
CATHODIC PROTECTION ___
HEAT EXCHANGE ___
DIRECT PUSH ___
INJECTION ___
VAPOR EXTRACTION ___
SPARGING ___
REMEDIATION ___
OTHER (SPECIFY) ___

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1
DEPTH OF STATIC WATER LEVEL 80 (Ft.) & DATE MEASURED 9/25/2014
ESTIMATED YIELD * 25 (GPM) & TEST TYPE Air Developed
TEST LENGTH 1.5 (Hrs.) TOTAL DRAWDOWN 220 (Ft.)
May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft.	to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
150	170		✓				PVC	5	SDR21	
170	190			✓			PVC	5	SDR21	.020
190	210		✓				PVC	5	SDR21	
210	230			✓			PVC	5	SDR21	.020
230	240		✓				PVC	5	SDR21	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft.	to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
		✓			CONCRETE
0	40	✓			
40	50		✓		
50	240			✓	8x16 Sand

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other ___
ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.
NAME Weeks Drilling & Pump (PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)
P.O. Box 176 (ADDRESS) Sebastopol (CITY) CA (STATE) 95473 (ZIP)
Signed ___ (WELL DRILLER/AUTHORIZED REPRESENTATIVE) 10/08/14 (DATE SIGNED) 177681 (C-57 LICENSE NUMBER)

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

ORIGINAL
File with DWR

Page 1 of 2

STATE OF CALIFORNIA
WELL COMPLETION REPORT

Refer to Instruction Pamphlet

No. e0192845

DWR USE ONLY — DO NOT FILL IN
06N/09W 17
STATE WELL NO./ STATION NO.
38 21 55 / 122 53 00
LATITUDE / LONGITUDE
APN/TRS/OTHER

Owner's Well No. WELL #2

Date Work Began 11/6/2013, Ended 11/12/2013

Local Permit Agency Sonoma County PRMD

Permit No. WEL13-0320 Permit Date 10/25/2013

GEOLOGIC LOG

ORIENTATION (✓) ✓ VERTICAL ___ HORIZONTAL ___ ANGLE ___ (SPECIFY)

DRILLING METHOD Mud Rotary FLUID Bentonite

DEPTH FROM SURFACE Ft. to Ft.	DESCRIPTION *Describe material, grain, size, color, etc.*
0 – 1	Light brown topsoil
1 – 45	Brown and fractured sandstone with chunks of white ash
45 – 60	Blue sand with some small streaks of sandstone
60 – 76	Harder ledges and blue sand
76 – 160	Even harder sandstone with shells
160 – 262	Softer and harder areas with some shells

TOTAL DEPTH OF BORING 262 (Feet)

TOTAL DEPTH OF COMPLETED WELL 260 (Feet)

WELL LOCATION

Address 10600 Barnett Valley Road 10660

City Sebastopol CA

County Sonoma

APN Book 073 Page 071 Parcel 039

Township ___ Range ___ Section ___

Latitude ___ DEG. ___ MIN. ___ SEC. ___ DEG. ___ MIN. ___ SEC.

LOCATION SKETCH

NORTH / WEST / EAST / SOUTH

Illustrate or Describe Distance of Well from Roads, Buildings, Fences, Rivers, etc. and attach a map. Use additional paper if necessary. PLEASE BE ACCURATE & COMPLETE.

ACTIVITY (✓)

✓ NEW WELL

MODIFICATION/REPAIR
___ Deepen
___ Other (Specify)

___ DESTROY (Describe Procedures and Materials Under "GEOLOGIC LOG"

PLANNED USES (✓)

WATER SUPPLY
✓ Domestic ___ Public
___ Irrigation ___ Industrial

___ MONITORING
___ TEST WELL
___ CATHODIC PROTECTION
___ HEAT EXCHANGE
___ DIRECT PUSH
___ INJECTION
___ VAPOR EXTRACTION
___ SPARGING
___ REMEDIATION
___ OTHER (SPECIFY)

WATER LEVEL & YIELD OF COMPLETED WELL

DEPTH TO FIRST WATER N/A (Ft.) BELOW SURFACE 1

DEPTH OF STATIC WATER LEVEL 56 (Ft.) & DATE MEASURED 11/12/2013

ESTIMATED YIELD * 20 (GPM) & TEST TYPE Air Lift

TEST LENGTH 2 (Hrs.) TOTAL DRAWDOWN 250 (Ft.)

May not be representative of a well's long-term yield.

CASING (S)

DEPTH FROM SURFACE Ft. to Ft.	BORE-HOLE DIA. (Inches)	TYPE (✓) BLANK	SCREEN	CONDUCTOR	FILL PIPE	MATERIAL / GRADE	INTERNAL DIAMETER (Inches)	GAUGE OR WALL THICKNESS	SLOT SIZE IF ANY (Inches)
0 – 262	11								
+2 – 120		✓				PVC	5	SDR21	
120 – 140			✓			PVC	5	SDR21	.020
140 – 160		✓				PVC	5	SDR21	
160 – 200			✓			PVC	5	SDR21	.020
200 – 220		✓				PVC	5	SDR21	

ANNULAR MATERIAL

DEPTH FROM SURFACE Ft. to Ft.	TYPE CEMENT (✓)	BENTONITE (✓)	FILL (✓)	FILTER PACK (TYPE/SIZE)
0 – 4	✓			Concrete
4 – 50	✓			
50 – 54		✓		
54 – 260			✓	12x20 Sand

ATTACHMENTS (✓)

___ Geologic Log
___ Well Construction Diagram
___ Geophysical Log(s)
___ Soil/Water Chemical Analysis
___ Other

ATTACH ADDITIONAL INFORMATION, IF IT EXISTS.

CERTIFICATION STATEMENT

I, the undersigned, certify that this report is complete and accurate to the best of my knowledge and belief.

NAME Weeks Drilling & Pump
(PERSON, FIRM, OR CORPORATION) (TYPED OR PRINTED)

P.O. Box 176 Sebastopol CA 95473
ADDRESS CITY STATE ZIP

Signed [signature] 11/25/13 177681
WELL DRILLER/AUTHORIZED REPRESENTATIVE DATE SIGNED C-57 LICENSE NUMBER

DWR 188 REV. 11-97

IF ADDITIONAL SPACE IS NEEDED, USE NEXT CONSECUTIVELY NUMBERED FORM

APPENDIX D
WELL YIELD TESTING

CERTIFICATION OF WATER YIELD IN WATER SCARCE AREAS

Water Yield Number WEL22-0328 **Well Permit Number** NA

1. Individual performing test: Lee S. Hurvitz
2. Type of license/registration, number and expiration date: Certified Hydrogeologist #1015
3. Location of well: Near Burnside road north of driveway
4. Address: 2750 Burnside Road, Sebastopol, CA 95472 APN: 073-061-018
5. Type and model of test pump: 3/4 Hp 230 V submersible pump
6. Test pump setting depth: ~121 feet
7. Maximum reported yield for this pump type at this setting: NA
8. Type of discharge measurement method: 5/8" totalizing water meter
9. Type and model of flow meter (or provide an accurate description of weir or orifice plate): Badger M25 Totalizing Water meter
10. Geographic coordinates (Plane Coordinate Method or distance from fixed landmarks): 38.37205 /-122.871930
11. Estimated elevation of well head: ~500 feet above mean sea level
12. Initial static water level (include measuring points such as top of casing, surface seal, access port): 42.80 feet
13. Date & time of initial static water level measurement: 08 / 25 / 2022 7:30am AM/PM
    a. Dynamic Water Level: 120.9
    b. Specific Capacity: 0.09
    c. Pump Test duration: 12 hours
14. Immediately after the test take the following measurements:
    a. Dynamic water level: 120.9
    b. Final discharge rate: 7.0
15. Post - Test Measurement:
    a. Dynamic water level: 45.5
    b. Static water level: 42.8
    c. Percentage of recovery of final static level: 95.3%

Testing performed by (signature): _____ Date: September 6, 2022

Company Hurvitz Environmental Services Inc. Phone Number: 707-824-1690

Specialist _____ Date _____

CERTIFICATION OF WATER YIELD IN WATER SCARCE AREAS

WELL PUMP TEST DATA RECORDATION ADDRESS:

Date	Time	Interval	SWL	GPM	Comments
08-25-22	7:35am	1 Min	46	11.5	.
	7:36	1 Min	49	11.2	Meter Start 8,692
	7:37	1 Min	52	11.2	
	7:38	1 Min	55	11.1	
	7:39	1 Min	59.5	11.1	
	7:45	5 Mins	75	11	
	7:50	5 Mins	85	10.7	
	7:55	5 Mins	91	10.2	
	8:00	5 Mins	97	10.2	
	8:05	5 Mins	102.5	10	
	8:10	5 Mins	107	10	
	8:15	5 Mins	110.5	9.8	
	8:20	5 Mins	114	9.7	
	8:25	5 Mins	116.5	9.6	
	8:30	5 Mins	119.3	9.5	
	8:35	5 Mins	121.4	9.4	
	8:40	5 Mins	122.3	9.4	
					Reduce flow to 7.4gpm
	9:00	20 Mins	116.4	7.4	
	9:20	20 Mins	117.5	7.4	
	9:40	20 Mins	118.3	7.4	
					Reduce flow to 7gpm
	10:10	30 Mins	117.7	7.0	
	10:40	30 Mins	118.3	7.0	
	11:10	30 Mins	119	7.0	
	11:40	30 Mins	119.3	7.0	
	12:10pm	30 Mins	119.6	7.0	
	12:40	30 Mins	120	7.0	
	1:10	30 Mins	120.3	7.0	
	1:40	30 Mins	120.5	7.0	
	2:10	30 Mins	120.6	7.0	
	2:40	30 Mins	120.7	7.0	
	3:10	30 Mins	120.7	7.0	
	3:40	30 Mins	120.8	7.0	
	4:10	30 Mins	120.8	7.0	
	4:40	30 Mins	120.9	7.0	
	5:10	30 Mins	120.9	7.0	
	5:40	30 Mins	120.9	7.0	
	6:10	30 Mins	120.9	7.0	
	6:40	30 Mins	120.9	7.0	
	7:15pm	30 Mins	120.9	7.0	Meter end - 13,772
		30 Mins			Total Volume Pumped = 5,080 gallons
8-26-22	8:00am	72 Hrs. or	45.5	0	

CALCULATION OF WELL RECOVERY

1. Determine the water level draw down by subtracting the initial static water level measurement from the stabilized pumping level. Record this result as the well draw down.

2. Next determine the water level recovery by subtracting the post test (within 72 hours) static water level from the stabilized dynamic pumping level. Record this result as the well recovery.

3. Next determine the percent recovery of the well. Divide the water level recovery by the water level draw down and multiply by 100. Record this result as the percent well recovery.

Example:

a.	Initial static water level:	(measured value)	42.8 feet
b.	Post test static water level*:	(measured value)	45.5 feet
b.1.	Time (hours) of measurement:	(within 72 hours)	12 hours 50 minutes
c.	Stabilized pumping level**:	(measured value)	120.9 feet
d.	Draw down:	(calculate by subtracting A from C)	79.1 feet
e.	Recovery:	(calculate by subtracting B from C)	75.4 feet
f.	Percent recovery:	(calculate by dividing E by D and multiplying result by 100)	95.3%

Well percent recovery (F) must be 90% or greater within a 72 hour period.

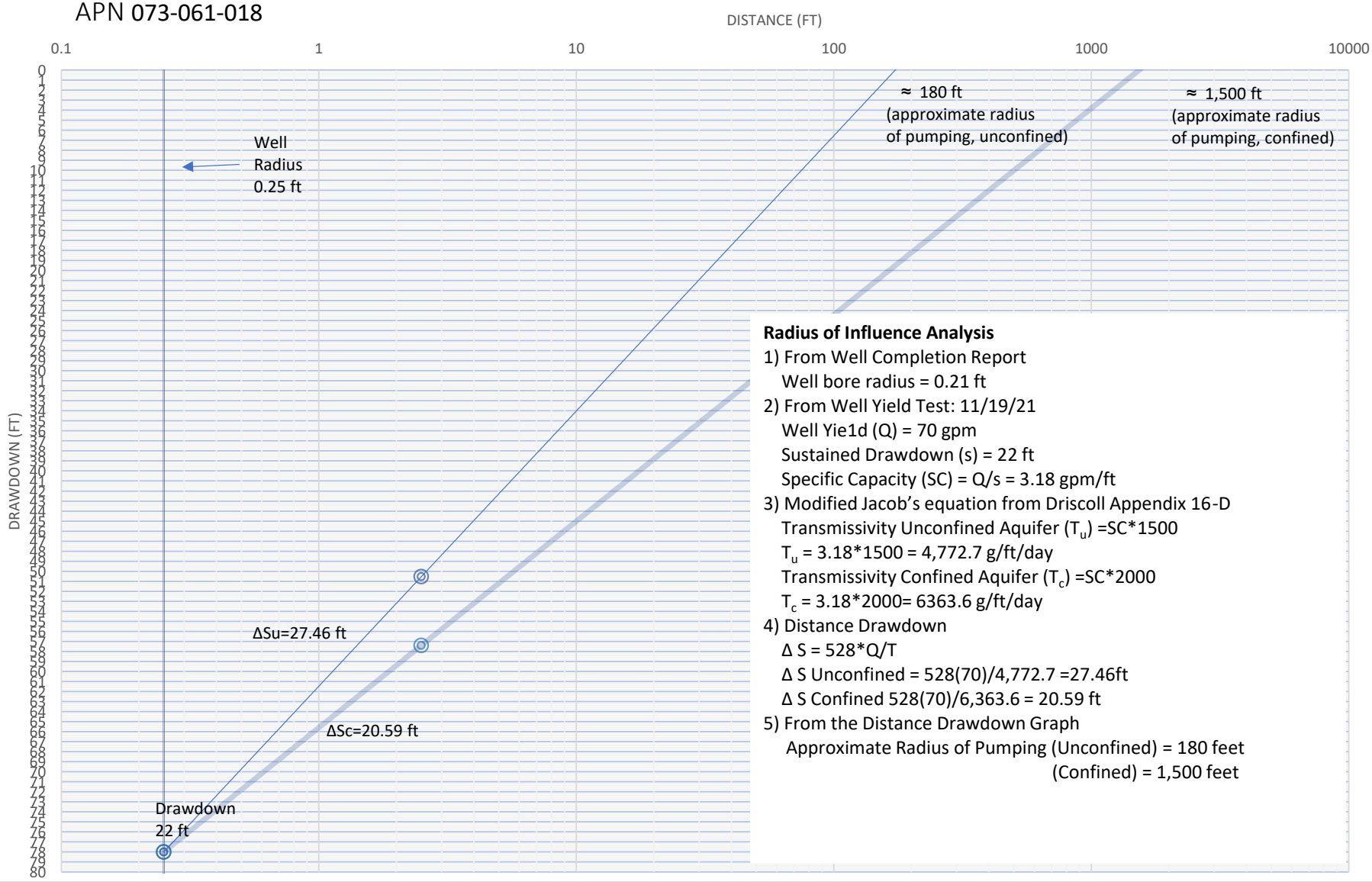
* The static water level after 72 hours or less post pump test.

** Kleinfelder refers to this as the dynamic pumping level.

APPENDIX E
RADIUS OF PUMPING INFLUENCE

2750 Burnside Road
Sebastopol, CA
APN 073-061-018

Radius of Pumping Influence



Radius of Influence Analysis

1) From Well Completion Report
   Well bore radius = 0.21 ft
2) From Well Yield Test: 11/19/21
   Well Yie1d (Q) = 70 gpm
   Sustained Drawdown (s) = 22 ft
   Specific Capacity (SC) = Q/s = 3.18 gpm/ft
3) Modified Jacob's equation from Driscoll Appendix 16-D
   Transmissivity Unconfined Aquifer (T_u) =SC*1500
   T_u = 3.18*1500 = 4,772.7 g/ft/day
   Transmissivity Confined Aquifer (T_c) =SC*2000
   T_c = 3.18*2000= 6363.6 g/ft/day
4) Distance Drawdown
   Δ S = 528*Q/T
   Δ S Unconfined = 528(70)/4,772.7 =27.46ft
   Δ S Confined 528(70)/6,363.6 = 20.59 ft
5) From the Distance Drawdown Graph
   Approximate Radius of Pumping (Unconfined) = 180 feet
   (Confined) = 1,500 feet